

**The Scientific
Achievement Award
of the International Union
of Forest Research
Organizations:
1971–2024**

By Victor K. Teplyakov



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This booklet presents short biographical stories of forest scientists granted the Scientific Achievement Award (SAA) of the International Union of Forest Research Organizations (IUFRO) from the establishment of this IUFRO Award in 1971.

The booklet should be of interest to forestry students, researchers and administrators, and for those who are keen to learn more about IUFRO, founded in 1892, forest research development, and national and international processes in the forest sector over time.

Editorial team:

Walter Liese, Don Koo Lee, Heinrich Schmutzenhofer and Victor K. Teplyakov

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The International Union of Forest Research Organizations (IUFRO) is a non-profit, voluntary, international scientific union open to all organizations and individuals involved in forestry and forest products research. Currently, more than 120 countries are represented with approximately 15,000 participating scientists from more than 600 member institutions.

This publication is available online on the IUFRO website.

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Introduction

The idea for a series of books about prominent scientists and active officeholders collaborating within IUFRO was announced at the 125th IUFRO Anniversary Congress in Eberswalde–Freiburg in September 2017.

Over the years, the International Union of Forest Research Organizations (IUFRO) has developed an honours and awards system for those who advance forest-related sciences, who promote international cooperation of forest-related research and who have delivered an outstanding long-term service to the Union. At each IUFRO Congress, these awards are presented in a number of categories. One of them is IUFRO's Scientific Achievement Award (SAA) – the second type of award established by IUFRO, and presented for the first time in 1971.

During the Closing Ceremony of the IUFRO Congress 1971 held in Gainesville, USA, President George Jemison stated, “the Permanent Committee decided to call attention to the contributions that young scientists¹ are making to international forestry research. It has developed an IUFRO Scientific Achievement Award program. Many of you already know about this award. All members have received a copy of the charter, which was prepared two years ago. Awards are made to outstanding scientists, 45 years of age or younger, who have distinguished themselves in any specific aspect of forestry or forest products research. Individuals selected for this honor receive a gold medal, scroll, and cash honorarium. IUFRO is indebted to Dr. D.A.N. Cromer (Australia), member of the Permanent Committee, for his outstanding work in developing the designs for the medal and scroll and for getting these items produced.” (IUFRO 1971, p. 271). According to the Award description, it was established “to recognize distinguished individual scientific achievements within the fields of research covered by IUFRO” (IUFRO Honours and Awards 2010, p. 20).

This book is an assembly of biographical sketches prepared especially for this edition. Each bio-sketch is a one-page compilation of the materials available from open sources, mostly, online. It includes citations from the decision about the person and the scientific achievements of the nominee that are presented in the IUFRO Congress report, IUFRO News or other source followed by some brief information about the individual (date and place of birth, education, career development, professional activities and recognitions). Each article also includes a short list of a few selected publications (*Research sources*), and the references that underlie this narration (*Personal sources*). The *research sources* display a few samples of the person's works, including articles, chapters, books, etc., as well as edited proceedings, co-authored books and the like. The information for this section was selected from Google Scholar Citations, ResearcherID, ResearchGate, ORCID, The Academic Family Tree and other online resources, as well as the University's and other affiliations of the person, and refers to the most cited papers. The *personal sources* section includes a few major links to the biography of the person. References about nomination and delivery of the SAA at the IUFRO Congress are presented in the Bibliography.

The information for each individual was collected from open sources and translated into English from Finnish, French, German, Japanese, Norwegian, Polish, Russian, Slovak, Spanish and Ukrainian languages. All photographs for this publication were taken from Internet and the articles about the recipient of the SAA.

The book contains bio-sketches of all recipients of the IUFRO SAA, with the exception of T. Kent Kirk (USA), who declined to be included.

¹ At that time, the maximum age of the award nominee was set as 45 years old but, in 2000, with introduction of the IUFRO Outstanding Doctoral Research Award (IUFRO ODRA), it was changed to unlimited.

Acknowledgements

With such a vast and diverse scope of destinies scattered over time and space, I initially thought that I had set myself an impossible task. Nonetheless, it was completed through the great assistance of many people and institutions to whom I would like to express my gratitude.

I am grateful to Dr. Thomas Kirisits and Christian Donaubauer (Austria), Dr. Roger Underwood (Australia), Alain Servais, Pierre and François Nanson (Belgium), Dr. Alvin Yanchuk and Carol Namkoong (Canada), Dr. Risto Paivinen and Pirkko Kilkki (Finland), Dr. Syam Viswanath and Shyamal Bhat (India), Dr. Salleh Mohd. Nor (Malaysia), Dr. Alexander Stepanov and Natalia A. Isaeva (Russia), Prof. Ladislav Paule and Viera Zacharova (Slovak Republic), Dr. Maria Nijnik (UK), Nancy Gillette, Carolyn Troiano, Prof. John S. King, and Sharyl Karnosky (USA) for reviewing and making helpful comments on the draft bio-sketches, for providing photographs for some bio-sketches as well as finding the relatives of the deceased recipients of the SAA.

I am thankful to Dipl.-Ing. Heinrich Schmutzenhofer and Prof. Hubert Hasenauer (Austria), Dr. Gary Bacon and Dr. Roger Underwood (Australia), Dr. Lorne Riley (Canada), Prof. Risto Seppälä (Finland), Prof. Walter Liese (Germany), Dr. Eric Teissier du Cross and Prof. Antonio Pizzi (France), Dr. Sumire Kawamoto (Japan), Praveena B. (Malaysia), Prof. Don Koo Lee (Republic of Korea), Elena Katkova (Russia), Prof. Jeff Burley (United Kingdom), Dr. Taras Yamelynets (Ukraine), Dr. John A. Parrotta, Prof. Andrew Liebhold, and Jodi N. Axelson (USA) for their vital help and cooperation in making links and communicating with various people, colleagues, and organizations to find information needed. Special thanks to Erkki Oksanen (Finland) for providing valuable photographs.

I extend my sincere thanks to all SAA winners for their frank and friendly support and participation in checking their bio-sketches, and to those who provided cross-links and cross-communication with their colleagues and directing me to the right individuals when I was unable to find the right contact or information. It is especially true when some contact information became irrelevant for specific reasons (person's retirement, moving to other location, etc.).

My deep gratitude should also go to my colleagues in the editorial board – Walter Liese, Don Koo Lee and Heinrich Schmutzenhofer, for their first reading of the drafts and permanent support during my work on this book. Heinz Schmutzenhofer has often visited IUFRO Secretariat and helped greatly in finding photos and files about SAA holders as well as complimentary information.

I am thankful to IUFRO Presidents Michael Wingfield and John Parrotta for their support, and the IUFRO Secretariat, particularly Alexander Buck for his considerations and thoughtful navigating over the EU Regulation on the protection of personal data (GDPR), and to Gerda Wolfrum and Renate Prüller for providing information from the IUFRO archives.

I express special appreciation to Professor John Innes who undertook the burden of editing the book for 1971–2019, and Gerda Wolfrum – for 2024.

It is rather difficult to name all individuals who helped me in this endeavour, and if I missed any name, I would like to apologize in advance.

The IUFRO's Scientific Achievement Award

"At each World Congress, IUFRO recognizes outstanding achievements of up to ten scientists. Awards will be made for research results published in scientific journals, proceedings of scientific meetings or books, or appropriate patents or other relevant evidence that clearly demonstrates the importance of the scientific or technical achievement to the advancement of regional or world forestry or forest research.

Other criteria of judgement are dissemination of results, implementation of knowledge, methods or techniques in practical forestry and skilled research management.

The President invites nominations about two years in advance of the next World Congress. Nominations may be made by a member of the nominee's parent organization, by Coordinators of Divisions, Research Groups, Working Parties and Task Forces, and by other officeholders and knowledgeable persons associated with the Union (but no self-nominations). Nominees must either belong to IUFRO Member Organizations or be Individual Members of IUFRO.

Nominations and supporting documents should be sent to the Executive Director of IUFRO with a copy to the Chair of the IUFRO Honours and Awards Committee.

Nominations are evaluated by the Honours and Awards Committee and approved by the Board of IUFRO.

The award consists of a medallion, a certificate, the most economical cost of (air) travel/subsidized travel to attend the World Congress, and waiver of World Congress registration fees.

The awards will be presented at the opening or closing ceremony of the ensuing World Congress. The names of the recipients will be published in IUFRO News, the Annual Report and the World Congress Report."

IUFRO Honours and Awards 2010, p. 19

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1971 (Gainesville, Florida, USA)

An Awards Nomination Committee headed by Professor Leonard Leyton (UK) and which consisted of Professors and Drs. R. Villasenor (Mexico), I. S. Melekhov (USSR), R. Karschon (Israel), F. Mergen (USA), and D.A.N. Cromer (Australia) screened 26 nominations received from seven countries. The IUFRO Permanent Committee then selected five outstanding scientists for the first Scientific Achievement Awards (SAA).

The SAAs was granted on 20 March 1971 during the Closing Ceremony of the XV IUFRO Congress. President George Jemison, on behalf of IUFRO, announced the names and delivered the awards to the five winners (IUFRO 1971, p.271):

Edwin DONAUBAUER	Austria
Donald (Don) M. FUQUAY	USA
Gene NAMKOONG	USA
Francis (Frank) D. PODGER	Australia
Dušan ZACHAR²	Czechoslovakia

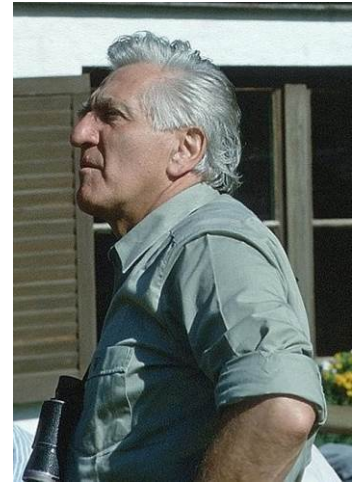


***The Fifteenth Congress of the International Union
of Forestry Research Organizations, Gainesville, Florida.***

² Dr. Dušan Zachar was unable to attend the Congress.

DONAUBAUER, Edwin

Edwin Donaubauber received the IUFRO Scientific Achievement Award in 1971 for studies of diseases of the larvae of the spruce sawfly, fungal diseases of pines, and damage by air pollutants. Currently he is studying the causes of epidemics and racial variations of Scleroderris and the nature of resistance of poplar hybrids to fungal diseases. His interests have been broad, ... he has had a brilliant research career (IUFRO 1971, p. 272).



Edwin Donaubauber was born on 11 August 1932 in Salzburg, Austria. He obtained his Diploma degree in Forestry in 1955 and his Doctoral degree in 1959 from the former *Hochschule für Bodenkultur* (now University of Natural Resources and Life Sciences, Vienna – BOKU). In 1956, Dr. Donaubauber began his career at the Federal Forest Research Centre, Vienna (FBVA, now BFW), where he was the head of the Institute of Forest Protection from 1964 to 1995. For 40 years, he was one of the pillars of this major forest research institution in Austria, from the beginning as a young scientist until his retirement in 1995 as institute's head and Deputy Director.

In 1971, Dr. Donaubauber started teaching at BOKU University, habilitated in 1974 and was appointed as Associate Professor in 1985. Professor Donaubauber contributed greatly to the establishment and strengthening of forest pathology as an independent research area at BOKU. He was a passionate, enthusiastic and charismatic university lecturer, positively remembered by generations of forestry students. He lectured for 40 years, until 2011, when he became the very first recipient of the BOKU Lifetime Teaching Award.

Professor Donaubauber was a well-known forest scientist with a broad expertise in all areas of forest protection (phytopathology, entomology, air pollution and wildlife ecology). He intensified the national and international research network of FBVA through numerous publications, projects and cooperation, including work in international organizations, such as FAO. Starting in 1961, Dr. Donaubauber was active in IUFRO for over 40 years in various capacities. He was a leader of the Congress excursion (1961), chaired the Congress meeting of the WG on Fume Damage and presented a paper at Section 24 Forest Protection (1971), organized IUFRO WP S2.06-02 Canker Diseases-Scleroderris, was Coordinator of Division 2 (1981-1986), and made a presentation at the International Symposium dedicated to the 110th Anniversary of IUFRO (2002) – to mention just a few. Most significantly, he co-founded the world's most important scientific journal in the field of forest pathology, the *European Journal of Forest Pathology* (now *Forest Pathology*).

Professor Edwin Donaubauber passed away in Vienna on 18 March 2012.

Selected research sources:

1. Decline and Dieback of Trees and Forests: A Global Overview. *FAO For. Paper* 120. 90 p. (with W. M. Ciesla). 1994.
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3. Kirisits T. Personal communications (January 2019) at thomas.kirisits@boku.ac.at

FUQUAY, Donald (Don) Morgan



Donald Morgan Fuquay received the IUFRO Scientific Achievement Award in 1971 for his pioneering research on lightning storm modification through basic studies of cloud physics and related phenomena. His research has not only added to our understanding of atmospheric processes, but it has led directly to exciting practical opportunities to reduce lightning, which causes thousands of forest fires every year (IUFRO 1971, p.272).

Don Fuquay was born on 17 January 1926 in Montesano, WA, USA. During World War II, he volunteered for the Navy at age 16, and spent four years serving in the U.S. Submarine Service. Donald M. Fuquay received medals for the American Area Campaign, the Asiatic Pacific Campaign, and a Purple Heart, and he was honourably discharged from the U.S. Navy in January 1947. He then served during the Korean War, and was finally discharged with honour in January 1952. Using a program provided by the Navy, Donald earned his B.Sc. (1951) degree, and in 1954 – his M.Sc. degree in meteorology and climatology at the University of Washington in Seattle.

In 1975, he earned his Ph.D. in Watershed Management at Colorado State University in Fort Collins, CO. As a meteorologist, from 1956 onwards, he undertook research on forest and mountain meteorology for the University of Washington and the Munitalp Foundation of New York. He designed and supervised the construction of a storm tracking radar device that was used to observe lightning storms in Arizona. Later, he was a radar consultant on the Presidential Advisory Committee on Weather Control and served on several other similar bodies. From 1958, he worked for the USFS Fire Laboratory of Missoula, MT. In the 1960s, being a Director of Skyfire Project, he was one of the first scientists working on cloud seeding by dropping silver iodide to make rainfall. Later, he was appointed as the Chief Research Meteorologist for the Northern Forest Fire Laboratory of the Intermountain Forest and Range Experiment Station (now Missoula Fire Sciences Laboratory, Rocky Mountain Research Station), from which he retired in 1983.

After retirement, he was very active with the Missoula Chapter of the Red Cross and at the Bay Area during the 1989 San Francisco earthquake. Dr. Fuquay's research has been highly recognized: he received the highest SAF scientific award – the Barrington Moore Memorial Award for Outstanding Achievement in Forestry Research (1967), and has also received the USDA Certificate of Merit (1976). Dr. Donald M. "Don" Fuquay passed away at home on 23 August 2006. His wishes were to have a joint scattering of ashes with his wife Dorothy (deceased 1998), over the ocean.

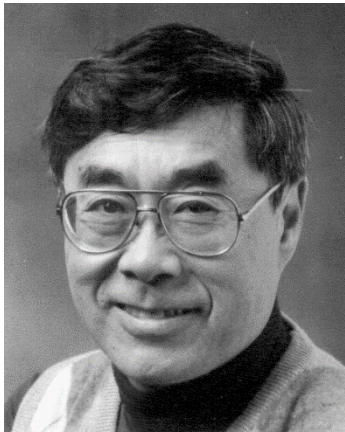
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2. Jamie Kelly. Lightning chaser Don Fuquay also slowed down for family - Western Montana Lives. *The Missoulian*, October 16, 2006. https://missoulian.com/hometowns/lightning-chaser-don-fuquay-also-slowed-down-for-family-/article_e0dcba53-8501-572d-b287-0383c8102c63.html Retrieved 11.12.2018.

NAMKOONG, Gene



Gene Namkoong received the IUFRO Scientific Achievement Award in 1971 for his leadership in population genetics and pioneering research on the application of quantitative genetics to forestry, estimating genetic variance, developing genetic gain formulas for seed orchard systems, and developing optimal designs for characterizing advanced generation populations. His work has emphasized the fundamentals of the evaluation of tree species, variations in selection pressures, migration rates, and other factors that will lead to appropriate breeding systems for forest tree species (IUFRO 1971, p.272).

Gene Namkoong was born on 25 January 1934 in New York City, USA, of Korean ancestry. He received his B.Sc. (1956) and M.Sc. (1958) in Forestry from the State University of New York at Syracuse, and his Ph.D. in Forestry and Quantitative Genetics from North Carolina State University (1963). From 1958 to 1993, he worked for the USFS based at North Carolina State University, where he also held professorships in the Departments of Genetics, Biomathematics and Forestry. In the mid-1970s he was also appointed as a USFS Pioneer Research Scientist, one of only seven positions. In 1993, he retired from the USFS and moved to the University of British Columbia where accepted the position of the Department Head, Forest Sciences, until his retirement in July 1999.

He published in many areas of genetics, including theoretical and empirical population and quantitative genetics, breeding theory and strategies, gene conservation, extension, and disease resistance as well as in the area of ethics. In 1994, he was awarded the Marcus Wallenberg Prize for his “path-breaking contributions to quantitative population genetics, tree breeding, and management of genetic resources, which form a solid scientific basis for the maintenance of biological diversity in forests all over the world”. He received an honorary doctoral degree from the Swedish University Agricultural Sciences (SLU), membership in the Royal Swedish Academy of Agriculture and Forestry (KSLA), membership in the Korean Academy of Science and Technology (KAST), and the Order of Honor/Camellia (Republic of Korea). He served for many years on the FAO Panel of Experts on Forest Gene Resource, as well as on the Board of Trustees of International Plant Genetic Resources Institute in Rome, Italy. He was a fellow of the AAAS and received the USDA FS SSA in 1991. He served as a consultant and scientific advisor for projects in Denmark and Brazil, at CIFOR, IBPGR, Republic of Korea, and many other places.

In 1999, Professor Gene Namkoong and his wife Carol moved back from Canada to North Carolina. They lived in Leicester, Buncombe County, NC, where he died on 3 March 2002. In 2008, his over 250-page book *The Misunderstood Forest* was published posthumously in Canada as well as in Korean in 2014.

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2. Professor Gene Namkoong. *Forest Genetics*, 9(2): 167-168. By Alvin Yanchuk A. and Sally Aitken (p. 167); Jeff Burley; Gosta Eriksson with family (p. 168). 2002.
3. Yanchuk A. Personal communications (January 2019) at Alvin.Yanchuk@gov.bc.ca

PODGER, (Frank) Francis Denis



*Francis Denis Podger received the IUFRO Scientific Achievement Award in 1971 for his significant contribution to the improved culture of certain eucalypts through his studies of *Phytophthora cinnamomi*, a causal agent of great importance in the mass-dying of these species and the development of major adjustments in forest management practices to check the impact of the disease (IUFRO 1971, p. 272).*

Frank Podger was born on 10 August 1933 at Bunbury, Western Australia, Australia. He began his professional academic career in 1952 at the University of Western Australia (UWA). After a sojourn of two years at the Australian Forestry School at Canberra where he received the Diploma of Forestry in 1955, he returned to UWA for his B.Sc. in Forestry in 1956.

In 1959, Francis Podger joined the Forest Research Institute, Forestry and Timber Bureau (then part of the Australian Department of Agriculture, which later became the Division of Forest Research, CSIRO), as a research officer and from then until 1967, he was Officer-in-Charge of the Dwellingup Research Station, later moved to Kelmscott, WA. He was also one of the heroes of the great Dwellingup Fire in January 1961. In 1964, Francis Podger was involved in the research that identified that the root-rot fungus, oomycete *Phytophthora cinnamomi*, caused jarrah dieback in Western Australian forests.

In 1968, he earned an M.S. in Forestry from the University of Melbourne for his dissertation on *Phytophthora*. In the 1970s he worked with CSIRO in Tasmania. He completed his Ph.D. at the University of Auckland in New Zealand in 1971, and undertook his post-graduate research there, specializing in forest pathology. In 1996, he was chair of the Western Australian Dieback Review Panel, reporting on dieback in Western Australia. In addition to being a pathologist, Dr. Podger was a fire-effects ecologist and an excellent botanist, and was responsible for identifying and naming two new eucalypt species in Western Australia.

Dr. Francis Denis Podger passed away in Marangaroo, on 29 June 2009, not long before age 76.

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1. Association of *Phytophthora cinnamomi* with a disease of *Eucalyptus marginata* forests in Western Australia. *Plant Disease Reporter* 49: 943–947 (with R.F. Doepel and G.A. Zentmyer). 1965.
2. Aetiology of jarrah dieback: a disease of dry sclerophyll *Eucalyptus marginata* Sm. forests in Western Australia. M.Sc. Thesis, University of Melbourne. vii, 292 p. 1968.
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2. Hall N. (1978) *Botanists of the eucalypts*. CSIRO, Melbourne, 1978. v, 160 p.
3. Walker R., Fagg P. (2001) Podger, Francis Denis (1933 – 1999?). – *Encyclopedia of Australian Science*. <http://www.eoas.info/biogs/P003864b.htm> Retrieved 8.12.2018.
4. Underwood R. Personal communications (January 2019) at yorkgum@westnet.com.au

ZACHAR, Dušan



Dušan Zachar received the IUFRO Scientific Achievement Award in 1971 for his research on soil erosion, effects on soil quality, methods to overcome erosion damage and significant contribution to the development of new methods for afforesting extreme sites, investigation of physiological and ecological characteristics, especially drought and heat resistance, of various tree species (IUFRO 1971, p. 271).

Dušan Zachar was born on 6 May 1926 at Brezno, Banskobystrický kraj, Czechoslovakia. After finishing the Upper Secondary School of Forestry in Banská Štiavnica (1946), he continued his studies at the Faculty of Forestry of the Czech Technical University (CTU) in Prague (1950), where he later earned his Ph.D. in amelioration (1954) with a focus on afforestation. He also taught amelioration there until 1955. In 1955, the Slovak Academy of Sciences (SAS) was commissioned to set up a Department of Amelioration and Ecology as part of a later Forestry Center of SAS in Zvolen. Dr. Zachar was appointed there as Researcher in Soil Erosion (1955-1959). He was habilitated as an Associate Professor (1960) and became full Professor (1974) of the Faculty of Forestry at the College of Forestry and Wood Technology in Zvolen (VŠLD – *Vysoká škola lesnícka a drevárska*; now Faculty of Forestry, Technical University in Zvolen – TUZVO), where he lectured externally on forest amelioration through the mid-1970s. In 1969, Dr. Zachar obtained a D. Sci. degree from the Agricultural University in Brno (VŠZ – *Vysoká škola zemědělská*, Brno). In 1974 he became a corresponding member of the Slovak and the Czechoslovak Academies of Sciences.

Dr. Zachar served as Director of the Slovak Forest Research Institute in Banská Štiavnica (which moved in 1964 to Zvolen) from 1960 to 1977, and continued working at this Institute until 1991. He dealt mainly with ecology of afforestation, forest melioration, soil erosion and its counter-protection, creation and protection of the landscape. Under his leadership, the Forest Research Institute at Zvolen, Czechoslovakia, greatly expanded its programs and contributed significantly to progress in forest research in Czechoslovakia and internationally. He served on the editorial boards of several Czechoslovakian forestry journals. He was responsible for the establishment of a scientific journal *Acta Instituti Forestalis Zvolensiensis* that publishes original research findings in English, German, or French and several other journals (e.g. *Lesnícky časopis*, *Folia venatoria*, *Vedecké práce VÚLH vo Zvolene*).

Dr. Zachar received numerous awards: from the CTU in Prague (1955), the SAS (1958), a postdoctoral Humboldt Fellowship at the University of Munich (1966), the Gold Medal of the Central Forestry Research Institute in Budapest (1973), the Klement Gottwald State Prize (1975), the National Award (1984), and the Pfeil Award for Merit (1986). He also received the *J. Dekret-Matejovic* medal, the G.J. Mendel Silver and Gold medals, the SAS gold plaque for Merit in Biological Sciences, the Gold Plaque for Merit for Science and Research Development of the Czechoslovak Academy of Sciences, and other honours. After overcoming osteoporosis, he devoted the rest of his life to human nutrition. In March 2007, he founded the Academia Vitae, dedicated to human nutrition. Professor Zachar passed away on 13 November 2014 at the age of 88 years.

Selected research sources:

1. *Erózia pôdy* [Soil erosion]. 1960. 2nd ed., Slovak Academy of Sciences, Bratislava, 528 pp. 1970.
2. *Soil Erosion*. [transl. ed., M. Cowan]. Elsevier (Amsterdam); VEDA (Bratislava). 548 pp. 1982.
3. *Forest Amelioration*. Elsevier Science Pub. Co. viii, 623 p. (with O. Riedl). 1984.
4. *Výživa človeka*. [Humane Nutrition]. Zvolen: Technická univerzita. 265 pp. 2006.

Personal sources:

1. Midriak R. Chronicle. K nedožitým deväťdesiatinám prof. Ing. Dušana Zachara, DrSc. *Lesnícky časopis – For. J.* 62: 136–137. [Towards ninety years of Prof. Ing. Dušan Zachar, DrSc.]. 2016.
2. Paule L. Personal communications (February 2019) at paule@tuzvo.sk

1976 (Oslo, Norway)

The Executive Board appointed the following scientists members of the Award Committee: Professors Leonard Leyton, Oxford University (Chairman), UK, Ivan S. Melekhov, the USSR Academy of Sciences, USSR, Kalle Putkisto, University of Helsinki, Finland, and Ion Milescu, Forest Research Institute, Romania (IUFRO 1976, p.29). Professor Ivar Samset greeted the winners and stressed that 42 scientists had been nominated for the Award. During the Opening Ceremony of the XVI IUFRO Congress, on 20 June 1976, the following five scientists received the awards:

Pentti T. HAKKILA	Finland
Alexander S. ISAEV	USSR
Alphonse V.J.G. NANSON	Belgium
James A. PETTY	United Kingdom
David E. REICHLE	USA

They entered the rostra under the leadership of the Chairman of the Award Committee Professor Leonard Leyton from Oxford. When the winners entered the rostra, three horns were playing *The Song of the Forests*, written and composed by Professor Erling Eide, leader of Norwegian forestry research from 1921 to 1956, and arranged for three horns for the occasion of the XVI IUFRO World Congress (Teplyakov, Shalaev 2017).



From left to right D.E. Reichle, J.A. Petty, A.V.J.G. Nanson, A.S. Isaev, P.T. Hakkila, and L. Layton (Photo: A.S. Isaev).

After this ceremony, the IUFRO President gave the floor to “His Royal Highness, Crown Prince Harald, who attended the Opening Session. Crown Prince Harald handed over the Award to each of the Award winners, assisted by Prof. Leonard Leyton. The Award consisted of a gold medal and scroll together with a cash prize of 3,000 Norwegian Kroner. Afterwards the President handed over a painting to His Royal Highness in memory of the XVI IUFRO World Congress” (IUFRO 1976, p.29).

HAKKILA, Pentti Tapani



Pentti Tapani Hakkila received the IUFRO Scientific Achievement Award in 1976 for his investigations on the basic density of Finnish pine, spruce and birch wood as well as investigations on the weight and composition of branches as a raw material source, and new methods that may show ways of taking care of the stump and root material. His work with the whole tree concept in Finland has shown the possibilities of a better use of the raw material from the forests including a practical solution for small-sized wood problems. The valuable fibres in the tree stumps and roots may be a good addition to the available resources of wood products (IUFRO 1976, p.27).

Pentti Hakkila was born on 22 December 1935 in Hämeenlinna, Finland. He obtained Bachelor (1959), Master (1961), Licentiate (1965) and Doctor (1966) degrees at the Faculty of Agriculture and Forestry of the University of Helsinki. He also earned an M.Sc. from Michigan State University, USA, in 1966.

He began his professional career as a research officer at the Finnish Forest Research Institute in 1959 and acted as Professor of Forest Operations in 1972–1976 and again in 1979–1999. In 1976–1979 he was Research Professor of Complete Tree Utilization at the Academy of Finland, and in 1999–2004 the Research Director of the national Wood Energy Technology Program of Finland at VTT Energy. He acted in the 1980s as an Associate Professor of Forest Technology at the University of Helsinki and of Wood Technology at the University of Joensuu.

Dr Hakkila served in several national and international organizations including IUFRO: the Deputy Coordinator of Division 3 (1982–1990), a member of the Executive Board (1991–1995) and the Deputy Chairman of the Organizing Committee of the XX IUFRO World Congress in Tampere (1991–1995). He was a member of the Prize Selection Committee of the Marcus Wallenberg Foundation in 1991–1995. He carried out many advisory tasks in developed and developing countries. The Council on Forest Engineering honoured him with the COFE International Forest Engineering Award in 1998. In 2009, he was recognized as an Honorary Doctor of the Faculty of Forest Sciences at the University of Joensuu, Finland. He is by invitation a member of the International Academy of Wood Science and the Finnish Academy of Science. Dr. Hakkila has published about 400 research papers, reports and articles in the field of wood science, wood utilization, forest biomass utilization, wood energy and timber harvesting.

Selected research sources:

1. *Investigations on the basic density of Finnish pine, spruce and birch wood*. CIFF 61.5. 98 p. 1966.
2. *Coniferous branches as a raw material source*. CIFF 75.1. 60 p. 1971.
3. *Mechanized harvesting of stumps and roots*. CIFF 77.1. 70 p. 1972.
4. *Forest chips as fuel for heating plants in Finland*. Folia Forestalia 586. 62 p. 1984.
5. *Utilization of residual forest biomass*. Springer Series in Wood Science. Springer Verlag Berlin and Heidelberg. GmbH & Co. 570 p. 1989.
6. *Developing technology for large-scale production of forest chips*. Wood Energy Technology Programme 1999–2003. Technology Programme Report 6/2004. Tekes. 98 p. 2004.

Personal sources:

1. Finland's National Forest Programme 2010. Follow-up report 2005–2006. L. Hytonen and A. Kotisaari, eds. Ministry of Agriculture and Forestry, 5b 2007. Vammalan Kirjapaino Oy. 56 p. 2007.
2. Hakkila, Pentti Tapani / Kuka kukin on (Aikalaiskirja): Who's who in Finland. 1978. p. 170. <http://runeberg.org/kuka/1978/0170.html> Retrieved 12.12.2018.
3. URL: https://fi.wikipedia.org/wiki/Pentti_Hakkila Retrieved 9.12.2018.
4. Hakkila P.T. Personal communications (January 2019) at Pentti.hakkila@gmail.com

ISAEV, Alexander Sergeevich



Alexander Sergeevich Isaev received the IUFRO Scientific Achievement Award in 1976 for his important investigations into the resistance mechanisms of a tree against pests and for working out the scientific bases of the population dynamics of one of the most dangerous group of wood pests, the authorship of the general theory of forest association resistance to destructive insects, based on the principle of stability of mobile ecological systems. The principles of quantity regulation and mathematical modeling that he worked out are used in forestry practice of Siberia in integrated protection of forests (IUFRO 1976).

Alexander Isaev was born on 21 October 1936 in Moscow, USSR. He studied forestry and graduated from Leningrad Forest Technical Academy (1954). He began his professional career as a forest manager and worked on forest management and planning expeditions across the USSR (1954–1960). In 1960, he got his Ph.D. in Forestry with a specialization in entomology from VNIILM, and in 1972, his D.Sc. in Biological Sciences. In 1960–1988, he worked at the V.N. Sukachev Institute of Forest and Wood of the Siberian Branch of the USSR Academy of Science (Krasnoyarsk). He was promoted through Researcher (1960–1968), Head of the Laboratory (1968–1972), Deputy Director for Science (1972–1976), to Director of the Institute (1977–1988). Academician Isaev became the first Chair of the Presidium of the Krasnoyarsk Scientific Centre of the Siberian Branch of the USSR Academy of Sciences (1979–1988) and a Member of the Presidium of the USSR Academy of Sciences (1980–1991). In Moscow, he headed the USSR State Committee on Forest (1988–1991), the International Forest Institute and the RAS Center for Problems of Ecology and Forest Productivity (1991–2004), being its Scientific Director (from 2004), and an Advisor for the RAS (2005).

Academician Isaev was one of the leading world-level foresters and the organizer of scientific research in the field of forest ecology and population dynamics of forest insects. He actively participated in the training of forest specialists, and established and headed the Department of Ecology at Krasnoyarsk State University. He was a long-term Editor-in-Chief of the journal “*Lesovedenie*” (Forest Science) and served on the editorial boards of many other journals. He authored and co-authored more than 300 publications. He was the winner of the V.N. Sukachev Gold Medal of the RAS (1992), a Laureate of the Prize of the Government of the Russian Federation (2002). The Russian Government decorated him with five orders, including the Order of Honour (2012), for his contributions to the advancement of state forestry, forest science and education. He was an honorary member of the Society of American Foresters, an international member of the Bulgarian Academy of Sciences, and held an honorary doctorate from Moscow State Forest University.

Academician Alexander S. Isaev passed away in Moscow on 30 August 2018 at the age of 86 years.

Research sources (first author):

1. *Взаимодействие дерева и насекомых-ксилофагов*. Новосибирск. 346 p. [The interaction of wood and insect xylophages. Novosibirsk] (with G.I. Girs). 1975.
2. *Динамика численности лесных насекомых*. Новосибирск. 224 p. [The population dynamics of forest insects. Novosibirsk]. (multi-authored). 1984.
3. *Черный пихтовый усач*. Новосибирск. 267 p. [*Monochamus urussovi*. Novosibirsk]. 1988.
4. *Аэрокосмический мониторинг лесов*. А.С. Исаев и В.И. Сухих, ред. М., 241 p. [Aerospace monitoring of forests. A.S. Isaev and V.I. Sukhikh, eds., Moscow]. 1991.
5. *Лесное хозяйство на рубеже XXI века*. А.С. Исаев, ред. М., 333 p. [Forestry at the turn of the XXI century. A.S. Isaev, ed. Moscow]. 1991.

Personal sources:

Исаев Александр Сергеевич. СО РАН: Персональный состав. Новосибирск: Наука, с. 104–105. [Isaev, Alexander Sergeevich. RAS, Siberian Branch: Personnel. Novosibirsk, p. 104–105]. 2007.

NANSON, Alphonse Urbain Joseph Ghislain



Alphonse U. J. G. Nanson received the IUFRO Scientific Achievement Award in 1976 for his scientific work on provenance trials, heritability studies and the use of quantitative genetics in order to improve forest trees, particularly for seed-source studies and progeny testing; his development and use of methods to estimate heritabilities are of high value. Dr. Nanson has also developed valuable methods to estimate juvenile – mature genetic correlations between important traits. Furthermore, his work on a tabulation system that shows the efficiency of different systems of selection is very useful in forest tree improvement (IUFRO 1976, p. 28).

Alphonse Nanson was born on 12 September 1936 in Verviers, Belgium. In 1959, he graduated at the *Faculté des Sciences Agronomiques* in Gembloux (now *Gembloux Agro-Bio Tech, Université de Liège*) as Engineer of Waters and Forests, followed by a degree in Education, enabling him to teach as a Professor (1960), and a Ph.D. in Agricultural Sciences in 1968. He became Senior Lecturer (1970–1977) then part-time Professor on *Genetics and Improvement of Forest Trees*. He began his professional career as a Research Assistant (1961), Research Officer (1962) and was promoted to Head of Works (1971) at the Water and Forest Research Station in Groenendaal. He transferred to the Forest Research Station in Gembloux Wallonia as First Attaché (1990), becoming Director in 1998.

Dr. Nanson's research interests are in the field of forest genetics, tree breeding, and progeny testing, as well as seeds and provenance studies, and the development and use of methods to estimate heritability especially of conifer species. As a practitioner, he established several seed orchards of conifers in Wallonia and during 1989–1996, he actively participated at the creation of the public Walloon forest tree seed centre, aiming to collect, treat, store and sell seeds from the best provenances. He authored and co-authored 140 scientific publications, books and reports. He made numerous presentations at various national and international scientific meetings. He is a member of the Royal Forestry Society of Belgium.

Dr. Nanson made great progress in the development of the best possible provenances for Walloon, Belgium and Western Europe. He has made many missions in Europe, the USA and in developing countries where he has participated in the establishment of *Improvement of Forest Species* programmes, including *Genetic Conservation of Tropical Species*; and the establishment of national Tree Breeding Programmes through the creation of Tree Seed Centres in Madagascar, Rwanda, Iraq, Romania, North Korea, China, and other countries, as well as participating in UN FAO and OECD projects, the FAO–IUFRO Second World Consultation on Forest Tree Breeding (1969), and others. He has been responsible nationally for regulations on the control of forest reproductive material (FRM). He has received various academic awards.

Professor Alphonse Nanson died in Auvélais on 21 November 2020 and was buried in Gembloux.

Selected research sources:

1. La valeur des tests précoces dans la sélection des arbres forestiers, en particulier au point de vue de la croissance. Doctorat Gembloux; Works at Water & Forest Res. Sta., Groenendaal, H.S. No. 38. 242 p. [The value of early testing in the selection of forest trees, especially from the point of view of growth]. 1968.
2. *Tests de descendances de pin sylvestre*. Travaux. Série E, No. 3. Groenendaal, Belgique: Station de Recherches des Eaux et Forêts. 52 p. [Progeny tests of Scots pine]. 1969.
3. *Génétique et amélioration des arbres forestiers*. Presses Agronomiques de Gembloux. 712 p. [Genetics and improvement of forest trees]. 2004.

Personal sources:

1. Alphonse Nanson. In: *Génétique et amélioration des arbres forestiers*, 2004.
2. Servais A. Personal communications (April 2019) at alain.servais@spw.wallonie.be
3. Nanson, Pierre, Personal communications (May 2019) at pierre.nanson@gmail.com

PETTY, James Alan



James Alan Petty received the IUFRO Scientific Achievement Award in 1976 for his major successes in the field of wood permeability, pioneering research demonstrating that a combination of gas flow and non-polar liquid flow through wood can be used to determine the effective pore size of the flow path, and the number of pores per tracheid, which forms the classic foundation of future work in this area. It led him to set out for the first time the correct mechanism of pit aspiration, leading to methods whereby pit aspiration may be avoided. He also succeeded in finding a more exact method than previously to measure the void spaces in the wood cell wall itself (IUFRO 1976, p. 28–29).

Alan Petty was born on 6 May 1942 in Ilkley, West Yorkshire, UK. He studied physics at Oxford University, receiving an M.A. (1964). The same year he began his scientific career as Research Fellow in the Biophysics Department of Leeds University from which he earned his PhD in Wood Sciences (1967) for his work on fluid flow in wood. He then moved to the Forestry Department at the University of Aberdeen where he became Lecturer, Senior lecturer and then Reader. In 1982 he was awarded the degree of Doctor of Science by Aberdeen University for his internationally recognized research in wood science.

Dr. Petty's initial research concerned the fundamental theory and measurement of gas and liquid flow through wood. He applied this in the field of timber preservation, involving aqueous solutions and non-swelling solvents. He developed equations governing the flow of gas through the various structural components of wood. Later he devised a method to measure the permeability of cell wall material. Other work examined the effect of freezing and thawing on water transport in wood. He resolved the apparent discrepancy between different methods of measuring the density and void volume of cell wall material. Later work analyzed the physics of stem breakage of standing trees in high winds or due to snow loading. Another research theme concerned the influence of silviculture on the structure and therefore wood properties of softwoods and hardwoods, and also of rubberwood and rattan. He has a comprehensive list of scientific publications in the field of wood science. In 1974, he was awarded the Mallinson International Gold Medal for Timber Research for his work on permeability of wood. He was elected a Fellow of the International Academy of Wood Science (1981), joined the Board of the Academy (2001) and became the Chairman (2007). In 1989, he became a Fellow of the Institute of Chartered Foresters of the UK and served as a Council member (1989–1995). During this period, he was the Editor of the international journal *Forestry* published by Oxford University Press.

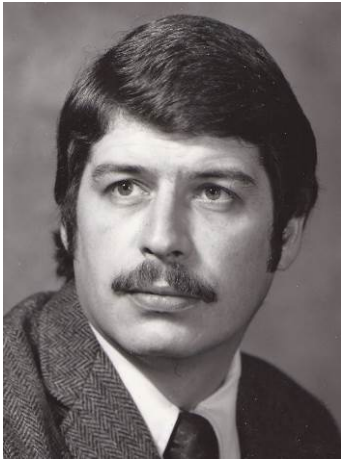
Selected research sources:

1. Electron probe microanalysis of metals in cell walls of conifer wood treated with preservatives. *Holzforschung* 22(6):174–177 (with R. D. Preston). 1968.
2. Diffusion of non-swelling gases through dry conifer wood. *Wood Sci. & Tech.* 7(4): 297–307. 1973.
3. Variation of susceptibility to aspiration of bordered pits in conifer wood. *J. Exp. Botany* 28(4): 935–941 (with A. J. Bolton). 1977.
4. Permeability to water of the cell wall material of spruce heartwood. *Wood Sci. & Tech.* 15: 161–169 (with M. A. Palin). 1981.
5. Freezing in conifer xylem. I. Pressure changes and growth velocity of ice. *J. Exp. Botany* 38(196): 1901–1908 (with D. J. Robson). 1987.
6. Effect of growth rate on wood properties of genetically improved Sitka spruce. *Forestry* 77(4): 325–334 (with A. K. Livingston, A. D. Cameron and S. Lee). 2004.

Personal sources:

Petty J.A. Personal communications (January 2019)

REICHLER, David Edward



David Edward Reichle received the IUFRO Scientific Achievement Award in 1976 for his innovative approach in recognizing the broad utility of such total ecosystem parameters as gross and net primary productivity, autotrophic and heterotrophic respiration, net ecosystem productivity and ecosystem efficiency. He has applied these concepts to both managed and natural systems, resulting in greater understanding of where ecosystem analyses can assist in solving problems that confront the professional forester. Making use of radio-isotopes, he was successful in demonstrating the functional relationship between decomposition processes, mineral cycling, and forest production (IUFRO 1976, p.29).

David Reichle was born on 10 October 1938 in Cincinnati, Ohio, USA. He obtained his B.Sc. degree in Biology and Chemistry at Muskingum University in New Concord, OH in 1960. He continued his education at Northwestern University in Evanston, IL, where he earned M.Sc. (1961) and doctorate (1964) degrees in biological science. After lecturing at the Chicago Academy of Sciences and Northwestern University, Dr. Reichle was appointed as an AEC (Atomic Energy Commission) Postdoctoral Fellow in the Health Physics Div. of Oak Ridge National Laboratory (ORNL) in TN (1964–1966). In 1966, he joined the ORNL research staff.

In 1970, Dr. Reichle became Program Director of the ORNL Ecosystem Analysis Program and in 1981 manager of the Global Carbon Cycle Program. From 1986 to 1980 he was Director of the ORNL's Environmental Science Division, and in 1990 became Associate Director of ORNL responsible for biomedical, biotechnology, environmental, chemical technology and social science research. He was Vice President of Lockheed Martin Energy Research Corp., and from 1969 until his retirement in 2000 he was Adjunct Professor of Ecology at the University of Tennessee.

He has served on advisory committees for a number of federal agencies, including DOE, EPA, and NSF, and the Natl. Acad. of Sci. He is a Fellow of the AAAS, and has served on the scientific advisory committees of the Gas Research Institute, the Electric Power Research Institute, the National Board of Governors of The Nature Conservancy, the Board of Visitors for the School of Public and Environ. Affairs (SPEA) of Indiana Univ., and the Adv. Board for the S. Carolina Univ. Res. and Ed. Found. He was President of the Oak Ridge Rotary Club (1988–1989), a consulting environmental editor for Springer-Verlag NY, Inc., and on the editorial boards of two science journals. He authored and co-authored five books and more than 100 scientific articles and research papers. Dr. Reichle retired in 2000, but he is still active in various initiatives, events and societies.

Selected research sources:

1. *Analysis of temperate forest ecosystems*. David E. Reichle, ed. Ecological Studies; v. 1. Berlin, New York, Springer-Verlag. 304 p. 1970.
2. *Productivity of World Ecosystems*. D. E. Reichle. J. F. Franklin & D. W. Goodall, eds. US NAS. Washington, D.C. 166 pp. 1972.
3. Advances in ecosystem analysis. *Bioscience* 25, 257–264. 1975.
4. *Dynamic properties of forest ecosystems*. David E. Reichle, ed. International Biological Program (series); 23. Cambridge; New York: Cambridge University Press. xxvi, 683 p. 1981.
5. *The changing carbon cycle: A global analysis*. John R. Trabalka and David E. Reichle, eds. Springer New York. 592 p. 1986.
6. *The global carbon cycle and climate change: Scaling ecological energetics from organism to the biosphere*. Elsevier. 270 p. 2019.

Personal sources:

Reichle D. E. Personal communications (January 2019) at drr4der@aol.com

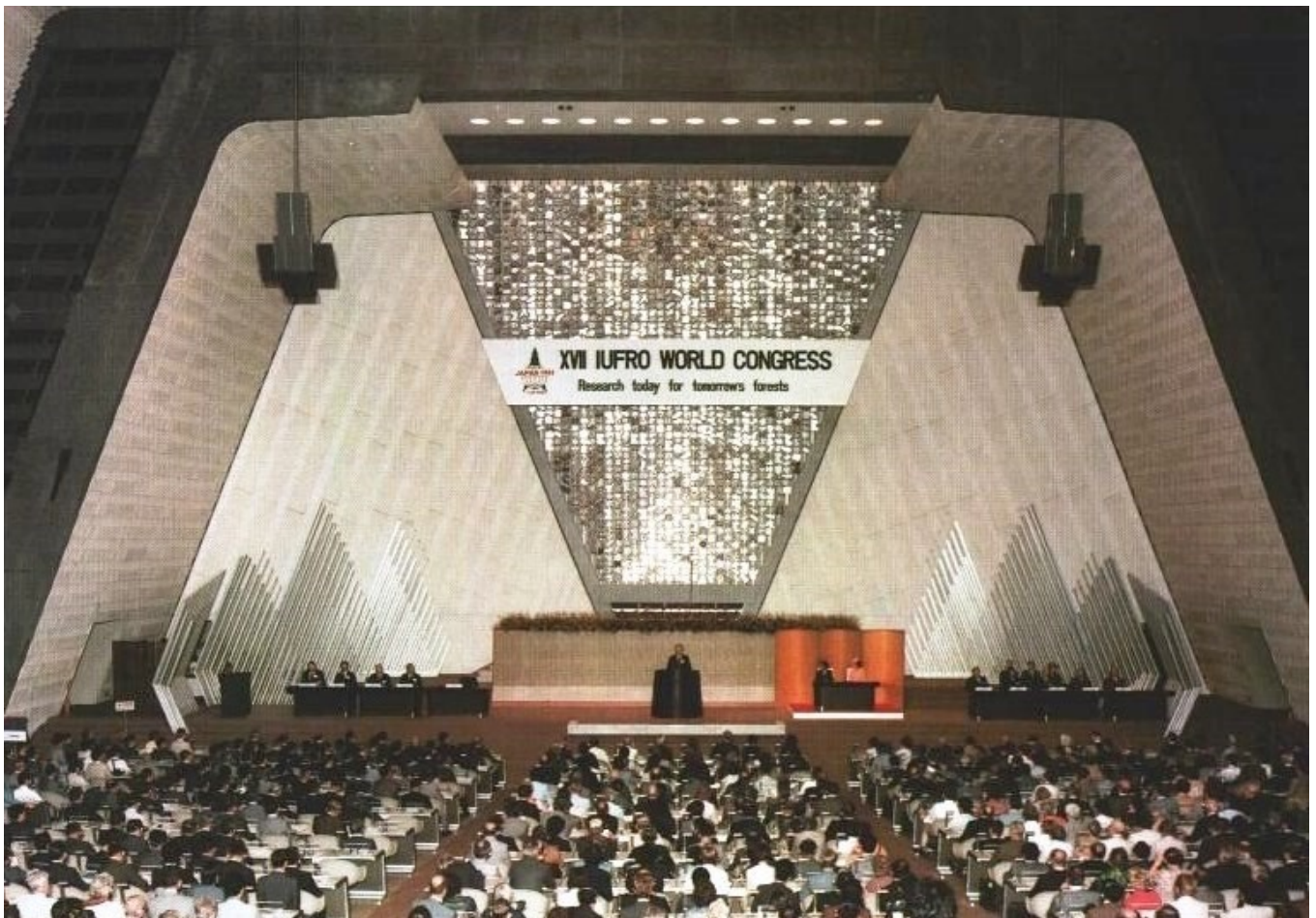
1981 (Kyoto, Japan)

On Monday, 7 September 1981, during the final part of the Opening Ceremony Dr. Liese made an announcement about the IUFRO SAA criteria: "According to the charter for the Scientific Achievement Award, the criteria for nomination read as follows:

A significant piece of specific research or an extended period of major accomplishment in a particular field, the Award will be based on published results clearly demonstrating either originality or their importance for the future advancement in forestry. Any research worker under the age of 45, working within an IUFRO Member Organization, may be nominated for the Scientific Achievement Award." (IUFRO 1981, p.30).

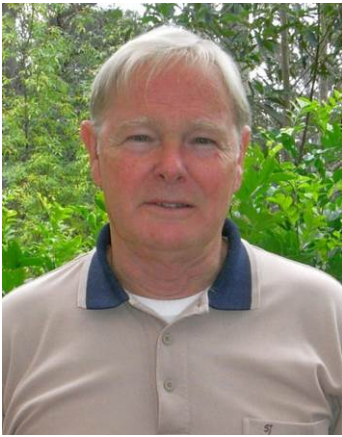
The Award Committee including Colin Bassett (New Zealand), Edwin Donaubauer (Austria), Zygmunt Patalas (Poland), and Kalle Putkisto (Finland), under the Chairmanship of Robert E. Buckman (USA), selected seven awardees among 41 nominations. The IUFRO Executive Board approved that decision. Dr. Buckman conveyed the IUFRO SAA to the following scientists:

David BEVEGE	Australia
Harold E. BURKHART	USA
Suezone CHOW	Canada
Pekka J. KILKKI	Finland
Hugh G. MILLER	United Kingdom
Kent T. KIRK	USA
Makoto OGAWA	Japan



Congress Hall of the XVII IUFRO World Congress (7–12 September 1981, Kyoto, Japan).

BEVEGE, David (Ian)



David (Ian) Bevege received the IUFRO Scientific Achievement Award in 1981 for his soils and nutrition research, developing the concept of limiting basal area, scientific reference areas, and foliar analysis as well as techniques to stimulate tree growth through fungi associated with plant roots and for precise prediction of tree growth according to levels of nutrients applied. He worked on various issues related to decay processes, fertilizers, nitrogen and the nitrogen cycle, phosphorus, tree plantations, forest management, and forest policy. Much of his work was on pine, *Araucaria* and *Eucalyptus* (IUFRO 1981, SAFJ 1981).

David Bevege was born 29 March 1939 in Brisbane, Australia. He was a forestry cadet with the Queensland Forest Service from 1957. He studied forestry (1957–1958) at the University of Queensland and Australian Forestry School (AFS) in Canberra (1960–1961); awarded Diploma of Forestry with Distinction and the Schlich medal of the AFS (1961), graduated with a B.Sc. in Forestry (1962) and a B.Sc. in Forestry (First Class Honours) in 1965 from the University of Queensland. He was Silvicultural Research Forester at the Queensland Dept. of Forestry (1962–1967), and Research Fellow in Botany at the University of New England, Australia (1967–1970). He earned Ph.D. (1972) investigating the role of mycorrhizas in *Araucaria* nutrition and rhizospheric nitrogen fixation. He worked at the Division of Soils, CSIRO Adelaide, Australia (1969–1971) researching physiology of mycorrhizae of *Pinus*, *Araucaria* and crop plants. He returned to Queensland Dept. of Forestry in 1972, undertaking soils and nutrition research in natural forests and plantations up to 1982.

In 1982, Dr. Bevege joined New South Wales Forestry Commission as Chief, Wood Technology and Forest Research Division. In 1986, he was appointed Assistant Director General, Australian International Development Assistance Bureau and in 1991 Principal Advisor, Australian Centre for International Agricultural Research, from which he retired in 2002. He then undertook consultancies in development assistance and was active in the promotion of tropical hardwood plantation research and development in northern Australia.

Dr. Bevege served on several Australian forestry and forest products research planning and technical committees. His overseas forestry work involved projects and R&D planning mainly in the Asia-Pacific Region and China. He is nationally and internationally recognized for his contribution to forest research and management, and international development assistance. He is a Fellow of the Institute of Foresters of Australia (IFA), and a recipient of its Norman W. Jolly Medal (2009); he delivered the IFA Maxwell Jacobs Memorial Oration in 2009. He is an Associate of the Institute of Materials, Minerals and Mining (Wood Science & Technology Chapter). He has prepared over 120 research papers and technical reports.

Selected research sources:

1. Endogone strain and host plant difference in development of vesicular-arbuscular mycorrhizas. *Endomycorrhizas* 149–174. (with G. D. Bowen). 1975.
2. Response of *Pinus radiata* seedlings to carbon dioxide enrichment at different levels of water and phosphorus: growth, morphology and anatomy. *Annals of Botany* 51: 165–177 (with J. Conroy and E.W.R. Barlow). 1986.
3. Developing African mahogany (*Khaya senegalensis*) germplasm and its management for a sustainable forest plantation industry in northern Australia – progress and needs. *Australian Forestry* 71(1): 33–47 (with D. G. Nikles, G. R. Dickinson, M. W. Griffiths, D. F. Reilly and D. J. Lee). 2008.

Personal sources:

1. Brief on Dr. Ian Bevege. *NARI News*, October-December, 4(4): 4. 2001.
2. Seven win international forestry research awards. *SAFJ*, December, 119: 34. 1981.
3. Bevege D.I. Personal communications (January 2019) at dbevege@bigpond.net.au

BURKHART, Harold Eugene



Harold Eugene Burkhart received the IUFRO Scientific Achievement Award in 1981 for developing new models for forecasting growth and yield for slash pine, radiata pine and hardwoods using advanced statistical methods and computer programs, integrating the effects of intensive management practices into growth and yield models, and developing an original system of forest forecasting for loblolly pine (Unasylva 1981).

Harold Burkhart was born on 29 February 1944 in Wellington, Kansas, USA. He obtained his B.Sc. in Forestry from Oklahoma State University (1965), and M.Sc. in Biometrics (1967) and Ph.D. (1969) from University of Georgia. In 1969, he became an Assistant Professor, then Associate Professor (1973–1978), Professor (1978–1981), Thomas M. Brooks and University Distinguished Professor (1999) in the Department of Forest Resources and Environmental Conservation at Virginia Tech, where he also served as Head of Department (1995–2008).

In 1979, Dr. Burkhart founded an industry-university cooperative research program at Virginia Tech, the Forest Modeling Research Cooperative, which is still operating. The Cooperative aims to develop improved models for predicting tree growth and stand development. He was a Senior Research Fellow (1976–1977) at the Forest Research Institute in Rotorua, New Zealand. He has served on a number of advisory and editorial boards, e.g., Editor of *Forest Science* (1986) and has served on the Advisory Boards of several journals.

Dr. Harold Burkhart is one of 14 University Distinguished Professors at Virginia Tech. He is a Fellow in the SAF and the AAAS, and holds professional memberships in the Biometric Society, AFA, Sigma Xi, Phi Kappa Phi, and Xi Sigma Pi. His contributions to forestry research and education have earned him the Virginia Academy of Science J. Shelton Horsley Research Award (1983), Outstanding Faculty Award of the State Council for Higher Education in Virginia (1988), the SAF Barrington Moore Memorial Award (1991), and the Distinguished Agriculture Alumnus award of Oklahoma State University (1993). He became Virginia's Outstanding Scientist of 2013, and the Forest Landowners Association Forest Champion of the Year (2013).

Since the 1980s, Professor Burkhart served IUFRO in several leadership positions with its divisions and research groups and was a member of IUFRO's Executive Board (1996-2000). He has organized many scientific meetings for the organization. He is the recipient of two of IUFRO's other honours: Distinguished Service Award (1995) and World Congress Host Country Scientific Achievement Award (2014). Professor Burkhart has supervised 65 graduate students, 14 postdoctoral fellows, and 7 visiting faculty members. He has authored two textbooks and over 250 research papers published in journals, research bulletins, book chapters, and proceedings papers in the area of modelling of forest stand dynamics, growth and yield, and applying quantitative analysis techniques to forestry problems. Professor Harold E. Burkhart died on Thursday, 20 October 2022, in Blacksburg, Virginia.

Selected research sources:

1. *Forest Measurements*. 5th ed. New York, McGraw-Hill. 456 p. (with T. E. Avery). 2002.
2. *Modeling Forest Trees and Stands*. Springer-Verlag. 471 p. (with M. Tomé). 2012.

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2. Harold E. Burkhart receives international award for sustainable forest management models. <https://vtnews.vt.edu/articles/2014/09/091114-cnre-burkhartiufroaward.html> Accessed 18.12.2018
3. Burkhart H.E. Personal communications (January 2019) at burkhart@vt.edu
4. Timney K. In memoriam: Harold Burkhart, University Distinguished Professor <https://news.vt.edu/articles/2022/10/cnre-memoriam-burkhart.html> Retrieved 03.01.2023.

CHOW, Suezone



Suezzone Chow received the IUFRO Scientific Achievement Award in 1981 for his fundamental studies and development of technology related to wood adhesion, including sophisticated techniques which have benefited wood adhesive researchers around the world (IUFRO 1981).

Suezzone Chow was born in 1937 in Taipei, in what is now Chinese Taipei. In 1959, he obtained his B.Sc. degree from the National Taiwan University (NTU), and worked as an instructor and researcher in the Department of Forestry (1962–1963). After emigrating to Canada (1963), he earned his M.Sc. in Forestry (1965) and a Ph.D. in Wood and Pulp Chemistry (1970), both at the University of British Columbia. Dr. Chow joined the CFS's Western Forest Products Laboratory as a Research Officer (1965), and progressed to Research Scientist (1968), Section Head (1976), and Research Scientist 4, the highest-ranking scientist in the Canadian Forest Products Laboratory (1979). In May 1979, he became Vice President of Ardew Wood Products Ltd. in Merritt, BC. He then became Director and Vice President of Research and Development at Canfor Corporation (1980–2004), and served as Chairman of the Science Council of British Columbia (1993–1998), and as a member of Prime Minister's Advisory Council on Science and Technology, Canada (2005–2008).

Dr. Chow's primary research interests are on wood adhesion as applied to industry, causes of deterioration in high-temperature treated wood surfaces, on the curing mechanisms of adhesives, and the development of a new technique for finger-jointing independent of moisture content. He has developed sophisticated wood-adhesion knowledge and techniques. Dr. Chow has published over 100 research papers and reports, and since 1976, he has obtained 18 international patents and inventions in the field of wood properties, wood protection, wood stain, decay, adhesives and panels, composite wood products, and decoloration reduction.

He has developed a scientific reputation both nationally and internationally. Being fluent in both Japanese and English, he has combined his academic background with innovative industrial research, development, and international marketing and trade, especially in the Pacific Rim countries. He has dedicated much of his energy to the IAWS, being its Lifetime Contributor, among the first five scientists to deliver the IAWS lecture (1981), and President of the Academy (1996–1999). In recognition of his long-term contributions to the provincial forest industry development, Dr. Chow received the BC Science and Engineering Gold Medal (1985), the Canada Award for Business Excellence (1989), and has been awarded the Order of British Columbia (1992) and Queen's Jubilee medal (2002). As Adjunct Professor Dr. Chow has shared his knowledge and experience with the UBC students.

Selected research sources:

1. Effect of resin impregnated core veneer on shear strength of Douglas fir plywood. M.F. UBC, 1966.
2. Hydroxyl accessibility, moisture content and biochemical activity in cell walls of Douglas-fir trees. *TAPPI* 55(4): 540–544. 1972.
3. Chow, S. Molecular rheology of coniferous wood tissues. *Transaction of the Society of Rheology* 17:1109–1128. Ph.D. thesis.

Personal sources:

1. Order of British Columbia. 1992 Récipient: Suezzone Chow – Vancouver. <https://orderofbc.gov.bc.ca/members/obc-1992/1992-suezzone-chow/> Retrieved 19.12.2019.
2. New Science Council Chair Appointed https://www.cap.ca/onlineforms/temp_PiC_archive/1993-v49-n5.pdf Retrieved 19.12.2019.
3. Chow, S. Personal communications (January 2019) at suezzonechow@telus.net

KILKKI, Pekka Juhani



Pekka Juhani Kilkki received the IUFRO Scientific Achievement Award in 1981 for his development of unique mathematical decision models for forest management, successfully combining the traditional forest management paradigm with optimisation models and computer techniques. He applied linear and dynamic programming to develop new forest-management planning methods (IUFRO 1981, Unasyuva 1981).

Pekka Kilkki was born on 7 October 1939 in Mikkeli, Finland. He started forestry studies at the University of Helsinki and obtained his Bachelor of Agricultural and Forest Sciences in 1962 and Master in 1965. He then studied at the University of California and finished his M.Sc. in 1967. He defended his doctoral thesis on "Income-oriented Cutting Budget" at the University of Helsinki in 1968.

In 1969, Dr. Kilkki began his career as an Assistant Professor of Forest Sciences at the University of Helsinki. From 1975, he worked as a Senior Researcher and then as a Professor at the Academy of Finland before moving in 1982 to the University of Joensuu (now part of the University of Eastern Finland). In Joensuu, he was Assistant Professor and Professor until 1988, when he started as a professor and leader of the National Forest Inventory at the Finnish Forest Research Institute. He worked on this task until his death on 8 September 1990.

Dr. Pekka Kilkki authored and co-authored over 50 research articles on linear optimization in forestry decision-making, forest measuring methods, and data processing techniques in forest valuation. He also published a few books and manuals. His works have had a great influence on Finnish forest science. Modern forest management planning methods are based on his dissertation. He introduced satellite data into the National Forest Inventory. His students remember him as an extraordinary teacher, researcher and personality, always keeping high scientific standards as a priority. He was the author of numerous columns and a bio-historical book about the famous Finnish professor and diplomat Werner Cajanus.

Selected research sources:

1. *Estimation of Strata Areas in Forest Survey*. AFF 81: 3. 27(2) p. (with A. Nyyssönen). 1966.
2. *Income-oriented Cutting Budget*. AFF 91. 54 p. (doctoral dissertation). 1966.
3. *Determination of the optimum cutting policy for the forest stand by means of dynamic programming*. AFF 102. 23 p. (with U. Väisänen). 1970.
4. *Metsänmittausoppi*. Helsingin yliopisto. Metsänarvioimistieteen laitos.; Tiedonantoja. 161 p. [Forest Measurement Guide. Univ. of Helsinki; Dept. of Forest Mensuration, Information notes]. 1973.
5. *Timber Management Planning*. University of Helsinki. 105 p. 1979. (2d ed., 1980).
6. *Taper curve models for Scots pine and their applications*. AFF 174: 1–60. (with M. Varmola). 1981.
7. *Sample trees in timber volume estimation*. AFF 182: 1–35. 1983.
8. *Reference sample plots to combine field measurements and satellite data in forest inventory*. Dept. of Forest Mensuration, Univ. of Helsinki, Res. Notes 19. (with R. Päivinen). 1987.
9. *Werner Cajanus 1878–1919: Suomalainen metsäntutkija ja diplomaatti*. Helsingissä: Otava. 269 s. [Werner Cajanus 1878–1919: Finnish Forest Researcher and Diplomat]. 1988.

Personal sources:

1. URL: https://fi.wikipedia.org/wiki/Pekka_Kilkki (in Finnish) Retrieved 23.12.2018.
2. Päivinen R. Personal communications (January 2019) at paivinen.r@gmail.com Photo.

MILLER, Hugh Graham



Hugh Graham Miller received the IUFRO Scientific Achievement Award in 1981 for his research in nutrient cycling through forest ecosystems, including processes in the growth response of trees and forest soils to fertilisers (IUFRO 1981, Unasylva 1981).

Hugh Miller was born on 22 November 1939 in Ndola, Zambia, where his father was a forest officer. He attended Strathallan School, Forgandenny, a few miles south of Perth, Perthshire, Scotland. In 1963, he graduated from the University of Aberdeen with a degree in forestry and began his professional career as a Scientific Officer at the Macaulay Institute for Soil Research in Aberdeen. In 1969, he obtained his Ph.D. from the University of Aberdeen. In 1970, he was promoted to Senior Scientific Officer and, in 1976, to Principal Scientific Officer. He led research into forest biogeochemistry at that Institute for over 20 years. In 1984, Dr. Miller was appointed Professor and Head of the Department of Forestry at the University of Aberdeen (serving until 2000), from which he retired (2004) as Emeritus Professor of Forestry.

Professor Miller was a Fellow and President of the Institute of Chartered Foresters (ICF, 1994–1996), Chairman of the FC Research Agency Advisory Committee (1994–2003), and Chairman of FC Regional Advisory Committee for the North of Scotland, and Director of the Forest Industries Development Council. In 2012, he was appointed the Chairman of PEFC UK, Ltd.

Professor Miller was Chairman of the UN FAO Forestry Education Committee until 1998, and he played an active role in IUFRO as Coordinator of the IUFRO Working Party on Forestry Education. He was the editor of the UK journal *Forestry* and a member of the editorial boards for *Tree Physiology* and *Scandinavian Journal of Forest Research*. He delivered invited lectures at the agricultural universities of Copenhagen, Vienna, Freiburg, Wageningen, Warsaw and Bogor (Indonesia).

For his services and input to forestry, forest research and education, Professor Miller was elected as a Fellow of the ICF (1979) and a holder of its Medal (2007), Fellow of the Royal Society of Edinburgh (FRSE, 1985), and he appointed an OBE (Officer of the British Empire) (1996).

Emeritus Professor Hugh Miller, aged 79 years, passed away peacefully, on Thursday, 31 October 2019, at the Aberdeen Royal Infirmary.

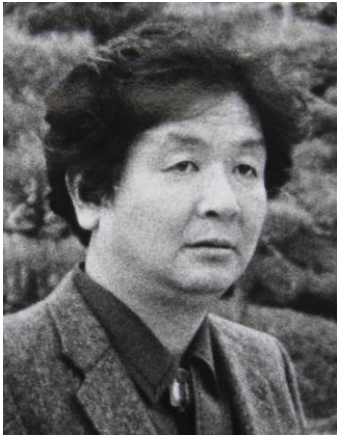
Selected research sources:

1. Effect of nitrogen fertilizer on tree growth and nutrient uptake in a stand of Corsican pine. University of Aberdeen. Macaulay Institute for Soil Research (thesis/dissertation). 1969.
2. *Forest Policy: The International and British Dimensions*. University of Aberdeen. 131 p. 1995.
3. Effect of nitrogen supply on nutrient uptake in Corsican Pine. *Journal of Applied Ecology* 13(3): 955–966 (with J. D. Miller and O. J. L. Pauline). 1996.

Personal sources:

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2. One Hundred Years of Forestry Teaching and Research at the University of Aberdeen: A Brief History. University of Aberdeen, 2007. 11 p. (PDF). [http://homepages.abdn.ac.uk/forestry/associated links/One hundred years of forestry.pdf](http://homepages.abdn.ac.uk/forestry/associated%20links/One%20hundred%20years%20of%20forestry.pdf) Retrieved 07.12.2018.
3. RSE Fellows ordered by Academic Discipline, as at 11/10/2016 (PDF). Royal Society of Edinburgh. http://www.royalsoced.org.uk/cms/files/fellows/lists/fellows_disciplines.pdf Retrieved 24.12.2018.
4. URL: https://www.legacy.com/us/obituaries/legacyremembers/hugh-miller-obituary?id=42387772&__cf_chl_rt_tk=VKmLCrvou2JxZ8B5OeERcrVVI1D_HBS.OHXVJiM_fcE-1725686549-0.0.1.1-4863#obituary Retrieved 24.12.2020.
5. Miller H.G. Personal communications (January 2019) at hugh.miller3@btinternet.com

OGAWA, Makoto



Makoto Ogawa received the IUFRO Scientific Achievement Award in 1981 for his studies of fungal ecology, mycorrhizae and soil microorganisms and their roles in forest succession as well as invention of a new method to inoculate the mycorrhizal fungus in pine forests by means of saplings infected with mycelium around the fungus colony (IUFRO 1981, Unasylva 1981).

Makoto Ogawa [小川眞] was born on 30 October 1937 in Kyoto, Japan. He obtained his Bachelor (1961), Master (1963) and Doctoral (1966) degrees in Agriculture (Agricultural Biology) from Kyoto University. In 1967, he began his professional career at the MAFF of Japan as a Senior Researcher at its Forestry and Forest Products Research Institute in Tokyo (1967–1972). In 1973, he was promoted to Chief of the Soil Microbiology Laboratory (1973–1986), Section Leader for Planning (1986–1987) and Section Leader for Mushroom Science (1987–1991). He then served as Director of the Biological Environmental Institute, manager and later – a consultant of Kansai Environment Engineering Company Ltd., Uji, Japan (KANSO Tekunos Co. Ltd., 1991–2005) as well as a Visiting Professor on Environment Technology at Osaka Institute of Technology.

Over the years, Dr. Ogawa has continued his research on mushrooms, mycorrhiza, people and nature, as well as expanded his research into various forestry-related issues such as charcoal, effects of carbon emissions and sequestration and others. He is also a pioneer and initiator of the program for matsutake research in prefectural forestry organizations throughout Japan. In 1975–1980, Dr. Ogawa with colleagues published a series of books on the microbial ecology of the mycorrhizal fungus *Tricholoma matsutake* in pine forests.

In 1980, Dr. Ogawa with colleagues initiated studies on the utilization of charcoal in agriculture and forestry. He became the first President of the Japan Biochar Association (JBA), established on 4 April 2009 to respond to the requirement of the second International Biochar Initiative conference (London, September 2008). Dr. Ogawa is a member of the Japan Forestry Society, Japan Mycological Society, Japan Mycorrhiza Research Society, and Japan Biochar Association Fellow. Dr. Ogawa is a recipient of the Japan Forestry Award (Japan Forestry Society, 1980), NIKKEI Global Environment Technology Award (1998), and Japan Mycological Society Award (2000).

Selected research sources:

1. Microbial ecology of the mycorrhizal fungus *Tricholoma matsutake* Ito et Imai (Sing.) in pine forests. I: *The fungal colony (shiro) of Tricholoma matsutake*. Bull. 272. Tokyo: Government Forest Experiment Station, 121 p. In Japanese with English summary. 1975.
2. Symbiosis of people and nature in the tropics. *Farming Japan* 28(5): 10–34. 1994.
3. Utilization of symbiotic microorganisms and charcoal for desert greening. *Green Age* 14: 5–11. 1998.
4. Carbon sequestration by carbonization of biomass and forestation: Three case studies. *Mitigation and Adaptation Strategies for Global Change* 11(2): 421–436 (with Y. Okimori and F. Takahashi). 2006.

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2. URL: <https://prabook.com/web/makoto.ogawa/202735> Retrieved 08.12.2018.
3. McGreevy SR, Shibata A, Tanabiki Y (2016) Biochar in Japan: Makoto Ogawa recalls a lifetime of work on biochar, fungi, and plant growth interaction. *Biochar Journal*, 2016. Arbaz, Switzerland. www.biochar-journal.org/en/ct/75 Retrieved 08.12.2018.
4. Ogawa M. Personal communications (January 2019) at makoto-ogawa@mvg.biglobe.ne.jp

1986 (Ljubljana, Yugoslavia)

The IUFRO Scientific Achievement Awards were presented during the Opening of the 18th IUFRO World Congress on 8 September 1986. The Executive Board, upon recommendation by a Scientific Achievement Award Committee, selected the winners. James H. Cayford (Canada), served as Chairman of this Committee, which consisted of Dr. S. Asakawa (Japan), Professor Marten Bol (The Netherlands), Dr. Lars Strand (Norway), Dr. Zigmunt Patalas (Poland) (IUFRO 1986, p.53). The IUFRO SAA was received by nine scientists out of 68 candidates, including

Wladislaw CHALUPKA	Poland
Wolfgang G. GLASSER	USA
Hamish KIMMINS	Canada
Niels E. KOCH	Denmark
Mitsuhiro MINOWA	Japan
Sten B. NILSSON	Sweden
Jacqueline L. ROBERTSON	USA
Roger SANDS	Australia
Yow Pong THO	Malaysia

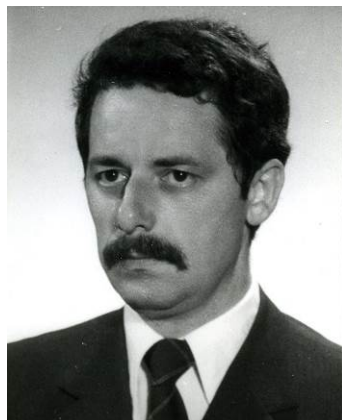
As it was mentioned in the August issue of *The Forestry Chronicle* “this prestigious award carries with it an award of one thousand US. Dollars”³. In 1986, the SAA was awarded to a female scientist for the first time.



From left to right: M. Minowa, W. Chalupka, W.G. Glasser, H. Kimmins, N.E. Koch, S.B. Nilsson, J.L. Robertson, R. Sands, Yow Pong Tho, D. Mlinsek and J.H. Cayford (Photo: IUFRO Secretariat).

³ International Union of Forest Research Organizations Award. *The Forestry Chronicle*, August 1986, p.281.

CHALUPKA, Wladislaw



Wladislaw Chalupka received the IUFRO Scientific Achievement Award in 1986 for his extensive research into the physiology of flowering in coniferous trees for the management of forest seed orchards (IUFRO 1986).

Wladislaw Chalupka (Polish: Władysław Chałupka) was born on 16 June 1946 in Pławce, Poland. After finishing primary school in Przewóz, area Zary (1960), he achieved a baccalaureate from the Środa Wielkopolska's high school (1964). He then obtained Magister Engineer in Forestry (1969) and Ph.D. in Forest Sciences (1976) from the University of Agriculture in Poznań. In 1974, he undertook a 2-month scientific internship at METLA, Finland, and in 1992–1993, the University of Wisconsin, Madison, USA contracted him for a year.

He began his career as a researcher at the Institute of Dendrology, Polish Academy of Science (ID PAS). In 1982, he was promoted to Head of the Laboratory of Population Genetics. Some 12 years later, he became Head of the Generative Propagation Laboratory (1994–1996), Head of the Department of Genetics (1996–2004), and Head of the Laboratory of Biology of Propagation and Population Genetics (2005–2014). In 1986, he was habilitated in natural sciences at the Nicolaus Copernicus University in Toruń, and in 1994, he became Professor of Forestry Sciences.

Dr. Chalupka has been a member of different national and international, state and non-governmental organizations. At the national level, he contributed at different capacities to the work of the Polish General Directorate of State Forests (2003–2012), Ministry of Science and Information Technology (2005–2006), Polish Botanical Society (1973–1987), and Polish Forestry Society (since 1998). Dr. Chalupka served on the Scientific Council of the ID PAS as a member (since 1981), Secretary (1999–2002) and Deputy Chairman (2011–2014). Internationally, he was involved in IUFRO activities as a deputy coordinator and coordinator of several working groups (1986–2005), member of the IUFRO IC (2006–2014) and a Chair of the Polish National Committee for IUFRO (2011–2014).

The major areas of his research, with over 150 publications, are forest tree physiology, quantitative genetics of forest trees, preservation of genetic diversity, and the history of forestry. He has been a reviewer of scientific journals published in Poland, as well as *Annals of Forest Science*, *Baltic Forestry*, *Canadian Journal of Forest Research*, *Dendrobiology*, *Forest Ecology and Management*, *Forest Genetics*, *Silva Fennica*, and *Tree Physiology*. His input to forest research and education has been recognized by the Silver Badge (2003), Golden Badge (2008) and Honorary Membership of the Polish Forestry Society (2016), and the Cutlass of the Polish Forester awarded by the General Director of State Forests (2015).

Selected research sources:

1. Badania nad obfitością kwitnienia świerka pospolitego (*Picea abies* (L.) Karst.) w zależności od warunków siedliskowych. Instytut Dendrologii PAN, Kórnik. 98 str. [Research on abundance of flowering spruce (*Picea abies* (L.) Karst.) depending on habitat conditions] (thesis). 1976.
2. Influence of growth regulators and polythene covers on flowering of Scots pine and Norway spruce grafts. *Silvae Genet.* 30(4–5): 142–146. 1981.
3. Regulation of flowering in seed orchards. In: *Genetics of Scots Pine*, M. Giertych and C. Matyas, eds. Series Development in Plant Genetics and Breeding, 3. Elsevier, Amsterdam, p. 173–182. 1991.
4. Environmental pollution changes in membrane lipids, antioxidants and vitality of Scots (*Pinus sylvestris* L.) pollen. *Acta Soc. Bot. Pol.* 72(2): 99–104 (with P. Pukacki). 2003.

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1. URL: <http://www.idpan.poznan.pl/pracownicy-strony/1745-wladyslaw-chalupka> Retrieved 24.12.2018.
2. Chałupka W. Personal communication (January 2019) at wrchalupka@gmail.com

GLASSER, Wolfgang Gerhard



Wolfgang Gerhard Glasser received the IUFRO Scientific Achievement Award in 1986 for his investigations of the utilization of lignin in high-value products (IUFRO 1986).

Wolfgang Glasser was born on 9 October 1941 in Zwickau, Germany. He earned a Diploma in Wood Science and Technology (Dipl.-Horzwirt, 1966) and Ph.D. in Wood Chemistry (*Dr. rer. nat.*, 1969) from the University of Hamburg, Germany. As a post-doc he moved to the University of Washington, where he got a position as Research Associate and Research Assistant Professor (1969–1972) and adjunct faculty member at the Department of Chemical Engineering. He then moved to Virginia Tech, where he served in the Department of Wood Science and Forest Products as an Assistant Professor (1972–1975), Associate Professor (1975–1980), a Professor of Wood Chemistry since 1980, and Professor Emeritus of Virginia Tech (2002). In addition, he served as Associate Dean for Research and Graduate Studies (1993–1998) and as Director of the Biobased Materials Technology Development Center (1986–1991). From 1976, he was also a visiting professor and collaborator in many universities, institutions, and corporations: in São Paulo, Brazil; Grenoble, Toulouse, and Nancy, France; Pisa, Italy; Freiburg, Germany; Gothenburg and Stockholm, Sweden; Singapore; Kyoto, Japan; and Guadalajara, Mexico. He has been an advisor for governmental and industrial organizations, e.g., a visiting scientist with the Weyerhaeuser Corporation, and the Chief Scientific Officer of cycleWood Solutions, Inc.

Dr. Glasser is a member of many research and professional organizations, as well as editorial and advisory boards of scientific journals such as *Holzforschung*, *Journal of Applied Polymer Science*, *Cellulose*, *Cellulose Chemistry and Technology* (Romania), and *Journal of Wood Science* (Japan). He is the former Editor-in-Chief of *Cellulose*, published by Kluwer Academic Publishers. He published over 200 research works in various journals and edited books, including the ACS Symposium Series. He holds 20 patents. He is a Member and a Fellow of the ACS, for which he has served in various capacities from Alternate Councilor to General Chair. He is a Fellow (1998) and Lifetime Contributor of IAWQ, to which he has delivered the prestigious Academy Lecture (2007). Prof. Glasser is the recipient of the George Olmsted Award of the API/TAPPI (1974), Anselme Payen Award of the ACS's Cellulose, Paper and Textile Division (2000) and the Division Fellow Award (2003), and the Albert Nelson Marquis Lifetime Achievement Award (2018).

Selected research sources:

1. Simulation of reactions with lignin by computer (SIMREL). I. Polymerization of coniferyl alcohol monomers. *Macromolecules* 7: 17–27 (with H. R. Glasser). 1974.
2. *Lignin: properties and materials*. W. G. Glasser and S. Sarkanen, eds. Washington, DC: ACS. xiv, 545 p. ACS symposium series. 397. 1989.
3. *Cellulose derivatives: modification, characterization, and nanostructures*. T. J. Heinze, W. G. Glasser, eds. Washington, DC: ACS. xii, 361 p. ACS symposium series. 688. 1998.
4. *Lignin: historical, biological, and materials perspectives*. W. G. Glasser, R. A. Northey and T. P. Schultz eds. Washington, DC: ACS. xv, 559 p. ACS symposium series. 742. 2000.
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1. URL: <https://sbio.vt.edu/about-us/people/faculty/glasser.html> Retrieved 24.12.2018.
2. Glasser W. G. Personal communication (January 2019) at wglasser@vt.edu

KIMMINS, (Hamish) James Peter



James Peter (Hamish) Kimmins received the IUFRO Scientific Achievement Award in 1986 for development of a simulation model to investigate the consequences of intensive forest management on site productivity (IUFRO 1986).

Hamish Kimmins was born in 1942 in Alexandria, Egypt. He earned his B.Sc. in Forestry at the University of Wales (1964), M.Sc. in Forest Entomology at the University of California at Berkeley (1966), M.Phil. (1968) and Ph.D. in Forest Ecology with honours at Yale University (1970). In 1969, he began his career at the Faculty of Forestry, University of British Columbia (UBC), where he served in various capacities and retired on 31 December 2007 as Professor of Forest Ecology. In 2007, he received the title of Professor Emeritus at UBC.

Dr. Kimmins was a member of the UNESCO World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) that was established in 1999, as well as a member of various commissions internationally and nationally. He was also Director of International Programs, Forestry Faculty, UBC, and a Director of the Forest Ecosystem Management Simulation Research Group in the Department of Forest Sciences, UBC. As a certified manager and RPF, Dr. Kimmins played an important role as a consultant and lecturer on various topics related to nature conservation, sustainable forest management, whole tree harvesting, and others with the B.C. Ministry of Forests and Canadian government, forestry industry and environmental groups. Internationally, he was involved in projects on land-use issues with the Tasmanian government and on the impacts of site preparation practices for the New Zealand government. For a long time he was an Associate of the Liu Centre for the Study of Global Issues at UBC.

Dr. Kimmins has prepared numerous research papers and reports. He is the author of the standard and globally used textbook *Forest Ecology* (1987) and the lay-person's guide *Balancing Act: Environmental Issues in Forestry* (1992), the second editions of which were published in 1997. He authored and co-authored over 100 journal papers, and a dozen book chapters.

In addition to the SAA (1986), Professor Kimmins received a number of other awards. The University of Toronto selected him as the 1986 Eddy Distinguished Lecturer; he received the CIF Scientific Achievement Award (1987) and was appointed to the Order of Canada (2014). He was appointed Doctor *honoris causa* by the University of Québec at Montreal. In recognition of his contributions to forest research, education, and management as well as the resolution of ecological issues, a Hamish Kimmins Scholarship in Forest Ecosystem Studies was established in his honour at UBC.

Professor Kimmins died on 8 April 2021 on Denman Island, BC, Canada.

Selected research sources:

1. Sustained yield, timber mining, and the concept of ecological rotation: a British Columbian view. *For. Chron.* 50: 27–31. 1974.
2. *Forest Ecology*. Macmillan, London. 531 pp. 1987. (2nd ed. – *Forest ecology: a foundation for sustainable management*. Prentice Hall, Upper Saddle River, NJ, 596 p. 1997.)
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4. *Balancing Act: Environmental Issues in Forestry*. UBC Press, Vancouver, Canada. 244 p. 1992.
5. Future shock in forestry. Where have we come from; where are we going; is there a “right way” to manage forests? Lessons from Thoreau, Leopold, Toffler, Botkin and Nature. *For. Chron.* 78(2): 263–271. 2002.

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1. Dean's message. 2007 Annual Report. Faculty of Forestry, UBC, 2008, 2–3.
2. Kimmins J.P. Personal communication (January 2019) at kimmings@interchange.ubc.ca
3. Kimmins, Mark H. The world of Canadian forestry lost one of its giants. <https://treefrogcreative.ca/the-world-of-canadian-forestry-lost-one-of-its-giants/> Retrieved 23.12.2021.

KOCH, Niels Elers



Niels Elers Koch received the IUFRO Scientific Achievement Award in 1986 for his comprehensive ecological and sociological studies on public use of Danish forests (IUFRO 1986).

Niels Koch was born on 31 March 1951 in Aarhus, Denmark. He has an M.Sc. in Forestry (1975) and earned his D.Sc. (1985) in the field of forest policy from *Den Kongelige Veterinær- og Landbohøjskole* (KVL, the Royal Veterinary and Agricultural University). In 1987–1991, he held a high-level position in the Forest and Nature Agency of the Ministry of the Environment of Denmark responsible for silviculture and forest law. He was then appointed Director of the Danish Forest and Landscape Research Institute (1991–2003), and in 2004, he became Director General of the *Center for Skov & Landskab* (the Danish Centre for Forest, Landscape and Planning at the University of Copenhagen). For many years, he worked as a leader in the field of forest, environment and recreation research in Denmark. He has been teaching Landscape Management at the University of Copenhagen, where he also served as interim Dean of the Faculty of Life Sciences (2011–2012) and Head of the Dept. of Geosciences and Natural Resource Management (2013–2014).

In 1978–1988, he published in four parts the results of his fundamental research on forest recreation in Denmark – *Skovenes friluftsfunktion i Danmark* – totaling almost 1000 pages! He is the author of more than 200 research papers and a few books, and an editor of numerous reports and the proceedings of various meetings. He has been chairman for the Danish Forest Council (2004–2014), Chairman of the Directors of the National Research Institutes (2002–2003), member of the Board of the Danish Research Councils (1997–2003), member of the Royal Swedish Academy of Agriculture and Forestry since 1995, member of the Danish Academy of Technical Sciences since 1993, and member of the Board of the Nordic Forest Research Co-operation Committee (1991–2014).

Dr. Koch is a member of many national and international forest-related organizations and associations. Since 1976, he has been affiliated with IUFRO in different capacities, e.g., as a member of Working Groups, Deputy Coordinator and Coordinator of IUFRO Division 6 Social, Economic, Information and Policy Sciences (1991–2005), Vice President for Research (2006–2010), President (2011–2014), and Immediate Past President (2014–2019) of the Union, as well as many other responsibilities. He organized and supported many national and international initiatives, seminars, conferences and congresses worldwide as well as supported the printing of their proceedings. For his input in the development of international forest research and education, Prof. Koch is a recipient of an Honorary Doctorate in Forest Science from the Swedish Agricultural University (2008), Honorary Doctorate from Moscow State Forest University (Russia, 2010), Honorary Professorship from the Chinese Academy of Forestry (China, 2012), and Honorary Member Society of American Foresters (2012). In September 2014, Dr. Koch was appointed as CEO and Editor-in-Chief of *Trap Danmark A/S*.

In recognition of his service to IUFRO, Dr. Koch was granted IUFRO Honorary Membership in 2019 at the XXV IUFRO World Congress in Curitiba, Brazil.

Selected research sources:

1. Skovenes friluftsfunktion i Danmark. [Forest recreation in Denmark]. Part I. The use of the country's forests by the population. *Forstlige Forsoegsvaesen i Danmark* 35 (3): 289–451, 1978; Part II. The use of the forests considered regionally 37 (2): 73–383, 1980; Part III: The use of the forests considered locally 39 (2): 121–362, 1984; Part IV. The preferences of the population (with F. S. Jensen) 41: 243–516, 1988.
2. Twenty-five years of forest recreation research in Denmark and its influence on forest policy. *Scandinavian Journal of Forest Research* 19(4): 93–102 (with F. S. Jensen). 2002.

Personal sources:

1. Kirsten Olesen, Lars Serritslev: Niels Elers Koch i *Den Store Danske*, Gyldendal. Hentet 31. maj 2018 fra <http://denstoredanske.dk/index.php?sideId=107769> Retrieved 25.12.2018.
2. Koch N. E. Personal communications (January 2019) at nek@trap.dk

MINOWA, Mitsuhiro



Mitsuhiro Minowa received the IUFRO Scientific Achievement Award in 1986 for development of a fundamental growth model theory to explain the relationship between forest growth and stand treatments (IUFRO 1986).

Mitsuhiro Minowa [箕輪 光博] was born on 25 May 1942 in Tokyo, Japan. He obtained all of his degrees from the University of Tokyo: B.Sc. (1966) and M.Sc. (1970) in Forestry, and his Ph.D. in Agriculture (1978). From 1971 to 1982, he worked as an Assistant Professor in Forest Mensuration and Management at the Department of Forest Science, Faculty of Regional Environment Science, University of Tokyo. In 1982, he was appointed Associate Professor in Forest Management and Economics at Mie University in Tsu, Japan. In 1986, he returned to the University of Tokyo where he worked until his retirement in 2004 as Professor Emeritus.

Since the 1970s, his primary area of concentration was forest mensuration, forest inventory, and forest management and planning, including modelling of forest growth based on mathematical approaches and advancement of vertical sampling theory. Later, he also became interested in socio-economic studies on forest use and forest conservation. His theoretical approaches have resulted in new methods of determination of stand volume using vertical line sampling (1976–1979) and of forest sampling, yield prediction and thinning. This work was published in a series of four papers entitled “Theoretical approach to forest growth modeling” (1982–1984). The IUFRO EB nominated Dr. Mitsuhiro Minowa and Dr. Walter Bitterlich (Austria) for the Marcus Wallenberg Prize in 1984.

He has authored and co-authored more than 50 scientific papers, book chapters, books, and presentations at various national and international conferences and meetings. He served as a member of the Editorial Board of *Forest Policy and Economics* and a number of Japanese scientific journals. In 1996, he was elected a member of the Japanese Forest Society and then was its President (1998–2000). He also served as a President of the Japan Forestry Association (2011–2015). He was active in IUFRO from the mid-1970s, especially, units S4.02-Forest Resource Inventory and S4-04-Forest Management Planning and Managerial Economics as well as the IUFRO-Japan Chapter. He received the Japan Agricultural Science Prize in 2006.

Selected research sources:

1. Stand volume estimation through upper-stem diameter. *J. Jap. For. Soc.* 58: 112–115. 1976.
2. A theoretical approach to forest growth modeling: (I) The log-Mitscherlich theory. *J. Jap. For. Soc.* 64: 461–467, 1982; (II) Further discussion on the self-thinning model. *J. Jap. For. Soc.* 65: 135–142, 1983; (III) Three-dimensional log-Mitscherlich equation system. *J. Jap. For. Soc.* 65: 417–426, 1983; (IV) Individual tree growth and allometry derived from the log-Mitscherlich equation and generalized Weibull distribution. *J. Jap. For. Soc.* 66: 183–191, 1984.
3. *Study of Tree Measurement* (in Japanese). Chikyu-sha, Tokyo, 243 p. (with H. Nagumo). 1990.
4. *Proceedings of the Symposium on Integrated Forest Management Information Systems*. Minowa, M. and S. Tsuyuki, eds. Japan Society of Forest Planning Press, Tokyo. 414 pp. 1992.
5. A modified exponential *distribution* for describing the stand structure of uneven-aged forests. *J. Jap. For. Soc.* 75(5): 449–451 (with Y. Hirata). 1993.
6. A GIS-based multi-criteria decision making approach to forest conservation planning at a landscape scale: a case study in the Kinabalu Area, Sabah, Malaysia. *Landscape and Urban Planning* 71(2–4): 207–222 (with Mui-How Phua). 2005.

Personal sources:

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2. Minowa M. Personal communications (January 2019) at mitsuhiro-minowa@outlook.jp

NILSSON, Sten Bertil



Sten Bertil Nilsson received the IUFRO Scientific Achievement Award in 1986 for extensive research in harvesting, forest planning, forest economics, marketing, and forest sector modelling (IUFRO 1986).

Sten Nilsson was born on 15 July 1944 in Lund, Sweden. He earned his M.Sc. in Forestry (1971) and his Ph.D. in Economic Planning from the Royal College of Forestry in Stockholm (1975). In 1971–1976, he was a Project Leader at the Department of Operational Efficiency of the same college. In 1976–1996, he was Professor in Economic Planning at the Swedish University of Agricultural Sciences (SLU) and later became Leader of the Institute of Forest Products Industry Market Studies there.

In 1983–1984, he was appointed by the Canadian Government to set up new strategies for the forest sector in Canada. In 1985, he headed two commissions for the Swedish government concerning intensified research in the forest sector. After joining IIASA in January 1986, Professor Nilsson became Leader of its Forestry Program (1990), and then was appointed Counselor to the Director (1998–2002) and Deputy Director (2002–2008). From May to December of 2008, he was Acting Director of IIASA, and in 2009, he retired from IIASA.

A native of Sweden, Professor Nilsson is an expert on boreal forests, has had a distinguished academic career in forest sector analysis with emphasis on policy analysis and global forest sector analysis. Many international organizations, e.g., UN FAO, WB, OECD, EC, WCFSD, ASEAN, IUFRO, IBFRA, MCPFE, SIDA, and various ENGOs, e.g., WWF, Forest Trends and the Rights and Resources Initiative requested his advice or to address various meetings. During his carrier, he has worked on issues related to the forest sector in all European countries, Russia, China, Japan, Korea, Australia, New Zealand, Malaysia, Indonesia, Thailand, Laos, Bangladesh, India, South Africa, Brazil, Chile, Mexico, USA and Canada.

Professor Nilsson is a Member of the Royal Swedish Academy of Agriculture and Forestry; the Scientific Committee of Academia Istropolitana Nova, Slovakia; the International Academy of Informatics, Moscow, Russia; and Foreign Member of the Lithuanian Academy of Sciences, Vilnius. He has authored and co-authored over 400 scientific publications and 10 books. Since the early 1990s, Professor Sten Nilsson has contributed to the reports published by the IPCC, which was awarded the Nobel Peace Prize in 2007. He currently holds a Guest Research Scholar Ecosystems Services and Management affiliation with IIASA.

Selected research sources:

1. *The Forest Sector Analysis Project. An Analytical System for Investigating Economic and Policy Issues in Canada's Forest Sector.* Vancouver, UBC, 1983 (with P. Pearse and D. Williams).
2. Extent of forest decline in Europe: A synthesis of survey results. *Environment* 29(9): 4–9, 30–31 (with P. N. Duinker). 1987.
3. *Mountain World in Danger: Climate Change in the Forests and Mountains of Europe.* London: Earthscan Publications Ltd. 196 p. (with D.C. Pitt). 1991.
4. *The Forest Resources of the Former European USSR.* Lancaster: The Parthenon Publishing Group. xiii, 407 p. (with O. Sallnaes, M. Hugosson and A. Shvidenko). 1992.
5. *The Carbon Fixation and Release by the Arctic Tundra and the Boreal Forests under Current and Possible Future Temperature Regimes.* XQ-00-809, IIASA, Laxenburg, Austria, 2000.

Personal resources:

1. URL: <http://www.iiasa.ac.at/web/home/research/researchPrograms/EcosystemsServicesandManagement/Nilsson--Sten-.en.html> Retrieved 26.12.2018.
2. Nilsson S.B. Personal communications (December 2018) at stenbnilsson@gmail.com

ROBERTSON, Jacqueline Lee



Jacqueline Lee Robertson received the IUFRO Scientific Achievement Award in 1986 for development of laboratory bioassays and analytical and statistical techniques for evaluating and predicting response of forest insects to chemicals (IUFRO 1986).

Jacqueline Robertson was born on 9 July 1947 in Petaluma, CA, USA. In 1969, she earned her B.A. in Zoology (major) and History (minor), and in 1973, her Ph.D. in Entomology (1973), both from the University of California at Berkeley. She began her professional career in 1967 as a scientist at the Pacific Southwest Forest and Range Experiment Station, Berkeley, CA, where she worked until retirement in 1996. She was promoted to be Lead Scientist (1982–1990) and Senior Scientist (1990–1996). She founded LeOra Software, and from 1997 she worked as entomologist for this company and developed user-friendly software for biologists.

In parallel, from 1970 she lectured in various courses in insect physiology, entomology, statistical methods of research, statistical aspects of bioassay problems, and biochemical aspects of pests to pesticides, at the University of California campuses at Berkley, Davis and Santa Cruz; and Lincoln University in New Zealand. In addition, she worked as a consultant for numerous governmental, academic and business organisations.

Over her career, Dr. Robertson designed and developed software (POLO in different modifications), developed basic approaches to research in the field of modelling and simulations, developed management strategies as well as biochemical and genetic indicators of forest insect population status, assessed the use of chemicals to suppress pest outbreaks, and developed ecotoxicology as a distinct area of study. She is the author and co-author of over 150 scientific publications, several books, and one patent.

Dr. Robertson was a member of the Entomological Society of America, Entomological Society of Canada and American Phytopathological Society. She was Editor (1982–1997) and Subject Editor (1997–2007) of the *Journal of Economic Entomology* and *Canadian Entomologist* (1991–2000). She was a recipient of the USDA Superior Service Award (1981) and USDA Honor Group Award for Excellence (1998), the Outstanding Service Award of the Entomological Society of America (1996), and the C.W. Woodworth Award (1997).

Dr. Jacqueline L. Robertson, entomologist, researcher, software developer, writer, teacher, advisor, editor, inventor and collector, died on 21 July 2014 after a short illness.

Research sources:

1. POLO: A new computer program for probit analysis. *Bull. Entomol. Soc. Amer.* 23(3): 209–213 (with R. M. Russell and N. E. Savin). 1977.
2. Variation in response to insecticides by Douglas-fir tussock moth, *Orygia pseudotsugata* (Lepidoptera: Lymantriidae) populations. *Can. Ent.* 110: 325–328 (with L. M. Boelter, R. M. Russell, N. E. Savin). 1978.
3. *Pesticide bioassays with arthropods*. Boca Raton: CRC Press, 127 p. (with H. K. Preisler). 1992.
4. *Bioassays with arthropods*. 2nd ed. CRC Press, Boca Raton, Florida, 224 p. (with R. M. Russell, H. K. Preisler and N. E. Savin). 2007.
5. *Forest and Urban Tree Entomology* (Electronic book text). CRC Press, 576 p. 2012.

Personal sources:

1. Jacqueline Lee Robertson. www.entsoc.org/sites/default/files/cv_files/15962.pdf Retrieved 27.12.2018.
2. Gillette N. Personal communications (July 2019) at beetlegillette@yahoo.com
3. Troiano C. Personal communications (July 2019) at tajico@aol.com

SANDS, Roger



Roger Sands received the IUFRO Scientific Achievement Award in 1986 for extensive research in stress physiology of trees and the relationship between soil physical factors and tree growth (IUFRO 1986).

Roger Sands was born on 23 February 1944 in Brisbane, Australia. He obtained his Bachelor of Forestry Science with Honours (1967) and Ph.D. (1972) from Australia National University (ANU) in Canberra. He began his career as a Researcher at the CSIRO's Division of Applied Chemistry and Division of Soils (1973). His major research was in the area of tree physiology, tree and water relationships, properties of soils, root systems and tree growth.

In 1982, Dr. Sands was appointed Reader and Director of the Forestry Section at the University of Melbourne, Creswick, Australia, and during this period, he played an important role in the establishment of the Co-operative Research Centre (CRC) for Hardwood Fibre and Paper Science. In 1995, Professor Sands became Head of the School of Forestry at the University of Canterbury, Christchurch, New Zealand, a position he filled with distinction until 2006. In 2007, he retired as Professor Emeritus.

Professor Roger Sands is a long-standing member of national and international professional societies and organisations including being a member of the Committee of Review for several Cooperative Research Centres, preparing research plans for Forest and Wood Products Australia, undertaking consultancies in the Middle East and the South Pacific, and being on the Editorial Board of *Forest Ecology and Management*.

In recognition of his input and achievements in forest science, forest education, and the forest industry, Professor Sands was made a Professorial Fellow of the School of Forest and Ecosystem Science, University of Melbourne, was mentioned in the Grants Honour Roll of the University of Canterbury (2002), and was invited to deliver the Maxwell Jacob's Oration to the combined conference of the Australian and New Zealand Institutes of Forestry (2003).

Selected research sources:

1. Water potential and leaf elongation in Radiata pine and wheat. *Physiologia Plantarum* 37 (4): 293–297 (with R. L. Correll). 1976.
2. Root regeneration and plant water status of *Pinus radiata* D. Don seedlings transplanted to different soil temperature. *J. Expt. Bot.* 30: 1119–1131. (with E. K. S. Nambiar and G. D. Bowen). 1979.
3. Hydraulic properties of pine and bean roots with varying degrees of suberization, vascular differentiation and mycorrhizal infection. *Aust. J. Plant Physiol.* 9: 559–569 (with E. I. Fiscus and C. P. P. Reid). 1982.
4. Water relations and photosynthesis in three families of radiata pine seedlings known to differ in their response to weed control. *For. Ecol. and Mgmt.* 9(3): 173–184 (with P. E. Kriedemann and P. P. Cotterill). 1984.
5. Configuration and development of root systems of cuttings and seedlings of *Eucalyptus globulus*. *New Forests* 14(2): 85–105 (with Jo Sasse). 1997.
6. *Forestry in a Global Context*. 2nd ed. CABI Publishing, Wallingford, UK, 264 p. 2013. (1st ed., 280 p., 2005).

Personal sources:

1. Falvey J. L. and J. B. Bardsley. Land and Food: Agricultural and Related Education in the Victorian Colleges and the University of Melbourne. 226 p. 1997.
2. URL: <https://www.canterbury.ac.nz/engineering/schools/forestry/contact-us/> Retrieved 27.12.2018. (Roger Sands, Emeritus Professor).
3. Sands R. Personal communications (January 2019) at roger.sands@canterbury.ac.nz

THO, Yow Pong



Yow Pong Tho received the IUFRO Scientific Achievement Award in 1986 for research in biology and taxonomy of termites and important insects of tropical forests and plantations (IUFRO 1986).

Yow Pong Tho was born on 25 November 1945 on Penang Island, Malaysia. He earned his B.Sc. with Honours from *Universiti Malaya* (UM), and in 1982, his Ph.D. in Zoology from the University of Aberdeen, UK. He began his professional career in 1969 as a tutor and temporary Assistant Lecturer with the UM. He then joined FRIM as an entomologist (1973), being promoted to Head of the Entomology Section (1975), Senior Forest Entomologist, Director of the newly established Economic Technology Division (1986), and Director of another newly formed Environmental Science Division of FRIM (1988) that he held until his death (1991). In FRIM, he made a collection of insects numbering more than 200,000 specimens. In 1977–1991, he was also the Honorary Curator of the National Museum of Malaysia (*Muzium Negara*) entomological collection.

Dedicated to nature conservation and being the MNS's Honorary Secretary, Dr. Tho put much effort into the foundation of the Kuala Selangor National Park (est. 1987), for the gazetting of Endau-Rompin National Park (est. 1993), drafting a management plan for the sustainable development of Pulau Island area, and other projects. His recognition as a scientist and conservationist led to his secondment by ISIS-Malaysia "to help chart the nation's course in matters pertaining to the environment". In 1974, Yow Pong Tho produced the first copy of the *Malaysian Naturalist* magazine, supported by the Malaysian Nature Society (MNS).

Dr. Tho authored and co-authored more than 40 papers on insect taxonomy, entomology, biodiversity, forest biology, and nature conservation. In 1990, he was invited to be an expert for the UNEP Ad-Hoc WGE on Biological Diversity to explore the need for an international convention on biological diversity. In 1982, he was awarded the Forest Department's Excellent Service Award.

At the young age of 46, Dr. Tho Yow Pong passed away on 13 December 1991 after an illness in Petaling Jaya, Malaysia. His contributions to forest and nature conservation in Malaysia and internationally have been immortalized by having two insects, a crab and a palm named after him, as well as by the MNS and FRIM erecting a commemorative plaque in front of a bamboo clump named *Gigantochloa thoi* (1992), and by establishing the Environmental Fund for Children (1993).

Selected research sources:

1. The common mound-building termite. *Nat. Malay.* 3: 16–23. 1978.
2. Studies on the taxonomy and biology of termites (Isoptera) of Peninsular Malaysia. Ph.D. Thesis. University of Aberdeen, 1982.
3. Termites of Peninsular Malaysia. (L. G. Kirton ed.). *Malayan Forest Records*, No. 36. Forest Research Institute Malaysia, Kepong, ix, 224 pp. (based on his Ph.D.). 1992.
4. *The future of tropical rain forests in South East Asia: proceedings of a symposium organised by the Forest Research Institute, Kepong, Malaysia and the IUCN Commission on Ecology held in Kepong, Malaysia, on 1–2 September 1983.* J. Davidson, Tho Yow Pong and M. Bijleveld, Eds. Gland, Switzerland, IUCN. 127p. (Contributor and editor). 1985.

Personal sources:

1. Chandran P. (2002) An entomologist's legacy for our children Malaysiakini. <https://www.malaysiakini.com/opinions/21334> Retrieved 14.12.2018.
2. Tho, Yow Pong. Obituary. *J. Trop. For. Sci.*, December, Vol. 4(2): 183–184. 1992.
3. Salleh Mohd. Nor Personal communications (January 2019) at salleh.mohdnor@gmail.com

1990 (Montreal, Canada)

At the Opening of the XIX IUFRO World Congress on 5 August 1990, nine young scientists out of 36 nominated (6 women, 30 men) received the Scientific Achievement Award (SAA). The selection was made by the Honours and Awards Committee, which consisted of its Chair Alan Brown (Australia), Vice-Chair Lars Strand (Norway) and Committee members Riccardo Morandini (Italy), Jírí Skoblik (Czech Republic), Richard Skok (USA), Heinrich Schmutzenhofer (Austria), Horst Schulz (Germany)⁴. President R. E. Buckman delivered the awards to the following scientists:

Rene I. ALFARO	Canada
Reinhart J. M. CEULEMANS	Belgium
David O. LADIPO	Nigeria
Ross E. McMURTRIE⁵	Australia
Jeffery J. MORRELL	USA
Jacek OLEKSYN	Poland
Anthony PIZZI	South Africa
Christian G. SALES	France
Melvin T. TYREE	USA



From left to right: R. Buckman, M.T. Tyree, C.G. Sales, A. Pizzi, J. Oleksyn, J.J. Morrell, D.O. Ladipo, R.J.M. Ceulemans, R.I. Alfaro and R. Cromer (on behalf of R.E. McMurtrie) (Photo: IUFRO Secretariat).

⁴ Information from the unpublished IUFRO Board Minutes 1989.

⁵ Dr. R.E. McMurtrie was unable to attend the Congress, and on his behalf, Dr. Robin Cromer has accepted the award.

ALFARO, René Iván



René Iván Alfaro received the IUFRO Scientific Achievement Award in 1990 for his achievements in research on pest impacts on forest resources and ecology (IUFRO 1990).

René Alfaro was born on 27 February 1948 in Santiago, Chile. He earned his B.Sc. in Forestry from the University of Chile (1972) and his M.Sc. in Pest Management (1977) and Ph.D. in Forest Entomology (1980) from Simon Fraser University in British Columbia, Canada.

In June 1980, he was appointed as Research Scientist with the Canadian Forest Service of the Canadian Ministry of Natural Resources at its Pacific Forestry Centre (PFC), in Victoria, BC, where he worked over 35 years until his retirement in January 2016. He remained as Emeritus Research Scientist at PFC until 2018. The scope of his responsibilities covered developing, testing and applying proper sampling procedures to classify and measure damage caused by forest pests. From 2005, he was affiliated with the University of Victoria as an Adjunct Professor in the Department of Geography.

As an internationally recognized forest entomologist, Dr. Alfaro participated in numerous events, such IUFRO World Congresses, International Congress of Entomology, World Forestry Congresses, and others. He was a member of the Advisory Committee for the XIII World Forestry Congress in Argentina (2009). For a long time he collaborated with IUFRO, first as a Deputy and then as Coordinator of the IUFRO Working groups on entomology until 2010. In 2005 and 2009 Dr. Alfaro made special presentations at the United Nations Forum on Forests (UNFF5 and UNFF8) in New York on the topic of *Changing paradigms in Forestry: lessons for the new millennium*. He is the author and co-author of about 250 research publications in various journals, as well as a co-editor of many congress proceedings and books. Dr. Alfaro's work has been cited 2800 times.

Besides the SAA (1990), Dr. Alfaro is a recipient of other distinguished awards, including the Canadian Forestry Scientific Achievement Award (2001), and the Canadian Forest Service Merit Award 2005, in recognition of his outstanding contribution to international partnerships, based on work with the IUFRO project World Forests, Society and Environment.

Selected research sources:

1. *Insects Affecting Reforestation: Biology and Damage*. R.I. Alfaro and S.G. Glover, eds. Proceedings: A meeting of the IUFRO working group on Insects affecting reforestation (S2.07-03) held under the auspices of the XVIII International Congress of Entomology. July 3–9, 1988, Vancouver. Forestry Canada, Pacific Forestry Centre, Victoria, BC. 256 p.
2. Tree mortality and radial growth losses caused by the western spruce budworm in a Douglas-fir stand in British Columbia. *Can. J. For. Res.* 12(4): 780–787 (with A. Van Sickle and A. Thomson). 1982.
3. Influence of fire and mountain pine beetle on the dynamics of lodgepole pine stands in British Columbia, Canada. *For. Ecol. and Mgmt.* 257: 1874–1882 (with J. N. Axelson and B. Hawkes). 2009.
4. *Forests and Society – Responding to Global Drivers of Change*. Mery G., Katila P., Galloway G., Alfaro R.I., Kanninen M., Lobovikov M. and J. Varjo, eds. / IUFRO World Series, Vol. 25. Vienna. 509 p. 2010.
5. Changing paradigms in the management of forest insect disturbances. *The Canadian Entomologist* 148(S1): S7–S18 (with D. Langor). 2016.

Personal sources:

1. PFRS Staff Appointments. Canadian Forestry Service, Pacific Forest Research Centre, *Forestry Information*, Summer, 7(3): 6. 1980.
2. Alfaro R. I. Personal communications (January 2019) at ralfaro@uvic.ca

CEULEMANS, Reinhart Jan Maria



Reinhart Jan Maria Ceulemans received the IUFRO Scientific Achievement Award in 1990 for the development of early physiological selection indices for poplar (IUFRO 1990).

Reinhart Ceulemans was born on 15 January 1954 in Antwerp, Belgium. He graduated (1976), obtained his Ph.D. in Biology (1980) and habilitated (1990) at the University of Antwerp, where he also began his research and education career as Research Assistant and Research Associate (1976–1986) and Senior Research Associate (1989–1990). In 1987–1988, Dr. Ceulemans was visiting Professor and Fulbright Grantee at the University of Washington, Seattle, USA, then Research Associate at the Government Poplar Research Station in Geraardsbergen, Belgium (1988–1989), and Visiting Professor, Université Paris XI, Orsay, France (1989). Later on, he was a titular of the Belgian Francqui Chair at the Université Catholique de Louvain (UCL; 2006–2007), and since 2013 also Visiting Professor at the University of Ghent, Belgium. For 10 years (1990–1999), Dr. Ceulemans served as Research Director of the Fund for Scientific Research – Flanders (Belgium). Then he returned to his *alma mater* as a Professor of the Department of Biology, Vice-Chair (2001–2004) and Chair (2004–2006) of the Department. He was also a Vice-Dean of the Faculty of Science (2006–2009) and since 2000 the head of Research Group of Plants and Ecosystems at the University of Antwerp.

Dr. Ceulemans has a wide range of expertise including plant ecology, bio-energy crops, global change, biosphere–atmosphere fluxes and many others. He authored and co-authored over 500 scientific publications, including over 340 publications in peer-reviewed scientific journals, edited and co-edited nine books on plant responses to environmental factors and tree physiology. *Lab Times* (2007) named Professor Ceulemans amongst the 20 most-cited European authors in Plant Science during 1999–2005.

Dr. Ceulemans is Full Professor at the Department of Biology and Director of the Research Centre of Excellence ECO at the University of Antwerp. He also carried out a number of administrative and public duties as Chair of the LESC Standing Committee of the European Science Foundation (ESF; 2008–2015) and Chair of the WG on Biodiversity and Forests of the Federal Council for Sustainable Development (FCDD) and other responsibilities. His contribution into research and education were recognized in various ways. He is a Member of the Royal Academy of Sciences and the Arts of Belgium (RASAB; 2009) and Corresponding Member of the Slovenian Academy of Sciences and Arts (SAZU, 2015). He received an Honorary Doctorate at the Mendel University in Brno, Czech Republic (2010) as well as at the *Université d'Orléans*, France (2012).

Selected research sources:

1. *Genetic Variation in Functional and Structural Productivity Determinants in Poplar*. Thesis Publishers, Amsterdam. 101 p. 1990.
2. Tansley review: Effects of elevated atmospheric CO₂ on woody plants. *New Phytologist* 127: 425–446 (with M. Mousseau). 1994.
3. Tree responses to rising CO₂ in field experiments: implications for the future forest. *Plant, Cell & Environment* 22(6): 683–714 (with R. J. Norby, S. D. Wullschlegler, C. A. Gunderson, D. W. Johnson). 1999.
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5. Genotypic differences in biomass production during three rotations of short-rotation coppice. *Biomass and Bioenergy* 119: 198–205 (with S. P. P. Vanbeveren). 2018.

Personal sources:

1. URL: <https://www.uantwerpen.be/en/staff/reinhart-ceulemans/personal-website/> Retrieved 29.12.2018.
2. Ceulemans R. Personal communications (January 2019) at reinhart.ceulemans@uantwerpen.be

LADIPO, David Olajide



David Olajide Ladipo received the IUFRO Scientific Achievement Award in 1990 for research to improve West African hardwoods (IUFRO 1990).

David Ladipo was born on 16 April 1949 in Kaduna, Nigeria. He received his B.Sc. in Botany (1974) from the University of Lagos (Unilag), Nigeria, and Ph.D. in Forestry (1981) from Edinburgh University, UK.

He began his professional research career as Head of the West African Hardwoods Improvement Project at the Forestry Research Institute Nigeria (FRIN) in Ibadan (1978–1990), with a break when he worked as a consultant to the UN-FAO in Rome (1989). He then moved for a year to Oregon State University, USA, and after returning home, he worked as a lead scientist on ICRAF projects in Ibadan (1990–1998) and Yaounde, Cameroon (1994).

As a plant geneticist, forest biologist and agroforester, Dr. Ladipo has contributed to and consulted for numerous local, national and international organizations, agencies and projects, including the World Bank and AfDB (Fadama project), the UN-FAO, IFAD, UNDP, ITTO, CBD and others. He was a National Biodiversity Consultant for Nigeria (2001–2003), Consultant to the Abuja Accelerated Greening Programme (2003–2005), National Consultant for the UNDP PGA (2011–2013), and the GEF's Niger Delta Biodiversity Project (2011–2016). He carried out an in-depth assessment (2006–2007) and development of the new Oyo State Blueprint for Forestry Development, Conservation and Ecotourism, consulted for the Sustainable Livelihood Training for the Ekiti State of Nigeria (Oct/Nov 2014), Sustainable Fuelwood Management project (2018), and a curriculum development for food production and environmental problems (erosion) management in Nigeria.

Dr. Ladipo also developed the concept note for the National Botanic Garden (The Tree Heritage Park in IITA-Ibadan). For his hard work and excellence, he was honoured as Patron of the Tree Heritage Park (2017). In 1990, Dr. Ladipo received the SAA and became the first African awardee of the World Scientific Achiever. He is Member of the Genetics Society of Nigeria (President, 1986–1988), and Nigerian Vice-President at the ISTF.

Dr. Ladipo holds a position as Chief Executive Officer at CENRAD, and since 2015, he is also Chief Consultant and Lead Advisor at Eagle & Dragon Int. Ventures, Ltd.

Research sources:

1. Clonal variation in apical dominance of *Triplochiton scleroxylon* K. Schum in response to decapitation. *Silvae Genetica* 40(3/4): 135–140 (with R. R. B. Leakey and J. Grace). 1991.
2. Genetic improvement of West African tree species: past and present. In: R. R. B. Leakey & A. C. Newton, eds. *Tropical trees: the potential for domestication and rebuilding of forest resources*. HMSO, London, p. 239–248. (with S. P. K. Britwum, Z. Tchoundjeu, O. Oni and R. R. B. Leakey). 1994.
3. *Strategies for Farming Systems Development in sub-Saharan Africa*. E. A. Atayi and D. O. Ladipo, eds. Proceedings of the Ecoregional Program for the Humid and Sub Humid Tropics of sub-Saharan Africa (EPHA) Scientific Workshop; IITA, Ibadan, 17–20 November 1998. IITA and FAO. Ibadan, Daybis Ltd. x, 208 p. 2003.

Personal sources:

1. URL: https://prabook.com/web/david_olajide.ladipo/474721 Retrieved 29.12.2018.
2. URL: <http://eagleandragon.com/index.php/our-management> Retrieved 29.12.2018.

McMURTRIE, Ross Edward



Ross Edward McMurtie received the IUFRO Scientific Achievement Award in 1990 for outstanding progress in process-based modelling of forest growth (IUFRO 1990).

Ross McMurtie was born on 6 November 1949 in Sydney, Australia. He studied physics at the University of Sydney, where he obtained a Bachelor degree with First Class Honours in 1972, followed by a Doctoral degree in Theoretical Physics (1976). His Ph.D. research was in the field of ecological modelling under the supervision of Robert May. After short-term positions at Princeton University (1974) and University of British Columbia (1976), he was appointed as Research Scientist, progressing to Principal Research Scientist in CSIRO's Division of Forest Research, in Canberra (1977–1990). At CSIRO he worked closely with colleagues from Australia, New Zealand and Sweden. In 1990 Dr. McMurtie accepted an appointment as Lecturer in the School of Biological, Earth and Environmental Sciences, University of New South Wales, Sydney, progressing to Professor in Biological Sciences and then Honorary Professorial Fellow (1990–2019).

Dr. McMurtie's research has focused on process-based modelling of forest ecosystems. He has authored and co-authored approximately 150 publications on the roles played by plant ecophysiology, changing atmospheric and climatic conditions, and soil-nutrient cycling, in regulating the carbon balance of local and global terrestrial ecosystems over contrasting timescales. His *BIOMASS* and *G'DAY* models have been used to investigate impacts of climate and land-use change, and to evaluate carbon/water/nutrient balances of grassland, savanna and forest ecosystems in a number of countries. He served as inaugural Principal Investigator for the Hawkesbury Forest Experiment (2004–2009), one of the world's major climate-change field experiments.

Dr. McMurtie has served as Treasurer of the Ecological Society of Australia, as co-chair of the IUFRO Working Party on Whole Plant Physiology, as leader of IGBP's Global Change and Terrestrial Ecosystems Core Project Task on *Modelling Global Change Impacts on Structure, Function and Productivity of Managed Forests.*, and as a member of the editorial boards of *Plant, Cell and Environment* and *Trees*.

Selected research sources:

1. Above- and below-ground growth of forest stands: a carbon budget model. *Annals of Botany* 52: 437–448 (with L. Wolf). 1983.
2. Forest productivity in relation to carbon partitioning and nutrient cycling: a mathematical model. In: M. G. R. Cannell & J. E. Jackson, eds. *Attributes of Trees as Crop Plants*. Inst. Terr. Ecol., and Natural Environ. Res. Council, Abbots Ripton, Huntingdon, England, pp. 194–207. 1985.
3. Modelling the yield of *Pinus radiata* on a site limited by water and nutrition. *For. Ecol. Mgmt.* 30: 381–413 (with D. A. Rook and F. M. Kelliher). 1990.
4. Long-term response of nutrient-limited forests to CO₂-enrichment; equilibrium behaviour of plant-soil models. *Ecol. Applications* 3: 666–681 (with H. N. Comins). 1993.
5. Aboveground net primary production decline with stand age: potential causes. *Trends in Ecology and Evolution* 11: 378–382 (with S. T. Gower and D. Murty). 1996.
6. New insights into carbon allocation by trees from the hypothesis that annual wood production is maximized. *New Phytologist* 199: 981–990 (with R. C. Dewar). 2013.
7. Quantifying the contribution of mass flow to nitrogen acquisition by an individual plant root. *New Phytologist* 218: 119–130 (with T. Näsholm). 2018.

Selected research sources:

McMurtie R. E. Personal communications (January 2019) at r.mcmurtie@unsw.edu.au

MORRELL, Jeffrey Joseph



Jeffrey Joseph Morrell received the IUFRO Scientific Achievement Award in 1990 for his work on the interactions between biological agents, causing deterioration of wood with the wood structure and chemicals therein, and effectiveness of preservative agents applied to wood (IUFRO 1990).

Jeff Morrell was born 14 November 1955 in New York, NY, USA. He earned his B.Sc. in Forest Biology (1977) from SUNY-ESF, M.Sc. in Plant Pathology – at Pennsylvania State University (1979) and Ph.D. in Forest Pathology and Mycology (1986) from SUNY-ESF. Before joining Oregon State University (OSU) in 1983, he worked as an assistant engineer for an electrical utility. He rose through the academic ranks and was named a Distinguished University Professor in 2006.

During his 35 years in OSU's Department of Wood Science & Engineering, Professor Morrell successfully combined his research interests with teaching courses on wood science, wood bio-deterioration and preservation, wood use in adverse environments, and renewable materials. He is the author or co-author of over 200 peer-reviewed paper publications and numerous conference proceedings, book chapters and manuals. His co-authored book *Wood Microbiology: Decay and its Prevention*, with Robert A. Zabel, was published in 1992 and remains a key reference in the field.

He is a member of numerous professional societies and has served as President of the American Wood Protection Association (AWPA) and the International Research Group on Wood Protection (IRG). The AWPA recognized him with its Award of Merit (2015) and the IRG as an Honorary Life Long Member (2016).

In 2018, Professor Morrell moved to Australia to begin a 5-year appointment as Director of the National Centre for Timber Durability and Design Life (NCTDDL) at the University of the Sunshine Coast (USC), Queensland, Australia. This Centre is a strategic initiative led by Forest & Wood Products Australia to revitalize durability research in the country in collaboration with the University of Queensland and the Queensland Department of Agriculture and Fisheries.

Selected research sources:

1. *Safe use of preservatives and preservative-treated wood at home and on the farm: a guide for the Pacific Northwest*. Corvallis: OSU. Forest Research Laboratory. iv, 21 p. (with R. D. Graham and D. J. Miller). 1988.
2. Identity and distribution of Basidiomycotina colonizing Douglas-fir poles during three years of air-seasoning. *Mycological Research* 96(5): 321–330 (with C. M. Sexton, S. M. Smith, B. R. Kropp, M. E. Corden, and R. D. Graham). 1992.
3. *Wood Microbiology: Decay and its Prevention*. San Diego, Acad. Press Inc., 476 p. (with R. A. Zabel). 1992.
4. *Wood pole maintenance manual*. Corvallis: OSU. Forest Research Laboratory. 47 p. 1996.
5. Effect of process variables on supercritical fluid impregnation of composites with tebuconazole. *Wood and Fiber Science* 29(3): 282–290 (with M. N. Acda and K. L. Levien). 1997.

Personal sources:

1. URL: <http://directory.forestry.oregonstate.edu/people/morrell-jeff> Retrieved 30.12.2018. (OSU, 2011).
2. URL: <https://www.usc.edu.au/explore/structure/faculty-of-arts-business-and-law/staff/professor-jeff-morrell> Retrieved 30.12.2018.
3. USC, NCTDDL: www.usc.edu.au/timber-durability
4. Morell J. J. Personal communications (January 2019) at Jeff.Morrell@oregonstate.edu

OLEKSYN, Jacek



Jacek Oleksyn received the IUFRO Scientific Achievement Award in 1990 for his outstanding Scots pine provenance studies (IUFRO 1990).

Jacek Oleksyn was born on 26 April 1953 in Legnica, Poland. He graduated from the Leningrad Forest Technical Academy, USSR (1976), obtained his Ph.D. in Biological Sciences (1982) from the Univ. of Silesia, Katowice, Poland and habilitation in Forestry (1994) at the Faculty of Forestry of the Agricultural Academy (now the Univ. of Life Sciences), Poznań, Poland. He began his professional career in 1976 at the Institute of Dendrology of the Polish Academy of Science in Kórnik, where he was appointed as Head of the Laboratory of Abiotic Diseases (1982–1988), moving on to Head the Department of Ecology (1996–1999) and the Laboratory of Ecophysiology (from 1999), and then becoming Director of the Institute (2011–2018). His scientific interests are in the area of forest tree biology, ecology, ecophysiology, and modeling of regional and global environmental changes.

In 1988–2019, he worked on various collaborative research projects in Poland and at various US universities. He was a Senior Fulbright Scholar at the Laboratory of Tree-Ring Research, Univ. of Arizona, Tucson (1988–1989), then at Univ. of Wisconsin-Madison (1989–1991), and the Department of Forest Resources, Univ. of Minnesota, where he worked for over 14 years in total. He coordinated various research grants, including those of the EU, National Science Foundation (USA), National Geographic Society (USA), and others.

Dr. Oleksyn received the title of Professor of Biological Sciences at the Adam Mickiewicz University in Poznań, Poland (2002), and in 2007 was elected to the Polish Academy of Sciences. For his achievements in science he received the Award of the Foundation for Polish Science in the field of biological and medical sciences for his “contribution to the discovery of universal biogeographic relationships between plant traits that are important for understanding ecological processes on a global scale” (2008). He authored and co-authored over 145 scientific publications, cited 13,170 times (Web of Science) at the age of 46. In 2018 he and Dr. P.B. Reich of the University of Minnesota (USA) jointly won the AAAS and the Foundation for Polish Science Award for outstanding scientific achievements in the areas of environmental and plant sciences.

Selected research sources:

1. The worldwide leaf economics spectrum. *Nature* 428(6985): 821–827 (with I. J. Wright, P. B. Reich, M. Westoby, D. D. Ackerly, Z. Baruch, F. Bongers, J. Cavender-Bares, F. S. Chapin, J. H. C. Cornelissen, M. Diemer, J. Flexas, E. Garnier, P. K. Groom, J. Gulias, K. Hikosaka, B. B. Lamont, T. Lee, W. Lee, C. Lusk, J. J. Midgley, M.-L. Navas, Ü. Niinemets, N. Osada, H. Poorter, P. Poot, L. Prior, V. I. Pyankov, C. Roumet, S. C. Thomas, M. G. Tjoelker, E. Veneklaas and R. Villar). 2004.
2. Universal scaling of respiratory metabolism, size and nitrogen in plants. *Nature* 439(7075): 457–461 (with P. B. Reich, M. G. Tjoelker and J.-L. Machado). 2006.
3. Biogeographic variation in evergreen conifer needle longevity and impacts on boreal forest carbon cycle projections. *Proc. Nat. Acad. Sci. USA* 111: 13703–13708 (with P. B. Reich, R. L. Rich, X. Lu and Y-P. Wang). 2014.

Personal sources:

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2. URL: <http://www.biomasaesna.eu:80/prelegent/prof-jacek-oleksyn/> Retrieved 31.12.2018.
3. URL: <https://www.fnp.org.pl/prof-jacek-oleksyn-laureat-nagrody-fnp-2008/> Retrieved 31.12.2018. (Prof. Jacek Oleksyn – laureat Nagrody FNP 2008).
4. Oleksyn J. Personal communications (January 2019) at jacekoleksyn@gmail.com

PIZZI, Anthony (Tony, Antonio)



Anthony Pizzi received the IUFRO Scientific Achievement Award in 1990 for extensive work on adhesives and substantial contributions on chromium wood preservatives (IUFRO 1990).

Antonio Pizzi was born on 15 May 1946 in Rome, Italy. In 1963–1970, he studied the physical chemistry of organo-biological polymers and received his Chemistry Doctorate at the University of Rome in Italy (1970). He earned his Ph.D. in Organic Chemistry (1978) from the University of the Orange Free State at Bloemfontein, RSA, and a Science Doctorate in Wood Science (1985) from the University of Stellenbosch, RSA. His key research areas were adhesives, composites, panel production, wood and polymer chemistry, wood preservation, structure of wood constituents, and other fields.

He began his professional career as a Process Research Chemist in the Sentrachem group, Johannesburg (1970), continued as Quality control Chemist (1971–1972) and Head of Research at Isoroy-Novobord particleboard factory in Port Elizabeth (1971–1976). He then progressed from a project leader (1976) via various leading positions on adhesives, wood glueing, and composite products sections, to Assistant Director and Director of the CSIR's National Timber Research Institute (1984–1987), and Director of the CSIR's Division of Processing and Chemical Manufacturing Technology (1987–1989).

Practical experience gained in industry and research organizations allowed Dr. Pizzi to serve successfully as Professor of Polymer Chemistry (1989–1995) and Head of Dept. of Chemistry (1991–1993) at the University of the Witwatersrand, Johannesburg, RSA. In 1994, Professor Pizzi returned to Europe as Professor and Chair of Industrial Chemistry at LERMAB-ENSTIB, Université de Lorraine. He has authored and co-authored over 800 scientific publications, including over 80 edited proceedings and 10 books; he has 40 patents. His *Handbook of Adhesive Technology* ran to three editions between 1994 and 2018. In 2012–2013, Professor Pizzi was named as one of the most highly cited researchers in materials science.

Professor Pizzi is a member of numerous societies and associations, advisory and editorial boards of scientific journals in Chile, Germany, Japan, UK, and the USA. In 1981–2000, he served as Deputy Chair and Chair of IUFRO working party on Adhesives and Wood Glueing. His contributions have been recognized by numerous national and international prizes, honours and awards in the USA (1980, 1985), UK (1986), four awards in RSA (1986–1988), Belgium (2000), France (2000, 2005, 2013), Austria (2005, 2008) including the Schweighofer Wood Innovation prize, Switzerland (2006), Germany (2013), EC (2000 and 2005) including the Descartes Research Prize of the European Commission with the distinction being the only person to date to have won it twice. He is mentioned in Marquis Who's Who in the World (1996 onward), and he holds the title of Professor Emeritus.

Selected research sources:

1. Wood adhesives, present and future: papers presented at the International Union of Forestry Research Organizations (IUFRO) All-Division 5 Conference, Madison, Wisconsin, June 27 – July 5, 1983. *Applied Polymer Symposium* Nr 40 (A. Pizzi, ed.). New York: J. Wiley. v, 267 p. 1984.
2. *Handbook of adhesive technology*. New York: M. Dekker. xi, 680 p. (with K. L. Mittal). 1994.
3. *Lignocellulosic Fibers and Wood Handbook: Renewable Materials for Today's Environment*. A. Pizzi, M. N. Belgacem, eds. Hoboken, New Jersey Scrivener Publishing, Wiley, online resource. 1240 p. 2016.

Personal sources:

1. URL: https://www.researchgate.net/profile/Apizzi_Pizzi Retrieved 31.12.2018.
2. Pizzi A. Personal communications (January 2019) at antonio.pizzi@univ-lorraine.fr

SALES, Christian Georges



Christian Georges Sales received the IUFRO Scientific Achievement Award in 1990 for the breadth of his contributions, ranging through analyses of the mechanics of standing trees, the stresses encountered in drying and structures and the dynamics of sawblades (IUFRO 1990).

Christian Sales was born on 25 June 1949 in Béziers, France. He obtained his B.Sc. in 1967 from University of Montpellier, his M.Sc. in 1972 from the University of Lyon, and Ph.D. in 1984 from the University of Nancy. In 1973, he started his career as a Researcher and worked at the *Centre Technique Forestier Tropical* (CTFT, Tropical Forestry Centre) in Nogent-sur-Marne (1973–1985). In 1986, he was promoted to Senior Researcher at *Centre Technique du Bois et de l'Ameublement* (CTBA, Wood and Furniture Industry Technical Centre). He managed the research program of the Centre as Deputy Manager until 1996. He then served as Program Manager of Forest Unit at the Centre for International Cooperation in Agricultural Research for Development (CIRAD-Forêt) in Montpellier (1997) until his retirement in 2014.

The major research interests of Dr. Sales were in the area of biomass, change of wood properties under stress, energy from wood waste, using various sawing methods, and in bio-products in tropical forests. He organized a number of important international meetings, e.g., training in tropical timber classification, workshop on the development of the EU teak wood research program, and meetings on sustainable tropical forest management. Dr. Sales authored and co-authored more than 80 scientific publications, including a few book chapters and a book on the theory of sawing and the utilization of the band sawmill.

Dr. Sales was active in IUFRO for over 25 years and served as a Project Group Leader P5.01.00, Properties and utilization of tropical woods (1987–1990), Deputy Coordinator IUFRO Division 5 (1991–1995, 1998–2000) and Coordinator of IUFRO Division 5 (1996–1997). He is an IAWS Fellow, Lifetime Contributor and Supporting Member. His expertise has been requested by many national and international organizations (ITTO, FAO).

Dr. Sales has received various honours and awards in addition to the SAA.

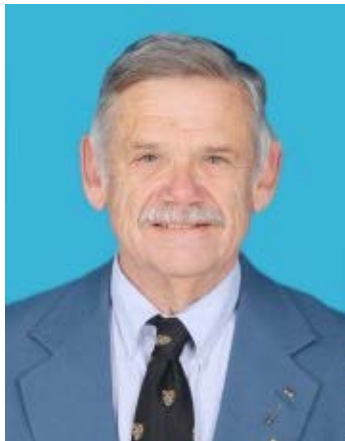
Research sources:

1. Properties and utilization of tropical woods. *Proceedings. XVIII World Congress, Ljubljana*. C.G. Sales, ed. Vienna (Austria): IUFRO. 100 p. 1986.
2. *La scie à ruban. Théorie et pratique du sciage des bois en grumes*. Nogent-sur-Marne: CIRAD-CTFT. 152 p. [The band saw. Theory and practice of sawing logs]. 1990.
3. Innovation technologique et valorisation des sous-produits des filières bois. *Bois et Forêts des Tropiques* 277: 35-43. [Technological innovation and energy production from timber waste]. 2003.
4. Energie, les promesses de la biomasse. *La Recherche* 406, suppl.: pp. 24–25. 2007.
5. *Quels VEGétaux et systèmes de production dur Ables pour satisfaire les besoins en bioénergie, synthons et matériaux biosourcés ?* Colonna P., Kammoun A., Montagne X., Sales C., eds. Rapport CIRAD – IFPEN – INRA (France), 409 p. [Which VEGétaux and sustainable production systems to meet the needs of bioenergy, synthons and bio-based materials?]. 2013.
6. *Tropical Timber Atlas*. Jean Gérard, ed. Versailles: Ed. Quae. 999 p. (multi-authored). 2017.

Personal sources:

1. URL: <https://agritrop.cirad.fr/view/auteurcirad/1952.html> Retrieved 11.01.2019.
2. Sales C. Personal communications (July 2019) salesc@wanadoo.fr

TYREE, Melvin (Mel) Thomas



Melvin Thomas Tyree received the IUFRO Scientific Achievement Award in 1990 for his outstanding contributions to the understanding of both biophysical and physiological aspects of transport in plants over many years, invention and popularization of current pressure bomb theory, and development of a rigorous mathematical formulation for the flow of solutions through plants (IUFRO 1990).

Mel Tyree was born on 15 November 1946 in Santa Ana, CA, USA. He earned his B.A. in Physical Chemistry from Pomona College in Claremont, California (1968). During his graduate study, he often went for summer work at the Harvard Forest, Petersham, MA, where he tested the Onsager equations for steady state thermodynamics to describe for the first time the impact of hydrodynamic, electric, and other forces acting upon the flow of solutes through a tree.

In 1972, he obtained his Ph.D. in Plant Biophysics from Cambridge University, U.K., and moved to Canada, where served as a Professor at the University of Toronto (1971–1985) and then as a Research Professor at the Department of Plant Biology, University of Vermont in Burlington (1985–1997). He also served as Director of the Maple Research Center at the University, introducing the “Adopt-a-Tree” program.

In 1991–2012, he was a Project Manager at the USDA FS Aiken Forestry Sciences Lab NE Forest Exp. Sta. in Burlington, while working as a Visiting (Adjunct) Scientist at STRI in Panamá, Panama (1987–2002) and a Professor (2005–2011) and an Adjunct Professor (after 2011) at the University of Alberta in Edmonton, Canada. After retirement from his governmental position, the central government of PRC invited him as 1000-talents professor of Biophysical Plant Ecology to the Northwest Agriculture and Forestry University in Yangling, and in 2017 as Distinguished Professor with the College of Chemistry and Life Sciences at Zhejiang Normal University, Jinhua, PRC.

Professor Tyree received many honours and awards, including fellowships in IAWS (Germany, 2003) and WIF (UK, 2003), and the von Humboldt Research Award for Senior United States Scientists (Germany, 1996). He received the Marcus Wallenberg Prize (2002) for pioneering research in forestry and forest products, an Honorary Doctorate LLD at St. Francis Xavier University of Nova Scotia (2003), Presidential Rank Award (2005), the David J. Gifford Award in Tree Physiology (2007), and FRSC (2008). In 2003, Dr. Tyree was designated a Senior Scientist, one of eight in the Forest Service. Professor Tyree authored and co-authored about 300 scientific publications.

Selected research sources:

1. The measurement of the turgor pressure and the water relations of plants by the pressure-bomb technique. *Journal of Experimental Botany* 23(1): 267–282 (with H. T. Hammel). 1972.
2. A method for measuring hydraulic conductivity and embolism in xylem. *Plant, Cell & Environment* 11(1): 35–40 (with J. S. Sperry and J. R. Donnelly). 1987.
3. Vulnerability of xylem to cavitation and embolism. *Annual Review of Plant Biology* 40(1): 19–36 (with J. S. Sperry). 1989.
4. The ascent of water. *Nature* 423: 923. 2003.
5. *Xylem Structure and the Ascent of Sap* (Springer Series in Wood Science). Springer Science & Business Media, 284 p. (with M. H. Zimmermann). 2002 and 2013.

Personal sources:

1. URL: https://www.researchgate.net/profile/Melvin_Tyree Retrieved 31.12.2018.
2. Tyree M.T. Personal communications (January 2019) at mel.tyree@cantab.net

1995 (Tampere, Finland)

The Opening of the XX IUFRO World Congress on 7 August 1995 included the presentation of IUFRO Scientific Achievement Awards to 10 scientists. They were selected from 48 nominations by the Honours and Award Committee chaired by Dr. J. H. Cayford (Canada), and consisted of the representatives from the regions Dr. J. A. Prado (Chile) and M. J. Lambert (Australia); Division 1 and 3 Coordinators – Drs. J. L. Whitmore (USA) and P. O. Nilsson (Sweden); President's nominees Dr. A. P. Petrov (Russian Federation) and W. Kadri (Indonesia), and *ex-officio* – Immediate Past President R. E. Buckman (USA) and IUFRO Secretary H. Schmutzenhofer (Austria).

Vice-President James Cayford welcomed the winners to the stage. He presented their work and delivered awards together with President Salleh and Secretary Heinrich Schmutzenhofer to the following scientists (IUFRO 1995):

Ann M. FURUBERG	Norway
John L. INNES	Switzerland
Antoine J. KREMER	France
Constance I. MILLAR	USA
Abd. Latif MOHMOD	Malaysia
John N. SADDLER	Canada
Thomas A. SPIES	USA
Pauline T. STENBERG	Finland
Luis A. UGALDE ARIAS	Costa Rica
Zhong-Qi YANG	China



From left to right: L.A. Ugalde Arias, A.M. Furuberg, J.L. Innes, A.J. Kremer, C.I. Millar, Abd. Latif Mohmod, J.N. Saddler, T.A. Spies, P.T. Stenberg, Z.-Q. Yang (Photo: IUFRO Secretariat).

FURUBERG, Ann Merete



Ann Merete Furuberg received the IUFRO Scientific Achievement Award in 1995 for her distinguished forest science research at an international scale in forest engineering: off-road transport of timber, environmentally sound forest technology (IUFRO 1995).

Ann Merete Furuberg Gjedtjernet (then – Furuberg) was born on 25 March 1955 in Grue, Hedmark County, Norway. She finished the Norwegian School of Practical Forestry (1975), studied basic forestry and forestry operating technology (graduated in 1981), and in 1991, she earned her Ph.D. in forest engineering from the Norwegian University of Agriculture. Thus, she became the first woman to earn a doctorate in forest engineering. She obtained further education from the Norwegian Institute of Technology in machine learning (1991) and product development (1992). She held various jobs, including schoolteacher (1975–1976) and seasonal forestry worker (1975–1981). She began her research career as Research Assistant (1981) and a Researcher (1986) at the Norwegian Forest Research Institute (NISK), where she combined research and teaching until 2000. Since then, she has been receiving short assignments as an Assistant Professor at the Department of Forestry and Wildlife Management at Hedmark University College. In addition, she is a politician and has been an office holder in several boards in research, agriculture and forestry at the regional, national and international levels.

Since an early stage in her career, Dr. Furuberg has been a strong proponent of a wider women's involvement into forestry. She established the organization "Women in Forestry" in Norway and initiated the first Worldwide Symposium on Women and Forestry (Lillehammer, Norway, 1999). She published a number of articles, and has participated in research organized by national and international organizations. Dr. Furuberg has a wide international experience via participation in various initiatives and organizations. In 1982–1984, she was a Secretary of the Nordic Forest Work Studies Council. In 1995–1999, she was a Member of the Standing Committee of the Council of Europe (CE) and several other CE bodies. In February 2008, she participated in the UN Commission on the Status of Women (CSW).

Dr. Furuberg actively participated in IUFRO as a Leader of PG "Forest Operations and Environmental Protection" (1990–1995), Deputy Coordinator for Division 3 and a Member of IUFRO's EEB (1996–2000). Dr. Furuberg was also involved in the PG on small-scale forestry; she coordinated a newly established RG 6.18.00 "Gender and Forestry" (2001–2005) and WP 3.11.02 "Forest Operations on Sensitive Sites" (2001–2005), and was a Member of the IUFRO TF on Human Health and Forests (2007–2011). From 2010 to 2018 she was president of The Farmers and Small Holders Union in Norway. She runs a farm with animals and vegetables in addition to a forest property.

Selected research sources:

1. Fruktbart nordisk samarbeid innenfor skogbrukets driftsteknikk. *Norsk Skogbr.* 28(9): 30–31. (With I. Samset). [Fruitful Nordic co-operation within operating technology in forestry]. 1982.
2. *Environmentally friendly forest machine. Mechanical engineering design. Report.* The Norwegian Institute of Technology. The University of Trondheim. 46 p. 1992.
3. *Driftsteknikk: teknisk fagskole fordypningsområde skogbruk.* 328 s. (with Jan Bjerketvedt). [Operating technique: vocational school specialized in forestry]. 2003.
4. *Time for Action. Changing the Gender Situation in Forestry.* Report of the UNECE/FAO Team of Specialists in Gender and Forestry. Rome. vii, 186 p. 2006.

Personal sources:

1. URL: <https://meretefuruberg.com/om-merete/> Retrieved 01.01.2019. (Merete. Curriculum Vitae).
2. Furuberg M. Personal communications (January 2019) at finnskogen.nakuhel@gmail.com

INNES, John Lockhart



John Lockhart Innes received the IUFRO Scientific Achievement Award in 1995 for his distinguished forest science research at an international scale on long-term changes in forest ecosystems (IUFRO 1995).

John Innes was born on 3 September 1957, in Kirkcaldy, U.K. He earned his B.A. (1979) and Ph.D. in Geography (1982) from the University of Cambridge. He was NERC Research Fellow at University College Cardiff (1983–1985) and then Senior Research Associate at the University of East Anglia (1985), and Senior Scientific Officer at the UK FC Research Division (1986–1992).

In 1992, Dr. Innes moved to Switzerland, becoming Head of the Forest Ecosystems and Long-term Monitoring Department at WSL in Birmensdorf, Switzerland (1992–1999). In 1999, he became Professor and Forest Renewal BC Chair of Forest Management at the University of British Columbia in Vancouver, Canada, and from 2010 until now, he has been Dean of the Faculty of Forestry there. During his career, Professor Innes has researched and taught a wide range of subjects including geomorphology, climate change, international forestry, forest ecology, forest management, biodiversity conservation and social aspects of forest practices. He has participated in research projects in BC and Yukon Territory (Canada) as well as in the USA, Peru, RSA, India, PRC, Myanmar, Laos, Malaysia and Australia. He is an Honorary Professor at the University of Melbourne and at five different universities in the PRC. He was part of the IPCC team that shared the Nobel Peace Prize (2007) and he holds the International Forestry Achievement Award of the Canadian Institute of Foresters (2015). In 2018 he was elected as an International Fellow of the Royal Swedish Academy of Agriculture and Forestry.

Professor Innes is Associate Editor of *Environmental Conservation* and a member of the Editorial Advisory Board of several other journals, research series and encyclopedias. He has authored, co-authored and edited over 300 papers and 18 books. In addition, he is involved with many international organizations. He is the Chair (now President) of the CFA (since 2010), Chair of the Standing Committee on Commonwealth Forestry, a chair or a member of various organizations and associations on forest research and education, e.g., Chair of the Asia-Pacific – Forest Education Coordination Mechanism. Since 1990, he has been strongly associated with IUFRO, serving as a Chair of three Task Forces (Climate Change and Air Pollution, Environmental Change, and Resources for the Future; Chair of the IUFRO Congress Scientific Committee (2001–2005), Vice President Policy (2006–2010), and Chair of the Honours and Awards Committee (2014–2019). For his service, Professor Innes received the IUFRO DSA in 2005.

Selected research sources:

1. *Forest Health: Its Assessment and Status*. CAB International, Wallingford. 677 p. 1993.
2. Methods to estimate forest health. *Silva Fennica* 27(2): 145–152. 1993.
3. *Biomass Burning and Its Inter-relationships with the Climate System*. (ed. J. L. Innes, M. Beniston, M. M. Verstrate). Kluwer Academic, Dordrecht. 358 p. 2000.
4. *Sustainable Forest Management: From Concept to Practice*, 1st ed. Edited by John L. Innes, Anna V. Tikina. Routledge. 396 p. 2016.

Personal sources:

1. John L. Innes. About the Editorial Board. In: *Encyclopedia of Environmental Change: Three Volume Set*. SAGE, 2014. John A. Matthews, general editor.
2. John L. Innes. Biographical sketch. In: *Forests and Forest Plants - Volume I. / Encyclopedia of Life Support Systems (UNESCO-EOLSS)*. John N. Owens, H. Gyde Lund, eds. EOLSS Publishers, 2009, p. 260–261.
3. Innes J. L. Personal communications (January 2019) at john.innes@ubc.ca

KREMER, Antoine Joseph



Antoine Joseph Kremer received the IUFRO Scientific Achievement Award in 1995 for distinguished science research at an international scale in forest genetics, population genetics and development of early selection procedures (IUFRO 1995).

Antoine Kremer was born on 11 December 1951 in Sarreguemines, France. He obtained his Forest Engineer Degree (1976) from *Ecole Nationale des Ingénieurs des travaux des Eaux et Forêts* (ENITEF), and his Ph.D. in Quantitative Genetics (1992) and Habilitation Degree (HDR) in Population Genetics (1995) from University of Paris XI Orsay. He began his professional career as scientist at INRA in 1976. He spent a sabbatical stay in 1980–1981 at the USDA (Rhineland) and University of Wisconsin. In 1995, Dr. Kremer was appointed Research Director at INRA and in 2001 – Director of the IFB. In 2003 he played an active role in establishing the Joint Research Unit BioGeCo (INRA and University of Bordeaux), where he became Director until 2010. He was teaching forest population and quantitative genetics at the University of Bordeaux. In 2010, he initiated the launch of the cluster of Excellence COTE at the University of Bordeaux, where he became director. During his career, he coordinated six collaborative research projects supported by framework research programs at the European Union (DG Research), particularly the Network of Excellence EVOLTREE (2006–2010). In 2014 he was granted an ERC advanced Grant.

After pedunculate oak forests started to decline in the mid-1970s, Dr. Kremer initiated a Europe-wide research program on the genetic diversity of European temperate oaks based on population genetics and evolutionary biology. Through the support of EU projects and the contribution of partner labs from many European countries, he coordinated the construction of continental wide synthetic maps of genetic diversity of oaks. These maps served as a basis to reconstruct the Holocene history of oaks across Europe. While focusing at the beginning of his career on the past history of oaks, his ongoing research addresses their future evolution in the context of environmental changes.

Dr. Kremer is a member of many national and international initiatives, boards and organizations. He was a Coordinator of IUFRO Working Group S2-02-22 (1986–1990), and on the SAB for EFI (2005–2009). He was on the Editorial Board of *Annals of Forest Science*, *Forest Genetics*, *Tree Genetics and Genomes*, and *Conservation Genetics*. He has authored and co-authored more than 350 scientific papers, chapters of the books and many project reports. Dr. Kremer has received the European Forest Research Award (2003), Marcus Wallenberg Prize (2006), Knight of the “Legion of Honor” (2007), Member of the French Academy of Agriculture (2009), INRA Agricultural Research Award (2011), and Doctor *honoris causa* from the *Universidad Politécnica de Madrid* (2016). He is a Corresponding member of the Royal Academy of Engineering of Spain (2014).

Selected research sources:

1. Predictions of age-age correlations of total height based on serial correlations between height increments in Maritime pine (*Pinus pinaster* Ait.). *Theor. & Applied Genetics* 85(2–3): 152–158. 1992.
2. Geographic structure of chloroplast DNA polymorphisms in European oaks. *Theor. & Applied Genetics* 87(1–2): 122–128 (with R. J. Petit and D. B. Wagner). 1993.
3. Chloroplast DNA footprints of postglacial recolonization by oaks. *Proc. Nat. Acad. Sci. USA* 94(18): 9996–10001 (with R. J. Petit, E. Pineau, B. Demesure, R. Bacilieri and A. Ducouso). 1997.
4. Genomics of Fagaceae. *Tree Genetics & Genomes* 8: 583–610 (with A. G. Abbott, J. E. Carlson, P. S. Manos, C. Plomion, P. Sisco, M. E. Staton, S. Ueno and G. G. Vendramin). 2012.

Personal sources:

1. URL: https://www.researchgate.net/profile/Antoine_Kremer Retrieved 6.01.2019.
2. Kremer A. J. Personal communications (January 2019) at antoine.kremer@inra.fr

MILLAR, Constance (Connie) Irene



Constance Irene Millar received the IUFRO Scientific Achievement Award in 1995 for her distinguished forest science research at an international scale in forest genetics, population genetics, evolutionary genetics, conservation genetics (IUFRO 1995).

Connie Millar was born on 17 June 1954 in Lansing, MI, USA. She earned her B.Sc. in Forest Science from the University of Washington in Seattle, WA USA (1977), and M.Sc. in Forest Genetics (1979) and Ph.D. in Genetics (1985), both from the University of California, Berkeley (UC-Berkeley), CA, USA, where she also began her research career as Project Leader and Research Geneticist of the California Forest Germplasm Conservation Project (1985–1987). Since 1987, Connie has been a research scientist with the USDA Forest Service, Pacific Southwest Research Station (Albany, CA). She was a research geneticist with the Institute of Forest Genetics (1987–2001), then research ecologist (2001–2014). In 2014 she received Senior Scientist status, an honorary designation given only to distinguished federal scientists. Connie was the first female scientist in the USFS to receive this honour.

Dr. Millar's research is interdisciplinary, and includes climate change, geomorphology, paleoecology, forest ecology and evolution, with a focus on mountain environments. Much of her career has been devoted to integrating science knowledge into natural-resource management and developing principles of genetic and biodiversity conservation for maintaining healthy forest ecosystems. She is a recognized leader in developing climate adaptation strategies, and was instrumental in pioneering practices that led to early guidebooks for forest resource managers to implement practices of climate adaptation in working forests.

She is founder and Director of the Consortium for Integrated Climate Change (CIRMOUNT) and Chair of the NA Chapter of the Global Observation Research Initiative in Alpine Environments (GLORIA), a global project to assess alpine plant responses to climate change. She is affiliated with many professional societies including the AAAS, American Geophysical Union, American Quaternary Association, The Wildlife Society, Wildlife Conservation Society, California Forest Conservancy, and World Lagomorph Society.

Dr. Connie Millar has authored and co-authored more than 150 scientific papers, book chapters, and reports. She has received a number of honours and awards including Pew Scholar in Conservation and the Environment (1992) and Decadal Award (2002) from Pew Charitable Trusts, Deputy Chief's Distinguished Scientist Award (2010) and Chief's Award in Science and Technology (2013) from the USDA FS.

Selected research sources:

1. A steep cline in *Pinus muricata*. *Evolution* 37: 311–319. 1983.
2. Gene conservation in California's forests. *Fremontia* 14(1): 6–7. 1986.
3. Impact of the Eocene on the evolution of *Pinus* L. *Ann. Missouri Bot. Gard.* 80: 471–498. 1993.
4. *Restoring Diversity: Strategies for Reintroduction of Endangered Plants*. Island Press. 512p. (D. C. Falk, C. I. Millar and P. Olwell, eds.). 1996.
5. Climate change and forests of the future: managing in the face of uncertainty. *Ecol. Appl.* 17: 2145–2151 (with N. L. Stephenson and S.L. Stephens). 2007.
6. Temperate forest health in an era of emerging megadisturbance. *Science* 349(6250): 823–826 (with N. L. Stephenson). 2015.

Personal sources:

1. URL: <https://www.fs.fed.us/research/people/profile.php?alias=cmillar> Retrieved 07.01.2019.
2. Millar C. I. Personal communications (January 2019) at cmillar@fs.fed.us

MOHMOD, Abd. Latif



Abd. Latif Mohmod received the IUFRO Scientific Achievement Award in 1995 for his outstanding research on properties and utilization of non-timber forest products such as bamboo, rattan and palms (IUFRO 1995).

Abd. Latif Mohmod was born in August 1960 in Johor, Malaysia. He graduated from the National University of Malaysia (1984), and earned his M.Sc. in Forestry (1992) and Ph.D. in Non-Wood Forest Products (1996) from the Agricultural University of Malaysia. In 2014 he was elected Fellow of the Academy of Sciences Malaysia (ASM). Dr. Latif spent the bulk of his career working at Forest Research Institute Malaysia (FRIM) progressing from a Research Officer (1985) to Deputy Director (2005–2008) and Director-General of the Institute (since 2008). During this time, he has led many projects resulting, for example, in the recognition of FRIM as a Natural Heritage Site (2009), and as a National Heritage (2012) aiming to get UNESCO Heritage status by 2020. In addition, FRIM received a number of prestigious national and international awards in appreciation of its leadership as the centre of tropical forestry research, development and innovation.

Dr. Latif has a wide scope of research interests in the field of properties and utilization of non-timber forest products such as rattan, bamboo and palm as well as sustainability, plant biology, wood sciences and others. His pioneering research and achievements in these fields has gained him national and international recognition. He is the Vice Chairman of the Plant Resources of South East Asia (PROSEA) and Chairman of the Asia Pacific Association of Forestry Research Institutions (APAFRI). He authored and co-authored over 300 research articles, book chapters, reports and other papers in national and international peer-reviewed journals. He has also invented 50 machines (12 registered) for processing of rattan, bamboo, *Pandanus* and palms. In addition, he holds six individual Malaysia Book of Records.

His contributions have been highly recognized since his student's years. He became the first and only forestry scientist ever honoured with the Malaysian National Young Scientist Award (1993), National Inventor Award (1997), as well as named Outstanding Young Malaysian (1999). He was also granted Eisenhower Fellow of USA (1999) and the Rotary Research Gold Medal Award (2012). He was selected as FRIM's Most Prolific Author of High Impact Factor Journals (2010), conferred with the Science and Technology Achievement Award (2012) by the Malaysian Scientific Association, recognized as ASM Top Research Scientist Malaysia (2013) and received the BrandLaureate Most Eminent Brand Icon Leadership Award (2017).

Selected research sources:

1. Rattan processing industry of Peninsular Malaysia – Its status, problems and prospects. *Malaysian Forester* 50(3-4): 329–342. 1987.
2. Comparative studies on the suitability of selected palms for flooring. *Journal of Tropical Forest Science* 3(1): 66–71 (with Hilmi Md. Tahir). 1990.
3. A note on the proximate chemical composition and fibre morphology of *Bambusa vulgaris*. *Journal of Tropical Forest Science* 6(3): 356–357. 1994.
4. *Identification and Properties of Malaysian Timbers*. S. C. Lim, A. S. Nordahlia, M. Abd Latif, K. S. Gan, and S. Rahim / Malaysian Forest Records No. 53. 538 p. 2016.
5. *Bamboo: From Traditional to Innovative Products*. Abd Hamid S., Abd. Latif M., Hamdan H., Yanti A. K., Tuan Anis Nadia T. M. S., Shazwani A. R., & Muhammad Syamil K. / FRIM Spec. Publ. No. 11. 118 p. 2016.

Personal sources:

1. Dato' Dr. Abd Latif Bin Mohmod. Curriculum Vitae (2018). FRIM, Kuala Lumpur, Malaysia.
2. Mohmod A. L. Personal communications (January 2019) at latif@frim.gov.my

SADDLER, Jack (John) Nicholas



Jack Nicholas Saddler received the IUFRO Scientific Achievement Award in 1995 for his distinguished forest science research at an international scale on application of micro-organisms and enzymes to the pulp and paper industries, bioconversion of wood wastes to fuels and chemicals (IUFRO 1995).

John Saddler was born on 26 March 1953 in Edinburgh, UK. He earned his B.Sc. in Microbiology (1975) from the University of Edinburgh and Ph.D. in Microbiology/Biochemistry (1978) from the Department of Microbiology, University of Glasgow, UK. In 1978, he was appointed as a Research Associate at the National Research Council of Canada where he initiated their biomass-to-ethanol program. He joined Forintek Canada Corp. (1979), where he became the manager of the Biotechnology and Chemistry group (1982). In 1989, the Federal Government assigned him to the Science Directorate of the Canadian Forest Service where he was responsible for Biotechnology and Industry partnerships. When he moved to Canada, while at Forintek, he was also appointed Adjunct Professor in the Department of Biology at the University of Ottawa (1981). In 1990, he was awarded an NSERC-Industry Senior (Endowed) Chair at UBC, Vancouver, in Forest Products Biotechnology/Bioenergy. He also served as the Head of the Department of Wood Science (1998–2000) and as the Dean of the Faculty of Forestry (2000–2010), later being granted the title Dean Emeritus.

Dr. Saddler is a world-recognized specialist in biofuels, bioenergy and biorefinery areas. He has worked on the application of enzymes in enhancing pulp and fibre properties, fibre modification and bleach boosting pulps, bioconversion of lignocellulosic residues to ethanol, microbiology of waste water treatment as well as application of fungi to upgrading and modification of forest products, pulp and paper and waste streams. He has a professional affiliation with the chemical and microbiological associations and societies – ACS, ASM and SIM. For more than 30 years, Dr. Saddler has been involved in many national and international organizations. He served as Co-Task Leader for the IEA network on Liquid Biofuels. He has reviewed many national and international programs on biotechnology/bioenergy in North America, Europe, and Asia. He provided services as an advisor and a consultant for many organisation such as the USDoE, USDA, World Bank, UN FAO, Vinnova (Sweden), the Finnish Luke StAB. He is on the selection committee of the Marcus Wallenberg Prize. He is a fellow of the Royal Society of Canada.

He has authored and co-authored more than 400 refereed research papers, several books, numerous reports, and several patents. His work is cited extensively (Impact H-factor 90, almost 30,000 citations), has trained 100 graduate students and post docs and runs a group of about 15 people. He holds a variety of honours and awards including the Charles D. Scott Award from the SBFC (1998), Advances in Science and Technology Award from the USDA, Peoria Illinois (2000), Fellowship of the RSC (2007), the BC Leadership Award from the LSBC (2009), Green Fuels Industry Leadership Award from the CRFA (2015), and the Linneborn Prize from the European Biomass Conference (2016).

Selected research sources:

1. Multiplicity of beta-1, 4-xylanase in microorganisms: functions and applications. *Microbiological Reviews* 52(3): 305 (with K. K. Wong and L. U. L. Tan). 1988.
2. Substrate and enzyme characteristics that limit cellulose hydrolysis. *Biotechnology Progress* 15(5): 804–816 (with S. D. Mansfield and C. Mooney). 1999.

Personal sources:

1. URL: <http://bioenfapesp.org/scopebioenergy/index.php/project-overview/roster-of-experts/55-scientific-committee/72-jack-n-saddler> Retrieved 6.01.2019
2. URL: <https://profiles.forestry.ubc.ca/person/jack-john-saddler/> Retrieved 6.01.2019
3. Saddler J. N. Personal communications (January 2019) at jack.saddler@ubc.ca

SPIES, Thomas (Tom) Allen



Thomas Allen Spies received the IUFRO Scientific Achievement Award in 1995 for his distinguished forest science research at an international scale in landscape analysis, ecosystem analysis, forest community structure, old-growth forests (IUFRO 1995).

Tom Spies was born on 31 May 1951 in Menominee, MI, USA. He earned his B.Sc., (1974), M.Sc. (1978) and Ph.D. (1983) from the University of Michigan in Ann Arbor, MI. In 1979, he was a German Academic Exchange Fellow at Hohenheim University in Stuttgart and the University of Göttingen. His research interests are in forest ecology, succession, stand and landscape structure and dynamics, old-growth forest ecology and conservation, and integration of social and ecological science. He began his career as a postdoctoral researcher at Oregon State University and became a research forester with USDA Forest Service Pacific NW Research Station in Corvallis, Oregon in 1985. He was promoted to Senior Scientist in 2012 and retired from the Forest Service in 2018.

While working for the PNW Research Station, he joined the faculty in the Dept. of Forest Science (then Forest Ecosystems and Society) at Oregon State University in Corvallis (1986) and in 1997 was promoted to professor (courtesy). He served as major professor for 16 graduate students including 9 Ph.Ds. He was a Bullard Fellow at Harvard University in 1993–1994 and a Fellow at Australian National University and University of Queensland in 2007. He has collaborated with colleagues at the Universities of Washington, Georgia, and Massachusetts, as well as with colleagues from Austria, Australia, Germany and Sweden. He was a member of the Forest Ecosystem Management Team in 1993 that developed the NW Forest Plan for federal forests in the Pacific Northwest. He was the lead author for a three-volume PNW General Technical Report *Synthesis of science to inform land management within the Northwest Forest Plan area* (2018).

Dr. Spies has been a leader of two major forest landscape research studies, the Coastal Landscape Analysis and Modeling study (1996–2008) in the Oregon Coast Range, and the Forest People Fire project (2010–2016) in the eastern Cascades of Oregon. He was a co-PI for the Long-term Ecological Research site at the H.J. Andrews Experimental Forest (2008–2014) and served for 12 years as team leader in the PNW Landscape and Ecosystem Processes Program. He has authored and co-authored more than 200 scientific papers and book chapters. Dr. Spies was given a Superior Scientist award by the Chief of the Forest Service in 2002 and he was named PNW Research Station Emeritus Scientist in 2018.

Selected research sources:

1. Coarse woody debris in Douglas-fir forests of western Oregon and Washington. *Ecology* 69(6): 1689–1702 (with J. F. Franklin and T. B. Thomas). 1988.
2. Light regimes beneath closed canopies and tree-fall gaps in temperate and tropical forests. *Can. J. For. Res.* 20(5): 620–631 (with C. D. Canham, J. S. Denslow, W. J. Platt, J. R. Runkle and P. S. White). 1990.
3. Conserving biodiversity in managed forests. *BioScience* 41(6): 382–392 (with A. J. Hansen, F. J. Swanson and J. L. Ohmann). 1991.
4. Cumulative ecological and socioeconomic effects of forest policies in coastal Oregon. *Ecol. Applications* 17(1): 5–17 (with K. N. Johnson, K. M. Burnett, J. L. Ohmann, *et al.*). 2007.
5. *Old Growth in a New World: A Pacific Northwest Icon Reexamined*. T. A. Spies and S. L. Duncan, eds. Island Press. 360 p. 2008; e-book format: 2012.

Personal sources:

1. URL: <https://www.fs.fed.us/research/people/profile.php?alias=tspies> Retrieved 07.01.2019.
2. URL: <http://fpf.forestry.oregonstate.edu/faculty/thomas-spies> Retrieved 07.01.2019.
3. Spies T. A. Personal communications (January 2019) at tspies@fs.fed.us Tom.Spies@oregonstate.edu

STENBERG, Pauline Teresa



Pauline Teresa Stenberg received the IUFRO Scientific Achievement Award in 1995 for her research on solar radiation regime of conifer canopies (IUFRO 1995).

Pauline Stenberg (formerly Oker-Blom, née Stenberg) was born on 19 September 1950 in Helsinki, Finland. She earned her M.Sc. degree in Mathematics (1973) and Ph.D. in Forestry (1987) at the University of Helsinki (UH). As a postdoctoral researcher, she studied at the University of Georgia, USA (1989–1990). Dr. Stenberg spent the bulk of her professional career at the University of Helsinki as an Academy Research Fellow and Senior Scientist in several research projects (1990–2007). Since 1991 she held Adjunct Professorships in Forest Biology at the University of Helsinki and in Forest Ecology at the University of Joensuu. Dr. Stenberg also served as Secretary for the Finnish Society of Forest Science (2002–2005) and Secretary General for the Nordic Forest Research Co-operation Committee (2006–2007). In 2007 she was appointed Professor of Forest Mensuration at the UH's Dept. of Forest Sciences, a position which she held until retirement in 2016 as Professor Emerita.

From the beginning, Dr. Stenberg's primary research interest was on mathematical modeling of forest canopy structure and radiation regime, with special focus on the grouped structure of boreal coniferous forests. She developed models for light absorption and photosynthesis that have diverse applications in forest production ecology. Later she became engaged in quantitative remote sensing of the forest and specialized in developing physically based models for simulating forest reflectance (albedo). These models are urgently needed in the derivation of biophysical and climate related variables from satellite data.

Dr. Stenberg has published more than 150 scientific articles, a majority of them in leading journals of forest sciences and remote sensing. She has also served as an Editor of *Tree Physiology* (2000–2007), Associate Editor of *Silva Fennica* (2002–2005), a member of the Editorial Board for *Scandinavian Journal of Forest Research* (2009–2014), and a Review Board member for *Agricultural and Forest Meteorology* (1999–2006). She was also a reviewer for a number of journals including *Remote Sensing of Environment*, *IEEE Transactions on Geoscience and Remote Sensing*, *Canadian Journal of Remote Sensing*, *Canadian Journal of Forest Research*, *Journal of Quantitative Spectroscopy and Radiative Transfer*. For her teaching and research accomplishments and publication services, Dr. Pauline Stenberg was honoured with the Cajander Bronze Medal from the Finnish Society of Forest Sciences (2009).

Selected research sources:

1. The ratio of shoot silhouette area to total needle area in Scots pine. *Forest Science* 34(4): 894–906 (with H. Smolander). 1988.
2. Performance of the LAI-2000 plant canopy analyzer in estimating leaf area index of some Scots pine stands. *Tree Physiology* 14(7-8-9): 981–995 (with S. Linder, H. Smolander and J. Flower-Ellis). 1994.
3. Correcting LAI-2000 estimates for the clumping of needles in shoots of conifers. *Agricultural and Forest Meteorology* 79: 1–8. 1996.
4. Simple parameterizations of the radiation budget of uniform broadleaved and coniferous canopies. *Remote Sensing of Environment* 94: 355–363 (with S. Smolander). 2005.
5. Simple analytical formula for calculating average photon recollision probability in vegetation canopies. *Remote Sensing of Environment* 109: 221–224. 2007.

Personal sources:

1. URL: <https://scholar.google.com/citations?user=kXiHA2IS9jUC&hl=en> Retrieved 10.01.2019.
2. Stenberg P. T. Personal communications (January 2019) at pola.stenberg@gmail.com

UGALDE ARIAS (UGALDE), Luis Alberto



Luis Alberto Ugalde Arias received the IUFRO Scientific Achievement Award in 1995 for his distinguished forest science research at an international scale on management information systems for natural resources, databases and information schemes for plantations and agroforestry systems (IUFRO 1995).

Luis Ugalde Arias was born on 26 January 1954 in Alajuela, Costa Rica. He studied Forestry Engineering at the National University Costa Rica in Heredia, and became Dipl.-Engineer (1978). He obtained his M.Sc. in Renewable Natural Resources with specialization in Plantation Forestry from CATIE in Turrialba, Costa Rica (1980). He then advanced at the OFI's Specialization Courses at Oxford University, and earned his Ph.D. in Forest Resources Management, with specialization in Forest Information Management Systems, from University of Minnesota, USA (1988). He began as a Forestry Instructor at CATIE's Department of Renewable Natural Resources (1981) and spent the bulk of his professional career there, becoming a Professor of Management of Forest Plantations (1982) at CATIE's Graduate School.

Dr. Ugalde has extensive experience in academia and the private sector. His research interests are mainly in the area of development of the MiraSilv (Trees Resources Information Management) software and system to monitor and evaluate forest plantations, the Chain-of-Custody (MiraSilv-CdeC) for plantations and natural forests, and international forestry. He is a specialist in tropical plantations of Teak, *Gmelina arborea* Roxb., *Acacia mangium* Willd., Eucalyptus, Pinus and native species such as Guanacaste (*Enterolobium cyclocarpum* (Jacq.) Griseb.), Cedro (*Cedrela odorata* Ruiz & Pav.), Ron-ron (*Astronium graveolens* Jacq.), Pochote (*Pachira quinata* Jacq.), among others. Dr. Ugalde served as an international forestry adviser to companies with forest plantation projects with emphasis on growing plantations of high commercial value in Central and Latin American, and a few Asian and African countries.

Professor Ugalde has authored and co-authored more than 50 scientific papers on tropical forestry aspects in plantations, agroforestry systems, Chain-of-Custody, and management of forest information systems. He has served as an IUFRO officer holder for various units including the Teak Plantations, the Management information, and as a specialist in forest information, Dr. Ugalde was selected Vice Chair (1995) of a Committee for further networking of IUFRO and CIBAGRO, a Spanish language platform of forest information database.

Selected research sources:

1. *Guía para el establecimiento y medición de parcelas para el Monitoreo y Evaluación del crecimiento de Árboles en investigación y en programas de reforestación con la metodología del Sistema MIRA*. Turrialba, CATIE. 18 p. [Guide for the establishment and measurement of plots for the monitoring and evaluation of the growth of trees in research and in reforestation programs with the MIRA System]. 2001.
2. Stand growth scenarios for *Bombacopsis quinata* plantations in Costa Rica. *For. Ecol. and Mgmt.* 174(1): 345–352 (with D. Pérez and M. Kanninen). 2003.
3. *TEAK: New trends in silviculture, commercialization and wood utilization*. Luis Alberto Ugalde Arias. 1 ed. Cartago, C.R.: International Forestry and Agroforestry INFOA. 568 p. 2013.

Personal sources:

1. Curriculum Vitae de Luis Ugalde (2013) <https://internationalforestry.org/curriculum-vitae/> Retrieved 01.01.2019.
2. Ugalde L. A. Personal communications (May 2019) at laugalde@gmail.com

YANG, Zhong-Qi



Zhong-Qi Yang received the IUFRO Scientific Achievement Award in 1995 for his important investigations and taxonomies of parasitoids of forest insect pests, as well as the biological control achievements of many severe invasive and native forest pests (IUFRO 1995).

Yang Zhong-Qi was born on 17 April 1952 in Shaanxi Province, China. He studied Forestry and graduated from Northwestern University of Agriculture in 1974, from which he got his Doctoral Degree in Science with specialization in entomology in 1990. He began his professional career as a teacher and researcher on forest entomology in his *alma mater* and at Northwest College of Forestry (1975–1995), in which he progressed from a Lecture to Associate Professor and Professor of Forest Entomology (1990–1995).

Since 1996, Dr. Yang has been working for the Chinese Academy of Forestry (CAF). At the same time, he was Deputy Director of the CAF's two Research Institutes (1996–2002) – Head of the Academic Committee. In addition, since 1998 he has served as Head of the Key Laboratory of Forest Protection, China National Forestry Administration (CNFA).

Dr. Yang has a strong reputation both in taxonomy of parasitic wasps and biological control of forest insect pests. He was Vice President of the Entomological Society of China (1997–2012), Vice President of the Beijing Entomological Society (since 2002), and member of the CNFA's Standing Committee, Scientific and Technological Work Committee (since 2018). He also served as Coordinator of IUFRO 7.03.08 - Forest Protection in Northeast Asia (since 2010), Executive Vice-Editor of *China Forestry Science* and a member of editorial board for over ten Chinese journals on forestry, entomology, zoology and biocontrol.

Dr. Yang Zhong-Qi has elaborated over 20 scientific research programs on both severe invasive and native forest insect pests and successfully solved many problems for effectively controlling them with natural enemies, such as *Hyphantria cunea*, *Monochamus alternatus*, *Anoplophora glabripennis*, *Dendroctonus valens*, *Massicus raddei*, *Apriona swainsoni*, *Batocera lineolata*, *Agrilus planipennis*, *A. mali* and others. He has described 256 new species of parasitic wasps to science, and published 5 monographs on taxonomy of natural enemies, as well as 265 papers on biocontrol and taxonomy of parasitic wasps.

His achievements were recognized with China National Science and Technology Advanced Achievement Award in 2006, and 12 Provincial and/or Ministerial Advanced Science and Technology Awards. In 2015, he was appointed a Consultant of the State Council of China.

Selected research sources:

1. *Parasitic wasps of bark beetles in China*. Science Press, Beijing. 363 p. 1996.
2. *Biological Control technique of Apriona swainsoni (Cerambycidae), a major forest pest in China*. Beijing: China Forestry Press. 152 p. 2014.
3. Recent advances in biological control of important native and invasive forest pests in China. *Biological Control* 68: 117–128 (with X. Y. Wang and Y. N. Zhang). 2014.
4. *Chalcidoids parasitizing forest defoliators in China (Hymenoptera)*. Beijing: Science Press. 283 p. (with Yan-Xia Yao and Liang-Ming Cao). 2015.

Personal sources:

Yang Zhong-Qi. Personal communications (February 2019) at yangzhqi@126.com

2000 (Kuala Lumpur, Malaysia)

The Nominating and Selection Committee was chaired by Dr. J. Youngquist (USA) and consisted of Drs. F.J. Kruger (South Africa, Representative from Africa), R. Guevara (Costa-Rica, Rep. from Latin America), D. K. Lee (Republic of Korea, Rep. from Asia), L. Sennerby-Forsse (Sweden, Rep. from Europe and from Divisions), and Vice-President Administration J. L. Whitmore (USA), with President J. Burley (UK) and Secretary General H. Schmutzenhofer (Austria) as *ex officio*. They selected 11 winners out of 35 nominations. At this Congress, the restriction of 45 years for the nomination was omitted, and seven scientists above this age received the Award.

On 7 August at the Opening Ceremony of XXI IUFRO World Congress, on behalf of the Committee, Dr. Youngquist made an announcement about the decision to grant the IUFRO SAA to the following winners:

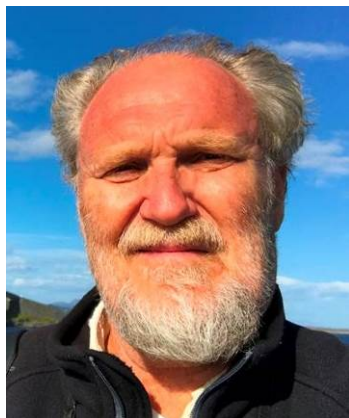
Per K. ANGELSTAM	Sweden
K. Mahabala BHAT	India
Bruce P. DANCIK	Canada
Stepan A. GENSIRUK⁶	Ukraine
Jyrki J. KANGAS	Finland
Su See LEE	Malaysia
Colin PRICE	United Kingdom
David D. REED	USA
Robert A. VERTESSY	Australia
Michael J. WINGFIELD	South Africa
Francis Cho-Hao YEH	Canada



From left to right: J.A. Youngquist, R. Seppälä, H. Schmutzenhofer, B. Burger, P.K. Angelstam, K.M. Bhat, B.P. Dancik, J.J. Kangas, S.S. Lee, C. Price, D.D. Reed, R.A. Vertessy, M.J. Wingfield, F.C.-H. Yeh (Photo: Abdul Rahim Nik, COC).

⁶ Professor S. A. Gensiruk received special recognition for his lifetime scientific achievements. He was not able to attend this Congress, and IUFRO Secretary General Heinrich Schmutzenhofer presented the Award to him in 2001 at the IUFRO Secretariat in Vienna-Schönbrunn.

ANGELSTAM, Per Krister



Per Krister Angelstam received the IUFRO Scientific Achievement Award in 2000 for scientific achievements in the field of ecological structure and processes in natural taiga-landscapes (IUFRO 2000).

Per Angelstam was born on 27 March 1953 in Örebro, Sweden. He obtained his B.Sc. (1976) in chemistry, biology and physical geography at Lund University, and his Ph.D. in Zooecology (1983) from Uppsala University, where he then undertook research in the Department of Zoology. In 1988 he was appointed Director of the Swedish EPA's Grimsö Wildlife Research Station. He then became a Senior Researcher at the Swedish University of Agricultural Sciences' (SLU) Departments of Wildlife Ecology and Conservation Biology (1992–2004). He also undertook his research at the Department of Natural Sciences, Örebro University (2000–2003). In 2004 he moved to SLU's Faculty of Forest Sciences, and in 2005 became a Professor of Forest and Natural Resource Management at the School for Forest Management in Skinnskatteberg in the informal Bergslagen region.

Professor Angelstam is a member of a number of editorial boards including the Russian *Forestry Journal* (Arkhangelsk) and the *Siberian Journal of Forest Science* (Krasnoyarsk), and co-editor of a special issue of the *Ecological Bulletins: Targets and Tools for the Maintenance of Forest Biodiversity* (2004, No. 51). He is a Chair of the local NGO Sustainable Bergslagen, which is a member of the International Model Forest Network, and coordinates the Long-Term Socio-Ecological Research (LTSER) platform Bergslagen.

The research interests of Professor Angelstam are wide: from zoology, forest ecology, biodiversity, and nature conservation, to sustainability, environmental planning, landscape ecology, rural development and natural resources management. He later put more effort into studies of socio-ecological issues at the landscape level, and the role of different models for governance and management across spatial and temporal scales. He initiated and is actively involved in a number of landscape case studies in central and eastern European countries, in Fennoscandia and Russia. He authored and co-authored over 170 peer-review scientific articles, 40 books and book chapters, more than 80 conference papers, 80 popular science publications and more than 65 research reports. In recognition of his research accomplishments, he received Research Awards from Oregon State University, Corvallis, USA (1998) and Honorary Professor in Wildlife Biology at the BOKU in Vienna, Austria (2002)

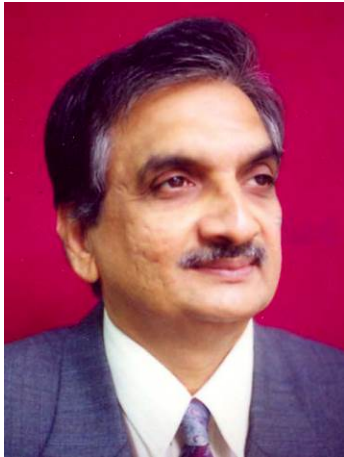
Selected research sources:

1. *Population dynamics of tetranoids, especially black grouse Tetrao tetrix L., in boreal forests*. Ph.D. thesis. Abstracts of Uppsala Dissertations from the Faculty of Science 67. 33 p. 1983.
2. Maintaining and restoring biodiversity in European boreal forests by developing natural disturbance regimes. *J. of Vegetation Sci.* 9 (4): 593–602. DOI: 10.2307/3237275. 1998.
3. Measurement, collaborative learning and research for sustainable use of ecosystem services: Landscape concepts and Europe as laboratory. *AMBIO* 42(2): 129–145 (multi-authored). 2013.
4. LTSER platforms as a place-based transdisciplinary research infrastructure: Learning landscape approach through evaluation. *Landsc. Ecol.* 34(2), DOI: [10.1007/s10980-018-0737-6](https://doi.org/10.1007/s10980-018-0737-6) (multi-authored). 2019.
5. Wood production and biodiversity conservation are rival forestry objectives in Europe's Baltic Sea Region. *Ecosphere* 9(3). DOI: 10.1002/ecs2.2119 (with V. Naumov, M. Elbakidze, M. Manton, J. Priednieks, Z. Rendenieks). 2019.
6. Knowledge production and learning for sustainable forest landscapes: the European continent's west and east as a laboratory. *Lesnoi Zhurnal* 1/317: 9–31 (multi-authored). 2019.

Personal sources:

1. URL: https://www.researchgate.net/profile/Per_Angelstam Retrieved 07.01.2019.
2. Angelstam P. K. Personal communications (January 2019) at per.angelstam@slu.se

BHAT, Kanithila Mahabala



Kanithila Mahabala Bhat received the IUFRO Scientific Achievement Award in 2000 for his outstanding contribution to fundamental and applied research in the fields of forest products, wood sciences and technology (IUFRO 2000).

Mahabala Bhat was born on 19 June 1950 in Puthur, Karnataka, India. He earned his B.Sc. (1970) and M.Sc. (1972) degrees in Botany from the University of Mysore in India, L.Sc. in Wood Technology and D.Sc. in Wood Technology, received in 1981 from the University of Helsinki, Finland. Dr. K.M. Bhat spent the bulk of his career at KFRI, Peechi, India, in various positions starting in 1979 as a Scientist of the Wood Science Division and progressing to its Head and Programme Coordinator for Forest Utilization. He was also the TEAKNET Coordinator of the International Teak Information Network established by FAO and functioning in KFRI since 2008.

Dr. K.M. Bhat was a highly respected scientist in the field of wood science especially in the study of quality of teak wood. He initiated and elaborated various programs and projects, and organized and convened numerous conferences, seminars and other meetings under the auspice of national and international organizations and networks, including UN FAO, IUFRO, ITTO, TEAKNET, TEAK 2000 and others. He served as consultant to many industrial forest and wood companies worldwide. He authored and co-authored more than 190 articles in peer-reviewed journals, book chapters and monographs, and papers presented at national and international congresses, conferences and workshops. He was closely associated with IUFRO as a Deputy Coordinator of Division 5 Forest Products and a member of IUFRO EEB (2001–2010), and a founder and a Coordinator of IUFRO WP 5.06.02 Utilization of Planted Teak (from 2001).

His contributions to forest and timber products research were widely recognized. He was elected a Fellow of Indian (1987) and International (1991) Academies of Wood Science, received an Invitation Fellowship of the Japan Society for Promotion of Science (1997), granted ITTO (1997, 2000) and FAO (1997) fellowships and was elected Vice-President of the Indian Academy of Wood Science (1999) and to the IAWS's Board (2006). He held a Rising Personalities of India Award and a Medal for outstanding contributions to rattan development in India and the Asia Pacific Region (1999).

Dr. Kanthila Mahabala Bhat passed away on 2 January 2009 after a short illness. In his commemoration, the Dr. K. M. Bhat Endowment Award was established to recognize the Ph.D. work completed at KFRI each year. The award carries a Gold Medal, Certificate of Merit and cash prize of Rs. 5,000.

Selected research sources:

1. *A handbook of Kerala timbers*. KFRI Research Report, No. 9. 260 p. (with Nazma, P.M. Ganapathy, N. Sasidharan and R. Gnanaharan). 1981.
2. Bark specific gravity in stem and branches of nine Indian timbers grown in Kerala. *Indian J. Forestry* 13(1): 26–29 (with K. V. Bhat and T. K. Dhamodaran). 1990.
3. Rattan (cane) processing techniques in India: A case study of oil curing. *RIC Bulletin* 9(2): 15–21 (with K. Yekantappa and T. K. Dhamodaran). 1990.
4. Anatomical diversity of Indian rattan palms (*Calamoideae*) in relation to biogeography and systematics. *Bot. J. of the Linnean Society* 125(1): 71–86 (with A. Mathew). 1997.
5. *A handbook of lesser-known timbers*. KFRI Rep. 304. 225 p. (with P. K. Thulasidas and K. H. Hussain). 2007.

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1. Obituary: Dr. Kanthila Mahabala Bhat. *IUFRO News*, 2009, 38(2): 3.
2. Obituaries: Kanthila Mahabala Bhat (1950–2009). *IAWS Bulletin*, 2009-1: 2224. By P.K. Thulasidas; Adya Singh and Andrew Wong.
3. Viswanath S. Personal communications (January 2019) director@kfri.org

DANCIK, Bruce Paul



Bruce Paul Dancik received the IUFRO Scientific Achievement Award in 2000 for his outstanding contributions to forest genetic research, sustainable forest management practice and leadership in forest policy development (IUFRO 2000).

Bruce Dancik was born on 27 December 1943 in Chicago, USA. From 1962 he studied forestry, forest genetics and ecology and obtained his B.Sc. (1965), M.Sc. (1967) and Ph.D. in Forest Genetics and Ecology (1972) from the University of Michigan in Ann Arbor. He began his career as an Assistant Professor at Saginaw Valley College (MI) in 1972. He then moved to Canada and joined the Department of Renewable Resources, University of Alberta in Edmonton. Dr. Dancik progressed from Assistant Professor (1973) to Associate Professor (1977), Professor (1984), and Professor Emeritus in Renewable Resources (2011). During this period, he also served as Chair of Forest Science (1989–1994), then Chair of the new Department of Renewable Resources (1994–1995), and Associate Vice-President (Academic) of the University (1995–2000). He was also Director of the University of Alberta's Devonian Botanic Garden (2001–2011) and remains a member of the Board of Directors.

The major research interests of Dr. Dancik are in the field of population genetics, structure and evolution of trees, management of genetic resources, biodiversity, gene conservation, and ethical issues of land use and conservation. In this area, his most notable achievement was the identification, nomenclature and confirmation of new birch species (1985), the first proof of maternal inheritance of cpDNA in a conifer (1987) and first isolation of a tree gene (1988). For his outstanding contribution to forest science and follow up accomplishments, Dr. Dancik was recognized with Scientific Achievement Award (2000). He is the recipient of many other prestigious awards, including the Canadian Forestry Achievement Award (1979), the Tree of Life Award (1991–1992), and a Queen's Golden Jubilee Medal (2002). He has authored and co-authored more than 80 scientific publications.

Dr. Bruce Dancik has dedicated the bulk of his career to the development of the National Research Council Research Press (now Canadian Science Publishing). He joined the company as the editor of the *Canadian Journal of Forest Research* (1981), was then appointed Editor-in-Chief of the NRC Research Journals for the next 20 years (1990–2010). Since 2010, he was also a member of the Board of Directors when the NRC Research Press was incorporated as a not-for-profit company. Under his governance the Press established its Monograph Publishing Program (1994). For his outstanding contribution, Dr. Dancik was granted the Council of Science Editors Award for Meritorious Achievement (2002). The program grew from publishing 12 journals to 21 scientific and engineering journals, the largest scientific publisher in Canada. In 2016, the Royal Society of Canada designated him a Specially Elected Fellow for his 35 years of unpaid service to the NRC Research Press.

Selected research sources:

1. Novel chloroplast DNA polymorphism in a sympatric region. *J. Evolut. Biology* 2: 49–59 (with D. R. Govindaraju & D. B. Wagner). 1989.
2. Maternal transmission of mitochondrial DNA in interspecific hybrids of *Populus*. *Current Genetics* 22: 141–145 (with O. P. Rajora, J. W. Barrett & C. Strobeck). 1992.
3. Population genetic variation, structure, and evolution in Engelmann spruce, white spruce, and their natural hybrid complex in Alberta. *Can. J. Botany* 78: 768–780 (with O. P. Rajora). 2000.

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1. URL: <http://www.nrcresearchpress.com/page/about/ourhistory> Retrieved 16.01.2019.
2. Dancik B. Personal communications (January 2019) at bruce.dancik@ualberta.ca

GENSIRUK, Stepan Antonovych



Stepan Antonovich Gensiruk received the IUFRO Scientific Achievement Award in 2000 for his research achievements in dynamics of forest changes in mountainous areas and formulation of an ecological system for managing nature reserves (IUFRO 2000, p. 181).

Stepan Gensiruk (also spelled Hensiruk) was born on 6 January 1923 in Budki, Ternopil Oblast, Ukraine. He finished forestry school (1943), and then received a Diplom with honours of Forest Engineer (1949) and Ph.D. (1955) from the State Agricultural Institute in Lviv. He earned a D.Sc. in Forest Sciences, Silviculture and Economics from Timiryazev State Agricultural Academy in Moscow (1966), and was habilitated as Professor (1976) of the Ukrainian Agricultural Academy (now National University of Bioresources and Natural Resource Use of Ukraine) in Kyiv.

Having a great voice, in parallel to forestry, he graduated from the Vocal Department of Lviv State Conservatory (the Academy of Music), became the winner of the All-Ukrainian as well the International Vocal Competition (Moscow, 1949), was recommended by the Panel of Judges to be sent to the Italian Opera for further studies, but he did not go.

Dr. Gensiruk began his research career as an Assistant Professor (1951) and reached Professor of Department of Forestry at Lviv Forestry Institute (LLTI, now the Ukrainian National Forestry University). His main areas of teaching and research activities were forest management, forest history, systems of final harvesting, forest ecology, reproduction of forests on disturbed lands, optimization of forest cover, and microclimatic influence of protective forests on agricultural lands. He served at the Ukrainian Council for the Study of Productive Forces at the National Academy of Science (NAS) of Ukraine, in Kyiv.

Professor Gensiruk authored and co-authored more than 500 scientific, methodological and popular science publications, including 35 books. He was the founder and editor-in-chief of the first two volumes of Ukrainian Encyclopedia of Forestry (1999–2007). His book of *Forests of Ukraine* is a significant contribution to world forestry sciences (*The Forestry Chronicle*, 2005, p. 449). For his scientific research and knowledge sharing achievements, Professor Gensiruk became a Laureate of the State Prize of Ukraine in the field of Science and Technology, and was awarded the Ukrainian Order of Merit. Professor Gensiruk passed away on 23 October 2014.

Selected research sources:

1. *Комплексное лесное хозяйство в горных условиях*. М.: Лесн. пром-сть, 248 p. [Complex forestry in mountainous conditions]. 1971.
2. *Ліси України*. Lviv, НАН України, 496 p. [Forests of Ukraine, 3rd edition]. 2002.
3. *Использование низкопродуктивных земель в УССР*. Киев: Наукова думка, 238 p. (with V. P. Tsemko and L. I. Gaidarova). [Use of low productive land in the Ukrainian SSR]. 1981.
4. *Регіональне природокористування*. Львів: Svit. 335 p. [Regional Use of Nature]. 1992.
5. *Ліси Західного регіону України*. Львів: Атлас. 408 p. (with M. С. Нижник and Л. І. Копій). [Forests of the Western region of Ukraine]. 1998.

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1. Bradford K., Nijnik M. Forests of Ukraine. *For. Chron.* May/June, 81(3): 449. 2005
2. Копій Л.І. Пам'яті професора Степана Антоновича Генсірука (06.01.1923-23.10.2014 рр.). *Наукові праці Лісівничої академії наук України: збірник наукових праць*. Львів: РВВ НЛТУ України. Вип. 12: 314-315. [In memory of Professor Stepan Antonovych Gensiruk]. 2014.
3. Nijnik M. Personal communications (February 2019) at Maria.Nijnik@hutton.ac.uk

KANGAS, Jyrki Juhani



Jyrki Juhani Kangas received the IUFRO Scientific Achievement Award in 2000 for his research achievements and world-wide recognition in the areas of optimization methods, modelling expertise and participatory and interactive planning of multi-functional forestry (IUFRO 2000).

Jyrki Kangas was born on 5 February 1962 in Harjavalta, Finland. He graduated from the University of Joensuu (1986) and earned his Ph.D. (1992) in Agriculture and Forestry from the University of Joensuu. His thesis was on supporting forestry decision-making of private non-industrial forest owners. Dr. Kangas has had significant career achievements in the forest industry as well as in research and teaching. After two years in private forestry (1987–1988), he took up several Researcher positions at the University of Joensuu and METLA (1989–1993). In 1994 he was Director at METLA's Joensuu Research Station and after that at Kannus Research Station (1995–2001).

Dr. Kangas was appointed the first Professor of Forest Planning at METLA (2001–2003). In 2015, he was appointed Professor of Forest Bioeconomy of the University of Eastern Finland. He is an Adjunct Professor (Docent) of Forest Planning at the University of Helsinki (since 2003). He was employed as Director of Forestry at UPM-Kymmene Ltd. (2003–2006) and CEO of UPM's real estate subsidiary Bonvesta Oy. He then was appointed as CEO and DG of Metsähallitus – the Finnish State Forest Enterprise (2007–2014) governing all the State-owned lands and waters in Finland. Metsähallitus has both business operations, public services and administration duties. He has served on various positions of trust such as Chairman of the FEFR (2010–2012), Vice-President of the EUSTAFOR (2012–2014), Member of the European HLG of the FTP (2010–2014), and the CoB of the Koli Forum (2016–2018).

Professor Kangas has research interests in the area of multi-functional forestry, decision support, strategy processes, and the forest bioeconomy. He has authored and co-authored more than 350 research papers and book chapters, of which more than 100 are peer-reviewed ones. Kangas was awarded the Golden Medal of the Forest Management Club of the Finnish Society of Forest Science (2008). The Finnish Society of Forest Sciences awarded him with a Cajander bronze medal (2014), and he was selected by the Union of Finnish Academic Foresters as the Forester of the Year (2014). The Finnish Operations Research Society awarded him the OR Person of the Year (2006). He has also received other awards, including the Golden Medal of Land Survey (2009), Medal of Military Merit (2008), Medal of the Finnish Border Guard (2013), the Golden Badge of Merit by MTK (2017), and Commander of the Order of the Lion of Finland (2013).

Selected research sources:

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2. Integrating spatial multi-criteria evaluation and expert knowledge for GIS-based habitat suitability modelling *Landscape and Urban Planning* 55: 73–93 (with R. Store). 2001.
3. Social choice theory and its applications in sustainable forest management – A review. *Forest Policy and Economics* 9: 77–92 (with A. Kangas and S. Laukkanen). 2006.
4. *The Analytic Hierarchy Process in Natural Resource and Environmental Decision Making*. Springer. xviii, 307 p. (with D. L. Schmoldt, G. A. Mendoza, and M. Pesonen). 2001.
5. *Decision Support for Forest Management*. Springer. 224 p. (with A. Kangas, M. Kurttila, K. Eyvindson and T. Hujala), 2015.

Personal sources:

1. URL: http://www.uef.fi/arkisto/uef-fi/2015/Jyrki_Kangas_Ita-Suomen_yliopiston_metsabiotalouden_professoriksi.htm Retrieved 8.01.2019.
2. Kangas J. J. Personal communications (January 2019) at jyrki.kangas@uef.fi

LEE, Su See



Su See Lee received the IUFRO Scientific Achievement Award in 2000 for her scientific contributions to forest pathology as applied to diseases of fast-growing plantation trees and to dipterocarp ectomycorrhiza research (IUFRO 2000).

Su See Lee was born on 9 January 1955 in Kuala Lumpur, Malaysia. She obtained her B.Sc. (Hons.) in Botany (1979) from the University of Malaya (UM), Kuala Lumpur, and M.Sc. in Forest Pathology from *Universiti Pertanian Malaysia* (UPM, now *Universiti Putra Malaysia*) Serdang, Selangor (1981), where she also worked as a Tutor (1979–1981) and Lecturer (until 1990). She earned her Ph.D. in Plant Sciences from the University of Aberdeen, UK (1992). Dr. Lee spent the bulk of her career with FRIM where she began as a Senior Researcher and Head of Mycology and Pathology Laboratory (1990). She progressed to Principal Researcher (2007), Deputy Division

Director and Head, Forest Health and Conservation Programme, Biodiversity Division (2009), from which she retired in 2015. Dr. Lee also dedicated much time to teaching and supervision of post-graduate students, e.g., as external supervisor at University of Aberdeen, UPM, and University Gadjah Mada, Indonesia, Adjunct Professor at Universiti Malaysia Terengganu and consulting on forest health in Indonesia and Malaysia. Currently, Dr. Su See Lee is a freelance consultant on forest and tree health.

Dr. Lee serves as a Scientific Advisor and Referee for the IFS, Sweden (since 1993) and was a member of the Scientific Advisory Committee for the KFRI, RoK (2012–2014). She served as reviewer, editor, co-editor and member of various editorial boards for professional journals in Malaysia, Indonesia, South Africa, Southeast Asia, Australasia and the UK. Her contribution to forest science, education and public outreach is widely recognized. In 1994–2012, Dr. Lee received more than a dozen of the FRIM Publication Awards in various categories, the FRIM Best Scientist Award (2010), and two FRIM Director-General awards. She received the Malaysian Fulbright Exchange Programme Award (2002), was granted the *Ahli Mangku Negara* (A.M.N.) by the King of Malaysia (2007) and became Honorary Member of the Malaysian Nature Society (2009).

Since 1995, Dr. Lee served IUFRO in various capacities as Deputy Coordinator and Coordinator for different WPs and WGs (1995–2005), MC member (2006–2014), General Board Member (2006–2010), IUFRO Honours & Awards Committee (Chair, 2006–2010, Member, 2011–2014) and IUFRO Vice President (2010–2014), becoming the first female at such a high administrative position in the history of the Union.

In recognition of her service to IUFRO, Dr. Lee was granted IUFRO Honorary Membership in 2016.

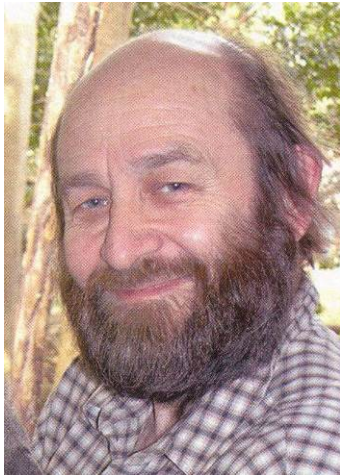
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2. Forest health in plantation forests in South-East Asia. *Australasian Plant Pathology* 28: 283–291. 1999.
3. *A Manual of Diseases of Tropical Acacias in Australia, South-East Asia, and India*. CIFOR, Jakarta, Indonesia. 104 p. (with K. M. Old, J. K. Sharma and Z. Q. Yuan), 2000.
4. Diseases and potential threats to *Acacia mangium* plantations in Malaysia. *Unasylva* 217: 31–35. 2004.
5. Mycorrhizal research in Malaysian plantation forestry. In: K. Suzuki, K. Ishii, S. Sakurai and S. Sasaki (eds.) *Plantation Technology in Tropical Forest Science*. Springer-Verlag, Tokyo, pp. 157–166. 2006.
6. *The Larger Fungi of FRIM*. Research Pamphlet, No. 135. FRIM, Kepong, 174 pp. 2017.
7. Observations on the successes and failures of *Acacia* plantations in Sabah and Sarawak and the way forward. *Journal of Tropical Forest Science* 30 (Anniversary Issue): 468–475. 2018.

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2. Lee, Su See. Personal communications (January 2019) at leesusee08@gmail.com

PRICE, Colin



Colin Price received the IUFRO Scientific Achievement Award in 2000 for contributions to science and distinguished research achievements in the field of theory and application of forest and environmental economics (IUFRO 2000).

Colin Price was born on 13 March 1948 in Rossett, Wrexham County Borough, Wales. He earned his Bachelor's degree in forestry with 1st class honours in 1970, and Master's degree and D.Phil. in land use economics in 1975, all at Oxford University. In 1975 and 1976 he held teaching appointments in town planning economics at Oxford Polytechnic, and in land use economics at Oxford University. In 1976 he joined the University of Wales, Bangor, where he taught many forestry subjects, and in 1996 was appointed Professor of Environmental and Forestry Economics.

His wide-ranging research interests focus on cost—benefit analysis and on the economics of forestry policy, silviculture, harvesting, carbon fluxes, recreation, tree disease, biodiversity, resource depletion, urban planning and economic development. He is particularly known for his research on discounting and on landscape economics, his work on the latter bringing the appellation “Father of Landscape Economics”. He has authored three major books and about 250 journal papers and book chapters, and is a member of the editorial boards of *Journal of Forest Economics*, *Forestry* and *Landscape Research*.

Professor Price has been involved in research projects in, and supervised postgraduates from, Bangladesh, Canada, China, Denmark, Finland, France, Germany, India, Italy, Japan, Malawi, Malaysia, Norway, Pakistan, Sudan, Thailand, Tanzania, Uganda and the United States, and has made numerous presentations at international conferences.

He has served as consultant on landscape, land use and forestry economics to many regional, national and international organizations. Among those have been: the South-West Region of England, the Countryside Council for Wales, the Countryside Commissions of England & Wales and of Scotland, the UK's Forestry Commissions, the former UK Department of the Environment, Department for Environment, Food and Rural Affairs, Food and Environment Research Agency, Council of Europe and UN's FAO. After forty years in university employment, he has gone free-lance, working as “Colin Price Free-lance Academic Services”.

Selected research sources:

1. *Landscape Economics*. Macmillan, 168 p.; 2nd ed. Palgrave Macmillan, 504 p. 1978, 2017.
2. *The Theory and Application of Forest Economics*. Wiley-Blackwell. 416 p. 1989.
3. *Time, Discounting and Value*. Blackwell, 393 p. 1993.
4. Does social cost—benefit analysis measure overall utility change? *Econ. Letters* 26: 357–361. 1988.
5. Contingent valuation and retrograde information bias. In: C. S. Roper and A. Park, eds. *The Living Forest: Non-market Benefits of Forestry*, H.M.S.O., p. 37–44. 1999.
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8. Low discount rates and insignificant environmental values. *Ecological Economics* 69: 1895–1903. 2010.
9. Impatience, inconsistency, and institutions to counter their effects on sustainable forest management. In: Kant, S., ed. *Post-Faustmann Forest Resource Economics*. Springer, p. 125–145. 2012.

Personal sources:

Price C. Personal communications (January 2019) at c.price@bangor.ac.uk

REED, David Doss



David Doss Reed received the IUFRO Scientific Achievement Award in 2000 for his research on forest biometrics as applied to the quantitative assessment of impacts of stress on forest trees and stands (IUFRO 2000, p. 181).

David Reed was born on 14 September 1956 in Jonesboro, Arkansas, USA. He earned his B.Sc. in Forest Science at the University of Arkansas-Monticello (1977), M.Sc. in Statistics (1982), M.Sc. and Ph.D. in Forest Biometrics (1979 and 1982) at Virginia Polytechnic Institute and State University. In 1982 he began his teaching career as an Assistant Professor at the School of Forestry and Wood Products (now School of Forest Resources and Environmental Science), Michigan Technological University (MTU) in Houghton. In 1990 he was appointed Professor of the School. He has established good research relationships and conducted various research projects with sponsorship gained from many organizations and companies, ranging from the US National Science Foundation to the USDA Forest Service, and the Mead Paper Corporation, Dayton, Ohio, USA.

His research interests and expertise lie in the field of biometrics, environmental statistics and statistical analysis, modeling of complex systems, and experimental design. In 1996, as a Fulbright Scholar, he worked at the Technical University of Lisbon, Portugal, where he established close research contacts with European scientists. He is the author, co-author and editor of over 135 research papers published in peer-reviewed journals, books and book chapters, project reports and conference proceedings. He has been a frequent presenter at national and international congresses and symposia on various forest-related issues.

Professor Reed has received a number of honours and awards in recognition of his teaching and research accomplishments. He received the Faculty Excellence Award from the Society of American Foresters student chapter (1994) and the Forest Science Award from the Society of American Foresters (2002). Since 2001 he has served as the MTU Vice President for Research. From 2004 to 2007 he also served as Provost and Vice President for Academic Affairs and from 2018 to 2019 he served as MTU Chief Financial Officer and Senior Vice President for Administration.

Selected research sources:

1. Compatible stem taper and volume ratio equations. *Forest Science* 30(4): 977–990 (with E. J. Green). 1984.
2. Complex compatible taper and volume estimation systems for red and loblolly pine. *Forest Science* 32(2): 423–443 (with J. C. Byrne). 1986.
3. Leaf area and foliar biomass relationships in northern hardwood forests located along an 800 km acid deposition gradient. *Forest Science* 37(4): 1041–1059 (with A. J. Burton and K. S. Pregitzer). 1991.
4. Using GIS to estimate forest resource changes: A case study in northern Michigan. *J. of Forestry* 90(12): 22–26 (with A. L. Maclean, G. D. Mroz, G. W. Lyon and T. Edison). 1992.
5. *Resource Assessment in Forested Landscapes*. John Wiley & Sons. 386 p. (with G. D. Mroz). 1997.
6. *Modelling Forest Systems*. A. Amaro, D. Reed and P. Soares, eds., CABI Publishing, Oxford. xii, 401 p. (Papers from a workshop held in Sesimbra, Portugal, June 2–5, 2002). 2003.

Personal sources:

1. URL: <https://www.mtu.edu/president/teams/council/reed.html> Retrieved 14.01.2019.
2. Reed D. D. Personal communications (January 2019) at ddreed@mtu.edu

VERTESSY, Robert (Rob) Alexander



Robert Alexander Vertessy received the IUFRO Scientific Achievement Award in 2000 for scientific contributions in the field of deterministic modelling of forest catchment hydrologic processes and in the area of hydrologic field measurement techniques (IUFRO 2000, p. 181).

Robert Vertessy was born on 29 April 1961 in Victoria, Australia. He obtained his B.A. (Hons.) in Physical Geography from Monash University in Melbourne (1983), and Ph.D. in Fluvial Geomorphology from the Australian National University (ANU) in Canberra (1990). He joined CSIRO as a Research Scientist (1987) and progressed to Director of the CRC Centre for Catchment Hydrology (2002–2004) and Chief of CSIRO's Land and Water Division (2004–2007). He was seconded from CSIRO to the Department of the Prime Minister & Cabinet (2006–2007) as a team member to design the National Plan for Water Security, and then to the Bureau of Meteorology (BoM) in Canberra as Chief Hydrologist (2007–2008). He served as the BoM's Deputy Director for Climate and Water (2008–2011), Acting Director (2011), and Director and CEO from 2012 until his retirement from the governmental position in 2016. During his time as Director of Meteorology, he served as Australia's Representative to the World Meteorological Organization. In January 2017, he took up a part-time role of Enterprise Professor (Water Resources) at the School of Engineering, University of Melbourne. In 2013, Professor Vertessy was elected a Fellow of the Australian Academy of Technological Sciences and Engineering, where he chairs its water forum.

Professor Vertessy's research interests are in forest and watershed hydrology, distributed catchment modelling, water information, water resources management, water resource assessment and the impacts of climate change on water security. He authored and co-authored more than 120 scientific papers, book chapters, books, and reports as well as presentations at various national and international meetings, conferences and symposia. He is the founder and Principal of Global Change Advisory, a consultancy focused on environmental intelligence, providing advice to governments in Australia and abroad on matters related to water management, water information, water policy, water security and climate change. He is an active participant in the Australian Water Partnership, and has represented them recently on missions to India, Pakistan, Jordan, Iran, Thailand, Laos and Cambodia. In November 2018, he was appointed as Chair of the Murray-Darling Basin Authority Advisory Committee on Social, Economic and Environmental Sciences. In January 2019, the Australian Government appointed him to lead an independent scientific assessment into the causes of mass fish deaths in the lower Darling River, in NSW, Australia.

Selected research sources:

1. Long term growth and water balance predictions for a mountain ash (*E. regnans*) forest subject to clearfelling and regeneration. *Tree Physiology* 16: 221–232 (with T. J. Hatton, R. J. Benyon, and W. R. Dawes). 1996.
2. Estimating stand water use of large mountain ash trees and validation of the sap flow measurement technique. *Tree Physiology* 17(12): 747–756 (with T. J. Hatton, P. Reece, S. K. O'Sullivan, and R. G. Benyon). 1997.
3. Factors determining relations between stand age and catchment water yield in mountain ash forests. *For. Ecol. and Mgmt.* 143(1–3): 13–26 (with F. G. R. Watson, and S. K. O'Sullivan). 2001.
4. Water information services for Australians. *Australian J. of Water Resources* 16(2): 91–105. 2013.

Personal sources:

1. URL: <https://researchers.anu.edu.au/researchers/vertessy-ra> Retrieved 16.01.2019.
2. LinkedIn profile at <https://www.linkedin.com/in/robvertessy/>
3. Vertessy R. A. Personal communications (January 2019) at robert.vertessy@unimelb.edu.au

WINGFIELD, Michael (Mike) John



Michael John Wingfield received the IUFRO Scientific Achievement Award in 2000 for his research achievements in the field of plant pathology and the establishment of the Tree Protection Cooperative Programme (IUFRO 2000).

Mike Wingfield was born on 21 April 1954 in Warner Beach near Scottburgh, KwaZulu-Natal, South Africa. He earned a B.Sc. in Botany and Plant Pathology (1976) and a B.Sc. (Hons. *cum laude*) in Plant Pathology from the University of Natal (1977), followed by an M.Sc. (*cum laude*) in Plant Pathology from the University of Stellenbosch (1979), and a Ph.D. in Plant Pathology from the University of Minnesota, USA (1983). He completed the Harvard Business School, Advanced Management Programme (2008).

Dr. Wingfield began his career with the Department of Agriculture of South Africa (1978–1988) and then moved to the University of the Free State (1988–1998) where he established the Tree Protection Co-operative Programme. He moved with his research team of 56 people to the University of Pretoria in 1998 as Professor to establish the Forestry and Agricultural Biotechnology Institute (FABI). As a professor and member of Senate at the University of Pretoria he served as Director of FABI, the Tree Protection Co-operative Programme (since 1990) and Director of the Centre of Excellence in Tree Health Biotechnology (since 2004). He stepped down from these positions in 2018 to assume a role as advisor to the Executive of the University of Pretoria.

Dr. Wingfield's primary interest is in tree health, especially in the impact and global movement of insect pests and pathogens mainly, but not exclusively in the tropics and Southern Hemisphere. He has been actively involved in various IUFRO activities for more than 30 years, starting from coordinator of an IUFRO unit to Vice President (2006–2010) and President of the Union (2014–2019). He is a fellow of many scientific societies, member of editorial boards of leading scientific journals as well as of various advisory and research committees at different organizations, associations and societies.

As a leading scientist and academic, Mike Wingfield provides consultancy on various issues to many forest and industrial companies worldwide. He has been the adviser to more than 100 Doctoral and Post-Doctoral students. For more than 30 years he has worked and published widely in the area of tree health and his publications include more than 1000 research papers, 10 books and numerous invited presentations globally. He has received many national and international awards for his contributions to forest research, education, administration and international development. Among others, these include the Kwame Nkrumah Scientific Award from the African Union (2013) which is the highest honour paid to an African scientist and Honorary Doctoral degrees from the University of British Columbia (Canada) in 2013 and North Carolina State University (USA) in 2014.

In recognition of his long-term service to IUFRO in various capacities, Dr. Michael Wingfield was awarded IUFRO Honorary Membership in 2024.

Selected research sources:

1. *Ceratocystis and Ophiostoma. Biology, Taxonomy and Ecology*. Wingfield, M. J., K. A. Seifert and J. F. Webber, eds. Amer. Phytopathological Society Press, St. Paul, Minnesota, USA. ix, 293 p. 1993.
2. *The Sirex Woodwasp and its Fungal Symbiont: Research and Management of a Worldwide Invasive Pest*. B. Slippers, P. de Groot and M. J. Wingfield, eds. Dordrecht; New York: Springer. xii, 301 p. 2011.
3. Planted forest health: The need for a global strategy. *Science* 349: 832–836. (with E. G. Brokerhoff, B. D. Wingfield and B. Slippers). 2015.

Personal sources:

1. URL: <https://www.apsnet.org/members/awards/Fellows/Pages/MichaelJWingfield.aspx> Retrieved 02.02.2019.
2. URL: <https://iufro2024.com/honorary-awards/> Retrieved 11.07.2024.
3. Prof. Mike Wingfield (2017) Biography. Unpublished. 209 p. <http://www.fabinet.up.ac.za/mwingfield>
4. Wingfield M. J. Personal communications (January 2019) at mike.wingfield@fabi.up.ac.za

YEH, Francis Cho-Hao



Francis Cho-Hao Yeh received the IUFRO Scientific Achievement Award in 2000 for pioneering achievements in the field of molecular, population and quantitative genetics of forest trees (IUFRO 2000).

Francis Yeh was born on 20 December 1945 in Wuhan, China. He earned his B.Sc. in Animal Science (1970) and a Ph.D. in Genetics (1974), both at the University of Calgary. In 1975, he began his career as Technical Advisor to the Research Branch, BC Ministry of Forests and an Adjunct Professor at the University of Alberta (1981). He was then appointed Professor of Forest Genetics & Biotechnology at the University of Alberta (1986), and was later named as Professor Emeritus of Renewable Resources (2015). He also served as Associate Dean for Research, Faculty of Agricultural Life and Environmental Sciences (2000–2006).

Dr. Yeh's major research interests are in the areas of comparative genomics at the population level, evolutionary, ecological, quantitative, population, and conservation genetics, biosystematics, tree improvement, biotechnology, and forest conservation. He has authored and co-authored 158 scientific papers, book chapters, books and reports as well as presentations at national and international conferences and symposia. He led the group of scientists developing POPGENE, user-friendly shareware for population genetic analysis (1997).

Dr. Yeh has actively participated in IUFRO RG 2.04.00 Genetics. He was Chair of the Forest Genetics Resources Task Force (1997–1999); Co-Chair of Scientific Program-Genetic Conservation, IUFRO all Division 2 Conference (Beijing 1998); Chair of IUFRO Conference on Forest Diversity and Adaptation (Vancouver 1996) and Leader, IUFRO Working Party in Population, Ecological and Conservation Genetics (1992–2002). As a Chair of the IUFRO Task Force on Gene Resources, he was invited to the FAO/IUFRO International Expert Task Force on Management and Conservation of Forest Gene Resources (1998–1999). He has also been consultant to governments, academic institutions and industries in a number of countries. Dr. Yeh was elected Chair of the NSERC North American Quantitative Forest Genetics Group (1979), Industry–University Research Chair (1987) and was named McCalla Research Professor (1999) and Honorary Professor of Nanjing Forestry University (1989) and the Chinese Academy of Forestry (2004).

Selected research sources:

1. The organization of genetic variability in central and marginal populations of lodgepole pine *Pinus contorta* spp. *Latifolia*. *Can. J. Genet. Cytol.* 21: 487–503 (with C. Layton). 1979.
2. Population differentiation in lodgepole pine, *Pinus contorta* spp. *latifolia*: a discriminant analysis of allozyme variation. *Can. J. Genet. Cytol.* 27: 210–218 (with W. M. Cheliak, B. P. Dancik, K. Illingworth, D. C. Trust and B. A. Pryhitka). 1985.
3. Isozyme variation of *Thuja plicata* in British Columbia. *Biochem Syst & Ecology* 16: 373–377. 1988.
4. *POPGENE, the user-friendly shareware for population genetic analysis*. Molecular Biol. and Biotech. Centre, University of Alberta, Canada (with R.-C. Yang, T. B. J. Boyle, Z.-H. Ye and J. X. Mao). 1997.
5. Postglacial colonization and population genetic relationships in the *Pinus contorta* complex. *Can J. Bot.* 84: 223–234 (with A. Fazekas). 2006.
6. Large-scale asymmetric introgression of cytoplasmic DNA reveals Holocene range displacement in a North American boreal pine complex. *Ecology and Evolution* 2(8): 1853–1866 (with J. Godbout and J. Bousquet). 2012.

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1. URL: <https://www.ualberta.ca/agriculture-life-environment-sciences/about-us/contact-us/facultylecturer-directory/francis-yeh> Retrieved 15.01.2019.
2. Yeh F. C.-H. Personal communications (February 2019) at francis.yeh@ualberta.ca

2005 (Brisbane, Australia)

The IUFRO Honours and Awards Committee was chaired by Dr. Karel Vančura (Czech Republic) and consisted of Drs. Gordon Miller (Canada), Zohra Bennadji (Uruguay), Björn Hånell (Sweden), Rahim Nik (Malaysia), Margarida Tomé (Portugal), and *ex officio* IUFRO President Risto Seppälä and IUFRO Executive Secretary Heinrich Schmutzenhofer (2001–2003) and then Executive Director Peter Mayer. They selected 10 winners from 15 nominations.

During the Opening Ceremony of the XXII IUFRO World Congress on Monday, 8 August 2005, announced by the Chair of the Committee, IUFRO Vice-President Eric Teissier du Cross assisted by Peter Mayer presented the IUFRO Scientific Achievements Awards to the following scientists (IUFRO News 2005):

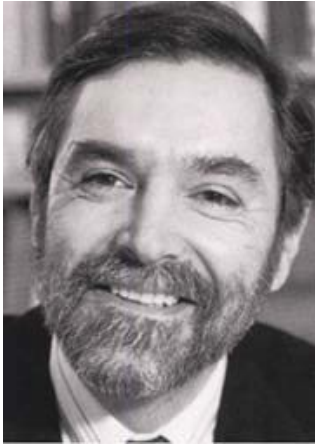
Joseph BUONGIORNO⁷	USA
Shashi KANT	Canada
David F. KARNOSKY	USA
Victor J. LIEFFERS	Canada
P. K. Ramachandran NAIR	USA
David L. PETERSON⁶	USA
Rémy J. PETIT⁶	France
John R. SPENCE	Canada
John TURNER	Australia
Shu-Yin ZHANG⁶	Canada



From left to right: K. Vancura, *James Turner* (for J. Buongiorno), S. Kant, D.F. Karnosky, V.J. Lieffers, P.K. Nair, E.B. Teissier du Cross, P. Mayer, *Morris Johnson* (for D.L. Peterson), *Antoine Kremer* (for R.J. Petit), J.R. Spence, J. Turner, and *Ian de la Roche* (for S.-Y. Zhang) (Photo: V. Teplyakov).

⁷ Professor J. Buongiorno and Drs. D.L. Peterson, R.J. Petit, and S.-Y. Zhang were unable to attend the Congress and their colleagues accepted the awards on their behalf.

BUONGIORNO, Joseph



Joseph Buongiorno received the IUFRO Scientific Achievement Award in 2005 for his contribution to the study of international forest product markets, and to the management of mixed-species uneven-aged forests (IUFRO 2005).

Joseph Buongiorno was born on 15 January 1944 in Golfech, France. He finished his *Baccalauréat* in Mathematics (1962) at the Lycée Pierre de Fermat in Toulouse and obtained his *Diplôme d'ingénieur* in Wood Products (1967) from the *École Supérieure du Bois* in Paris. He then moved to the USA, where earned his M.Sc. in Forestry Economics (1969) from the College of Environmental Science and Forestry, SUNY, Syracuse, and a Ph.D. in Resources Science (1972) from the University of California, Berkeley. He gained his research experience working as Research Assistant (1967–1971) and Forestry Officer at UN FAO in Rome (1971–1975). He then spent the bulk of his career at the University of Wisconsin-Madison (UW-M) starting as Assistant Professor (1975) and progressing to Associate Professor (1978), Professor (1982–2000) and John N. McGovern WARF Professor (since 2000) and Class of 1933 Bascom Professor (since 2004) at the UW-M's Department of Forest and Wildlife Ecology. He has also taught and researched in Italy (1981–1982), Austria (1983), and France (1993).

During his 35-year of teaching (1975–2009), Professor Buongiorno trained thousands of students, including 69 Ph.D. and M.Sc. as well as advising of 16 visiting scholars from North (USA) and South (Brazil) Americas, Europe (Finland, France, Germany, Greece, Italy, Norway, and Spain), Asia (PRC, Indonesia, Iran, Korea Rep., Japan, and Turkey), Australasia (New Zealand). With colleagues, he developed multiple decision-support computer models, including the internationally used Global Forest Products Model (GFPM) for forecasting and policy analysis. He has served as short-term consultant for many projects elaborated in different countries by the UN FAO, ITTO, the World Bank, Seneca Associates LLC, and Scion.

Professor Buongiorno is a member of many national and international societies, including SAF (1975), American Economic Association (1975), French Academy of Agriculture (2004), IAWS (2008) and others. For many years, he served on the Boards of various scientific journals, e.g., *Forest Science*, *Scandinavian Journal of Forest Research*, *Journal of Forest Economics*, *Bois et Forêts des Tropiques*, *New Forests*, and others. He has published 181 peer-reviewed papers, 11 books, 28 chapters in books and 79 chapters in proceedings, and about 110 reports for 50 international and 100 national projects.

Professor Buongiorno is a recipient of the first SAF' Science Award (1998), the Hardwood Research Council National Award (1989), the UW-M's Hilldale Award (1990), Japanese Government Research Award (2001), *Doctor honoris causa* of the Swedish University of Agricultural Sciences (2005) and the Norwegian University of Life Sciences (2009) to name just a few. His teaching has been distinguished by the John W. Jung Award of Excellence in Teaching (1982) and the first SAF's Carl Schenk Award (1988).

Selected research sources:

1. *Forest Management and Economics: A Primer in Quantitative Methods* (Biological Resource Management). Macmillan USA. 320 p. (with J.K. Gilless). 1987.
2. *Decision Methods for Forest Resource Management*. Academic Press. 439 p. (with J.K. Gilless). 2003.
3. *The Global Forest Products Model: Structure, Estimation, Applications*. Academic Press. 300 p. (with S. Zhu, D. Zhang, J. Turner and D. Tomberlin). 2003.

Personal sources:

1. URL: <http://labs.russell.wisc.edu/buongiorno/> Retrieved 24.01.2019
2. Buongiorno J. Personal communications (January 2019) at jbuongio@wisc.edu

KANT, Shashi



Shashi Kant received the IUFRO Scientific Achievement Award in 2005 for his research on choices in non-market situations; institutional and evolutionary aspects, social production process, forestry organizations, public participation, aboriginal issues, international trade, game theoretic and agent-based models, economics of uneven-aged forests, tropical deforestation, and co-management (IUFRO News 2005).

Shashi Kant was born in Ahrola Noabad, Uttar Pradesh, India. In India he earned a Bachelor of Engineering (Hons) at Birla Institute of Technology and Science (1978), Pilani, Post Graduate Diploma in Forest Science at State Forest Service College, Coimbatore (1982), Post Graduate Diploma in Remote Sensing at Indian Institute of Remote Sensing, Dehradun (1986), Diploma in Management at AIMA, New Delhi (1992). He then obtained his M.A. in Economics (1995) and Ph.D. in Forest Economics (1996) from the University of Toronto (UT), Canada. In India, he worked as a professional forester for ten years and Assistant Professor (1988–1992) at Indian Institute of Forest Management in Bhopal. In Canada, he was appointed, Assistant Professor (1997–2002) and Professor of Forest Resource Economics & Management at the UT Faculty of Forestry since 2008.

Dr. Kant has been a chair, vice-chair and member of numerous research, education and administration boards and committees in India, Canada and internationally. Since 2012, he has been Director, Master of Science in Sustainability Management Program, Institute for Management and Innovation, University of Toronto Mississauga. He has studied forest resources co-management and SFM, the international trade in forest products, and preferences of Aboriginal peoples, working in Canada, China, India, and Vietnam and serving as a consultant to FAO, SIDA, UNEP, INBAR and many others. He is affiliated with numerous Canadian and international professional associations and societies. Since 2001, he has served IUFRO units 4.04.02 and 9.04.00, as well as a chair and co-chair of many sessions, and a member of committees for several IUFRO World Congresses.

He is Editor-in-Chief of the book series “Sustainability, Economics, and Natural Resources” published by Springer. He has edited and co-edited many books and proceedings and serves as reviewer for many scientific journals. He has authored and co-authored more than 200 refereed and non-refereed papers, book chapters, reports and presentations. Professor Kant has received many awards, including the Premier’s Research Excellence Award by the Premier of Ontario, Canada (2004), Canadian Forestry Scientific Achievement Award (CIF, 2007), the Queen’s Award for Forestry (2008), International Students Excellence Award (2012), and the Order of Ontario (2018), to name just a few. He was named Honorary Professor, Nanjing Forestry University, PRC (2011).

Selected research sources:

1. *Institutions, Sustainability, and Natural Resources: Institutions for Sustainable Forest Management.* Kant, S., and R. A. Berry, eds. Dordrecht: Springer. 361 p. 2005.
2. *Economics, Sustainability, and Natural Resources: Economics of Sustainable Forest Management.* Kant, S., and R. A. Berry, eds. Dordrecht: Springer. 272 p. 2005.
3. *Post-Faustmann Forest Resource Economics.* Kant, S., ed. Dordrecht: Springer. 293 p. 2013.
4. *Handbook of Forest Resource Economics.* Kant, S. and J. Alavalapati, eds. Earthscan from Routledge, New York. 560 p. 2014.

Personal sources:

1. URL: <https://www.utm.utoronto.ca/mscsm/dr-shashi-kant-publications> Retrieved 24.01.2019
2. Kant S. Personal communications (January 2019) at shashi.kant@utoronto.ca

KARNOSKY, David Frank



David Frank Karnosky received the IUFRO Scientific Achievement Award in 2005 for his ground-breaking studies of pollution-induced population changes and for his pioneering work on genetic engineering of larch (IUFRO 2005).

David Karnosky was born on 12 October 1949 in Rhinelander, Oneida County, Wisconsin, USA. He graduated from Rhinelander High School (1967) and then obtained his B.Sc. in Forestry (1971), M.Sc. (1972) and Ph.D. (1975) in Forest Genetics, all from the University of Wisconsin-Madison. In 1975, Dr. Karnosky became Director of the Institute of Urban Horticulture at the New York Botanical Garden and Forest Geneticist at the Garden's Cary Arboretum.

In 1983, Dr. Karnosky moved to Michigan Technological University (MTU), where he became Professor of Forest Genetics and Biotechnology, and accepted an appointment as the Robbins Chair in Sustainable Management of the Environment. He was the Director of MTU's Ecosystem Science Center and Director of the Aspen FACE (Free-Air Carbon Dioxide Enrichment) Experiment. Dr. Karnosky combined teaching with research. His research interests were in the areas of genetic aspects of air pollution and climate change, improving forest productivity in northern regions, and gene isolation and transfer in forest trees. His research involved colleagues from Europe, Asia, and Africa. An internationally recognized leader in forest genetics and global change, he published over 300 peer-reviewed papers and four edited books.

Professor Karnosky held various offices in IUFRO between 1987 and 2008. He was Coordinator of Division 7 (Forest Health) and Executive Board member (1996–2000), and then functioned as Coordinator of WP 7.01.04. He also served as a member of the IUFRO-led Expert Panel on Adaptation of Forests to Climate Change. Besides the SAA, he received the MTU Research Award (1993) and was elected as an Honorary Doctor of the University of Tartu, Estonia (2006).

Professor Karnosky died on 24 October 2008 at his home in Chassell, Michigan. Just before his death, he had co-authored two chapters for the IUFRO book that became dedicated in his memory. A Karnosky Memorial Fund was established to build an arboretum at MTU's School of Forest Resources and Environmental Science. In 2009, the Aspen FACE field laboratory near Rhinelander, was named the David F. Karnosky Laboratory.

Selected research sources:

1. *Improving the Quality of Urban Life with Plants: Proceedings of the June 21–23, 1983 International Symposium on Urban Horticulture*. D.F. Karnosky and S.L. Karnosky, eds. Millbrook, NY: New York Botanical Garden, (Institute of Urban Horticulture, no. 2). 200 p. 1985.
2. *The impact of carbon dioxide and other greenhouse gases on forest ecosystems: report no. 3 of the IUFRO Task Force on Environmental Change*. D. Karnosky, R. Ceulemans, G. Scarascia-Mugnozza, and J.L. Innes, eds. Wallingford, Oxon, UK; New York: CABI Pub., in association with the IUFRO, IUFRO research series, 8. 352 p. 2001.
3. *Air Pollution, Global Change and Forests in the New Millennium*. Vol. 3. Karnosky, D.F., K.E. Percy, A.H. Chappelka, C. Simpson, and J.M. Pikkarainen, eds. Elsevier Press, Amsterdam. 492 p. 2003.
4. *The Global Assessment Report*. Seppälä, R.; Buck, A.; Katila, P, eds. IUFRO World Series, vol. 22. Helsinki: IUFRO. 224 p. 2009.

Personal sources:

1. King J. S., Percy K. E., Matyssek R. Dedication to Dr. David F. Karnosky. *Environ Pollut*. 158(4): 953–954. 2010.
2. King J. S. Personal communications (January 2019) at john_king@ncsu.edu

LIEFFERS, Victor James



Victor James Lieffers received the IUFRO Scientific Achievement Award in 2005 for his outstanding research on ecological management of boreal mixedwoods, competitive dynamics, clonal regeneration of hardwoods, light transmission in forests, hydraulic architecture of forest trees in relation to silviculture, and understanding crown shyness in maturing conifer stands (IUFRO News 2005).

Victor Lieffers was born on 28 November 1951 in Cudworth, Saskatchewan, Canada. He obtained his B.Sc. (Hons) in Biology (1974) from the University of Saskatchewan in Saskatoon and his Ph.D. in Botany (1981) from the University of Manitoba in Winnipeg, Canada. He then spent most of his professional career in forest research and education at the University of Alberta in Edmonton. Starting as a Postdoctoral fellow (1981–1983), he progressed from Assistant Professor of Forest Ecology (1983–1988) to Associate Professor (1988–1993), and to Professor of Silviculture and Forest Ecology at the Department of Renewable Resources (since 1993).

His research interests are in the field of boreal and mixedwood forests dynamics and using this knowledge to improve forest management, as well as topics related to tree recruitment, competitive relations and ecophysiology of trees, shrubs and herbs. Roots systems adaptation to cold soils, photosynthesis in low light, light transmission through mixed canopies, natural reproduction of spruce and aspen, and development of regeneration standards for public lands are also research interests. He was Chief Editor of the *Canadian Journal of Forest Research* and member of the Editorial Boards of the *Canadian Journal of Botany*, *the Forestry Chronicle* and *Tree Physiology*. He has authored and co-authored more than 200 refereed publications and supervised more than 70 graduate student and PDFs.

Dr. Lieffers has linked his scientific expertise with forestry practice. He was an NSERC Industrial Research Chair (1985–1995) and Department Chair of Renewable Resources (2011–2016) for the University of Alberta, and Board Member of Foothills Research Institute (2011–2016). He was Deputy Coordinator of IUFRO unit 1.01.01 Boreal forest silviculture and management (2014–2018). In addition to the SAA, Professor Lieffers has received the Tree of Life Award (2010) from the Canadian Institute of Forestry. He is the recipient of Killam Professorship (1999), Faculty of Agricultural, Life & Environmental Sciences' Teacher of the Year Award (2007, 2006 and 2001), Ed and Peggy Tyrchniewicz Award for Innovation in Teaching (2002), and Certificate of Reviewing Excellence in Forest Ecology and Management (2014).

Selected research sources:

1. Growth of understory *Picea glauca*, *Calamagrostis canadensis*, and *Epilobium angustifolium* in relation to overstory light transmission. *Can. J. For. Res.* 24 (6): 1193–1198 (with K. J. Stadt). 1994.
2. Predicting and managing light in the understory of boreal forests. *Can. J. For. Res.* 29(6): 796–811 (with C. Messier, K. J. Stadt, F. Gendron and P. G. Comeau). 1999.
3. Preventing crown collisions increases the crown cover and leaf area of maturing lodgepole pine. *J. Ecol.* 94: 681–686 (with S. X. Meng, M. Rudnicki, D. E. B. Reid, and U. Silins). 2006.
4. Defoliation increases risk of carbon starvation in root systems of mature aspen. *Trees – Structure and Function* 26: 653–661 (with S. M. Landhäusser). 2012.
5. Natural regeneration of forest vegetation on seismic lines in boreal habitats. *Biological Conservation* 184: 127–135 (with C. Van Rensen, S. Nielsen, B. White, and T. Vinge). 2015.

Personal sources:

1. URL: https://prabook.com/web/victor_james.lieffers/3442570 Retrieved 22.01.2019.
2. Lieffers V. J. Personal communications (January 2019) at victor.lieffers@ualberta.ca

NAIR, P. K. Ramachandran



P. K. Ramachandran Nair received the IUFRO Scientific Achievement Award in 2005 for his pioneering research in agroforestry (IUFRO News 2005).

Ramachandran Nair was born on 12 March 1942 in Kerala, India. He earned his B.Sc. (1961) and M.Sc. (1968) in Agriculture at Kerala Agricultural University while working as a Research Assistant/Lecturer (1961–1968) there. He then obtained his Ph.D. in Agronomy and Soil Science (1971) from Pantnagar Agricultural University, and D.Sc. (1978) in Tropical Land Use and Soil Science from *Georg-August-Universität* Göttingen, Germany, while being a Senior Humboldt Fellow (1976–1978) there. In 1971–1972, he was a Post-Doctoral Fellow in Soil Chemistry at Rothamsted Experiment Station, Herts, U.K. Later he worked as Agronomist (Soils) at the Central Plantation Crops Research Institute of the Indian Council of Agricultural Research (ICAR–CPCRI) in Kasaragod (1972–1976), Kerala, where he developed the multistoried cropping systems with tree crops.

During 1978–1987, Dr. Nair worked in Nairobi, Kenya where he was International Core Scientist and a founding member of the International Centre for Research in Agroforestry (ICRAF, World Agroforestry Centre, CGIAR – formerly the Consultative Group for International Agricultural Research). He moved to the USA and joined the University of Florida (UF) in Gainesville as a Professor (1987–2001), and Distinguished Professor (since 2001). He established the Agroforestry Program and the UF Center for Subtropical Agroforestry, of which he was the Director (2001–2011). He was Visiting Professor at the Environment and Policy Institute, Honolulu, USA (1984) and Distinguished Visiting Professor at Kyoto University, Japan (2000). Dr. Nair was an initiator and the chair of the Organizing Committee for the first World Congress of Agroforestry held in Florida, USA (2004), and was actively involved in the consecutive ones held in Nairobi, Kenya (2009) and New Delhi, India (2014). At the University of Florida, he graduated 30 Ph.D. students; two of them receiving ODRA at IUFRO World Congresses in 2000 and 2005.

Dr. Nair has traveled extensively in developing countries and provided a wide spectrum of consulting services for many national and international organizations in agriculture, forestry and various industries, including seven UN agencies. He has published extensively in the international scientific and technical media. He has authored and co-authored 5 and edited 12 books, more than 200 journal articles and 75 book chapters. He was a founding member (1982) and Editor-in-Chief (1994–2005) of *Agroforestry Systems* and is the Book Series Editor for *Advances in Agroforestry* by Springer (since 2004), Chief Editor of the Section Agroecology and Land-Use Systems, *Frontiers in Environmental Science* (since 2013–2018) and a member of the board of other scientific journals.

Professor Nair was awarded the Humboldt Prize, the highest academic honor of Germany (2006). He is a Fellow of the American Association for the Advancement of Science, American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, National Academy of Agricultural Sciences (India), World Innovation Foundation (U.K.) and many others. He has received four Doctor *honoris causa* degrees (Japan, Ghana, Canada, Spain) and numerous other honours, e.g., various awards in agronomy and soil science, Fulbright Program, SAF's Barrington Moore Award (2004) and Outstanding Research Award (2014), Mahatma Gandhi Medal for Global Achievers (2013), and many University of Florida recognitions.

Selected research sources:

1. *Agroforestry Species – A Crop Sheets Manual*. ICRAF 003e, ICRAF, Nairobi. 336 p. 1980.
2. *Agroforestry Systems in the Tropics*. P. K. Nair, ed. Dordrecht, The Netherlands, Kluwer. 664 p. 1989.
3. *An Introduction to Agroforestry*. Kluwer Academic Publishers. xiv, 499 p. 1993. (Also in Japanese, 1996; Spanish, 1997; and Thai, 2002, languages).

Personal sources:

1. URL: <http://sfrc.ufl.edu/people/faculty/nair/> Retrieved 25.01.2019.
2. Nair P. K. R. Personal communications (January 2019) at pknair@ufl.edu

PETERSON, David (Dave) Lawrence



David Lawrence Peterson received the IUFRO Scientific Achievement Award in 2005 for his research on fire ecology, mountain ecology, and climate change (IUFRO News 2005).

David Peterson was born on 17 February 1954 in Harvey, Illinois, USA. He earned all his degrees at the University of Illinois: B.Sc. in Zoology (1976), M.Sc. in Botany (1977), and Ph.D. in Forest Ecology (1980). He began his research career as a Research Ecologist and a Leader of the research unit at the U.S. Forest Service Pacific Southwest Research Station, Riverside, California (1981–1989) and continued as a Research Biologist and Field Station Leader of National Park Service and U.S. Geological Survey research units in Seattle, Washington (1989–2001).

Dr. Peterson returned to the Forest Service as a Research Biologist and Team Leader of the Fire and Environmental Research Applications team at the Pacific Northwest Research Station (2001–2013), advancing to Senior Research Biologist (2014) and Emeritus Senior Research Biologist (since 2018) with the Climate Science Applications Team. In 1989, Dr. Peterson began his 30-year career as a Professor in the College of Forest Resources (now School of Environmental and Forest Sciences) at the University of Washington, directing the Fire and Mountain Ecology laboratory where he mentored 31 graduate students.

Dr. Peterson has published 230 scientific articles and 4 books on climate change, fire ecology, subalpine forest ecology, resource management on public lands, and ecological scale applications. As co-founder and principal investigator for the Western Mountain Initiative, a scientific consortium focused on climate-change effects in mountain ecosystems, and as a contributing author for the IPCC, he was a co-recipient of the Nobel Peace Prize in 2007. He was a leader in assessing the effects of climate change on forests for the 2014 and 2018 U.S. National Climate Assessments.

Dr. Peterson is active in national and international projects and events on climate change, fire effects in forests, and natural resource management. For his contribution to forest research and education he received the Distinguished Science Award (2014), the highest honour for research in the U.S. Forest Service, and Honorary Life Membership in the Northwest Scientific Association (1998) for his leadership in research in the Pacific Northwest, USA. He and his wife live on a certified Tree Farm where they have restored native forest habitat and grow fruits, vegetables, flowers, bonsai, and epiphytic cacti.

Selected research sources:

1. *Human Ecology and Climate Change: Human Ecology and Climate Change*. Peterson, D. L. and D. R. Johnson, eds. Taylor & Francis. 192 p. 1995.
2. *Ecological Scale: Theory and Applications*. Peterson, D. L. and V. T. Parker, eds. Columbia University Press, New York, NY. 608 p. 1998.
3. *Climate Change and United States Forests*. Peterson D. L., J. M. Vose and T. Patel-Weynand, eds. Springer Netherlands. xxxii, 261 p. (Advances in Global Change Research, 57). 2014.
4. *Climate Change and Rocky Mountain Ecosystems*. Halofsky, J. E. and D. L. Peterson, eds. Springer, Switzerland. xvii, 236 p. (Advances in Global Change Research, 63). 2018.

Personal sources:

1. URL: adaptationpartners.org/apmain/docs/DLP_CV.pdf Retrieved 15.01.2019.
2. Peterson D. L. Personal communications (January 2019) at wild@uw.edu

PETIT, Rémy Jacques



Rémy Jacques Petit received the IUFRO Scientific Achievement Award in 2005 for his contribution to forest trees evolutionary biology and tree phylogeographic and palaeogenetic studies (IUFRO News 2005).

Rémy Petit was born on 7 July 1962 in Lille, France. He completed his undergraduate education at University of Lille I and Paris XI, obtained an M.Sc. in Plant Genetics & Breeding (1988) from the University of Paris XI and a Ph.D. in Life Sciences (1992) from the same university while being a Visiting Scientist at the University of Kentucky, Lexington, USA (1989–1990).

In 1985–1987, he served as assistant in botany and plant ecology in French Southern Territories (Crozet Archipelago) and at the University of Rennes I. In 1993–2001, he worked as an Associate Researcher at INRA Forest Research Centre in Cestas, while spending a year as Invited Researcher at the Institute for Forest Genetics and Forest Tree Breeding, Grosshansdorf, Germany (1999–2000). He then served as Director of Research at INRA, Cestas (2001–2007), Head of the Laboratory of Genetics of UMR BIOGECO (2007–2010), Head of the Genome-Transcriptome Facility of the Functional Genomics Centre of Bordeaux (2008–2012) and Director of the UMR BIOGECO Research Unit (2011–2018).

Dr. Petit has a wide range of interests in molecular ecology, phylogeography, forest history, palaeogenetics, speciation and the conservation biology of trees. He has developed widely used molecular markers and methods of diversity analysis for population genetic surveys. He is co-inventor of a method to trace the geographic origin of wood. His work also resulted in the first confirmed retrieval of DNA from dry wood, including in ancient samples, and has helped clarify the dynamics of introgression between hybridizing species as well as the extent of past translocations of tree populations. Dr. Petit gives lectures at the University of Bordeaux and was an Invited Professor at the Free University of Brussels, Belgium (2002).

Dr. Petit has been associate editor for *Conservation Genetics* (2002–2006) and for *Molecular Ecology* (2003–2016) as well as a referee for over 20 journals. He authored and co-authored more than 120 scientific papers in peer-reviewed journals, 14 book chapters and 2 patents. The French National Academy of Agriculture awarded him with the Ruby Medal (1998). Thomson Reuters listed him among the highly cited researchers in environment and ecology (2014–2016).

Selected research sources:

1. Identifying populations for conservation on the basis of genetic markers. *Conservation Biology* 12(4): 844–855 (with A. El Mousadik and O. Pons). 1998.
2. Conserving biodiversity under climate change: the rear edge matters. *Ecology Letters* 8(5): 461–467 (with A. Hampe). 2005.
3. Forests of the past: A window to future changes. *Science* 320: 1450–1452 (with F. S. Hu and C. W. Dick). 2008.
4. Paleoecology meets genetics: Deciphering past vegetational dynamics. *Frontiers in Ecology and Environment* 7: 371–379 (with F. S. Hu and A. Hampe). 2009.
5. Gene flow and species delimitation. *Trends in Ecology & Evolution* 24: 386–393 (with L. Excoffier). 2009.

Personal sources:

1. URL: https://www6.bordeaux-aquitaine.inra.fr/biogeco_eng/Staff/Staff-directory/M-P/Petit-Remy Retrieved 25.01.2019.
2. Petit R. J. Personal communications (February 2019) at remy.petit@inra.fr

SPENCE, John Richard



John Richard Spence received the IUFRO Scientific Achievement Award in 2005 for his achievements in entomology, population and conservation biology, forest ecology, forest pest management and biological control (IUFRO News 2005).

John Spence was born 5 November 1948 in Warren, PA, USA. He earned his B.Sc. (1970) in Biology at Washington and Jefferson College, his M.Sc. (1974) in Zoology at the University of Vermont, USA, and his Ph.D. (1979) in Zoology at the University of British Columbia, Canada. His entire professional career was based at the University of Alberta in Edmonton. In 1980, he was appointed Assistant Professor of Entomology and became Professor of Entomology in 1990. He was transferred to the Department of Zoology (1994) and then moved to the Department of Renewable Resources (2001–2017) where he served as Chair (2001–2011). He retired in 2017 and is now Professor Emeritus. He was a visiting academic at the University of Oxford (1986–1987), Michigan State University (1996–1997), and Sun Yat-Sen University (2012–2013).

His interests include population biology and community structure of arthropods, biological diversity, and forest ecology and pest management. Together with colleagues from the Canadian Forest Service, Professor Spence led the development of the Ecosystem Management by Emulating Natural Disturbance (EMEND) experiment to investigate downstream impacts of variable retention harvest in the boreal forest (1997–2017). He authored and co-authored more than 200 scientific papers, book chapters, and reports. He was a member of a number of professional societies, and served on many national and international review panels. He served as Deputy Editor for *Ecography* (2001–2006), and on the editorial boards for *Ecography* (1999–2018), *Agricultural and Forest Entomology* (1999–present) and *Canadian Journal of Zoology* (1991–1996), in addition to reviewing manuscripts for numerous scientific journals.

In addition to the SAA, Professor Spence has received the Canadian Institute of Forestry's Scientific Achievement Award (2003) and Tree of Life Award (2017), and has been elected to the Mexican Academy of Forestry (2004). He is also a Gold Medalist (2001) and Fellow (2018) of the Entomological Society of Canada and was elected to the Finnish Academy of Science and Letters (2002).

Selected research sources:

1. Effects of clear-cut harvesting on boreal ground-beetle assemblages (Coleoptera: Carabidae) in western Canada. *Conservation Biology* 7(3): 551–561 (with J. Niemelä and D. Langor). 1993.
2. Responses of natural enemies to experimentally increased populations of the forest tent caterpillar, *Malacosoma disstria* (Lepidoptera: Lasiocampidae). *Ecological Entomology* 22(1): 97–108 (with D. Parry and J. Volney). 1997.
3. Arthropod responses to harvesting and wildfire: implications for emulation of natural disturbance in forest management. *Biological Conservation* 128(3): 346–357 (with C. Buddle, D. Langor and G. Pohl). 2006.
4. Higher levels of variable retention required to maintain ground beetle biodiversity in boreal mixedwood forests. *Ecological Applications* 20 (3): 741–751 (with T. Work, J. Jacobs and J. Volney). 2010.
5. Fine-scale forest variability and biodiversity in the boreal mixedwood forest. *Ecography* 41(5): 753–769 (with J. Pinzon, L. Wu and F. He). 2018.

Personal sources:

1. URL: https://www.ualberta.ca/agriculture-life-environment-sciences/about-us/contact-us/faculty_lecturer_directory/john-r-spence Retrieved 16.01.2019.
2. Spence J.R. Personal communications (January 2019) at John.Spence@ualberta.ca

TURNER, John



John Turner received the IUFRO Scientific Achievement Award in 2005 for his outstanding research in nutrition, nutrient cycling and nutritional management in fast grown plantations and natural forests (IUFRO News 2005).

John Turner was born in May 1947 in Yorkshire, England. He obtained his B.Sc. in Forestry Science (1970) from the Australian National University (ANU) Canberra, and his Ph.D. in Forest Nutrient Cycling (1975) from the University of Washington, Seattle, WA. His thesis analyzed nutrient cycling changes in an age sequence of Douglas-fir tree stands and was sponsored by the International Biological Program.

He started his career as a forester with the Forestry Commission of New South Wales before becoming firstly a research scientist and then a Senior Research Scientist (1975–1986). He was promoted to Director of Research, NSW Forestry Commission (1986–1996), the Research Division at that time covering biology, chemistry, silviculture, wood properties and timber engineering. In 1996, he collaborated with Marcia Lambert in establishing Forsci Pty Ltd., a private forest research consultancy company, through which he continues to contribute to the forestry industry. He is a Member of the Institute of Foresters of Australia and of the British Ecological Society and in 2003, he was admitted as one of the first Registered Professional Foresters (RPF) by the Institute of Foresters of Australia. Dr. Turner was appointed Adjunct Professor (1998) of the School of Resource Science and Management at Southern Cross University (SCU) in Lismore, NSW.

His research work over his career has covered plantation and native forest nutrition, nutrient cycling, and management of forest soils, the focus being on Site Specific Management. He has undertaken research in various Australian States and abroad, addressing site selection for a range of species, nutrition and the impacts of management on nutrient cycling and productivity. Dr. Turner has published extensively in his field and has authored and co-authored over 280 scientific publications on soil evaluation, nutritional status, forest/site interactions, catchment management, monitoring water quality, fertilizer usage in forests, nutrient cycling, and management impacts. He continues to undertake research on site specific management.

Selected research sources:

1. *Commercial Forest Plantations on Saline Lands*. CSIRO Publishing, Collingwood, Vic., Australia. 216 p. (with M. J. Lambert). 2000.
2. Site variation in *Pinus radiata* plantation and implications for site specific management. *New Forests* 21: 249–282 (with M. J. Lambert, P. Hopmans and J. McGrath). 2001.
3. Long-term accumulation of nitrogen in soils of dry mixed eucalypt forest in the absence of fire. *For. Ecol. and Mgmt.* 256: 1133–1142 (with M. J. Lambert, V. Jurskis and H. Bi). 2008.
4. *Management of Victoria's publicly-owned native forests for wood production. A review of the science of public native forest management for sustainable timber production in Victoria*. FWPA Project No.: PRC 174-0809. Forest & Wood Products Australia. 216 p. (with D. W. Flinn, M. J. Lambert, K. Wareing and S. Murphy). 2011.
5. Analysing inter-rotational productivity and nutrition in a New South Wales radiata pine plantation. *New Forests* 44: 785–798 (with M. J. Lambert). 2013.
6. Pattern of carbon and nutrient cycling in a small *Eucalyptus* forest catchment, NSW. *For. Ecol. and Mgmt.* 372: 258–268 (with M. J. Lambert). 2016.

Personal sources:

1. Turner, John (1947 -) <http://www.eoas.info/biogs/P005433b.htm> Retrieved 23.01.2019.
2. Turner J. Personal communications (January 2019) at john.forsci@gmail.com

ZHANG, Shu-Yin (Tony)



Shu-Yin (Tony) Zhang received the IUFRO Scientific Achievement Award in 2005 for his research on the entire wood value chain from forest management to product recovery in order to achieve improved forest management and value-added wood utilization through an integrated approach (IUFRO News 2005).

Shu-Yin Zhang was born on 21 August 1962 in Jingxian, Anhui, China. He obtained his B.Sc. in Forest Science in 1983 and M.Sc. in Wood Technology in 1986 from Anhui Agricultural University and Ph.D. in Wood Science in 1992 from Leiden University, the Netherlands. He began his research career in the Nancy Forest Research Centre in France. He then became a Senior Scientist and Leader of the Resource Assessment and Utilization Program at Forintek (Canada's Wood Products Research Institute, part of FPInnovations since 2007) in Quebec, and from 2006 to 2014 worked at the FPInnovations-Forintek Head Office in Vancouver, Canada.

Dr. Zhang also served as Adjunct and Honorary Professor at several Chinese and Canadian universities including Laval University, University of Quebec, University of New Brunswick and University of Toronto where he supervised and co-supervised over 100 Postdoctoral Fellows and graduate students. He has initiated some 80 research projects including ForValueNet, an NSERC-funded multi-institutional, multi-year and multi-million-dollar network project, and much of his research has been undertaken in collaboration with leading forest and wood research institutions across Canada.

Dr. Zhang is frequently called upon by national and international forest industries and government agencies for technical assistance and advice. He served in various positions in IUFRO Division 5 and a number of other national and international professional organizations (e.g. IAWS, FPS, SWST, CTIA, IAWA). He has organized and co-organized 15 national and international workshops, conferences and seminars, and given over 120 invited presentations at various conferences and symposia. Dr. Zhang authored and co-authored over 200 scientific papers on his integrated research areas and published three scientific books.

Dr. Zhang has received a number of awards and honours. He is a Fellow and Lifetime Contributor of the International Academy of Wood Science (IAWS), headed the Fellow Selection Committee of the IAWS and was a member of the Academy Board (2009–2012).

Selected research sources:

1. *Wood Anatomy of the Rosaceae*. Leiden University Press, Leiden, the Netherlands. 211 p. 1992.
2. *Timber management toward wood quality and end-product value*. S.-Y. Zhang, R. Grosselin & G. Chauret, eds. Proc. IUFRO-CTIA International Wood Quality Workshop, Quebec, Canada, Aug. 550 p. 1997.
3. Characterization of paper mill sludge and its utilization for the manufacture of fibreboards. *Wood Fiber Sciences* 39(2): 345–351 (with X. L. Geng and J. Deng). 2007.
4. Formation and properties of solid aspen wood/melamine-urea-formaldehyde/clay nanocomposites. *Holzforschung* 61: 148–154 (with X. Cai, H. Wan and B. Riedl). 2007.
5. *Softwoods of Eastern Canada: Silvics, Wood Characteristics, Processing and End Uses*. FPInnovations Special Publication, SP-526E. 330 p. (with A. Koubaa). 2008.
6. Characterizing the wood attributes of Canadian tree species: A thirty-year chronicle. *For. Chron.* 85(3): 392–400 (with G. R. Middleton). 2009.

Personal sources:

Zhang S.-Y. Personal communications (February 2019) at tonyzhangcc@gmail.com

2010 (Seoul, Republic of Korea)

Dr. Su See Lee (Malaysia), Chair of the IUFRO Honours and Awards Committee (2006–2010), Drs. Bailian Li (USA), Shirong Liu (China), Tuija Sievänen (Finland), Mike Wingfield (South Africa), Roberto Ipinza (Chile), and *ex-officio* IUFRO President Don K. Lee (Republic of Korea) and IUFRO Executive Director Peter Mayer (Austria) selected 11 out of 24 nominations for the SAA.

During the Opening Ceremony of the XXIII IUFRO World Congress on Monday, 23 August 2010, President Don Koo Lee and Su See Lee on behalf of the IUFRO International Council and the Board delivered awards to the following 11 scientists (IUFRO News 2010):

Janaki R. ALAVALAPATI	India/USA
Michael BATTAGLIA	Australia
Yousry A. EL-KASSABY	Canada
Tonni A. KURNIAWAN	China
Sun-Young LEE	Republic of Korea
Andrew M. LIEBHOLD	USA
Shawn D. MANSFIELD	Canada
Mohd. Ali NOR AZAH	Malaysia
Jerry K. VANCLAY	Australia
Jiaojun ZHU	China
Janusz J. ZWIAZEK	Canada



From left to right: J.J. Zwiazek, J. Zhu, J.K. Vanclay, Mohd. Ali Nor Azah, S.D. Mansfield, A.M. Liebhold, S.-Y. Lee, T.A. Kurniawan, Y. A. El-Kassaby, M. Battaglia, J.R.R. Alavalapati, D.K. Lee, and S.S. Lee (Photo: IUFRO COC)

ALAVALAPATI, Janaki Rami Reddy



Janaki Rami Reddy Alavalapati received the IUFRO Scientific Achievement Award in 2010 for his research in exploring market solutions to promote sustainable use and management of forests and environment at local, national, and international levels (IUFRO News 2010).

Janaki Alavalapati was born on 1 June 1953 in Agadur, Andhra Pradesh, India. He obtained his B.Sc. (1973) and M.Sc. in Botany (1975) from the Sri Venkateswara University, India. He served as a Forest Officer in Andhra Pradesh, India for ten years. He then moved to Canada and earned his M.Sc. in Forest Rural Sociology (1990) and Ph.D. in Forest Economics (1995) from the University of Alberta. He served as Assistant, Associate, and Professor in the School of Forest Resources and Conservation at the University of Florida in Gainesville, FL (1998–2008). He was a Professor and Head of the Dept. of Forest Resources and Environmental Conservation at Virginia Tech in Blacksburg, VA (2008–2015), and in 2015 he was named Dean of Auburn’s School of Forestry and Wildlife Sciences (SFWS), Auburn, Alabama.

In addition to having a Jefferson Science Fellowship, Dr. Alavalapati served as a Senior Advisor to International Energy Affairs (2007–2008) and as a Senior Fellow of the Energy and Climate Partnership of the Americas (2011–2016) at the US Dept. of State, Washington, D.C. He initiated the establishment of Conserved Forest Ecosystems: Outreach and Research (CFEOR), and acted as its Director (2007–2008). Through this, he coordinated research with 11 governmental and nongovernmental organizations to promote sustainability of Florida’s forest ecosystems.

Dr. Alavalapati has maintained internationally recognized scientific research and teaching programs related to forestry, marketing and sustainable natural resources use, management and conservation in Asia, Africa, Europe, and the Americas. He has authored and co-authored over 200 books, book chapters, and refereed and non-refereed articles, made over 150 presentations at various meetings, and actively engaged in professional forestry activities and organizations. He has served as the Policy Chair for the US National Association of University Forest Resource Programs 2009–2018 and is currently the President Elect of this association. He served on the editorial boards of *Forest Policy and Economics*, *Outdoor Recreation and Tourism*, and *Bioproducts Business*. He also served as the Chair of the SAF’s Economics, Policy, and Law Working Group (2008–2009) and Deputy Coordinator of Social and Economic Aspects of Forestry Unit, IUFRO (2005–2010).

Dr. Alavalapati is a recipient of the Indian Forester Prize 1978, CIDA Fellowship 1987–1989 and T.W. Manning prize, Canada 1988 and 1992, IFAS/UF Graduate Teacher/Advisor (2003–2004), Stephen Spurr Award by the SAF’s Florida Division 2005, the UF’s Research Foundation Professorship 2006–2009, and Superior Honor Award from the US Department of State (2008).

Selected research sources:

1. *Working Forests in the Neotropics: Conservation Through Sustainable Management?* D. Zarin, J. Alavalapati, F. Putz and M. Schmink, eds. Columbia University Press, 416 p. (Biology and Resource Management Series, Kindle Edition). 2005.
2. *Valuing Agroforestry Systems: Methods and Applications.* J. R. R. Alavalapati and D. E. Mercer, eds. Springer, 314 p. (Advances in Agroforestry Book 2, Kindle Edition). 2004.
3. *Handbook of Forest Resource Economics.* Kant, S. and J. Alavalapati, eds. Earthscan, NY, 560 p. 2014.

Personal sources:

1. URL: <https://sowc.alueducation.com/people/prof-alavalapati/> Retrieved 25.01.2019
2. Alavalapati A. R. R. Personal communications (January 2019) at ajanaki@auburn.edu

BATTAGLIA, Michael



Michael Battaglia received the IUFRO Scientific Achievement Award in 2010 for his research achievements in the physiology of Eucalyptus, developing innovative and versatile process-based models serving as research engines for Australian forest science and leading the applications of models to complex modern forest management issues at the landscape, regional and continental scale (IUFRO News 2010).

Michael Battaglia was born 11 October 1962 in Melbourne, Australia. He obtained his B.Sc. (Hons) in Forest Science (1984) from the University Melbourne and Ph.D. in Botany (1994) from the University of Tasmania. He then was a Post-doctoral Research Fellow at the Australian Research Council (1994–1995), participated in the Business School ‘Excelerator’ Leadership Programme at Auckland University (2007), and received a Certificate in Executive Management and Development from the Australian

Graduate School of Management, University New South Wales (2009). He is an Adjunct Professor at the University of Tasmania.

Dr. Battaglia began his career as an Officer at the Forest Commission Tasmania (1987–1992), and progressed from a Research Scientist (1995–2003) to the leader of various research groups, themes and programs (2003–2017), Deputy Director for the Sustainable Agriculture Flagship (2013–2014), and Research Director for Agriculture and Global Change at CSIRO Australia (since 2017). He has made major contributions through his internationally recognized research and his leadership of multidisciplinary teams dealing with forest planning and production systems, managing and monitoring, environmental services, climate-smart agriculture, agricultural GHG mitigation and abatement, and carbon storage, and lately in the application of systems science and innovation systems analysis to help deliver the global sustainable development agenda.

Dr. Battaglia has created a mechanism for international science exchange in Forests and Climate Change research resulting in more than 40 staff exchanges between France, Portugal, UK, Australia and New Zealand as well as support for sustainable tropical forestry with a focus on small growers in Indonesia and Vietnam and other countries. He has also developed forest models used in Australia, New Zealand, Portugal, Chile and Australia to support forest management as well as conducting international research on dryland grains, legumes, and agroforestry. Dr. Battaglia is CEO of FutureFeed, a company looking to deliver a natural livestock feed supplement based on seaweed that eliminates methane and improves animal production. He has served as an advisor and a member of many different committees and boards dealing with CRC in forestry, GHG mitigation, and bilateral and multilateral initiatives. He has authored and co-authored more than 80 scientific publications on quantitative plant physiology and plant ecology, forest and tree growth modelling, greenhouse gas mitigation and agriculture, agri-informatics and related fields.

Selected research sources:

1. Photosynthetic temperature responses of *Eucalyptus globulus* and *Eucalyptus nitens*. *Tree Physiology* 16(1–2): 81–89 (with C. Beadle and S. Loughhead). 1996.
2. CABALA: a linked carbon, water and nitrogen model of forest growth for silvicultural decision support. *Forest Ecology and Management* 193(1–2): 251–282 (with P. Sands, D. White, D. Mummery). 2004.
3. A history of forestry management responses to climatic variability and their current relevance for developing climate change adaptation strategies. *Forestry* 88(2): 155–171 (multi-authored). 2015.
4. Direct climate change impacts on growth and drought risk in blue gum (*Eucalyptus globulus*) plantations in Australia. *Australian Forestry* 80(4): 216–227 (with J. Bruce). 2017.

Personal sources:

1. URL: <https://people.csiro.au/B/M/Michael-Battaglia> Retrieved 26.01.2019.
2. Battaglia M. Personal communications (January 2019) at michael.battaglia@csiro.au

EL-KASSABY, Yousry A.



Yousry A. El-Kassaby received the IUFRO Scientific Achievement Award in 2010 for his research achievements in the field of tree domestication, tree breeding, forest genetics and genomics, and association genetics (IUFRO News 2010).

Yousry El-Kassaby was born on 24 April 1948 in Alexandria, Egypt. He obtained his B.Sc. in Genetics from the University of Alexandria (1970), M.Sc. in Quantitative Genetics from the University of Tanta, Egypt (1977), and his Ph.D. in Population and Quantitative Genetics (1980) followed by 2 years as a Postdoctoral fellow, at the Faculty of Forestry, the UBC, Vancouver, Canada.

Dr. El-Kassaby began his professional career as a forest genetics and biometrics instructor at the University of British Columbia (1982–1984). He then worked in industry as Director in Applied Forest Research at Pacific Forest Products Ltd. (1984–1998) and then as Director of Genetics & Product Development at CellFor Inc. (1998–2005), both located in Victoria, BC. At the same time, he was a Part-Time Professor at UBC. Since 1995, he has been a Professor and then Associate Dean for Graduate and Postdoctoral Studies at the Faculty of Forestry, The University of British Columbia. In addition, he is a Registered Professional Forester and Industry-NSERC Research Chair in the UBC Department of Forest and Conservation Sciences, a position partly funded by industry and government through the Natural Sciences and Engineering Research Council of Canada (NSERC).

Professor El-Kassaby has long-term research interests in tree domestication and breeding, tree improvement delivery systems, seed and seedling biology and production, seed orchards' genetics, gene conservation, biotechnology, association genetics and genomics selection.

Dr. El-Kassaby is Professor *Honoris causa* at the Czech University of Life Sciences in Prague, Czech Republic (2011), Adjunct Professor at Fujian University and Nanjing University and Honorary Professor at Beijing Forestry University (PRC). He has served as Associate Editor for several scientific journals, including the *Canadian Journal of Forest Research*, *International Journal of Forestry Research*, *Forest Genetics*, and *Tree Physiology*. He has authored and co-authored more than 400 publications, book chapters, and invited papers. He is the Canadian Forestry Scientific Achievement Award holder (2017).

Professor El-Kassaby is affiliated with the UN FAO, IUFRO, CIF, UBC's Genetic Data Centre (GDC), UBC's Centre for Forest Gene Conservation (CFGC) and other professional organizations and associations. He is the Representative of IUFRO on the Forest Genetic Resources Panel of Experts of the UN FAO in Rome and the OECD in Paris. Within IUFRO, he is a Member of the IUFRO Board, Coordinator of Division 2 Physiology and Genetics (2010–2019) and a member of TFs on Forest Biotechnology and on Forests and Genetically Modified Trees (2006–2010).

Selected research sources:

1. The nature of inbreeding in a seed orchard of Douglas fir as shown by an efficient multilocus model. *Theoretical and Applied Genetics* 71(3): 375–384 (with K. Ritland). 1985.
2. Genetic diversity in a seed production population vs. natural populations of Sitka spruce. *Biodiversity and Conservation* 3(6): 512–523 (with K. Chaisurisri). 1994.
3. Breeding without breeding. *Genetics Research* 91 (2): 111–120 (with M. Lstibůrek). 2009.
4. Quantitative genetics and genomics converge to accelerate forest tree breeding. *Front. Plant Sci.* 22 November 2018. <https://doi.org/10.3389/fpls.2018.01693> (multi-authored).

Personal sources:

El-Kassaby Y. A. Personal communications (January 2019) at y.el-kassaby@ubc.ca

KURNIAWAN, Tonni Agustiono



Tonni Agustiono Kurniawan received the IUFRO Scientific Achievement Award in 2010 for his research achievements in applied biology, chemical technology and environmental chemistry (IUFRO News 2010).

Tonni Kurniawan was born in August 1975 in Pati (Indonesia). He earned his B.Sc. in Chemistry at Bogor Agricultural University, Indonesia (1993–1998), M.Sc. in Environmental Technology at Sirindhorn International Institute of Technology of Thammasat University, Thailand (2001–2003), and Ph.D. in Applied Biology and Chemical Technology at the Hong Kong Polytechnic University, PRC (2004–2007). He then conducted postdoctoral research at the University of Eastern Finland (Joensuu) as a Marie Curie Experienced Researcher (2008–2010). He became one of the 200 Young Global Leaders (YGLs) chosen as the class of 2014 by a committee chaired by H.M. Queen Rania (Jordan). He was also a Member of Global Young Academy (2013–2018).

Dr. Kurniawan began his research career as a student, and proceeded as a Postdoctoral Researcher at the United Nations University-Institute for the Advanced Study of Sustainability in Tokyo (2011–2014). In October 2014, he continued his academic career as Associate Professor at Xiamen University (PRC).

Dr. Kurniawan has undertaken his research training at the interface between applied technology and environmental sustainability. His research has been published in various peer-reviewed SCI journals with high impact factor, conference proceedings, and book chapters. He has authored and co-authored more than 80 scientific publications. Recently the Essential Science Indicators of Institute for Scientific Information (ISI)-Thomson Reuter identified him as one of the top 1% most-cited scientists in the field of engineering.

Dr. Tonni Kurniawan is a recipient of the Best Thesis Award from Bioinfo Bank Institute, Poland (2009), the Waste Management Award from A&WMA, USA (2011), the Young Scientist Award from the World Economic Forum (WEF), Switzerland (2013), Young Global Leaders from WEF (2014), the ASEAN Green Award (2015), IAP Fellowship for 2015 World Science Forum in Budapest, Hungary (2015), DAAD Fellowship for participating in Science Tour in Germany (2016) and Science for Peace – GYA at World Science Forum (2017). In June 2010, Dr. Kurniawan was invited to participate in the “60th Interdisciplinary Nobel Laureates Meeting” in Lindau, Germany.

Selected research sources:

1. Low cost adsorbents for heavy metals uptake from contaminated water: a review. *J. of Hazard. Mat.* 97(1–3): 219–243 (with S Babel). 2003.
2. Physico-chemical treatment techniques for wastewater laden with heavy metals. *Chemical Engineering* 118(1–2): 83–98 (with G. Y. S. Chan, W. H. Lo and S. Babel). 2006.
3. Removal of refractory compounds from stabilized landfill leachate using an integrated H₂O₂ oxidation and granular activated carbon adsorption treatment. *Water Research* 43(16): 4079–4091 (with W. Lo). 2009.
4. Biological processes for treatment of landfill leachate. *J. Environ. Monit.* 12 (11): 2032–2047 (with W. Lo, G. Chan and M. E. T. Sillanpää). 2010.

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2. URL: <http://icee.xmu.edu.cn/people/faculty/tonni-agustiono-kurniawan> Retrieved 28.01.2019. (Tonni Agustiono Kurniawan, Associate Professor)
3. Kurniawan T. A. Personal communications (January 2019) at tonni696390@gmail.com

LEE, Sun-Young



Sun-Young Lee received the IUFRO Scientific Achievement Award in 2010 for his research achievements in the areas of wood plastic composites, nanocomposite materials, nanocellulose, nanopapers, and secondary ion battery separators (IUFRO News 2010).

Sun-Young Lee was born on 27 January 1965 in Seoul, Republic of Korea. He obtained his B.Sc. and M.Sc. degrees in Forestry (1988) and Forest Products (1990) from Korea University. After service as a second lieutenant in the Korean Army (1990–1991), he continued his study. He earned his M.Sc. in Paper Science and Engineering (1995) at the University of Washington in Seattle, and Ph.D. in Forest Products (2003) at Louisiana State University in Baton Rouge, USA. Since 2003, Dr. Lee has been a

Research Scientist in the Department of Forest Products at the National Institute of Forest Science in Seoul and was promoted to a Senior Researcher in 2014.

Dr. Lee combines forest products technology with nanotechnology. His research has resulted in considerable technical support for industry. He has developed multifunctional biocomposites and cellulose nanofibers and cellulose nanocrystals using mechanical and chemical treatments for engineering performance and durability, using low cost natural resources and efficient manufacturing parameters. He has also developed methods for the manufacture of nanopapers using cellulose nanofibers that are ultrastrong compared to commercial papers. He developed a way how to substitute the expensive secondary ion battery separator with chemically modified web-bonded ultra-strong nanopapers. He is also working on the development of flexible and foldable paper batteries, and biomedical materials such as synthetic bones, hemostats and anti-adhesion materials. Dr. Lee has published over 120 scientific research papers and given many professional conference presentations. In addition, he has been awarded 30 patents that are registered for various manufacturing methods of nanocellulose paper with ultra-strength, paper batteries, biomedical materials, and mesoporous titania membranes.

Dr. Lee is a Director of Korea Wood Science & Technology, and Deputy Coordinator of the IUFRO unit 5.05.00 – Composite and reconstituted products. He is a recipient of the Outstanding Researcher Award granted by National Institute of Forest Science (2017, 2018), and other awards, granted by the Korean Ministry of Agriculture and Forestry (2010) and Korea Forest Service (2011), as well as the Presidential Award for an Outstanding Public Official (2014).

Selected research sources:

1. Nanocellulose reinforced PVA composite films: effects of acid treatment and filler loading. *Fibers and Polymers* 10 (1), 77–82 (with D.J. Mohan, I.A. Kang, G.H. Doh, S. Lee and S.O. Han). 2009.
2. Preparation of ultra-strength nanopaper using cellulose nanofibrils. *J. Ind. Eng. Chem.* 17(3): 521–526 (with S.J. Chun, G.H. Doh and J.H. Kim). 2011.
3. All-solid-state flexible supercapacitors fabricated with bacterial nanocellulose papers, carbon nanotubes, and triblock-copolymer ion gels. *ACS Nano* 6 (7): 6400–6406 (with Y.J. Kang, S.J. Chun, S.S. Lee, B.Y. Kim, J.H. Kim, H. Chung and W. Kim). 2012.
4. Cellulose nanoparticles: structure–morphology–rheology relationships. *ACS Sustainable Chemistry and Engineering* 3(5): 821–832 (with M.C. Li, Q. Wu, K. Song, Y. Qing and Y. Wu). 2015.
5. Mesoporous titania films templated by cellulose nanocrystals: Cellulose nanoparticles: morphology and spectrometric properties. *Cellulose* 25(11), 6591–6602. (multi-authored). 2018.

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1. URL: <https://prabook.com/web/sun-young.lee/437706> Retrieved 27.01.2019.
2. Lee S.-Y. Personal communications (January 2019) at nararawood@korea.kr

LIEBHOLD, Andrew (“Sandy”) Michael



Andrew Michael Liebhold received the IUFRO Scientific Achievement Award in 2010 for his achievements in the population ecology of forest insect invasions and spatial dynamics of forest insect outbreaks. He is acknowledged as a pioneer in recognizing the importance of forest insect and disease invasions and is a global advocate on this important topic (IUFRO News 2010).

Andrew Liebhold was born on 17 March 1956 in Cincinnati, Ohio, USA. He obtained his B.Sc. in Biology (1978) from Allegheny College in Meadville, PA, USA, Ph.D. in Entomology (1984) from the University of California at Berkeley, and undertook postdoctoral studies in entomology at the University of Massachusetts at Amherst (1984–1988). Dr. Liebhold spent the bulk of his career at the USDA FS Northern Research Station in Morgantown, VA, where he began his career as a Researcher (1988). He is also an Adjunct Professor at West Virginia (since 1992) and Pennsylvania State (since 2003) Universities. He has served as scientific coordinator in the Faculty of Forestry and Wood Sciences, Czech University of Life Sciences, Prague since 2016.

Dr. Liebhold is amongst the best-known and most highly respected forest entomologists in the world. His research has focused on invasive forest insects, considering concepts relating to their spread and to developing a holistic understanding of forest insect and disease invasion biology. He has authored and co-authored over 360 scientific papers. He is a member of the Editorial Boards of *Population Ecology* (2005), *Ecology Letters* (2010) and *Biological Invasions* (2013) and a referee for many high-ranking journals.

Dr. Liebhold is a member of AAAS (1979), Entomological Society of America (1980) and Ecological Society of America (1988) as well as a Research Associate of the Carnegie Museum of Natural History in Pittsburgh, PA, and the IUCN's Invasive Species Specialist Group (ISSG). During the course of his career, Dr. Liebhold has been deeply involved in IUFRO activities, including terms as a Coordinator of RG 7.03 Entomology (since 2005), Coordinator of WP 7.03.07 (1995–2005), and Coordinator of the Task Force on Biological Invasions in Forests (since 2014). He was also Division 7 Web Moderator and Deputy Coordinator as well as IUFRO Board Member (since 2011). Dr. Liebhold also served as Chair of the Congress Scientific Committee for the IUFRO 125th Anniversary Congress (2017) in Freiburg, Germany.

Dr. Liebhold has been recognized with numerous awards including the USDA Distinguished Scientist Award (2006), Lifetime Achievement Award by the National Gypsy Moth Management Board (2011), and a Fellow of the AAAS (2015).

Selected research sources:

1. Population dynamics of gypsy moth in North America. *Ann. Rev. Entomol.* 35(1): 571–596 (with J. S. Elkinton). 1990.
2. Invasion by Exotic Forest Pests: A Threat to Forest Ecosystems. *Forest Science Monographs* 30, 49 p. (with W. L. Macdonald, D. Bergdahl, and V. C. Mastro). 1995.
3. Spatial synchrony in population dynamics. *Ann. Rev. Ecol. Evol. Syst.* 35: 467–490 (with W. D. Koenig and O. N. Bjørnstad). 2004.
4. Live plant imports: the major pathway for forest insect and pathogen invasions of the US. *Frontiers Ecol. Envir.* 10(3): 135–143 (with E. G. Brockerhoff, L. J. Garrett, J. L. Parke and K. O. Britton). 2012.
5. Benefits of invasion prevention: Effect of time lags, spread rates, and damage persistence. *Ecological Economics* 116: 146–153 (with R. S. Epanchin-Niell). 2015.

Personal sources:

1. URL: <https://www.fs.fed.us/research/people/profile.php?alias=aliebhold> Retrieved 28.01.2019.
2. Liebhold A. M. Personal communications (January 2019) at aliebhold@fs.fed.us ; aliebhold@gmail.com

MANSFIELD, Shawn D.



Shawn D. Mansfield received the IUFRO Scientific Achievement Award in 2010 for his achievements in understanding the innate differences in fibre composition and morphological characteristics existing in tree lines within species, and elucidating what impact these phenotypic traits have on wood processing and product quality (IUFRO News 2010).

Shawn Mansfield was born on 6 February 1969 in Germany. He earned his B.Sc. (Hons) in Biology (1992) at the Mount Allison University in Sackville, New Brunswick, M.Sc. in Microbiology/Immunology (1994) at Dalhousie University in Halifax, Nova Scotia, and Ph.D. in Forestry (1997) at the University of British Columbia. He spent 1998–2000 in New Zealand as a Research Scientist at Forest Research (Scion), and Visiting Lecturer at the Dept. of Biological Sciences, Waikato University in Hamilton. After returning to Canada, he progressed from Assistant Professor (2000) to Associate Professor (2005), to Professor of Wood Science (2009), and is currently an associate member of the Department of Botany at UBC. During this time, he also served as a Canada Research Chair in Wood and Fibre Quality, NSERC (2002–2013).

Dr. Mansfield's research interests include the biochemistry and genetics of plant cell wall development, with a major emphasis on cellulose and lignin biosynthesis. He is best recognized for his achievements in the field of tree biotechnology and genomics. His research employs a unique combination of molecular biology, functional genomics, biochemistry, analytical chemistry and plant cell wall characterization techniques, to elucidate the influence of various biosynthetic pathways on the growth and development of secondary xylem formation in trees. He has established several collaborative projects with a number of international researchers. Dr. Mansfield has authored and more than 300 refereed and non-refereed papers, reports, and presentations at various conference and symposia. Web of Science named Dr. Mansfield a Highly Cited Researcher in 2016, 2017, and 2018.

Dr. Mansfield is affiliated with the Canadian Society of Plant Physiologists and Poplar Council of Canada. His contribution to forest research and education has been recognized by numerous honours including his election as a Fellow of the International Academy of Wood Science (2007) and Sir Frederick MacMaster Fellow, CSIRO Australia (2007), David Gifford Award in Tree Biology by Canadian Society of Plant Biologist (2014), Tree Biotechnologist of the Year by Institute of Forest BioSciences (2014), UBC Killiam Research Prize (2016) and others. In 2018 Dr. Mansfield was elected Member of the Royal Society of Canada.

Selected research sources:

1. RNAi-mediated suppression of *p*-coumaroyl-CoA 3'-hydroxylase in hybrid poplar impacts on lignin deposition and soluble secondary metabolism. *Proc. Nat. Acad. Sci. USA* 105(11):4501–4506 (multi-authored). 2008.
2. Sucrose synthase affects carbon partitioning to increase cellulose production and altered cell wall ultrastructure. *Proc. Nat. Acad. Sci. USA* 106(31): 13118–13123 (with H.D. Coleman and J. Yan). 2009.
3. Ferulate monolignol transferase introduces chemically labile ester bonds into the lignin backbone. *Science* 344: 90–93 (multi-authored). 2014.
4. Visualization of cellulose synthases in *Arabidopsis* secondary cell walls. *Science* 350:198–203 (multi-authored). 2015.

Personal sources:

1. URL: <https://profiles.forestry.ubc.ca/person/shawn-mansfield/> Retrieved 31.01.2019.
2. Mansfield S. D. Personal communications (February 2019) at shawn.mansfield@ubc.ca

NOR AZAH Mohamad Ali



Nor Azah Mohamad Ali received the IUFRO Scientific Achievement Award in 2010 for her outstanding research in natural products and analytical chemistry related to forestry and agriculture, essential oils and herbal industries (IUFRO News 2010).

Nor Azah Mohamad Ali was born on 17 March 1963 in Batu Gajah Perak, Malaysia. She obtained her B.Sc. in Chemistry (1985) from the University of Waterloo, Canada, M.Sc. in Chemistry (1996) from the University Kebangsaan Malaysia and Ph.D. in Natural Products Chemistry (2004) from the University Putra Malaysia. Upon graduation (1987), Nor Azah joined the Forest Research Institute Malaysia (FRIM) as a Researcher and was then promoted to Research Officer, Medicinal Plants Division (1996) and Senior Research Officer, Biotechnology Division (2002) and Head of FRIM's Herbal Product Development Programme (2011). Dr. Nor Azah has been director of the Natural Products Division FRIM since 2018. In addition, she has been a leader of many projects and a contributor of over 20 Malaysian/ISO Standards on essential oils and other products.

Dr. Nor Azah is a member of numerous technical and organizational committees at FRIM and other national associations, including the Malaysia Institute of Chemistry (1994), Malaysia Natural Product Society (1996) including membership of its Executive Committee (2001), Malaysian Association of Research Scientist (2005), Malaysia Science Association (2005), and National Committee of Codex Spices and Culinary Herbs (2015). She has authored and co-authored over 200 scientific papers, book chapters, working papers as well as invited papers and presentations at different scientific fora.

Dr. Nor Azah has received a number of honours and awards including FRIM Excellent Service Award (2001), Best Thesis Award (2005), FRIM Best Scientist Award (2009) and numerous Bronze, Silver and Gold medals and other awards at various innovation exhibitions for her work on essential oils and Gaharu Sense-intelligent classification system for agarwood (2009, 2010). She recently was awarded FRIM best Research Project (2013) and was recognized as one of Top Research Scientists Malaysia (TRSM) in 2015. Her research has been taken up and commercialized by the herbal industries.

Selected research sources:

1. A comparative study of the essential oils of five *Piper* species from Peninsular Malaysia. *Flavour and Fragrance Journal* 9: 339–342 (with J. Ibrahim, A. Abd. Rashih and A. Abu Said). 1994.
2. Chemical composition and antimicrobial activities of the essential oils of *Cinnamomum aureofulvum* Gamb. *J. Essential Oil Research* 14: 135–138 (with M. Mastura S. Khozirah, R. Mawardi, A. Abdul Manaf and J. Ibrahim). 2002.
3. Comparison of chemical profiles of selected Gaharu Oils from peninsular Malaysia. *Journal of Analytical Sciences* 12 (2): 338–340 (multi-authored). 2008.
4. The kinetics of extraction of the medicinal ginger bioactive compounds using hot compressed water. *Separation and Purification Technology* 124: 141–147 (with M. S. M. Sarip, N. A. Morad, Y. A. M. Yusof and M. A. C. Yunus). 2014.
5. Agarwood (*Aquilaria malaccensis*) Oils. In: *Essential Oils in Food preservatives, Flavor and Safety*. V. R. Preedy, ed. Elsevier, pp. 173–180 (with Che Beng jin and Mailina Jamil). 2016.
6. Discrimination of pure and mixture agarwood oils via electronic nose coupled with k-NN kfold classifier. *Procedia Chemistry* 20: 63–68 (with L. Sahrim, J. Mailina, A. Majid jalil and Mohd F. O.). 2016.

Personal sources:

1. URL: www.frim.gov.my Retrieved 01.02.2019. (Dr. Nor Azah Mohamad Ali. Curriculum Vitae).
2. Nor Azah M. A. Personal communications (February 2019) at norazah@frim.gov.my

VANCLAY, Jerome (Jerry) Klaas



Jerome Klaas Vanclay received the IUFRO Scientific Achievement Award in 2010 for his wide and profound contributions to forest modelling, from mensuration to biodiversity, and from the social to the political arena (IUFRO News 2010).

Jerry Vanclay was born on 20 June 1956 in Wageningen, Netherlands. He earned his B.Sc. (Forestry) with first class honours from the Australian National University in 1977. He diversified his studies with a Postgraduate Diploma in Computer Science (1980), and a B.A. (with a major in statistics, 1984) from the University of Queensland. He completed a M.Sc. in Forestry at Oxford University in 1983, and was awarded a higher Doctorate in Forestry by the University of Queensland in 1992. He began his career with the Queensland Department of Forestry in resource estimation and modelling (1978–1991), and proceeded as Professor of Tropical Forestry at Royal Veterinary and Agricultural University in Copenhagen, Denmark (1991–1994), Principal Scientist at CIFOR, Indonesia (1995–1999), and since 1999 as Professor of Sustainable Forestry at Southern Cross University (SCU). Professor Vanclay has also served as Head of SCU's School of Environment, Science and Engineering (2017–2019), and as Dean of Science (2011–2019).

Dr. Vanclay has wide-ranging research interests, and he has published numerous papers on biodiversity, biomass, forest growth, modelling, rainforests, mixed plantings, tree breeding, site productivity, sustainability, wood properties and many others including several myth-busting papers on private native forestry, on faunal richness, and on timber harvesting. He has written over 400 publications, with more than 180 in refereed journals, such as *Science*, *Scientometrics*, *Forest Ecology and Management*, *Conservation Ecology*, *Journal of Wood Science*, and *Forest Ecology and Management*.

Dr. Vanclay has made substantial contributions to the extension and promotion of science, research and education in Australia, Zimbabwe, the Philippines, Denmark, and Ghana. He has a long-term record of service in IUFRO as a representative of Australia at International Council, Coordinator of TF – Foresight for Forest Sector Planning, member of IUFRO Enlarged Board, Deputy Coordinator Division 4 – Forest Assessment, Modelling and Management, and currently – Chair of Congress Science Committee for the XXV IUFRO World Congress in Curitiba, Brazil (2019).

Professor Vanclay was elected a Fellow of the Royal Society of NSW (2014), and a Fellow of the Institute of Foresters of Australia (2015). He received the Queen's Award for Forestry in 1997.

Selected research sources:

1. The effectiveness of parks. *Science* 293: 1007. 2001.
2. *Modelling Forest Growth and Yield: Applications to Mixed Tropical Forests*. CAB International, Wallingford, U.K. 330 p. 1994.
3. *Realizing Community Futures: A practical guide to harnessing Natural Resources*. Earthscan/Routledge, London, U.K., 162 p. (with R. Prabhu and F. Sinclair). 2006.
4. *Forest Growth and Yield Modeling*. Wiley, 428 p. (with A. R. Weiskittel, D. W. Hann and J. A. Kershaw). 2011.

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Retrieved 01.02.2019.
2. Vanclay J. K. Personal communications (March 2019) at jerry.vanclay@scu.edu.au

ZHU, Jiaojun



Jiaojun Zhu received the IUFRO Scientific Achievement Award in 2010 for significant research contributions dealing both with the theories of protective maturity, methods for structure determination and decline mechanisms of shelter forests and practical techniques for their management (IUFRO News 2010).

Jiaojun Zhu was born on 18 February 1965 in Inner Mongolia, China. He earned his B.Sc. in Agronomy (1987) at Shenyang Agricultural University, M.Sc. in Ecology (1990) at the Institute of Applied Ecology (IAE) of Chinese Academy of Sciences (CAS), and M.Sc. in Agriculture (1998) and Ph.D. in Biosphere Science (2001) at Niigata University, Japan. He served as Research Assistant and Research Associate Professor (1990–1995) in the IAE CAS, and continued his career as a Researcher (1996) and Scholar Researcher (2001–2002) in Niigata University. In 2002, Dr. Zhu was selected for the “Hundred Talents Program Award” by Chinese Academy of Sciences, and returned to China. In 2002, he was appointed Head of Qingyuan Forest CERN, CAS, and at the IAE CAS he then was promoted to PI of the Research Group (2003–2015), Vice Director of State Key Laboratory of Forest and Soil Ecology (2011–2015), the IAE Deputy Director (2015–2018), and the IAE Director General (since 2018). His major research interests are in the area of Forest Ecology and Silviculture, particularly in the management of shelter forests, secondary forests and plantation forests in the Temperate Zone.

Dr. Zhu has published more than 200 scientific papers including about 100 in Chinese and 100 in English as first or corresponding author, 6 authorized patents and 5 books. Dr. Zhu is Vice Chairman of the Chinese Society of Ecology, a member of Editorial Board of *Journal of Forestry Research*, *Chinese Journal of Plant Ecology*, *Chinese Journal of Applied Ecology* and others, and many national and international professional associations including the UNCCD Knowledge Hub (2015).

Dr. Zhu has been recognized with many honours and awards including the National Award for Progress in Sciences and Technologies (2008), National Science Fund for Distinguished Young Scholars (2010) and The Chief Scientist of National Basic Research Program of China (2012), three awards from Liaoning Province of China (2012–2016), Natural Science Award of Liaoning Province of China (2016), and the CAS Science and Technology for Development Award (2016).

Selected research sources:

1. Effect of gap size created by thinning on seedling emergency, survival and establishment in a coastal pine forest. *For. Ecol. and Mgmt.* 182(1–3): 339–354 (with T. Matsuzaki, F. Q. Lee and Y. Gonda). 2003.
2. The role of ectomycorrhizal fungi in alleviating pine decline in semiarid sandy soil of northern China: an experimental approach. *Annals of Forest Science* 65: 304 p. 1–12 (with F. Q. Li, M. L. Xu, H. Z. Kang). 2008.
3. Determination of canopy gap tridimensional profiles using two hemispherical photographs. *Agricultural and Forest Meteorology* 149: 862–872 (with L. L. Hu). 2009.
4. On the size of forest gaps: can their lower and upper limits be objectively defined? *Agriculture and Forest Meteorology* 213: 64–76 (with G. Q. Zhang, G. G. Wang, Q. L. Yan, D. L. Lu, X. F. Li and X. Zheng). 2015.
5. Effects of gap size and within-gap position on seedling growth and biomass allocation: Is the gap partitioning hypothesis applicable to the temperate secondary forest ecosystem? *For. Ecol. and Mgmt.* 429: 351–362 (with D. L. Lu, G. G. Wang, Q. L. Yan and T. Gao). 2018.

Personal sources:

1. URL: http://sourcedb.iae.cas.cn/yw/eiaexport/Professor/201708/t20170823_4851221.html Retrieved 19.01.2019.
2. Zhu J. Personal communications (February 2019) at jiaojunzhu@iae.ac.cn, iae-director@iae.ac.cn

ZWIAZEK, Janusz Jerzy



Janusz Jerzy Zwiazek received the IUFRO Scientific Achievement Award in 2010 for his achievements in research on tree physiology, stress resistance to drought and pollution, physiological, biochemical and structural adaptations of trees to stress, and using ectomycorrhizas to improve tree performance under stress (IUFRO News 2010).

Janusz Zwiazek was born on 21 November 1955 in Konstancin-Jeziorna, Poland. He earned his M.Sc. in Botany (1980) at the University of Silesia in Katowice, Poland. He began his professional career in 1982 as a Research Assistant in the Department of Botany, the University of Manitoba in Winnipeg, from which he earned his Ph.D. in Botany (1987). He then received an NSERC Forestry Postdoctoral Fellowship to study the mechanisms of stress tolerance in conifer seedlings at the University of Toronto.

He obtained his Habilitation degree at the University of Warsaw, Poland. In 1989, Dr. Zwiazek was appointed Assistant Professor at the University of Alberta, and progressed to Professor of Forest Ecology and Management (2000). He has served as the Associate Chair (Research) for the Department of Forest Sciences (2004–2010).

Having expertise in botany, tree physiology and soil science, Professor Zwiazek served as a consultant for many national and international businesses and organizations, including the World Bank, FAO, and Yangtze River Reforestation Program. Professor Zwiazek has authored or co-authored more than 150 peer-reviewed articles in high impact international journals. He also served as a member of editorial board for *Canadian Journal of Forest Research*, *Acta Physiologiae Plantarum*, *PLOS One*, *BMC Plant Biology*, *Plant and Soil*, and as a reviewer for numerous journals.

Professor Zwiazek was appointed as University of Alberta Annual Killam Professor (2002–2003), McCalla Professorship (2003–2004, 2009–2010), Faculty of Agriculture, Life and Environmental Sciences Teacher of the Year Awards (2000, 2004, 2011–2018), Faculty of Agriculture, Life and Environmental Sciences Teaching Award (2015), North American Colleges and Teachers of Agriculture (NACTA) Teaching award of Merit (2018), and The David J. Gifford Award in Tree Physiology (2010).

Selected research sources:

1. Mercuric chloride effects on root water transport in aspen seedlings. *Plant Physiology* 121(3): 939–946 (with X. Wan). 1999.
2. Metabolic inhibition of root water flow in red-osier dogwood (*Cornus stolonifera*) seedlings. *J. Exper. Botany* 52(357): 739–745 (with M. Kamaluddin). 2001.
3. Ectomycorrhizas and water relations of trees: a review. *Mycorrhiza* 21: 71–90 (with T. Lehto). 2011.
4. Overexpression of *Laccaria bicolor* aquaporin JQ585595 alters root water transport properties in ectomycorrhizal white spruce (*Picea glauca*) seedlings. *New Phytologist* 205: 757–770 (with H. Xu, M. Kemppainen, W. Kayal, S. H. Lee, A. G. Pardo and J. E. K. Cooke). 2015.
5. Boreal forest plant species responses to pH: ecological interpretation and application to reclamation. *Plant and Soil* 420: 195–208 (with M. Calvo-Polanco, W. Zhang, S. E. Macdonald, and J. Señorans). 2017.
6. Variation in aquaporin and physiological responses among *Pinus contorta* families under different moisture conditions. *Plants* 8, 13 (with S. Khan, B. R. Thomas, R. de la Mata, M. Randall and W. Zhang). 2019.

Personal sources:

1. URL: <https://www.ualberta.ca/agriculture-life-environment-sciences/about-us/contact-us/facultylecturer-directory/janusz-zwiazek> Retrieved 21.12.2018.
2. Zwiazek J.J. Personal communications (January 2019) at janusz.zwiazek@ualberta.ca

2014 (Salt-Lake-City, Utah, USA)

On 6 October 2014, at the Opening Ceremony of the XXIV IUFRO World Congress, Dr. Shirong Liu (China), Chair of the IUFRO Honours and Awards Committee (2010–2014) announced the results of the competition for the Scientific Achievement Award. The H&A Committee, comprising Drs. Su See Lee (Malaysia), Ben Chikamai (Kenya), Elena Kulikova (Russia), Tuija Sievänen (Finland), John Parrotta (USA), Jerry Vanclay (Australia), *ex-officio* IUFRO President Niels Elers Koch (Denmark) and Executive Director Alexander Buck (Austria), and IFSA representative Yasemin Öztürk (Turkey) followed by Lena Lackner (Austria), selected 10 SAA winners out of 25 nominations (IUFRO News 2014).

President Niels Elers Koch presented SAA certificates to the following scientists:

Sally N. AITKEN	Canada
Jürgen BAUHUS	Germany
Benjamin W. CASHORE	USA/Canada
Richard C. HAMELIN	Canada
Chris E. HARWOOD	Australia
Shibu JOSE	USA
Robert A. KOZAK	Canada
A. Annikki MÄKELÄ	Finland
Jolanda ROUX	South Africa
Giuseppe E. SCARASCIA	Italy



From left to right: A. Buck, N.E. Koch, S.N. Aitken, J. Bauhus, B.W. Cashore, R.C. Hamelin, C.E. Harwood, S. Jose, R.A. Kozak, A.A. Mäkelä-Carter, J. Roux, G.E. Scarascia-Mugnozza, R. Pruessler, S. Liu (Photo: V.V. Nikitin).

AITKEN, Sally Nora



Sally Nora Aitken received the IUFRO Scientific Achievement Award in 2014 for research achievements in conservation biology, forest genetics, population genetics, population genomics, and conservation genetics (IUFRO News 2014).

Sally Aitken was born on 10 August 1961 in Calgary, Alberta, Canada. She obtained her B.Sc. (1984) from UBC in Vancouver, Canada, and her M.Sc. (1986) and Ph.D. (1989) from the University of California at Berkeley, USA. She was a Research Assistant Professor at Oregon State University in Corvallis, USA (1991–1996). She returned to her *alma mater* as Assistant Professor (1996–2000), and then she became Associate Professor (2000–2005), and then Professor of Forest Genetics in the Department of Forest and Conservation Sciences, UBC. She carried out the responsibilities as an NSERC/Industry Junior Chair in Genetics aiming at the application of forest genetics research to forest management practice, and served as Director of the Forest Sciences undergraduate program. Currently, Dr. Sally Aitken is Associate Dean for Research and Innovation of the UBC Faculty of Forestry. She is Director of the Centre for Forest Conservation Genetics (CFCG) and an associate of the Biodiversity Research Centre (BRC). In addition, she is affiliated with the Canadian Forest Genetics Association (CFGA), and Western Forest Genetics Association (WFGA).

Dr. Sally Aitken now leads the AdapTree and CoAdapTree large-scale genomics projects on linking new developments in genomics with climate modelling, evolutionary biology, and economic analysis. The projects use tree DNA and seedling traits in controlled experiments in order to see how trees adapt to varied climatic conditions. The outputs of this research will inform reforestation efforts to allow the matching of trees with habitats for their better growth and adaptation to climate change. Her teaching responsibilities are scattered across many disciplines, including evolutionary and forest biology, alpine ecology, adaptation of trees species, conservation genetics and others. She actively participates in forest genetic conservation initiatives in North America and Europe.

Dr. Sally Aitken has authored and co-authored well over 100 scientific papers, co-authored the textbook “Conservation and the Genetics of Populations”, and contributed to other books on forest genetics and related areas. She is a Fellow of the Royal Society of Canada, received the Canadian Forestry Scientific Achievement Award from the CIF (2009), the UBC Killam Teaching Prize (2010) and was named a Wall Scholar at the Peter Wall Institute for Advanced Studies (2014). In 2018, Dr. Aitken won the Genome BC award for Scientific Excellence.

Selected research sources:

1. Population genetics of *Pinus contorta* on coastal and pygmy-forest sites in Mendocino County, California. Ph.D. thesis. Wildland Resource Science, University of California, Berkeley, 1990.
2. From genotype to phenotype: unraveling the complexities of cold adaptation in forest trees. *Can. J. Botany* 81(12): 1247–66 (with G. T. Howe, D. B. Neale, K. D. Jermstad, N. C. Wheeler, T. H. H. Chen). 2003.
3. Adaptation, migration or extirpation: climate change outcomes for tree populations. *Evolutionary Applications* 1(1): 95–111 (with S. Yeaman, J. A. Holliday, T. Wang and S. Curtis-McLane). 2008.
4. *Conservation and the Genetics of Populations*. 2nd ed. Oxford, Wiley-Blackwell, 624 p. (with F. W. Allendorf and G. H. Luikart). 2013.

Personal sources:

1. URL: <http://www.oldforests.com.au/pages/speakers.htm> Retrieved 5.01.2019.
2. URL: <https://profiles.forestry.ubc.ca/> Retrieved 5.01.2019.
3. Aitken S. N. Personal communications (January 2019) at sally.aitken@ubc.ca

BAUHUS, Jürgen



Jürgen Bauhus received the IUFRO Scientific Achievement Award in 2014 for his important contributions to the research of biodiversity and mixed-species stands in native, semi-natural and plantation forests (IUFRO News 2014).

Jürgen Bauhus was born on 23 June 1964 in Lünen, Germany. In 1989, he obtained his Diploma (Hons, First Class) in Forestry and in 1994 his Dr. of Forest Sciences (Summa Cum Laude) from Georg-August University in Göttingen. He began his professional career in 1989 as a Research Assistant at the Institute of Silviculture, Göttingen University, and as a DAAD Pre-Doctoral Fellow, he continued his research in the Forest Ecology Research Group at CSIRO, Australia (1990). For Post-Doctoral studies, he moved to the University of Québec at Montréal, Canada (1994–1996) and then returned to Australia as a Lecturer (1996–1999) and then Senior Lecturer in Silviculture and Tree Physiology (1999–2003), Australian National University. In 2003, he was appointed Professor of Silviculture at Freiburg University. Here, he developed an international M.Sc. program in forest sciences and founded the graduate school “Environment, Society and Global Change” in 2008. He also served as Dean (2011–2013) of the Faculty of Forest and Environmental Sciences and subsequently as Deputy Dean (2014–2016). Currently, he is the Director of the Institute of Forest Sciences at the Faculty of Environment and Natural Resources.

Dr. Bauhus has worked in forest research institutions on three continents. His research on the structure and dynamics of mixed-species plantations and native forests, on ecological interactions and the relationships between forest structure, composition and function, above ground and below ground, on nutrient and carbon cycles in forest ecosystems, and the adaptation of forests to global change is truly international. Dr. Bauhus is a member of the Scientific Advisory Board on Forest Policy at the German Federal Ministry of Food and Agriculture and member of the review board for Agriculture, Forestry, Horticulture and Veterinary Sciences of the German Research foundation (DFG) and the College of Expert Reviewers of the European Science Foundation.

Dr. Bauhus has authored and co-authored more than 180 peer-reviewed research publications in international journals, 5 books and held numerous presentations at national and international scientific fora. He served in different capacities for editorial boards of Forest Ecosystems, European Journal of Forest Research, Frontiers in Forests and Global Change, Canadian Journal of Forest Research, Australian Forestry, Forests. Dr. Bauhus has been recognized with a number of fellowships, honours and awards including the Teaching Award of the University by Freiburg (2008) and the 2008 Professor of the Year Award by the German University magazine UNICUM.

Selected research sources:

1. Effects of tree species, stand age and soil type on soil microbial biomass and its activity in a southern boreal forest. *Soil Biology and Biochemistry* 30(8): 1077–1089 (with D. Pare and L. Coté). 1998.
2. Mixed-species plantations of *Eucalyptus* with nitrogen-fixing trees: a review. *Forest Ecology and Management* 233(2–3): 211–230 (with D. I. Forrester, A. L. Cowie and J. K. Vanclay). 2006.
3. *Ecosystem Goods and Services from Plantation Forests*. J. Bauhus, P. van der Meer and M. Kanninen, eds. Earthscan, 272 p. 2010.
4. *Mixed-Species Forests: Ecology and Management*. Springer Verlag, 653 p. (with H. Pretzsch and D. I. Forrester). 2017.

Personal sources:

Bauhus J. Personal communications (February 2019) at waldbau@waldbau.uni-freiburg.de

CASHORE, Benjamin (Ben) William



Benjamin William Cashore received the IUFRO Scientific Achievement Award in 2014 for his contribution to global/comparative research on the environmental dimensions of forest policy and governance (IUFRO News 2014).

Benjamin Cashore was born on 23 June 1964 in Prince Rupert, British Columbia, Canada. He obtained his degrees in political science – B.A. (High. Hons) in 1986, an M.A. in 1989 from Carleton University, Ottawa, and a Ph.D. in 1997 from the University of Toronto. He was a Fulbright Scholar at Harvard University (1996–1997) and a Postdoctoral Fellow at UBC Forest Economics and Policy Analysis Research Unit (1997–1998). He holds a Certificate in French Studies (1989) from *Université d’Aix-Marseille III*, France. Dr. Cashore began his teaching career as Assistant Professor of Forest Policy at Auburn University’s School of Forestry and Wildlife Sciences 1998–2001. He joined Yale University’s School of Forestry and Environmental Studies as Assistant Professor of sustainable forest policy in 2001. He was promoted to Associate Professor in 2004 and full professor, environmental governance and political science in 2007. He led the Program on Forest Certification from 2001–2005, the Program on Forest Policy and Governance from 2005–2011, and the Governance, Environment and Markets (GEM) initiative from 2011–2019. He also holds a courtesy appointment in Yale’s Department of Political Science.

Dr. Cashore has authored and co-authored over 125 scientific publications. He has presented at numerous national and international conferences and scientific fora as well as co-authored and co-edited a number of books on forest governance and forest policy. He has served as director of a student exchange program at Yale’s MacMillan Center, and on advisory boards including Yale’s Tropical Resources Institute (TRI) and the Environment, Leadership and Training Initiative (ELTI). He was an Editor-in-Chief, *Journal of Forest Policy and Economics* from 2001 to June 2015 and serves on the editorial boards of the *Earth System Governance* journal and the *International Review of Public Policy*.

Dr. Cashore served as Coordinator of IUFRO Task Force T27 – International Forest Governance (2011–2014), and since 2014 as Deputy Coordinator 9.05.05 – Forest Policy Learning Architectures. He was awarded (with Bernstein) the John McMenemy Prize (2001) and (with Auld and Newsom) the International Studies Association’s Harold and Margaret Sprout prize (2005). In 2018 he was recognized as authoring (with Bernstein) one of the most ‘influential articles’ in *Regulation and Governance* from 2008–2018. He was also a recipient of the Best Lecturer Award, Yale School of Forestry and Environmental Studies (2013), and the Fulbright Canada Research Chair in the Sustainable Economy, University of Ottawa (2017–2018).

Selected research sources:

1. *In Search of Sustainability. British Columbia Forest Policy in the 1990s*. UBC Press, 340 p. (with M. Howlett, J. Wilson, G. Hoberg and J. Rayner). 2001.
2. *Forest Policy for Private Forestry*. L. D. Teeter, B. Cashore and D. Zhang, eds. CABI, xx, 307 p. 2002.
3. *Governing Through Markets. Forest Certification and the Emergence of Non-State Authority*. B. Cashore, G. Auld, D. Newsom, eds. Yale University Press, New Haven, 327 p. 2001. (2d ed., 2019).
4. Can non-state global governance be legitimate? An analytical framework. *Regulation & Governance* 1(4): 347–371 (with S. Bernstein). 2007.
5. *Global Environmental Forest Policies: An International Comparison*. London, Earthscan, 373 p. (with C. McDermott and P. Kanowski). 2010.

Personal sources:

1. URL: <https://environment.yale.edu/profile/cashore/> Retrieved 4.02.2019.
2. Cashore B. Personal communications (February 2019) at benjamin.cashore@yale.edu

HAMELIN, Richard Claude



Richard Claude Hamelin received the IUFRO Scientific Achievement Award in 2014 for his pioneering research in the field of molecular forest pathology and development of molecular diagnostic tools for detecting and monitoring forest pests using genomics (IUFRO News 2014).

Richard Hamelin was born 16 June 1960 in Grand-Mère, Quebec, Canada. He obtained his B.Sc. in Agronomy with specialization in plant science (1982) from McGill University in Montreal, M.Sc. in Pest Management (1986) from Simon Fraser University in Burnaby, both in Canada, and Ph.D. in Plant Pathology (1990) from the University of Kentucky in Lexington, USA. He undertook post-doctoral training as an NSERC fellow at Laval University (1991–1992), and in 1994 he became Adjunct Professor there. In 1992 Dr. Hamelin became Research Scientist with Natural Resources Canada – Canadian Forest Service at Laurentian Forestry Centre in Québec, and then Senior Research Scientist (1992–2015). In 2005 he was appointed as Professor at UBC, and in 2016 he became also Honorary Professor to Laval University.

Dr. Hamelin's research interests are in the area of pathogen detection and monitoring, population dynamics, and molecular ecology, using genetics and genomics to understand epidemiology of forest fungal pathogens and forest genetics. His multidisciplinary approach to answering complex research questions, along with his capacity for bringing together scientists of various expertise, has led Dr. Hamelin to become an inspiring model for young scientists as well as for more experienced colleagues. Dr. Hamelin is associated with the Quebec Society for Plant Protection, Poplar Council of Canada, Canadian and American Phytopathological Societies, and IUFRO WG on Rusts of Forest Trees. He has authored and co-authored over 120 peer-reviewed scientific papers and numerous reports and presentations at national and international symposia. He served as Associate Editor for *Canadian Journal of Forest Research*, Section Editor for *Canadian Journal of Plant Pathology* and Senior Editor for *Phytopathology*.

Dr. Hamelin has received numerous awards starting from his student's years when he was granted President's award from Simon Fraser University (1984) and Technology Award from BC Science Council (1985). He then received of Certificate of Recognition, Canadian Food Inspection Agency (2007), Natural Resources Canada's Merit Award for Creativity and Innovation (2008), Merit Award by Canadian Forest Service (2008) and René-Pomerleau Award for work in forest pathology by Quebec Society for the Protection of Plants (2008), The Queen Elizabeth II Diamond Jubilee Medal (2012) as well as Genome Canada and Genome BC funding (2010, 2015).

Selected research sources:

1. Obligate biotrophy features unraveled by the genomic analysis of rust fungi. *Proc. Nat. Acad. Sci. USA* 108(22): 9166–9171 (multi-authored). 2011.
2. Nuclear ribosomal internal transcribed spacer (ITS) region as a universal DNA barcode marker for fungi. *Proc. Nat. Acad. Sci. USA* 109(16): 6241–6246 (multi-authored). 2012.
3. Horizontal gene transfer and gene dosage drives adaptation to wood colonization in a tree pathogen. *Proc. Nat. Acad. Sci. U.S.A.* 112(11): 3451–3456 (multi-authored). 2017.
4. Say hello to my little friends: how microbiota can modulate tree health. *New Phytologist* 215(2): 508–510 (with N. Feau). 2017.
5. Genetic and genomic evidence of niche partitioning and adaptive radiation in mountain pine beetle fungal symbionts. *Mol. Ecol.* 26(7): 2077–2091 (multi-authored). 2017.

Personal sources:

1. URL: <https://profiles.forestry.ubc.ca/person/richard-hamelin/> Retrieved 31.01.2019.
2. Hamelin R. C. Personal communications (February 2019) at richard.hamelin@ubc.ca

HARWOOD, Christopher (Chris) Eric



Christopher Eric Harwood received the IUFRO Scientific Achievement Award in 2014 for his significant long-term research and applications that address the ecology, genetics, breeding, plantation deployment and wood utilization of Australian tree species (IUFRO News 2014).

Chris Harwood was born on 2 April 1950 in Hobart, Tasmania. He earned his B.Sc. (Hons 1) in Botany at the University of Tasmania (1973) and a Ph.D. in Environmental Biology at Australian National University (1977). In 1977, he started his research career conducting biological surveys for the Tasmanian Conservation Trust. Dr. Harwood spent most of his career at CSIRO, commencing work in 1987 at the Australian Tree Seed Centre in the then Division of Forestry. He progressed to Senior Principal Research Scientist with CSIRO Land and Water and remains an Honorary Research Fellow since his retirement in 2014. He is also a Research Associate at the University of Tasmania, and works with the World Agroforestry Centre (ICRAF) on agroforestry tree domestication.

Dr. Harwood has led major research efforts for dryland forestry, improving the value of plantation-grown eucalypts for solid- and engineered-wood product processing and sustainable wood production from short-rotation plantations. He pioneered studies on tree reproductive biology of *Acacia*, *Eucalyptus* and *Grevillea robusta* to underpin genetic improvement and seed orchard development. His work has advanced understanding of the science that underpins successful tree breeding that delivers improved germplasm to tree growers in the tropics. He has supported developing-country scientists through provision of many scientific and technical training courses, supervision of post-graduate students and mentoring scientists in-country, travelling frequently to countries such as Vietnam, India and Malaysia.

Dr. Harwood has authored and co-authored over 100 peer-reviewed journal articles, 30 conference presentations and 6 books. He served as a Reviewer for the International Science Foundation (1995–2002) and for the Third External Programme and Management Review of ICRAF (2005–2006), as Associate Editor for *New Zealand Journal of Forestry Science* (2009–2016) as a member of the Editorial Panel for *Journal of Tropical Forest Science* (since 2006) and as a Panel Editor for *Australian Forestry Journal* (since 2017). Besides the SAA, Dr. Harwood is a recipient of the CSIRO Medal (1994) and received two awards from the Ministry of Agriculture and Rural Development, Government of Vietnam for his contributions in forest development in Vietnam (1995, 2012). In 2018, he was awarded the SE Asia-Pacific Regional Award of Excellence by the Commonwealth Forestry Association.

Selected research sources:

1. *Eucalypt Domestication and Breeding*. Oxford University Press, Oxford UK, 288 p. (with K. G. Eldridge, J. Davidson and G. Van Wyk). 1993.
2. Genetic variation in growth, stem straightness and branch thickness in clonal trials of *Acacia auriculiformis* at three contrasting sites in Vietnam. *Forest Ecology and Management* 255(1): 156–167 (with P. H. Hai, G. Jansson, B. Hannrup and H. H. Thinh). 2008.
3. *Sustainable plantation forestry in South-East Asia. Technical Report TP084*. CSIRO Ecosystem Sciences, Canberra, Australia, 100 p. (with E. K. S. Nambiar). <https://www.aciar.gov.au/node/12221> 2014.
4. Acacia plantations in Vietnam: research and knowledge application to secure a sustainable future. *Southern Forests*, 77(1): 1–10 (with E. K. S. Nambiar, and N. Kien). 2015.
5. Genetic improvement of tropical acacias: achievements and challenges. *Southern Forests* 77(1): 11–18 (with E. H. Hardiyanto and W. C. Yong). 2015.

Personal sources:

1. URL: http://caets2018.anu.org.uy/wp-content/uploads/2018/05/CV_Chris-Harwood.pdf Retrieved 11.01.2019.
2. Harwood C. E. Personal communications (February 2019) at chris.harwood@csiro.au

JOSE, Shibu



Shibu Jose received the IUFRO Scientific Achievement Award in 2014 for his research that helped addressing ecological sustainability challenges of forested ecosystems at local, national and international levels with global impacts (IUFRO News 2014).

Shibu Jose was born in Kerala, India. He earned his B.Sc. in Forestry (1991) at Kerala Agricultural University, India, and his M.Sc. (1994) and Ph.D. in Forest Science (1997) at Purdue University, USA. In 1998, Dr. Jose was appointed Professor of Forest Ecology at the School of Forest Resources and Conservation at the University of Florida. In 2009, he moved to the University of Missouri where he served as the H.E. Garrett Endowed Chair Professor, Director of the Center for Agroforestry, and Director of the School of Natural Resources (2009–2018). In 2019, Dr. Jose was appointed as Interim Associate Dean (Research) in the College of Agriculture, Food and Natural Resources (CAFNR), and Interim Director of the Missouri Agricultural

Experiment Station.

Dr. Jose's research program has the overarching goal of identifying and quantifying key ecological processes and interactions that define ecological sustainability of forested ecosystems. He examines how resource availability (e.g., light, water, nutrients, carbon) and disturbances (e.g., management interventions, fire, exotic invasions) influence ecosystem structure and function (e.g., productivity, nutrient cycling) in natural forests, short-rotation plantation forests and agroforests. He uses ecological information in designing agroforestry systems and restoring degraded and damaged forest ecosystems.

Dr. Jose has authored and co-authored nearly 200 research articles published in peer-reviewed journals, eight edited books and several invention disclosures, two patents (pending) and one start-up company. He serves as Editor-In-Chief of *Agroforestry Systems* and editorial board member of several other journals. He also serves as the Chair of the Forestry Research Advisory Council that advises the U.S. Secretary of Agriculture. He is also active in IUFRO, serving as Coordinator of Unit 8.02.04 Ecology of alien invasives.

Over the past 20 years his research team has conducted projects in the USA., Australia, Costa Rica, Panama, Belize, Ukraine, Pakistan, India, and Bangladesh, where he served as a Fulbright Scholar. He has received many honours and awards, including the SAF Barrington Moore Memorial Award (2014), the Distinguished Alumni Award from the College of Agriculture, Purdue University (2018), and inaugural Partner in Leadership Advancement Award from the University of Missouri (2018).

Selected research sources:

1. *The Longleaf Pine Ecosystem: Ecology, Silviculture, and Restoration*. S. Jose, E. J. Jokela and D. L. Miller, eds. Springer Science, New York, 438p. 2006. (Second print edition published in June 2007).
2. Agroforestry for ecosystem services and environmental benefits: an overview. *Agroforestry Systems* 76(1): 1–10. 2009.
3. Managing native and non-native plants in agroforestry. *Agroforestry Systems* 83: 101–266. 2011.
4. *Invasive Plant Ecology*. S. Jose, H. Singh, R. Kohli and D. Batish, eds. CRC Press. 282p. 2013.
5. *Biomass and Biofuels: Advanced Biorefineries for Sustainable Production and Distribution*. S. Jose and T. Bhaskar, eds. CRC Press Boca Raton, FL. 392 p. 2015.

Personal sources:

1. URL: <https://cafnr.missouri.edu/person/shibu-jose/> Retrieved 07.02.2019.
2. Jose S. Personal communications (February 2019) at joses@missouri.edu

KOZAK, Robert Antal



Robert Antal Kozak received the IUFRO Scientific Achievement Award in 2014 for pioneering interdisciplinary efforts in the creation of a ‘new wave’ of business research within the forestry domain which focuses on conservation-based business management practices that promote sustainability of our global forest resources (IUFRO News 2014).

Robert Kozak was born in 1965 in Vancouver, British Columbia, Canada. He earned his B.Sc. (Forestry) in Wood Science (1987) and Ph.D. in Forest Products Marketing and Utilization (1996) at the University of British Columbia. He has spent the majority of his research career at the UBC Faculty of Forestry, progressing to Professor of Sustainable Business in 2008. He served as Head of the Department of Wood Science (2011–2015) and has been Associate Dean, Academic at the UBC

Faculty of Forestry since 2016.

Working with colleagues from around the world and students in the Forest and Communities in Transition (FACT) lab, he sees his role as being a researcher who ‘connects the dots’ between the complex and multifaceted issues that occur in the world of forestry at the nexus of social, economic, and ecological realms. He has authored or co-authored over 250 papers and spoken at over 200 conferences around the world on business topics ranging from wood use in non-residential construction, value-added wood products, supply chain management, forest certification, corporate social responsibility, and most recently, poverty alleviation and community wellbeing. He is a member of editorial board of the *Canadian Journal of Forest Research*, *BioProducts Business*, and the *Journal of Forest Products Business Research*.

Professor Kozak has been associated with a number of Centres of Excellence, and affiliated with the United Nations Economic Commission for Europe Timber Committee, the Canadian Institute of Forestry, the Commonwealth Forestry Association, the Society of Wood Science and Technology, the Forest Products Society, and the Institute of Materials, Minerals and Mining. He provided valuable service to IUFRO as Deputy Coordinator of Unit 5.10.00 – Forest products marketing and business management (2014) and as Chair of the Local Organising Committee for the All Division 5 meeting in Vancouver, Canada (2017).

His contribution to forest research and education has been recognized in many ways. He was elected a Fellow of the Institute of Materials, Minerals and Mining (2000), and has received numerous awards, including the Killam Teaching Prize (2001 and 2014), the SAA (2014), the FLARE Pathways to Prosperity Award (2016), the Sheth Foundation Best Paper Award (2007), and the Association of BC Forest Professionals Best Article of the Year Award (2007).

Selected research sources:

1. How specifiers learn about structural materials. *Wood & Fiber Sci.* 29(4):381–396 (with D. Cohen). 1997.
2. Alternative business models for forest-dependent communities in Africa: A pragmatic consideration of small-scale enterprises and a path forward. *Madagascar Conserv. Develop.* 4(2): 76–81. 2009.
3. “What now, Mr. Jones? Some thoughts about today’s forest sector and tomorrow’s Great Leap Forward”. Chapter 18, pp. 431–445. In: *The Global Forest Sector: Changes, Practices, and Prospects*, E. Hansen, R. Panwar, and R. Vlosky, eds. CRC Press (Taylor & Francis Group), Boca Raton. 2014.
4. Adoption and implementation of corporate responsibility practices: A proposed framework. *Business and Society* 54(5): 701–717 (with N. Vidal and E. Hansen). 2015.
5. *Forests, Business and Sustainability*. R. Panwar, R. Kozak, E. Hansen, eds. Routledge. 214 p. 2016.

Personal sources:

1. URL: <https://profiles.forestry.ubc.ca/person/robert-kozak/> Retrieved 31.01.2019.
2. Kozak R. A. Personal communications (February 2019) at rob.kozak@ubc.ca

MÄKELÄ-CARTER, Aino Annikki



Aino Annikki Mäkelä-Carter received the IUFRO Scientific Achievement Award in 2014 for her pioneering work in dynamic models of trees and stands, which translate material balances and structural models of trees into information and forecasts that are useful to both the research and forest management communities (IUFRO News 2014).

Ainnikki Mäkelä was born on 10 July 1954 in Tampere, Finland. She earned her M.Sc. in Engineering (1980) and Licentiate Tech. in Systems Theory (1982) at the Helsinki University of Technology (HUT), and Ph.D. in Forestry (1988) at the University of Helsinki (UH). She started her career in 1978 as a Project Researcher at the UH's Department of Silviculture, and then as Assistant in Systems Theory at HUT (1980), Research Assistant (1981–1985), Junior Researcher (1987–1995) and Academy Researcher (1998–2003) at the Academy of Finland. Dr. Mäkelä-Carter served as a Project researcher at the UH (1995–1998). Since 2003, she served as Lecturer at UH, and since 2005 – Professor of Silviculture/Applied Forest Ecology. She has carried out numerous other responsibilities including Head of the Department, and Member of University Collegium (2010–2013).

Dr. Mäkelä-Carter has primary research interests in the area of growth, production, and population dynamics of boreal forests and practical applications of quantitative models, including her well-known CROBAS and PIPEQUAL models. As a Visiting Scientist (Research Scholar), she also studied at the Grassland Research Institute, Hurley, UK (1982–1983), IIASA, Vienna (1985–1987), UK Forestry Commission, Farnham (1988–1989), USDA FS, Durham, NH (2010, 2018), and the Swedish University of Agricultural Sciences (2018). She has also served as a Chair of IUFRO Working Party 4.01.09 Process-based models for predicting forest growth and timber quality (1996–2005).

She participated in various European universities, projects and programs, including the EU COST Action FP (2008–2015). She has published over 200 research papers, book chapters and presentations, and has served as Editor-in-Chief (Terrestrial Ecology) of *Boreal Environment Research* (1999–2002), on the editorial boards of *Scandinavian Journal of Forest Research* (2001–2004) and *Tree Physiology* (2006–...), and reviewers' boards of *Annals of Forest Science*, *Forest Ecology and Management*, *Frontiers in Forests and Global Change*, and as Guest Editor of several special issues of *Tree Physiology*. Dr. Mäkelä-Carter is a member of the Finnish Academy of Science and Letters (2004), and has served on the Governing Board of the Finnish Society of Forest Science (2002–2005). She has received the A. K. Cajander Bronze Medal from the Finnish Society of Forest Sciences (2009) and the First class Medal of the Order of the Finnish White Rose (2015).

Selected research sources:

1. Implications of the pipe model theory on dry matter partitioning and height growth in trees. *Journal of Theoretical Biology* 123(1): 103–120. 1986.
2. A carbon balance model of growth and self-pruning in trees based on structural relationships. *Forest Science* 43(1): 7–24. 1997.
3. Process-based models for forest ecosystem management: current state of the art and challenges for practical implementation. *Tree Physiology* 20(5–6): 289–298 (with A. Mäkelä, J. Landsberg, *et al.*). 2000.
4. Modeling forest stand dynamics from optimal balances of carbon and nitrogen. *New Phytologist* 194: 961–971 (with H. T. Valentine). 2012.
5. Bridging empirical and carbon-balance based forest site productivity – significance of below-ground allocation. *Forest Ecology and Management* 372: 64–77 (with M. Pulkkinen and H. Mäkinen). 2016.

Personal sources:

1. URL: https://tuhat.helsinki.fi/portal/files/121105963/Makela_CV.pdf Retrieved 07.02.2019.
2. Mäkelä-Carter A. A. Personal communications (February 2019) at annikki.makela@helsinki.fi

ROUX, Jolanda



Jolanda Roux received the IUFRO Scientific Achievement Award in 2014 for her research accomplishments in the field of fungal diseases of trees on the African continent and beyond (IUFRO News 2014).

Jolanda Roux was born on 14 February 1972 in Escourt, South Africa. She obtained her B.Sc. in 1993, B.Sc. (Hons.) in 1994, M.Sc. in 1996 and Ph.D. in 1999 from the University of the Free State in South Africa. In 1996, while still busy with her studies, she was appointed as Field Extension Officer in forest pathology for the South African forestry industry. In 1999 she was appointed as a Researcher at the University of Pretoria, where she worked as researcher, field extension specialist and member of the management committees for the Tree Protection Cooperative Programme (TPCP), DST-NRF Centre of Excellence for Tree Health Biotechnology (CTHB) and Forestry & Agricultural Biotechnology Institute (FABI) until 2017. She was promoted to Associate Professor in the Department of Microbiology and Plant Pathology (2005) and to full Professor (2009). She is currently the Programme Leader of the Pest and Disease Programme of Sappi Forests in South Africa.

Dr. Roux's research focuses on fungi, and their insect associates, that cause diseases of trees, particularly on the African continent. Her research has allowed her to collaborate extensively with scientists from Asia, Australia, Europe, North and South America. She has consulted and collaborated with foresters and researchers in Cameroon, Kenya, Ghana, Republic of Congo, Mozambique, Malawi, Uganda, Tanzania, Zambia and Madagascar. As a mentor of numerous Ph.D. and M.Sc. students and postdocs, she has had a major impact on the development of forest science in South Africa and the entire African region. Her work on diagnosis of tree health problems both in commercial plantation forests and in biologically sensitive and endangered native forests has resulted in a significant increase in knowledge regarding fungal tree pathogens as well as in the description of more than 70 novel fungal species from the African continent.

Dr. Roux has authored and co-authored more than 500 research papers, book chapters and presentations at national and international scientific symposia. She serves, or has served, on the editorial boards of the *South African Journal of Science*, *Forestry*, *Forest Pathology*, *Southern Forests*, *Tropical Plant Pathology*, and as a reviewer for many scientific journals. She also served on a number of international committees and boards, e.g., Vice-President of the Southern African Society for Plant Pathology (2011–2015), the ISPP Chair on Forest Pathology (2008–2013), and a member of IUFRO RG on Forest Pathology (2001–2016). Dr. Roux is a recipient of numerous honours and awards including the Queen's Award for Forestry by the CFA (2011), the DSTs Distinguished Young Women in Science Award (2011), the NSTF-BHP-Billiton Award (2012), and several other recognitions. She was also an Honorary Guest Professor in the Chinese Academy of Forestry (2011).

Selected research sources:

1. A serious new disease of *Eucalyptus* caused by *Ceratocystis fimbriata* in Central Africa. *Forest Pathology* 30: 175–184 (with M. J. Wingfield, B. D. Wingfield, J. P. Bouillett, A. C. Alfenas). 2000.
2. Diseases of plantation forestry trees species in Eastern and Southern Africa. *S. African Journal of Science* 101: 409–413 (multi-authored). 2005.
3. *Ceratocystis* species: Emerging pathogens of non-native plantation *Eucalyptus* and *Acacia* species. *Southern Forests* 71: 115–120 (with M. J. Wingfield). 2009.
4. Armillaria Root Rot of *Theobroma cacao*. In: *Cacao Diseases: A History of Old Enemies and New Encounters*. Bailey B. A., Meinhardt L. W., eds. Springer, pp. 429–447 (with M. P. A. Coetzee). 2016.

Personal sources:

1. URL: https://www.up.ac.za/faculty-of-natural-agricultural-sciences/news/post_1646492-prof-jolanda-roux-receives-iufro-scientific-award Retrieved 08.02.2019.
2. Roux J. Personal communications (February 2019) at jolanda.roux@fab.up.ac.za

SCARASCIA-MUGNOZZA, Giuseppe Edmondo



Giuseppe Edmondo Scarascia-Mugnozza received the IUFRO Scientific Achievement Award in 2014 for developing new methods for exposing whole trees to elevated atmospheric CO₂, pioneering ecosystem-level assessment of forest productivity and carbon sequestration by eddy covariance (IUFRO News 2014).

Giuseppe Scarascia-Mugnozza was born on 5 September 1954 in Rome, Italy. He earned his B.Sc. (Hons.) in Agricultural Sciences (1977) and M.Sc. in Forest Sciences (1983) at the University of Bari, Italy, and Ph.D. in Forest Ecology and Management (1991) at the University of Washington, Seattle, USA. From 1981 to 2002, he has served as a Researcher, Assistant Professor, Lecturer and Professor in the fields of Silviculture and Forest Ecology, Physiology and Genetics at University of Bari in Bari and the University in Viterbo. In 1991–2002, Dr. Scarascia-Mugnozza was Ph.D. supervisor in Forest Ecology at *Tuscia University*. He was then responsible for research and administration as Director of the Institute of Agro-Environmental and Forest Biology of the National Research Council (CNR) of Italy (2002–2008), Director of the Division of Forestry and Land Use of the Research Council on Agriculture of Italy (2009–2013), Chair of the EFI Board (2015–2017), Chair of the Scientific Council of the “European Forest Technology Platform” (2005–2007), Member of the ESF’s Life, Earth and Environmental Science Committee (2008–2012), and Vice-Chair of the ESF-COST Domain “Forests, their Products and Services” (2005–2014). Since 2013 he has been Head of the Department of Biotechnology, Agrofood, and Forest Innovation at the University of Tuscia.

Dr. Scarascia-Mugnozza works at the leading edge of forest science focused on understanding the effects of climate change on the forest environment. He was among the first to demonstrate the impact of elevated CO₂ on forest tree species and ecosystems, with participation in European research projects since the early 1990s. He authored and co-authored over 240 scientific publications. He is founder and a member of the Italian Society of Silviculture and Forest Ecology, and of the international journal *iForest*, which has rapidly become a well-recognized open-access ISI journal. He is a referee for numerous scientific journals including *Ecology*, *Tree Physiology*, and *Forest Science*. In 2017, he was elected Correspondent and Associate Member of the Academie d’Agriculture de France. He is also a member of American Association for the Advancement of Science, Academy of Georgofili, Italian Academy of Forest Sciences, National Academy of Agriculture, Italian Botanical Society, Italian Society of Ecology, and the Italian Association of Remote Sensing.

Selected research sources:

1. An experimental test of the eddy correlation technique over a Mediterranean macchia canopy. *Plant, Cell and Environment* 14: 987–994 (with R. Valentini, P. De Angelis and R. Bimbi). 1991.
2. Long-term CO₂-enrichment in a Mediterranean natural forest: an application of large open top chambers. *Chemosphere* 36: 763–770 (with P. De Angelis). 1998.
3. Increased litter build up and soil organic matter stabilization in a poplar plantation after 6 years of atmospheric CO₂ enrichment (FACE): Final results of POP-EuroFACE compared to other forest FACE experiments. *Ecosystems* 12: 220–239 (with M. R. Hoosbeek). 2009.
4. Five steps for managing Europe’s forests. *Nature* 519: 407–409 (with S. Fares, P. Corona, M. Palahi). 2015.
5. UAV-Based thermal imaging for high-throughput field phenotyping of black poplar response to drought. *Frontiers in Plant Science* 8: 1681 (with R. Ludovisi, F. Tauro, R. Salvati, S. Khoury and A. Harfouche). DOI: [10.3389/fpls.2017.01681](https://doi.org/10.3389/fpls.2017.01681). 2017.

Personal sources:

1. Giuseppe Scarascia-Mugnozza. CV. https://www.urp.cnr.it/copertine/formazione/form_concorsi/CV_Commissari/CV%20Scarascia%20Mugnozza%20Giuseppe.pdf Retrieved 07.02.2019.
2. Scarascia-Mugnozza G. E. Personal communications (February 2019) at gscaras@unitus.it

2019 (Curitiba, Paraná, Brazil)

On 30 September 2019, at the Opening Ceremony of the XXV IUFRO World Congress Dr. John L. Innes, the Chair of the IUFRO Honours and Awards Committee announced the results of competition for the Scientific Achievement Award. Members of the HAC, consisting of Drs. John Innes (Canada), Pil Sun Park (Republic of Korea), Dario Grattapaglia (Brazil), Ola Lindroos (Sweden), Jerry Vanclay (Australia), Pekka Saranpaa (Finland), Taylor Stein (USA), Sandra Luque (France), Eckehard Brockerhoff (Switzerland), Daniela Kleinschmit (Germany) and Mr. David Shonowo (Nigeria), and *ex officio*: IUFRO President Mike Wingfield (South Africa) and IUFRO Executive Director Alexander Buck (Austria) had chosen 10 winners, endorsed by the IUFRO Board, out of 22 nominations submitted (IUFRO News 2019). President Wingfield delivered the IUFRO SAA to the following scientists¹:

S. Ellen MACDONALD	Canada
José L. de MORAES GONCALVES	Brazil
Maria NIJNIK	Scotland/Netherlands
David J. NOWAK	USA
Elena PAOLETTI	Italy
Marielos PEÑA-CLAROS	Bolivia/Netherlands
Terry C. H. SUNDERLAND	Canada/UK
Margarida TOMÉ	Portugal
Daowei ZHANG	USA/China
Junyong ZHU	USA/China



From left to right: J.L. Innes, S.E. Macdonald, J.L. de Moraes Goncalves, D.J. Novak, E. Paoletti, M. Peña-Claros, T.C.H. Sunderland, M.M.B. Tomé, D. Zhang, and M.J. Wingfield (Photo: M. Booij-Liewes, FABI, South Africa).

¹ Maria Nijnik and Junyong Zhu were unable to attend the ceremony.

MACDONALD, S. Ellen



S. Ellen Macdonald received the IUFRO Scientific Achievement Award in 2019 for her outstanding individual scientific achievements within the fields of research covered by the Union (IUFRO News 2019).

Ellen Macdonald was born in London, Ontario, Canada. She obtained her B.Sc. (Hons.) in Environmental Biology (1983) and Ph.D. in Plant Ecology (1988) from the University of Calgary. During her study, she received several major scholarships. Dr. Macdonald has spent the majority of her professional career at the University of Alberta (UA) in Edmonton, Alberta, Canada. She began as a Post-doctoral Fellow (1988) and progressed from Assistant Professor in Forest Ecology in the Department of Forest Science (1989) to Associate Professor (1994) and Professor (since 1999) in the Department of Renewable Resources, in which she also served as Associate Chair (1999–2001), and Chair (since 2016). In addition, Professor Macdonald has been

Associate Dean at the UA Faculty of Graduate Studies and Research (2001–2004) and Associate Dean Research & Graduate Studies at the UA Faculty of Agricultural, Life & Environmental Sciences (2009–2012).

Professor Macdonald's research interests cover the influence of natural and anthropogenic disturbances on the ecology and plant biodiversity of the boreal forest, regeneration processes and successional dynamics of boreal mixedwood forests, and restoration ecology in northern ecosystems. A major focus has been her work on the Ecosystem Management Emulating Natural Disturbance (EMEND) project. In this and related fields she has authored and co-authored more than 135 scientific publications in peer reviewed journals and a book chapter. She is frequently called upon to give invited talks or plenary presentations at national and international conferences, symposia and other meetings.

Professor Macdonald is a member of professional societies and associations including the Canadian Botanical Association, Canadian Society for Ecology and Evolution, Ecological Society of America, Society for Ecological Restoration, Society for Conservation Biology, and has served on major granting panels in Canada and Sweden. She was an Associate Editor of the *Canadian Journal of Forest Research* (2009–2018) and became Co-Editor-in-Chief in 2018. Professor Macdonald received a number of recognitions as a Teacher of the Year (2004, 2008, 2009, and 2010), Izaak Walton Killam Annual Professor (2007–2008), and Ed and Peggy Tyrchniewicz Award for Innovation in Teaching (2015) at the University of Alberta, as well as the Scientific Achievement Award from the Canadian Institute of Forestry (2014).

Selected research sources:

1. Edge influence on forest structure and composition in fragmented landscapes. *Cons. Biology* 19: 768–782 (multi-authored). 2005.
2. Effects of partial post-fire salvage harvesting on vegetation communities in the boreal mixedwood forest region of northeastern Alberta, Canada. *For. Ecol. and Mgmt.* 239: 21–31. 2007.
3. Understory plant communities of boreal mixedwood forests in western Canada: natural patterns and response to variable-retention harvesting. *For. Ecol. and Mgmt.* 242: 34–48 (with T. E. Fenniak). 2007.
4. Forest restoration following surface mining disturbance: Challenges and solutions. *New Forests* 46: 703–732. (The first author in multi-authored paper). 2015.

Personal sources:

1. URL: https://www.ualberta.ca/agriculture-life-environment-sciences/about-us/contact-us/faculty_lecturer_directory/ellen-macdonald Retrieved 01.05.2019.
2. Macdonald S. E. Personal communications (May 2019) at ellen.macdonald@ualberta.ca

GONÇALVES, José Leonardo de Moraes



José Leonardo de Moraes Gonçalves received the IUFRO Scientific Achievement Award in 2019 for his contributions to the focus area of soil conservation and site management for eucalypt plantations in the diverse sub-tropical and tropical environments (IUFRO News 2019).

Leonardo Gonçalves was born on 5 April 1960 in Brazil. He earned his B.Sc. in Agronomy (1983) and M.Sc. in Soil and Plant Nutrition (1987) at the Federal University of Viçosa, Brazil, and his Ph.D. in Soil and Forest Nutrition (1990) at the University of São Paulo (USP), Brazil. He spent an academic year (1992–1993) as a Visiting Scientist at CSIRO, Forestry and Forest Products, Australia. Since 1988, he has spent most of his professional career with Department of Forest Sciences, the USP “Luiz de Queiroz” College of Agriculture (ESALQ). He has served as Associate Professor (1988–2008), full Professor (2008), Manager at Laboratory of Applied Ecology (since 1994), Manager, Post-graduate Program on Forest Science (2003–2007), Deputy Head (2007–2008) and Head (2008–2012) of the Department. Since 1994, he has supervised five Post-Doctoral researchers, 28 PhDs, 26 M.Sc. and 150 undergraduate students.

Dr. Gonçalves has primary research interests in the area of soil conservation, site management, eucalypt plantations development and treatment, integrating silvicultural strategies for planting improved germplasm for production, environmental risks management, forest soils nutrition and fertilizer prescriptions, and multidisciplinary research. Within his professional expertise, Dr. Gonçalves leads several national and international projects and programs, including one at the *Instituto de Pesquisas e Estudos Florestais* (IPEF, Institute for Forest Research and Study), a member of IUFRO. Internationally, he has collaborated within the CIFOR international network (1996–2006), in the partnership between CIRAD/INRA France and USP/ESALQ (since 2002), CSIRO/IPEF/USP/ESALQ Agreement (2005–2012), with the University of Washington, USA on site-soil and nutrient management (since 2014), and others. He has also served as Assistant Editor of the *Journal of the Brazilian Society of Soil Science* (1998–2010) and Editorial Advisory Board of *Scientia Agricola Journal* (Brazil), and was co-editor of a special issue in *Forest Ecology and Management* (2013).

Dr. Gonçalves has actively collaborated with IUFRO in various positions since 1994. Since 1994, he has been the coordinator of the IPEF Cooperative Program of Forestry and Management and was a member (2008–2015) of the IPEF Deliberative Council. He has served as Coordinator of IUFRO WP 2.08.03 Improvement and Culture of Eucalypts (2008–2012) and chaired the conference held in Brazil in 2014. Since 2015 he has served as Deputy Coordinator of WP 1.02.01 Ecology and Silviculture of Plantation Forests in the Tropics, and since 2016, he has been a member of the IUFRO TF on Soil and Water Interactions.

Selected research sources:

1. Soil conservation. In: J. L. M. Gonçalves, J. L. Stape, eds. *Conservation and cultivation of soils for forest plantations*. 1 ed. Piracicaba-SP: IPEF, Vol. 1, pp. 47–129. 2002. (Portuguese).
2. *Forest Nutrition and Fertilization*. J. L. M. Gonçalves, V. Benedetti, eds. Piracicaba: IPEF, V. 1, 421 p. 2004.
3. Challenges and opportunities for sustainable management of eucalypt plantations. J. P. Laclau, J. L. M. Gonçalves, J. L. Stape, guest eds. *For. Ecol. and Mgmt.* 301, 141 p. 2013.
4. Simulating the effects of different potassium and water supply regimes on soil water content and water table depth over a rotation of a tropical *Eucalyptus grandis* plantation. *For. Ecol. and Mgmt.* 418: 4–14 (multi-authored paper). 2018.

Personal sources:

Gonçalves J. L. M. Personal communications (May 2019) at jlmgonca@usp.br

NIJNIK, Maria



Maria Nijnik received the IUFRO Scientific Achievement Award in 2019 for her outstanding scientific achievements within the fields of research covered by the Union (IUFRO News 2019).

Maria Nijnik (b. Gensiruk) was born on 7 April 1956 in Lviv, Ukraine. She graduated with Dipl. Eng/M.Sc. (Hon.) from the Ukrainian National Forestry University (1978), obtained a Ph.D. (1984) from the Institute of Economics, the Academy of Sciences of Ukraine, and continued in the Netherlands: receiving her M.Sc. in Environmental Policy and Management from the Network of Dutch Universities (1995), Post-Graduate Diplomas from the Network on General and Quantitative Economics (1999) and the Mansholt Institute (2002), and a Ph.D. in Social Sciences from Wageningen University. Dr. Nijnik worked as a Researcher at the Institute of Economics (1978–1991) and Associate Professor of Lviv State University (1991–1994). She continued as a Researcher at the Institute for Environmental Studies, Free University Amsterdam (1996–2000) and the Agricultural Economics and Rural Policy Group, Wageningen University (2000–2002). Since 2002, she has worked at the James Hutton Institute in the UK where she is currently Principal Scientist of the Social, Economic and Geographical Sciences Group and among her other duties is the Coordinator of EU H2020 Project Social Innovation in Marginalized Rural Areas and Leadership on social innovation for the Scottish Government Strategic Research Programme.

Dr. Nijnik has 320 scientific outputs, with 60 peer-reviewed journal articles on forest economics, policy and management, climate change, sustainability and rural development. She developed novel ways of evaluation of landscape change; conceptualised multi-functional forestry by explaining the heterogeneity of attitudes to woodlands; provided evidence of the cost-effectiveness and social acceptability of forest plantations; deconstructed the sources of leakage and livelihood outcomes of reforestation, etc. Her suggestions on how social innovation can help to strengthen the resilience of socio-ecological systems and whether carbon accounting can promote economic development in forest-dependent communities could form a basis for improved decision-making.

Dr. Nijnik is IUFRO Office holder. Being Deputy Coordinator of Unit 4.05.02 in 2010–2019, currently, she coordinates a new Working Party on Social Innovation and Entrepreneurship. She is also a Member of the Scientific Advisory Boards of the European Forest Institute; Institute for Regional Development, EURAC; H2020 InnoForESt project and Science for the Carpathians. She was Member of the Management/Steering Committees of COST Actions: FP0703 – ECHOES (2008-2011) and ES1203 – SENSFOR; FP1203 – Non-wood forest products; FP1207 – Forest-related policy analyses (2013–2016) and Co-Leader of the Valuation and Uptake Process Area of the Ecosystems Community Scotland, and has had many other duties. She has given numerous talks, including one on depopulation in rural areas for HMs the King and Queen of the Netherlands and others at the Royal Palace in Amsterdam (2017).

Selected research sources:

1. Accounting for uncertainties and time preference in economic analysis of tackling climate change through forestry and selected policy implications for Scotland & Ukraine. *Clim. Ch.* 124: 677–690 (with G. Pajot). 2014.
2. Exploring the linkages between multi-functional forestry goals and the legacy of spruce plantations in Scotland. *Canadian Journal of Forest Research* 46: 1247–1254 (with A. Nijnik and I. Brown). 2016.
3. Is forest related decision-making in European treeline areas socially innovative? A Q-methodology enquiry into the perspectives of international experts. *Forest Pol. Economics* 92: 210–219 (with A. Nijnik, S. Sarkki, J. Muñoz-Rojas, D. Miller and S. Kopyi). 2018.

Personal sources:

1. URL: <https://www.hutton.ac.uk/staff/maria-nijnik> Retrieved 21.04.2019.
2. Nijnik M. Personal communications (April 2019) at maria.nijnik@hutton.ac.uk

NOWAK, David John



David John Nowak received the IUFRO Scientific Achievement Award in 2019 for novel, innovative and pioneering research on assessing the structure, services and values derived from urban forests globally, and how these forests are changing (IUFRO News 2019).

David Nowak was born on 16 December 1961 in Buffalo, NY, USA. In 1984, he obtained his B.Sc. (Hons), dual major: Resource Management & Forest Biology, and M.Sc. in Urban Forestry (1986) at SUNY College of Environmental Science and Forestry, Syracuse, NY. In 1991, he earned his Ph.D. at the University of California-Berkeley and began his professional career as a Research Forester at the USDA Forest Service Northeastern Research Station. He then progressed to a Project Leader (1997) and was promoted to a Government Senior Scientist (ST) position (2016). Since 1997, Dr. Nowak is also an Adjunct Professor at the SUNY College of Environmental Science and Forestry.

Dr. Nowak's research focuses on assessing urban forest structure and health, and its associated impacts on human health and well-being. His research also investigates long-term changes to urban forests and he leads the development of the i-Tree modeling suite (www.itreetools.org). This suite includes numerous easy-to-use and freely available tools to aid in the assessment of urban and rural forest structure, ecosystem services and values globally. He also leads national and global assessments of urban forests.

Dr. Nowak's awards include the International Society of Arboriculture's L.C. Chadwick Award for Arboricultural Research and R.W. Harris Author's Citation; J. Sterling Morton Award – National Arbor Day Foundation's highest honor; US EPA Office of Research and Development Honor Award; American Forests Urban Forest Medal; Distinguished Science Award for Northeastern Research Station and he was a contributing member of Nobel Peace Prize winning Intergovernmental Panel on Climate Change. He has given over 550 presentations and authored or co-authored over 300 publications including numerous book chapters and over 100 articles in referred scientific journals such as *Forest Science*, *Bioscience*, and *Environmental Pollution*.

Dr. Nowak has been invited to consult and participate in numerous international projects in America, Europe, Asia, and Oceania (e.g., United States, Canada, Mexico, Colombia, Brazil, United Kingdom, Italy, Australia, New Zealand, and Republic of Korea). He is a member of the International Society of Arboriculture and was an IUFRO as Deputy Coordinator (2005–2010) and current Coordinator of IUFRO Research Group S6.07.00 Urban Forestry (2010–2019). His research has set the global standard for assessing and valuing urban forests, and is helping improve the health and well-being of urban residents across the world.

Selected research sources:

1. Contrasting natural regeneration and tree planting in 14 North American cities. *Urban Forestry and Urban Greening* 11: 374–382. 2012.
2. Tree and forest effects on air quality and human health in the United States. *Environmental Pollution* 193: 119–129 (with S. Hirabayashi, A. Bodine and E. Greenfield). 2014.
3. U.S. urban forest statistics, values and projections. *J. For.* 116(2): 164–177 (with E. J. Greenfield). 2018.
4. Declining urban and community tree cover in the United States. *Urban Forestry and Urban Greening* 32: 32–55 (with E. J. Greenfield). 2018.

Personal sources:

1. URL: <https://www.nrs.fs.fed.us/people/dnowak> Retrieved 20.04.2019.
2. Nowak D. J. Personal communications (April 2019) at dnowak@fs.fed.us

PAOLETTI, Elena



Elena Paoletti received the IUFRO Scientific Achievement Award in 2019 for her work at the leading edge of forest science in understanding mechanisms of action and effects of climate change factors on the forest environment (IUFRO News 2019).

Elena Paoletti was born on 11 January 1963 in Firenze, Italy. She earned her Master (Hons.) in Forest Science (1987) and Ph.D. in Agricultural Biology (1991) at the University of Florence, Italy. In 1994–1995, she was a post-doc at the Institute of Forest and Agricultural Pathology and Zoology, University of Firenze, and habilitated in 2014. She started her professional career as a researcher working on grants at CNR, Firenze, and via various senior positions, she progressed to Research Director (since 2010) at the National Research Council of Italy the major Italian institution in this field and is now at the Institute of Research on Terrestrial Ecosystems (IRET). She is a Professor at the Chinese Academy of Science in Beijing, China, and other academic institutions in Italy and Japan.

In recent years, Dr. Paoletti has focused her research on a neglected aspect of climate change, i.e. the greenhouse gas and phytotoxic pollutant ground-level ozone, and has contributed fundamental knowledge to the action mechanisms, promoted novel methods for exposing whole trees to elevated atmospheric ozone concentrations under realistic conditions, and developed innovative approaches of integrated forest monitoring. She has authored and co-authored around 190 scientific publications in leading peer-reviewed journals as well as edited numerous proceedings of conferences and workshops.

Dr. Paoletti is a member of the Italian Academy of Forest Science. She became the first female scientist elected a member of the Scientific Committee of the Italian Society of Silviculture and Forest Ecology (SISEF) and its Vice President (2008–2011, 2016–2019). She is Chair of the EFI (European Forest Institute) Scientific Advisory Board (since 2017). She has (co)organized 50 congresses/workshops, including the 2017 session at the United Nations Forum for Forests (UNFF) in New York, as was an invited speaker there in 2019. She is member of several national and international networks, editorial and review boards of professional journals including Elsevier publishers. She is a holder of numerous national and international and awards.

Since 1996, Dr. Paoletti has been an active IUFRO officeholder. She served as Deputy Chair of WP 7.04.02 Biochemical and physiological aspects of air pollution effects on forest ecosystems (1996–2000), a member of IUFRO TF on Environmental Change (1997–2000), Coordinator of RG 7.01.00 Impacts of Air Pollution and Climate Change on Forest Ecosystems (since 2001), and Deputy Coordinator of Division 7 Forest Health. She is Coordinator of the IUFRO TF on Climate Change and Forest Health and a member of the IUFRO Enlarged Board (since 2014). In 2010, Dr. Paoletti received the IUFRO Division 7 Forest Health Award for Achievement in Forest Health Research.

Selected research sources:

1. Impact of ozone on Mediterranean forests: a review. *Environmental Pollution* 144(2): 463–474. 2006.
2. Integrated effects of air pollution and climate change on forests: a northern hemisphere perspective. *Environmental Pollution* 147(3): 438–445 (with A. Bytnerowicz and K. Omasa). 2007.
3. Ozone-induced stomatal sluggishness changes carbon and water balance of temperate deciduous forests. *Scientific Reports* 5, srep09871 (with Y. Hoshika, G. Katata, M. Deushi, M. Watanabe, T. Koike). 2015.

Personal sources:

Paoletti E. Personal communications (May 2019) at elena.paoletti@cnr.it

PEÑA-CLAROS, Marielos



Marielos Peña-Claros received the IUFRO Scientific Achievement Award in 2019 for her outstanding individual scientific achievements within the fields of research covered by the Union (IUFRO News 2019).

Marielos Peña-Claros was born on 21 June 1969 in Santa Cruz, Bolivia. She obtained her B.Sc. in Biology from the University of São Paulo (USP), Brazil (1990), M.Sc. in Tropical Ecology from the University of Florida, USA (1996), and Ph.D. in Ecology from Utrecht University, the Netherlands (2001). In 2001 Dr. Peña-Claros was appointed as sub-director and in 2002 as the Director of the Research Unit of the Bolivian Forest Management project – BOLFOR. In 2003 she became the Executive Director of the Bolivian Forest Research Institute – IBIF Santa Cruz, Bolivia. In early 2006 she moved to the Netherlands as a visiting researcher at Wageningen University & Research (WUR), where she worked in different positions (2007–2014).

Since 2015 Dr. Peña-Claros has been Associate Professor at the Forest Ecology and Forest Management group at WUR. Dr. Peña-Claros has focused her research on tropical forest ecology, sustainable forest management, silviculture, forest certification, and forest recovery after human disturbances. In her research, she addresses fundamental research questions with applied relevance. She has given 58 oral presentations, most of them as invited or keynote speaker. She has authored or co-authored 94 scientific papers, 12 books or book chapters, and 19 miscellaneous publications. She has served as a member of editorial boards, co-editor of special issue “REDD+SCIENCE+GOVERNANCE: Opportunities and challenges”, and subject and associate editor at *Biotropica*. She is a reviewer of several leading forest journals including *Forest Ecology and Management*, *Journal of Tropical Ecology*, *Canadian Journal of Forest Research* and others. She is member of several research networks, including the Tropical managed Forest Observatory (TmFO) and the Secondary Forest Network (2ndFor). She has supervised 11 Ph.D. students and over 60 B.Sc. and M.Sc. students.

Dr. Peña-Claros has served as a member of numerous scientific committees for various meetings held in Bolivia, Brazil, China, France, Germany, Mexico, Panama, and Switzerland. She has also been a member of several boards including the Board of Directors of the Bolivian Council for Forest Certification (1997–2000, 2004–2006), three terms at the IBIF Board of Directors (2012–2017) and others. She was President of the Association of Tropical Biology and Conservation (2016–2018). Dr. Peña-Claros was awarded the Martin Cardenas Award by the Bolivian National Academy of Science as distinguished researcher in botany and related research fields (2012).

Selected research sources:

1. Changes in forest structure and species composition during secondary forest succession in the Bolivian Amazon. *Biotropica* 35: 450–461. 2003.
2. The integration of empirical, remote sensing and modelling approaches enhances insight in the role of biodiversity in climate change mitigation by tropical forests. *Current Opinion in Environmental Sustainability* 26: 69–76 (Multi-authored paper). 2017.
3. Beyond reduced-impact logging: silvicultural treatments to increase growth rates of tropical trees. *Forest Ecology and Management* 256: 1458–1467 (multi-authored paper). 2008.
4. Persistent effects of pre-Columbian plant domestication on Amazonian forest composition. *Science* 355: 925–931 (Levis C., F. R. C. Costa, F. Bongers, M. Peña-Claros, and other 121 authors). 2017.

Personal sources:

Peña-Claros M. Personal communications (May 2019) at marielos.penaclaros@wur.nl

SUNDERLAND, Terence (Terry) C. H.



Terence C. H. Sunderland received the IUFRO Scientific Achievement Award in 2019 for his outstanding individual scientific achievements within the fields of research covered by the Union (IUFRO News 2019).

Terry Sunderland was born on 25 May 1967 in Crowborough, UK. He obtained his Diploma in Horticulture (Hons.) from the Royal Botanic Gardens at Kew (1991), M.Sc. in Forestry and its Relation to Land (Distinct.) from the University of Oxford (1993), and Ph.D. in Anthropology and Biology (2000) at University College in London, where he also completed his post-doctoral study in forest product utilization (2000–2003). Dr. Sunderland began his professional career in 1983 as a Horticultural Trainee at Brighton's Park and Recreation Department prior to pursuing higher education. He then worked in Cameroon as a Technical Officer of the Overseas Development

Administration (1993–1996), Programme Manager (1996–2004) of the African Rattan Research Programme, Project Director of Wildlife Conservation Society in Cameroon and Nigeria (2004–2006), and, latterly, Senior/Principal Scientist at CIFOR, Bogor, Indonesia (2006–2017). In January 2018, Dr. Sunderland was appointed as a Professor of Tropical Forestry at the UBC's Faculty of Forestry. To date, he has supervised or co-supervised more than 40 graduate students.

Dr. Sunderland's academic career indicated a gradual transition from a focus on botany towards the social sciences, from biodiversity and conservation, forest management, land-use change and sustainability, to communities and livelihoods, ecosystem services, landscape ecology, and social science at large. He has authored and co-authored more than 260 scientific papers, book chapters and working papers, and edited 13 books on various topics of his professional interest as well as numerous blogs and media coverage. He served as editor and a member of editorial boards of a number of scientific journals and has also contributed to numerous global science committees, including the IUFRO GFEP report on "Forests, Trees and Landscapes for Food Security and Nutrition: A Global Assessment Report." and chairing the HLPE report on "Sustainable Forestry for Food Security and Nutrition" (2017).

Dr. Sunderland's achievements have been recognized with a number of honours and awards including Hallett Science Award from East Sussex County Council (1988, 1991), G.C. Johnson Memorial Prize, Dummer Memorial Prize from the Royal Botanic Gardens (1991), and the Jubilee Prize by University of Oxford (1993).

Selected research sources:

1. A methodological approach for assessing cross-site landscape change: Understanding socio-ecological systems. *Forest Policy and Economics* 84: 83–91 (multi-authored paper). 2017.
2. Challenging perceptions about men, women, and forest resources: Results from the PEN global dataset. *World Development* 64: S56–S66 (multi-authored paper). 2014.
3. The landscape approach: ten principles to apply at the nexus of agriculture, conservation and other competing land-uses. *Proc. Nat. Acad. Sci. USA* 110 (21) 8345–8348 (multi-authored paper). 2013.
4. Food security: why is biodiversity important? *International Forestry Review* 13(3): 265–274. 2011.
5. Conservation and development in tropical forest landscapes: a time to face the trade-offs? *Environmental Conservation* 34(4): 276–279 (with C. Ehrlinghaus and B. M. Campbell). 2008.

Personal sources:

Sunderland T. Personal communications (April 2019) at terry.sunderland@ubc.ca

TOMÉ, Maria Margarida Branco de Brito Tavares



Maria Margarida Branco de Brito Tavares Tomé received the IUFRO Scientific Achievement Award in 2019 for her outstanding individual scientific achievements within the fields of research covered by the Union (IUFRO News 2019).

Margarida Tomé was born on 29 June 1954 in Lisbon, Portugal. The entire career of Dr. Tomé is tightly linked with her *alma mater* – *Instituto Superior de Agronomia* (ISA) in Lisbon. She graduated in Forestry (1977) and earned her Ph.D. in Forestry (1986) and Habilitation (1996) from ISA. She also graduated in Applied Mathematics: statistics, operations research and informatics (1984) and obtained her minor in Statistics (1986) from *Universidade de Lisboa*. She has grown up professionally at the same institutions from Teaching Assistant (1978) to Assistant Professor (1989), Associate Professor (1990) and full Professor (since 2000). Dr. Tomé has been actively involved in the ISA's public and management affairs. She progressed from a Member of the Educational Board (1980) to Chair of the Educational Board (1993–1996), from member of Board of Directors (1984–1996) to Head of the ISA Computing Centre (1997–1998), from Member of the Executive Board (1987–1991) to Deputy Chair (1998–2000) and Chair (2002–2004) of the Forestry Department, and to Chair of the ISA Scientific Board (2009–2013). At the international level, she served as member of Scientific Advisory Board of the EFI (2000–2004), EFIATLANTIC (2009–2012) and EFIMED (since 2011). She coordinates the Forest Ecosystem Management under Global Change (ForChange) group, one of the research groups of CEF (Forest Research Centre).

Having a strong background in forest biometry, forest inventory, forest modelling (growth, wood and non-wood products, risks, and ecosystem services), Dr. Tomé's research covers a wide range of forest-related studies. Among them are improvement of methods for forest ecosystem assessment, enhancement of forest models in order to cope with the complexity of the Atlantic and Mediterranean ecosystems as well as with the context of multi-faceted changes, integration of forest models into forest simulators, and in developing monitoring methodologies for carbon stocks. She has authored and co-authored more than 350 articles, books and manuals, project reports and other publications. She has edited the Kluwer/Springer series "Managing Forest Ecosystems" since 2000 and edited numerous proceedings of scientific conferences, seminars and other symposia. As a scholar, educator and administrator, Dr. Tomé has been recognized with numerous honours and awards of *Instituto Superior de Agronomia*, *Junta nacional de Investigação Científica* (Portugal) and National Academy of Sciences (USA), ESRI Award for best scientific paper in Geographic Information Systems and others.

Dr. Tomé started her collaboration in IUFRO as Co-chair (1991) and Chair (1996) of WP S4.01-04, and from 2005 to 2014, she was Coordinator of Division 4. Then she was a member of the IUFRO TF "The role of forests in carbon cycles, sequestration and storage" (2001–2005), and Co-chair of the IUFRO TF "Sustainable planted forests for a greener future" (since 2015). Dr. Tomé received the IUFRO Best Poster Award (2000) and the IUFRO Distinguished Service Award (2017).

Selected research sources:

1. *Sustainable Forest Management*. K. von Gadow, M. Tomé, and T. Pukkala, eds. Series Managing Forest Ecosystems, Kluwer Academic Publishers B. V. Series. 2000.
2. Special issue on selected results from the FORSEE project. M. Tomé and T. Farrell, eds. *Annals of Forest Science* 66(3). 2009.
3. *Modeling Forest Trees and Stands*. Springer, xiv, 476 p. (with H. Burkhart). 2012.

Personal sources:

Tomé M. Personal communications (April 2019) at magatome@isa.ulisboa.pt

ZHANG, Daowei



Daowei Zhang received the IUFRO Scientific Achievement Award in 2019 for his outstanding research contributions that have national, regional, and global impacts (IUFRO News 2019).

Daowei Zhang was born on 6 November 1963 in Rudian Village, Henan Province, China. He obtained his B.Sc. Forestry (1984) from South-Central University of Forestry and Technology, China, M.Sc. in Forest Economics and Management (1989) from Beijing Forestry University, and Ph.D. in Forest Economics and Policy (1994) from the University of British Columbia, Canada. He began his professional career in China's Ministry of Forestry in 1984 and worked (1988–1989) as Project Coordinator at the State Investment Cooperation of Forestry (now China Development Bank). In 1994 he started his academic career as Assistant Professor at Auburn University, Alabama, USA, and reached Associate Professor (1999), Professor (2003), and Alumni and George Peake Jr. Professor of Forest Economics and Policy (2011). Since 2017 he has taken a long sabbatical leave, serving as Senior Forestry Officer and Team Leader to the UN FAO Forestry Department.

Professor Zhang's research interests are in the economic and policy aspects of forest resource management, especially property rights, political economy, forest products trade, land use change, environmental services, forest finance and valuation, and international forestry. He has authored or co-authored more than 120 refereed publications and served as an Associate Editor for *Forest Science*, *Southern Journal of Applied Forestry*, *Journal of Forest Economics*, and *Forest Economic Review*.

Professor Zhang has been a consultant for, or contributor to the UN FAO, CIFOR, U.S. Forest Service, U.S. Department of Justice, University of Helsinki, China's State Forestry Administration, and a dozen private companies in the United States. He has experience in 20 plus countries and served on the Board of Directors of the Pinchot Institute for Conservation (2000–2006). He has been a Society of American Foresters (SAF) Fellow since 2016, and was appointed to the SAF's Science and Technology Board. He received Auburn Author Award (2008, 2012, and 2014) and the SAF's Award in Forest Science (2009), and Research and Development Award (from Southeastern SAF, 2018).

Selected research sources:

1. *The Softwood Lumber War: Politics, Economics, and the Long U.S.-Canada Trade Dispute*. Routledge, Resource for the Future Press, 320 p. 2007.
2. *Forest Economics*. University of British Columbia Press, 412 p. (with P. H. Pearse). 2011. Also published in Chinese, Spanish and Russian.
3. Policy instruments for developing planted forests: Theory and practices in China, the U.S., Brazil, and France. *Journal of Forest Economics* 21: 223–237 (with A. Stenger and P. A. Harou). 2015.
4. From senators to the president: Solving the lumber problem or else. *Public Choice* 123: 393–410 (with D. LaBand). 2005.
5. Endangered Species Act and timber harvesting: The case of Red-Cockaded Woodpeckers. *Economic Inquiry* 42(1): 150–165. 2004.
6. Why so much forestland in China does not grow trees? *Management World* 3: 120–125. 2001.
7. Sticks, carrots, and reforestation investment. *Land Economics* 77 (3): 443–56 (with W. Flick). 2001.
8. Differences in silvicultural investment under various types of forest tenure in British Columbia. *Forest Science* 44(4): 442–449 (with P. H. Pearse). 1996.

Personal sources:

1. URL: <http://webhome.auburn.edu/~zhangd1/> Retrieved 30.04.2019.
2. Zhang D. Personal communications (May 2019) at Zhangd1@auburn.edu

ZHU, JunYong (J.Y.)



Junyong (J.Y.) Zhu received the IUFRO Scientific Achievement Award in 2019 for his outstanding contribution to forest products research in advanced wood and fiber utilization (IUFRO News 2019).

Junyong (J.Y.) Zhu was born on 25 August 1963 in a village in Kunshan County, Jiangsu Province, P.R. China. He passed the National College Entrance Examination with honour. He received his B.Sc. (1983) and M.Sc. (1986) both in Aeronautical Engineering at Beijing Institute of Aeronautics and Astronautics (BIAA). In 1986, he continued his education in the USA with research assistantships. He received his M.Sc. in Mechanical Engineering from Arizona State University (1988) and Ph.D. in Engineering from the University of California – Irvine (1991). After a brief stay in the aerospace industry in the Silicon Valley, CA, in 1993 Dr. Zhu became a faculty member at the Institute of Paper Science and Technology (now the Renewable Bioproducts Institute RBI) at Georgia Tech. in Atlanta, GA. In 2003, Dr. Zhu joined the

USDA FS, Forest Products Laboratory in Madison, WI, as a research unit/scientific leader. He is Adjunct Professor at the Department of Biological Systems Engineering at the University of Wisconsin at Madison.

Dr. Zhu's research interest covers the broad area of biofuels, biochemicals, and biomaterials, including mechanical and chemical pretreatments of woody biomass for bioconversion, cellulose nanomaterials, biorefinery, and traditional papermaking fibers to name just a few. His research ranges from laboratory studies to commercial-scale demonstrations. He has co-authored over 200 publications in refereed journals and is co-inventor of 17 US patents and patent applications. Dr. Zhu serves on the editorial boards and as associate editor of various professional journals, including *TAPPI Journal*, *BioEnergy Research*, and *China Pulp and Paper*. Dr. Zhu is a member of the American Association for the Advancement of Science (AAAS), American Chemical Society (ACS), American Institute of Chemical Engineers (AIChE, Past Chair of the Forest Bioproducts Division), Technical Association of the Pulp and Paper Industry (TAPPI), and International Academy of Wood Science (IAWS).

Dr. Zhu has been recognized with numerous honours and awards including USDA Exemplary R&D in Agriculture, Food, Nutrition, and Natural Resources, (2011), USFS Deputy Chief for R&D's Distinguished Science Award (2013), TAPPI International R&D Technical Award and William H. Aiken Prize (2014), American Institute of Chemical Engineer Andrew Chase Award (2016), Fulbright scholarship and the inaugural Fulbright-Aalto University Distinguished Chairmanship in Sustainable Use of Renewable Natural Resources, Helsinki, Finland, for the 2015–2016 academic year.

Selected research sources:

1. A simple and rapid method to determine hexenuronic acid groups in chemical pulps. *J. Pulp Paper Sci.* 27(5): 165 (with X.S. Chai and J. Li). 2001.
2. Sulfite pretreatment (SPORL) for robust enzymatic saccharification of spruce and red pine. *Bioresour. Technol.*, 100(8): 2411–2418 (with X. J. Pan, G. S Wang and R. Gleisner). 2009.
3. pH-induced lignin surface modification to reduce nonspecific cellulase binding and enhance enzymatic saccharification of lignocelluloses. *ChemSusChem* 6(5): 919–927 (with H.Lou, T.Q.Lan, H.Lai and X.Qiu). 2013.
4. Highly thermal-stable and functional cellulose nanocrystals and nanofibrils produced using fully recyclable organic acids. *Green Chem.* 18: 3835–3843 (with L. Chen, C. Baez, P. Kitin and T. Elder). 2016.

Personal sources:

1. URL: <https://bse.wisc.edu/staff/zhu-junyong-jy/> Retrieved 18.04.2019.
2. Zhu J. Y. Personal communications (April 2019) at junyong.zhu@usda.gov

2024 (Stockholm, Sweden)

On 24 and 25 June 2024, Elena Paoletti, Chair of the IUFRO Honours and Awards Committee (HAC), presented the results of the competition for the IUFRO Scientific Achievement Awards at the XXVI IUFRO World Congress. Besides Elena Paoletti (Italy), the HAC consists of nine IUFRO Division Coordinators and Deputy Coordinators, namely Pil Sun Park (Republic of Korea), Janice Cooke (Canada), Luc Le Bel (Canada), Donald Grebner (USA), Roger Meder (Australia), Eilyn Kathalina Damayanti (Indonesia), Tod Ramsfield (Canada), Sandra S. Luque (France), Shashi Kant (Canada), IFSA representative Agustin Rosello, as well as IUFRO President John A. Parrotta (USA) and IUFRO Director General Alexander Buck (Austria), both *ex officio*. Out of 29 nominations submitted, the Committee had chosen 10 winners who were endorsed by the IUFRO Board (IUFRO News 2024). President John A. Parrotta together with HAC Chair Elena Paoletti handed over the IUFRO SAA to the following scientists:

Eckehard G. BROCKERHOFF	Germany
Jiquan CHEN	USA
Carol J. P. COLFER	USA
Shannon M. HAGERMAN	Canada
Henrik HARTMANN	Germany
Cindy E. PRESCOTT	Canada
John SESSIONS	USA
Ge SUN	USA
Chung-Jui (CJ) TSAI	USA
Brenda D. WINGFIELD	South Africa



On the photo of 24 June 2024, from left to right: S. M. Hagerman, C. J. P. Colfer, E. G. Brockhoff, J. Chen and H. Hartmann. The awards were delivered by J. A. Parrotta and E. Paoletti (on the right). (Photo: Jose Bolaños, IUFRO)



On 25 June 2024, J. A. Parrotta (on the left) presented the awards to the following winners (from left to right): C. E. Prescott, J. Sessions, G. Sun, C. J. Tsai and B. D. Wingfield, in the presence of E. Paoletti (on the right). (Photo: Jose Bolaños, IUFRO)

BROCKERHOFF, Eckehard Gustav



Eckehard Gustav Brockerhoff received the IUFRO Scientific Achievement Award in 2024 in recognition of his outstanding individual scientific achievements regarding biodiversity in planted forests, forest insect invasions, advancing forest biosecurity, and for his scientific leadership (IUFRO News 2024).

Eckehard Brockerhoff was born on 24 January 1963 in Stuttgart, Germany. He studied biology at the Universities of Tübingen and Kiel in Germany and obtained his Diplom (M.Sc. equivalent) from Kiel University in 1994. From 1994 to 1998, he worked on a Ph.D. project in Ontario, Canada, and received his Ph.D. in Forestry (Entomology and Ecology) from the University of Toronto, Canada in 1998. During these years, he worked as a Research Assistant at CABI-Bioscience in Delémont, Switzerland (1991–1994) and the Canadian Forest Service, Sault Ste. Marie (1994–1997), where he studied natural enemies, biological control, and chemical ecology of spruce cone insects.

In 1997, Dr. Brockerhoff moved to New Zealand (and later received NZ citizenship) where he worked until 2019 at the NZ Forest Research Institute (aka ‘Scion’), eventually as Principal Scientist. Since 2014, he has been an Adjunct Associate Professor at the University of Canterbury. Since mid-2019, Dr. Brockerhoff has led the Research Unit ‘Forest Health and Biotic Interactions’ at the Swiss Federal Institute for Forest, Snow and Landscape Research WSL, and has been a Lecturer at ETH Zurich since 2021.

Dr. Brockerhoff’s primary research interests are in forest ecology and biodiversity (especially insects and birds), and the impacts and management of invasive species (especially bark beetles). His research has contributed to his reputation among his peers as one of the world’s foremost experts on forest biosecurity. He published more than 160 scientific articles in peer-reviewed journals, 12 book chapters, an edited book, and nearly 100 reports for end users. Dr. Brockerhoff served as President of the Entomological Society of New Zealand (2007–2009) and previously as its Vice-president (2005–2007). He has been an Associate Editor of *Biodiversity and Conservation* (since 2009), Editorial board member of *New Zealand Entomologist* (since 2010), Associate Editor and Subject Editor on Entomology of the Oxford’s *Forestry* (since 2013), and Co-Editor-in-Chief of the *New Zealand Journal of Forestry Science* (since 2019).

In appreciation of his professional activities, Dr. Brockerhoff received several recognitions such as the Science Impact Award from the NZ Forest Research Institute, Research Fellowships from the Japan Society for the Promotion of Science and the OECD, and an IUFRO Division 7 Award for Achievement in Forest Health Research. Dr. Brockerhoff began his activities in IUFRO in 1996 when he participated in his first Working Party Conference. He served as Coordinator of IUFRO Division 7 Forest Health from 2011 to 2021, Coordinator of the Task Force on Biodiversity and Ecosystem Services (2013–2017) and was a member of the Task Force on Forests and Biological Invasions (2015–2018). He organized and co-organized several international meetings on topics connected to IUFRO’s Division 7 and related fields.

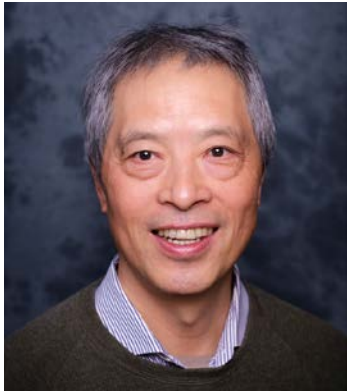
Selected research sources:

1. Planted forest health: The need for a global strategy. *Science* 349: 832–836 (with M. J. Wingfield, B. Wingfield, and B. Slippers). 2015.
2. Forest biodiversity, ecosystem functioning and the provision of ecosystem services. *Biodiversity and Conservation* 26: 3005–3035. (with L. Barbaro, B. Castagneyrol, D. I. Forrester, B. Gardiner, *et al.*). 2017.
3. Ecology of forest insect invasions. *Biological Invasions* 19: 3141– 3159 (with A. M. Liebhold). 2017.

Personal sources:

1. URL: <https://www.wsl.ch/de/mitarbeitende/brockerh/> Retrieved 16.07.2024.
2. Brockerhoff E. Personal communications (July 2024) at eckehard.brockerhoff@wsl.ch

CHEN, Jiquan



Jiquan Chen received the IUFRO Scientific Achievement Award in 2024 in recognition of his research on landscape ecology and ecosystem science (IUFRO News 2024).

Jiquan Chen was born on 24 August 1962 in Shanxi, Northern China. Now he is a USA citizen. In China he obtained his B.Sc. in Plant Ecology (1983) from the Inner Mongolia University, and an M.S. in Forest Ecology (1986) from the Chinese Academy of Sciences. He received a Ph.D. in Ecosystem Analysis (1991) from the University of Washington and continued as a Post-Doctoral Research Associate (1/1992–7/1993). He was an Assistant/Associate Professor at Michigan Technological University (1993–2001), Associate/Full Professor of University of Toledo (2003–2014) and has served as tenured Professor at Michigan State University (MSU) since May 2014.

Professor Chen has broad research interests in landscape ecology and ecosystem science, with a focus on forested landscapes, nutrient flux, carbon cycling, and bioenergy. He made groundbreaking research on edge effects in fragmented landscapes, biosphere-atmosphere exchanges in carbon and water in terrestrial ecosystems, and the dynamics of social-environmental systems. He authored and co-authored over 600 scientific publications including more than 40 book chapters. He is a member of a number of professional associations such as the American Geophysical Union (2005), and a fellow of the American Association for the Advancement of Science (2010) and the Ecological Society of America (2014).

Until now, Professor Chen has served as an editorial board member of numerous professional journals, such as Elsevier J. *Acta Ecologica Sinica*, *Forest Ecology and Management*, *Biosciences*, *Expert Opinion on Environmental Biology*, *Vegetation of China*, *Environmental Research: Ecology*, *Frontiers in Forests and Global Change*, *Land, Sustainability*, and *Scientific Reports*. He has served as Editor-in-Chief of two book series, *Ecosystem Science & Applications* (2011–present) and *Landscape Studies*, as well as the Editor-in-Chief of *Ecological Processes* (2016–present). He has also served as a Special Issue Editor for *Bioscience*; *Landscape Ecology*; *Forest Science*; and *Environmental Research*, *Agricultural and Forest Meteorology*, *Journal of Geophysical Research*, etc. He has been the Chief Scientist for US-China Carbon Consortium (USCCC) since 2004.

In appreciation of his professional activities, Professor Chen received many recognitions, such as Distinguished University Professor (2011) at University of Toledo, the William J. Beal Outstanding Faculty Award (2020) at MSU, the Fulbright “Global Scholar Award” (2022), and the Outstanding Service Award from USCCC in 2024. Harvard University awarded him the Charles Bullard Fellowship in Forest Research (1999–2000).

Professor Chen has been an active member of IUFRO since 1992. He served as co-chair (1994–2005) and chair of IUFRO WP Landscape Ecology (2005–2012). He regularly organized workshops and seminars in many countries and participated in several WP publications. In 2021, he received the IUFRO Certificate of Appreciation.

Selected research sources (first author):

1. Growing-season microclimatic gradients from clearcut edges into old-growth Douglas-fir forests. *Ecological Applications* 5(1): 74–86. (with J. F. Franklin and T. A. Spies). 1995.
2. Microclimate in forest ecosystem and landscape ecology. *BioScience* 49(4): 288–297. (multi-authored). 1999.
3. Sustainability challenges for the social-environmental systems across the Asian Drylands Belt. *Environmental Research Letters* 17(2), 023001. (multi-authored). 1999.
4. *Biophysical Models and Applications in Ecosystem Analysis*. Michigan State University Press. 172 p. 2021.

Personal sources

1. URL: https://en.wikipedia.org/wiki/Jiquan_Chen Retrieved 23.07.2024
2. LEES Lab at MSU: <http://lees.geo.msu.edu/publications/journal.html>
3. Chen J. Personal communications (July 2024) at jqchen@msu.edu

COLFER, Carol Jean Pierce



Carol Jean Pierce Colfer received the IUFRO Scientific Achievement Award in 2024 for her research on incorporating the worlds of forest dwellers into forest management as well as on gender and power (IUFRO News 2024).

Carol Colfer was born on 27 August 1945 in Melrose Park, Illinois, USA. She obtained her degrees in Anthropology, starting with a B.A. from Portland State University (1966), and both an M.A. (1969) and a Ph.D. (1974) from the University of Washington. She then obtained a Master of Public Health (MPH) degree in International Health from the University of Hawaii in 1979.

Dr. Colfer has broad interests including agriculture, forestry, education, ecology, gender and health issues and most of her work has been in interdisciplinary and international contexts. She has extensive experience in consulting, research centers, academia, and NGOs. She speaks English, French, Indonesian, Kenyah, and a variety of other languages to lesser degrees.

Dr. Colfer authored and co-authored 71 journal articles, 73 book chapters and 27 books.

She began her professional career in 1972 as a researcher in Quilcene, Washington, for Abt Associates, (Cambridge, Massachusetts), where she worked until 1979. Subsequently (1979-1995), she undertook a variety of projects with other institutions and countries, e.g., East-West Communications Institute, UN Man and Biosphere project, Tropsoils CRSP, University of Hawaii, Asian Wetlands Bureau and others. For three years, she also served as Associate Professor at Sultan Qaboos University in Oman (1987–1990).

In 1994, Dr. Colfer began working for the Center for International Forestry Research (CIFOR) in Bogor, Indonesia as a consultant on the Criteria and Indicators for Sustainable Forest Management project. In 1996, she joined as a staff member and in 1998, she developed the program Local People, Devolution and Adaptive Collaborative Management (ACM), which included research in Asia, Africa and Latin America. In 2002–03, she produced two books on the results from this program while on sabbatical leave at Cornell University. She then worked on human health, forests and decentralization, coordinated CIFOR's Rights and Resources Initiative project and the Governance theme of the Landscape Mosaics project (2007–2009). After 15 years at CIFOR, Dr. Colfer moved back to the USA as a Visiting Fellow/Scholar at Cornell University (2009–2024). She has concentrated on tropical agriculture, forestry, gender and inclusivity.

Dr. Colfer served as a member of many advisory boards and steering, scientific, technical and other committees. She was a book review editor for *Agriculture and Human Values* (2010–2023) and is a member of four editorial boards of professional journals. She has given many invited lectures and keynote presentations at national, regional and international events, including IUFRO World Congresses. Dr. Colfer is an energetic member of IUFRO, routinely supporting the Leader of the RG on Forestry in IUFRO's Gender and Research Program from 2000 to present. For her outstanding contribution to science and education, and local, national and international development, Dr. Colfer received numerous professional affiliate awards, grants, appreciations, honors and other recognitions.

Selected research sources:

1. *The Complex Forest: Communities, Uncertainty, and Adaptive Collaborative Management*. Washington, DC, USA, Resources for the Future/CIFOR. 370 p. 2005.
2. *Human Health and Forests: A Global Overview of Issues, Practice and Policy*. London, Earthscan. 374 p. 2008.
3. Bushler Bay and Hood View, 40 Years on: Gender, Forests and Change in the Global North. *Humboldt Journal of Social Relations*, Vol.1, 40: 137–162. [The American West after the Timber Wars]. 2018.
4. *Masculinities in Forests Representations of Diversity*. London, Earthscan/Routledge, 238 p. 2020.

Personal sources:

1. URL: <https://anthropology.washington.edu/people/carol-j-pierce-colfer> Retrieved 06.07.2024.
2. Colfer C. J. P. Personal communications (July 2024) at cjpcolfer@gmail.com

HAGERMAN, Shannon Marie



Shannon Marie Hagerman received the IUFRO Scientific Achievement Award in 2024 for her research on human behavioral and institutional dimensions of climate change adaptation in forest systems (IUFRO News 2024).

Shannon Hagerman was born in 1971 in Montreal, QC, Canada. She received her scientific degrees from the University of British Columbia (UBC), i.e., B.Sc. with distinctions (the Vladimir J. Krajina Prize in Plant Ecology) in Environmental Science (1995), M.Sc. in Botany (1997), and Ph.D. in Human Dimensions of Natural Resources Conservation from the Institute for Resources Environment and Sustainability at UBC (2009).

Dr. Hagerman received a Doctoral Fellowship from the US National Science Foundation through the Climate Decision Making Centre (Carnegie-Mellon/UBC) and after that, held a Social Sciences and Humanities Research Council Postdoctoral Fellowship at the University of Washington (UW) (2009–2011). She continued her research at UW as a Research Scientist, examining human dimensions of climate change adaptation within the US Forest Service (2011–2013). After returning to UBC, she worked in the Faculty of Forestry as a Lecturer (2013–2014), Assistant Professor of Social-Ecological Systems (2015–2024). In 2019, she received tenure and promotion to Associate Professor (2019) and Professor (2024). Since 2022, Dr. Hagerman has served as the Associate Dean for Graduate and Postdoctoral Studies in the Faculty of Forestry.

Dr. Hagerman's research interests are at the nexus of forest and conservation governance and climate change adaptation. She has led a wide range of applied collaborations supported by competitive federal and foundation grants and has brought together insights from disciplines ranging from forest genomics, ecology, remote sensing and more, to generate highly original insights for supporting transformative forest solutions in an era of climate change. She has authored 80 peer-reviewed journal articles, as well as book chapters and reports, and has given over 100 scientific presentations, including 20 invited and keynote talks.

Dr. Hagerman is a member of the Climate Change Specialist Group (International Union for the Conservation of Nature) and served as Deputy Coordinator (2019–2024) and Coordinator (since 2024) of the IUFRO Working Party 9.05.07 *Science policy* interactions. Her research and teaching have been recognized with a number of awards and honors, including the Killam Accelerator Fellowship (2023) and the Killam Teaching Prize (2018) from the UBC Killam Trusts, the UBC Faculty of Forestry Outstanding Researcher Award (2021), and with co-authors, the BC Forest Professional Magazine Best Article Award (2021).

Selected research sources:

1. What risks matter? Public views about assisted migration and other climate-adaptive reforestation strategies *Climatic change* 151(3): 573–587 (with G. Peterson St-Laurent and R. Kozak). 2018.
2. Social comfort zones for transformative conservation decisions in a changing climate. *Conservation biology* 35(6): 1932–1943 (with T. Satterfield, S. Nawaz, G. Peterson St-Laurent, R. Kozak and R. Gregory). 2021.
3. The Complex Forest: Whose expertise counts? Assisted migration and the politics of knowledge in British Columbia's public forests. *Land Use Policy* 103(4): 105296. (with R. Pelai, and R. Kozak). 2021.
4. Competing narratives of nature-based solutions: Leveraging the power of nature or dangerous distraction? *Environmental Science & Policy* 132: 273–281. (with M. S. Melanidis). 2022.
5. Community Forests advance local wildfire governance and proactive management in British Columbia, Canada. *Canadian J. of Forest Research* 54(3): 290–304 (with S. Dickson-Hoyle, K. Copes-Gerbitz, and L. D. Daniels). 2023.

Personal sources:

Hagerman S. M. Personal communications (July-August 2024) at shannon.hagerman@ubc.ca

HARTMANN, Henrik



Henrik Hartmann received the IUFRO Scientific Achievement Award in 2024 in recognition of his outstanding individual scientific achievements in tree ecophysiology and forest tree resilience to environmental stress (IUFRO News 2024).

Henrik Hartmann was born on 30 August 1968 in Haiger, Hesse, Germany. In the early 1990s, he moved to Canada where he began his professional career as a forester and then in a maple syrup business but took up scientific research to better understand what he observed. He obtained his B.Sc. in Forest Sciences at the University of Moncton in Edmundston, New Brunswick (2003), M.Sc. in Forestry (2005) and Ph.D. in Forest Entomology/Forest Ecology, both from the *Université du Québec à Montréal* (2009).

In 2009, Dr. Hartmann returned to Germany for postdoctoral research. He worked as a scientist at the Max Planck Institute for Biogeochemistry in Jena, then headed a research group there (2014–2022), and since 2022, he has been Head of the Institute for Forest Protection at the Julius Kühn-Institute (JKI) at the Federal Research Centre for Cultivated Plants. After habilitation in Terrestrial Plant Ecology at the Technical University Munich (2017), he became Professor for Forest Protection at the Georg-August University, Göttingen (2022).

Dr. Hartmann's research interests include issues related to the assessment of carbon metabolism in trees during stress from drought to insect attacks and how environmental stress affect plants' conditions or what this leads to reduced resistance, weakening, or mortality as well as how different tree species can tolerate stress under rapidly changing environmental conditions. That understanding is a basis in developing and implementing forward-looking forest management strategies for making forest more resilient against further climate change and biotic risks. In this and related areas he has authored and co-authored more than 100 scientific publications, mostly in peer reviewed journals, and was awarded highly cited researcher by Clarivate Web of Science in 2022 and 2023.

Dr. Hartmann is a member of the Society for Ecology (GfÖ) in Germany, Austria and Switzerland, the German Association of Forestry Research Institutes (DVFFA), and a member of the committees of the National Plant Protection Action Plan (NAP) Forest, and of the Forest and Wood Research Working Group of the BMEL, BMUV, and BMBF. He is a review board member of *Tree Physiology* and has been a member of the editorial advisory board of *Environmental and Experimental Botany* for several years.

In 2018, Dr. Hartmann became the Coordinator of the IUFRO Task Force on Monitoring Global Tree Mortality Patterns and Trends, and he is an initiator of the International Tree Mortality Network (ITMN). From 2016 to 2023, he was speaker of the GfÖ working group on ecosystem research.

Selected research sources:

1. Forest health and global change. *Science* 349 (6250): 814–818. (with S. Trumbore, P. Brando). 2015.
2. Understanding the roles of nonstructural carbohydrates in forest trees—from what we can measure to what we want to know. *New Phytologist* 211(2): 386–403. (with S. Trumbore). 2016.
3. Climate change risks to global forest health: emergence of unexpected events of elevated tree mortality worldwide. *Annual Review of Plant Biology* 73 (1), 673-702. (with A. Bastos, A. J. Das, A. Esquivel-Muelbert, W. M. Hammond, J. Martínez-Vilalta, N. G. McDowell, J.S. Powers, T. AM Pugh, K. X. Ruthrof, C. D. Allen). 2022.

Personal sources:

1. URL: <https://www.julius-kuehn.de/ws/personal/p/henrik-hartmann> Retrieved 22.07.2024.
2. Photo by J. Kaufmann/JKI
3. Hartmann H. Personal communications (July 2024) at henrik.hartmann@julius-kuehn.de

PRESCOTT, Cindy Ellen



Cindy Ellen Prescott received the IUFRO Scientific Achievement Award in 2024 in recognition of her outstanding individual scientific achievements in soil organic matter, nutrient availability, and forest restoration on poor or degraded soils (IUFRO News 2024).

Cindy Prescott was born on 11 December 1958 in Toronto, Ontario, Canada. She received her B.Sc. and M.Sc. in Environmental Biology from Brock University (1981) and University of Calgary (1988) where she also obtained her Ph.D. in Terrestrial Ecology in 1988. Dr. Prescott got a position of Postdoctoral Fellow (1989–1991) at the University of British Columbia where she worked as a Research Associate (1992–1997) and Sessional Lecturer (1994–1995). In 1997 she accepted the invitation from the University of British Columbia to serve as Assistant Professor (until 2001) and then was promoted to Associate Professor (2001–2005) and in 2005, to Professor at the UBC's Department of Forest and Conservation Sciences. She delivered lectures on forest ecology, forest nutrition, soil ecology, ecological restoration and agroforestry. From 2003–2015, she was Associate Dean of the Faculty of Forestry.

Dr. Prescott's wide research area comprises applied conservation science, ecosystems and climate change. She works specifically on the problems of litter decomposition, nutrient cycling processes, including nitrogen availability based on tree species and site, ecosystem restoration and soil reclamation, causes of nutrient deficiencies, carbon sequestration, and effects of forest fertilization. In these and related fields she authored and co-authored over 220 research articles including more than 150 in peer-reviewed journals, 13 book chapters and an e-book. Her recent publications presenting the scientific basis for plant surplus carbon underlying many ecological phenomena are paradigm changing.

Dr. Prescott served as an associate editor of several professional scientific journals (1996–2010), and section editor in *Plant and Soil* (2014-2019). She was an editor of two major journals: *Forest Ecology and Management* (2012–2022) and *Canadian Journal of Forest Research* (2000–2008) becoming the first woman to hold these positions.

Dr. Prescott received numerous honors and awards including the Canadian Forestry Scientific Achievement Award (2005) and holds an Honorary Doctorate from the University of Helsinki, Finland (2014) and Honorary Professor status at Jiangxi Agricultural University, China (2019). She is a corresponding member of the German Soil Science Society (2021) and a Fellow of the Royal Society of Canada (2024).

Selected research sources:

1. The influence of the forest canopy on nutrient cycling. *Tree Physiology* 22 (15-16): 1193-1200. 2002.
2. Litter decomposition: what controls it and how can we alter it to sequester more carbon in forest soils? *Biogeochemistry* 101: 133–149. 2010.
3. Soils and Restoration of Forested Landscapes. *Soils and Landscape Restoration*, Chapter 11. 299–331. (with K. Katzensteiner and C. Weston). 2021.
4. Continuous root forestry — Living roots sustain the belowground ecosystem and soil carbon in managed forests. *For. Ecol. and Mgmt.* 532: 120848 (with S. Grayston). 2023.

Personal sources:

1. URL: <https://forestry.ubc.ca/faculty-profile/cindy-prescott/> Retrieved 15.07.2024.
2. Prescott C. Personal communications (July 2024) at cindy.prescott@ubc.ca

SESSIONS, John



John Sessions received the IUFRO Scientific Achievement Award in 2024 for his significant contributions to IUFRO in the field of forest engineering (IUFRO News 2024).

John Sessions was born in 1944 in Minnesota, USA. He received his B.S. in Civil Engineering from the University of California (1966), M.S. in Civil Engineering from California State University (1968), M.S. in Forest Engineering from the University of Washington (1971) and Ph.D. in Forest Management from Oregon State University (1979) where he became University Distinguished Professor of Forestry (1999). He is a registered professional engineer.

John Sessions began his professional forestry career with the United States Forest Service in 1969 in roads and harvest planning. Later, he worked as a Systems Analyst (1980) and Harvesting Division Manager (1981–1983) at *JARI Florestal* in northern Brazil. Since 1983, Dr. Sessions has been at Oregon State University doing research (1983-present) and teaching (until 2023) including resource scheduling, transportation planning, harvest planning, logging mechanics, road system management, forest economics, international forestry, and combinatorial optimization which were the focus of his scientific research. He authored and co-authored over 400 publications in peer-reviewed journals and other reports.

According to his peers, Dr. Sessions is one of the most distinguished and influential professors in the field of forest engineering. He has worked as a consultant for companies, agencies and NGOs in 16 countries to solve forest planning and transportation problems. He co-chaired four US national assessments of forests and forest management practices on Native American forests and participated on several other congressional assessments.

Dr. Sessions' leadership includes numerous science and technical committees of professional associations, e.g., Chair for the Oregon Professional Forest Engineering Licensing Examination (2013–present). He was a member of several editorial boards, associate and guest editor of several professional journals including *Journal of Forestry*, *Canadian J. of Forest Research*, *International J. of Forestry Research*, *Forest Science* and *Silva Fennica*, Finland.

In addition to the IUFRO Scientific Achievement Award, Dr. Sessions received numerous honors, awards and appreciations including the Society of American Foresters National Award in Forest Science (2013), Society of American Foresters Fellow (2019); Earle Wilcox National Forester of the Year, Intertribal Timber Council (2015), and International Forest Engineering Achievement Award, Council on Forest Engineering (2015). Oregon State University College of Forestry awarded him five awards for Outstanding Teaching (1986–2005), four Dean's annual awards for Outstanding Achievement (1990–2004), and Top Prof Teaching Recognition Award (1995).

Dr. Sessions started his activities as IUFRO officeholder in the mid-1980s. He chaired IUFRO Unit S3.06-02 Mountain Logging (1986–1988) and served as Coordinator (1990–1995) and Deputy Coordinator of IUFRO Research Group 03.06.00 Forest Operations in Difficult Terrain (1988–1990, 1996–2006). He was also an editor of the IUFRO's Congress proceedings *Forest Operations under Mountainous Conditions* (1995).

Selected research sources:

1. Eight heuristic planning techniques applied to three increasingly difficult wildlife planning problems. *Silva Fennica* 36(2): 561–584. (with P. Bettinger, D. Graetz, K. Boston and W. Chung). 2002.
2. Forest Road Operations in the Tropics. Tropical For. Series Vol. 4, Springer. 170 p. (multi-authored). 2007.
3. Roads. Chapter 20. In: *Tropical Forestry Handbook*, 2nd Ed. L. Pancel and M. Köhl (eds). Springer. 4 Volumes, 3633 pages (with R. Heinrich and H. Castaneda-Langloise). 2016. ISBN: 978-3-642-41554-8 (Online).

Personal sources:

1. URL: <https://directory.forestry.oregonstate.edu/people/sessions-john> Retrieved 23.07.2024.
2. Sessions J. Personal communications (July 2024) at john.sessions@oregonstate.edu

SUN, Ge



Ge Sun received the IUFRO Scientific Achievement Award in 2024 for his outstanding contributions to fundamental knowledge about the relationship between forests and water (IUFRO News 2024).

Ge Sun was born on 20 May 1965 in Hebei Province, China. He received his B.S. (1985) in Soil and Water Conservation, and M.S. (1988) in Forest Hydrology from Beijing Forestry University, China. In 1988, he began his career as an Assistant Engineer at the Research Center for Eco-Environmental Sciences of the Chinese Academy of Sciences in Beijing. He then obtained his Ph.D. in Forest Hydrology and Watershed Management from the University of Florida, Gainesville, FL, USA in 1995. He worked as a postdoctoral associate in 1996.

In 1997, Dr. Sun moved to Raleigh, North Carolina, to take on a Research Assistant Professor position at North Carolina State University. He became federal Research Hydrologist at the USDA Forest Service in 2003. Since 2020, Dr. Sun is Supervisory Research Hydrologist and Project Leader/Center Director. In parallel, he serves as USDA Professor of Forest Hydrology at North Carolina State University.

Dr. Sun has broad interests in forest hydrology and has participated and led various forest hydrology projects in different geophysical settings around the world to understand natural and human impacts on watershed water balances and processes. His most notable contributions to forest science include effects of management on evapotranspiration and water yield and developing modeling tools for quantifying forests' contribution to drinking water supply.

Dr. Sun is an author and co-author of nearly 380 publications and five co-edited books. At the beginning of 2024, his rate of total citations exceeded 20,000 (Google Scholar). A Web of Science search on 'Forest Hydrology' or 'Forest Evapotranspiration' ranked Dr. Sun as number one author by the number of publications.

Dr. Sun served as an associate editor, guest editor or Editor-in-Chief for the *Journal of the American Water Resource Association* (JAWRA) (2022-2023), among others. Dr. Sun is a founding member, chair and co-chair of several organizations, such as the US-China Carbon Consortium (USCCC) (since 2003). He assisted as an agency science expert for USAID missions in Asia and Africa.

Since 2004 Dr. Sun has been a member of the American Geophysical Union (AGU) and a Fellow Member of AWRA. For his outstanding contribution at the US Forest Service, Dr. Sun received several group and personal Station Director's awards on research and science delivery (2004, 2009, 2011, 2016, and 2023). In 2017, he received the USFS Deputy Chief's Distinguished Science Award as well as the USFS Chief's Honor Award for Applying Knowledge Globally – both are the highest awards bestowed on a US Forest Service scientist.

Dr. Sun has served as Coordinator of IUFRO Working Party 8.01.07 Hydrologic processes and watershed management for several years. He was an active member of the IUFRO Task Force on Forest and Water. He co-initiated the IUFRO International Conference on Forest and Water in a Changing Environment, a prime forum for forest hydrologists around the world.

Selected research sources:

1. Potential water yield reduction due to reforestation across China. *J. of Hydrology* 328: 548-558. (with G. Zhou and others). 2006.
2. Forest Hydrology: Processes, Management and Assessment. CABI (with L. Bren, D. Amatya, T. Williams, and C. De Jong, eds.). In Review. 2024.

Personal sources:

1. URL: <https://research.fs.usda.gov/about/people/gesun> Retrieved 13.07.2024.
2. Sun G. Personal communications (July 2024) at ge.sun@usda.gov

TSAI, Chung-Jui (CJ)



Chung-Jui (CJ) Tsai received the IUFRO Scientific Achievement Award in 2024 in recognition of her research on tree biology (IUFRO News 2024).

Chung-Jui Tsai was born in Tainan, Taiwan. She obtained her B.S. (1989) and M.S. (1991) from the Department of Forestry of National Taiwan University. She worked as a Research Associate at the Taiwan Forestry Research Institute (1991–1992).

She obtained her Ph.D. in Forest Science in 1995 and postdoctoral training (1995–1997) from the School of Forestry and Wood Products, Michigan Technological University (MTU). At MTU, she began her faculty career as Assistant Professor at the College of Forest Resources and Environmental Science in 1997, rose through the ranks to become Professor in 2006, and served as Director of the Biotechnology Research Center (2002–2007). Professor Tsai moved to Georgia in 2008 and became W.N. “Hank” Haynes Professor and Georgia Research Alliance Eminent Scholar. At the University of Georgia, she also served as a Director (2014–2017) and Interim Director (2019–2020) of the Plant Center.

Professor Tsai’s research interests include forest molecular genetics, genomics, and biotechnology, specifically in the application of Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) genome editing to trees. She has significantly contributed to the understanding of the molecular genetics’ aspects of xylogenesis and to the understanding of salicinoids as major defense metabolites of *Populus*. Her research group developed several bioinformatic programs, algorithms and specific variant databases to address genomics data analysis challenges.

Professor Tsai authored more than 100 peered-review articles, book chapters, and other reports, and received several patents. She has been a Handling Editor of *Tree Physiology* (2011–present). Professor Tsai is a member of several professional associations, including serving as Deputy Coordinator of the IUFRO WP 2.04.06 Molecular Biology of Forest Trees (2007–2009). She organized or served on organizing committees or session chair of several national and international symposia and conferences.

Professor Tsai is an elected Fellow of the International Academy of Wood Science (2013) and the American Association for the Advancement of Science (2017), an elected Member of MTU’s College of Forest Resources and Environmental Science Honor Academy (2022). She received the 2024 Award for Excellence in Forest Molecular Biology and Genomics by IUFRO WP 2.04.06.

Selected research sources:

1. Exploiting SNPs for biallelic CRISPR mutations in the outcrossing woody perennial *Populus* reveals 4-coumarate: CoA ligase specificity and redundancy. *New Phytologist* 208: 298-301 (multi-authored). 2015.
2. Compensatory guaiacyl lignin biosynthesis at the expense of syringyl lignin in 4CL1-knockout poplar. *Plant Physiology* 183: 123-136 (multi-authored). 2020.
3. Haplotype-resolved genome assembly of *Populus tremula* × *P. alba* reveals aspen-specific megabase satellite DNA. *Plant Journal* 116: 1003-1017 (multi-authored). 2023.
4. *In vitro* floral development in poplar: insights into seed trichome regulation and trimonoecy. *New Phytologist* 237: 1078-1081 (multi-authored). 2023.

Personal sources:

1. URL: <https://warnell.uga.edu/directory/people/dr-cj-tsai> Retrieved 20.07.2024.
2. Tsai CJ. Personal communications (July 2024) at cjtsai@uga.edu

WINGFIELD, Brenda Diana



Brenda Diana Wingfield received the IUFRO Scientific Achievement Award in 2024 in recognition of her outstanding individual scientific achievements (IUFRO News 2024).

Born in 1958 in Zambia, Brenda Wingfield moved to Zimbabwe in 1965, where she completed her school education. She began her tertiary education in South Africa, earning a B.Sc. in Biochemistry and Genetics from the University of Natal (now the University of KwaZulu-Natal) and an Honours degree from the University of Cape Town. She then completed her Master's in Biochemistry at the University of Minnesota, USA. She returned to South Africa and obtained her Ph.D. from Stellenbosch University (1989).

Professor Brenda Wingfield has focused her research on the global movement and evolution of fungal pathogens, especially those affecting trees, for the past 30 years. Her involvement with the International Union of Forest Research Organizations (IUFRO) has been significant. She has held leadership roles, organized the IUFRO Tree Biotechnology Conference in South Africa in 2011, and contributed through research presentations and participation in various IUFRO working groups. Her efforts have facilitated numerous research collaborations and strengthened her presence in the global forestry research community.

Professor Wingfield has held various research positions, including Research Assistant at the Institute for Electron Microscopy, Research Officer at UCT's Department of Biochemistry, and Researcher at Stellenbosch University. She later joined the University of the Free State as a lecturer, Senior Lecturer, and Associate Professor, before becoming a Professor at the University of Pretoria's Department of Genetics. She is also an Adjunct Full Professor at Penn State University.

She played a key role in establishing the Tree Health Biotechnology research team as one of the first six DST-NRF Centres of Excellence and served as its Programme Leader for the first five years. As a founding member of the Forestry and Agricultural Biotechnology Institute, she also served as Deputy Dean of Research and Postgraduate Studies at the University of Pretoria. She trained over 50 Master's and PhD students.

Professor Wingfield holds the DST-NRF SARCHI research chair in Fungal Genomics and has served as vice president of the Academy of Science of South Africa (2015-2020) and Secretary General of the International Society of Plant Pathology (2013-2024). She published over 450 peer-reviewed papers in various international journals and co-authored a book and 13 book chapters. For more details on her awards, publications, and other achievements, visit her full CV (<https://tinyurl.com/5n8s3y4s>).

Selected research sources:

1. Planted forest health: The need for a global strategy. *Science* 349: 832–836. (with M. J. Wingfield, E. G. Bockerhoff and B. Slippers). 2015.
2. Fungal clones win the battle, but recombination wins the war. *IMA Fungus* 10: 18. DOI: 10.1186/s43008-019-0020-8 (with A. Drenth and A. R. Mctaggart). 2019.
3. Genetic networks that govern sexual reproduction in the Pezizomycotina. *Microbiology and Molecular Biology Reviews* 85: e00020-21. <https://doi.org/10.1128/MMBR.00020-21> (with A. M. Wilson, P. M. Wilken and M. J. Wingfield). 2021.
4. Doing it alone: Unisexual reproduction in filamentous ascomycete fungi. *Fungal Biology Reviews* 35: 1–13. 10.1016/j.fbr.2020.12.003 (A. M. Wilson, R. Gabriel, S. W. Singer, T. Schuerg, P. M. Wilken, M. A. van der Nest, and M. J. Wingfield). 2021.

Personal sources:

1. URL: https://en.wikipedia.org/wiki/Brenda_Wingfield Retrieved 01.07.2024.
2. Wingfield B. Personal communications (July 2024) at Brenda.Wingfield@fab.up.ac.za

Conclusions

In the period from 1971–2024, 107 scientists representing 31 countries from all continents received IUFRO Scientific Achievement Awards for their research on a wide spectrum of theoretical and practical issues. The USA had the highest number of the recipients – 26 scientists, followed by Canada – 18, Australia – 9, and Finland – 5. Many other countries had less than five awardees, e.g., China, Malaysia, South Africa and United Kingdom – 4 scientists each, France and Germany – 3 each, Belgium, India, Italy, Japan, Poland and Sweden – 2 each, Austria, Bolivia, Brazil, Costa Rica, Czechoslovakia, Denmark, Indonesia, Republic of Korea, Netherlands, Nigeria, Norway, Portugal, Switzerland, Ukraine, and the USSR (Russia) – 1 scientist. It should be also mentioned that many scientists achieved their distinction working in two or more countries.

Several recipients of the IUFRO SAA also received other IUFRO awards. Among them are five individuals who later became Honorary Members of IUFRO: in 2010 – Professor Risto Seppälä (Finland) and Dr. Eric Teissier du Cros (France), in 2014 – Dr. Su See Lee (Malaysia), in 2019 – Dr. Niels Elers Koch (Denmark), and in 2024 – Professor Mike Wingfield (South Africa). Four researchers were also granted IUFRO Distinguished Service Awards: in 1995 – Professor Harold Burkhart (USA), who also received the IUFRO Host Country Award in 2014. Professor John Innes (Canada) was presented the IUFRO DSA in 2005, Professor Margarida Tomé (Portugal) received the IUFRO DSA in 2017, and Professor Jerry Vanclay (Australia) received the IUFRO DSA in 2019.

The research areas covered by IUFRO SAA recipients go far beyond the forest issues represented by the nine IUFRO Divisions and numerous Task Forces, project and interdisciplinary groups. Many awardees are widely recognized scientists, researchers, teachers, and administrators. Many have served in Universities' Presidential and Rector Offices, or as the Deans of colleges, or as Councillors and advisors of academic, governmental and business structures. Almost all are members of editorial boards and reviewers of scientific journals that publish peer-reviewed papers.

Much of the research conducted by IUFRO awardees can be considered as breakthrough science, and their results have created the basis for many useful pioneering applications in forest practice.

The author hopes that this booklet will help young researchers to visualize the historical development of forest and wood sciences over half of a century. This information and relevant knowledge in specific fields could help young scientists formulate their goals and objectives for their personal professional growth, bearing in mind that success in forest sciences is reached mostly through hard and long routine work.

This booklet is not the end of the story about forest research and forest researchers. It is the beginning of the tributes to our teachers and colleagues who have advanced forestry, forest management and use, who have helped save the environment for future generations via a deep understanding of forests and the role that they play for humans and nature.

Acronyms and Abbreviations

AAAS – American Association for the Advancement of Science

ACIAR – Australian Centre for International Agricultural Research, Canberra, Australia

ACS – American Chemical Society

AEC – Atomic Energy Commission

AFA – American Forestry Association

AfDB – African Development Bank

AFF – *Acta Forestalia Fennica*

AID – Agency for International Development

AIDAB – Australian International Development Bureau

APAARI - Asia-Pacific Association of Agricultural Research Institutions

AP-FECM – Asia-Pacific Forestry Education Coordination Mechanism

API – American Paper Institute

APS – American Phytopathological Society

ASEAN – Association of Southeast Asian Nations

ASM – American Society of Microbiology

AGU – American Geophysical Union

AWPA – American Wood Protection Association

BC – British Columbia

BioGeCo (or BIOGECO) – *Biodiversité, Gènes et Communautés* = Biodiversity, Genes, and Communities

CAF – Chinese Academy of Forestry

Canfor – Canadian Forest Products Ltd.

CATIE – *Centro Agronómico Tropical de Investigación y Enseñanza* = The Tropical Agricultural Research and Higher Education Center, Costa Rica

CBD – Convention on Biological Diversity

CCGD – Center for the Conservation of Genetic Diversity

CE – Council of Europe

CENRAD – Centre for Environment, Renewable Natural Resources Management, Research and Development

CEO – Chief Executive Officer

CFA – Commonwealth Forestry Association

CFS – Canadian Forest Service

CG – Contact Group

CGIAR – Consultative Group on International Agricultural Research

CGRFA – Commission on Genetic Resources for Food and Agriculture

CIBAGRO – *Centro de Información Bioagropecuaria y Forestal* = Bio-Agriculture and Forestry Information Center. Resistance, Argentina

CIFF – *Communicationes Instituti Forestalis Fenniae* = Publications of METLA

CIFOR – Center for International Forestry Research

CIRAD – *Le Centre de coopération internationale en recherche agronomique pour le développement* = French Agricultural Research Center for International Development

CIRMOUNT – Consortium for Integrated Climate Research in Western Mountains

CJFR – Canadian Journal of Forest Research

CLAMS – Coastal Landscape Analysis and Modeling Study

CoB – Chairman of the Board

COST – Cooperation for Science and Technology in Europe

COTE, LabEx – *laboratoire d'excellence COTE* = LabEx

COTE – cluster of excellence

CRC – Cooperative Research Centre

CRC-GA – Cooperative Research Centre for Greenhouse Accounting, Australia

CRFA – Canadian Renewable Energy Association

CSIR – Council for Scientific and Industrial Research

CSIRO – Commonwealth Scientific and Industrial Research Organisation

CTIA – Canadian Tree Improvement Association

DSA – Distinguished Service Award

EB – Executive Board

EC – European Commission

EEB – Enlarged Executive Board

EFI – European Forest Institute

EFRSF – European Forest Research Support Foundation

ENGO – Environmental Non-Governmental Organisation

ENSTIB – *École Nationale Supérieure des Technologies et Industries du Bois* = National School of Wood Science and Wood Engineering, Université de Lorraine, France

EOLSS – Encyclopedia of Life Support Systems

EPA – Environmental Protection Agency

ERP – Enterprise Resource Planning

ESF – European Science Foundation

EUSTAFOR – Association of European State Forest Organisations

FABI – Forestry and Agricultural Biotechnology Institute, University of Pretoria, South Africa

FBSTP – Forest-Based Sector Technology Platform

FC – Forestry Commission of the United Kingdom
 FEFR – Foundation for European Forest Research
 FEMAT – Forest Ecosystem Management Assessment Team
 FPS – Forest Products Society
 FRIM – Forest Research Institute Malaysia
 FRSC – Fellow of the Royal Society of Canada
 FTSE – Fellow of the Australian Academy of Technological Sciences
 FWPA – Forest and Wood Products Australia, Ltd.
 GEF – Global Environment Facility
 GLORIA – Global Observation Research Initiative in Alpine Environments
 HLG – High Level Group
 H.M.S.O. – Her Majesty’s Stationary Office, London
 IAWA – International Association of Wood Anatomists
 IAWS – International Academy of Wood Science
 IBFRA – International Boreal Forest Research Association
 IBPGR – International Board for Plant Genetic Resources
 IC – International Council
 IEA – International Energy Agency
 IFAC – International Federation of Automatic Control
 IFAD – International Fund for Agricultural Development
 IFG – Institute of Forest Genetics
 IFS – International Foundation for Science
 IIASA – International Institute for Applied Systems Analysis
 IFB – *Institut français de la biodiversité* = French Institute for Biodiversity
 IITA – International Institute of Tropical Agriculture, Ibadan, Nigeria
 INRA – *Institut national de la recherche agronomique* = National Institute of Agricultural Research
 INTECOL – International Association for Ecology
 IPCC – Intergovernmental Panel on Climate Change
 IPGRI – International Plant Genetic Resources Institute
 IRGWP – International Research Group on Wood Protection
 ISF – Institute of Chartered Foresters, UK
 ISIS – Institute of Strategic and International Studies
 ISPP – International Society for Plant Pathology
 ISTF – International Society of Tropical Foresters
 ITE – Institute of Terrestrial Ecology, UK
 ITTO – International Tropical Timber Organization
 IUCN – International Union for Conservation of Nature and Natural Resources
 IUFRO – International Union of Forest Research Organizations
 IULA – International Union of Local Authorities
 KFRI – Kerala Forest Research Institute, Peechi, Kerala, India
 KSLA – Royal Swedish Academy of Agriculture and Forestry
 L. Sc. – Licentiate of Science
 LERMAB – *Laboratoire d’Étude et de recherche sur le matériau bois* = Laboratory of Studies and Research on Material Wood, University of Lorraine, France
 LL.D – *Legum Doctor* = honorary doctorate
 LSBC – Life Sciences British Columbia
 LTER – Long-Term Ecological Research
 LTSER – Long Term Socio-Economic and Ecological Research
 MAFF – Ministry of Agriculture, Forestry and Fisheries, Japan
 MC – Management Committee
 MCPFE – Ministerial conference on the protection of Forests in Europe
 ENGOS
 METLA (or Metla) – Finnish Forest Research Institute (now part of the Natural Resources Institute Finland)
 NARA – Northwest Advanced Renewables Alliance
 NARI – National Agricultural Research Institute, Papua New Guinea
 NAS – National Academy of Sciences
 NERC – National Environment Research Council
 NIFoS – National Institute of Forest Science (before April 2015: KFRI – Korea Forest Research Institute)
 NGO – Non-Governmental Organisation
 NRC – Natural Resources Canada
 NSERC – Natural Sciences and Engineering Research Council of Canada
 OBE – Officer of the Most Excellent Order of the British Empire
 ODRA – Outstanding Doctoral Research Award
 OECD – Organisation for Economic Co-operation and Development
 OFI – Oxford Forestry Institute, Oxford University
 PEFC – Programme for the Endorsement of Forest Certification
 PG – Project Group
 PNW-GTR – Pacific Northwest Research Station, General Technical Report
 PNW-RS – Pacific Northwest Research Station of the USDA Forest Service
 PRC – People’s Republic of China
 PSW-RS – Pacific Southwest Research Station of the USDA Forest Service
 RAS – Russian Academy of Sciences
 RG – Research Group

RoK – Republic of Korea
RPF – Registered Professional Forester
RSA – Republic of South Africa
RSC – Royal Society of Canada
SAA – Scientific Achievements Award
SAB – Scientific Advisory Board
SAC – Scientific Advisory Committee
SAF – Society of American Foresters
SAFJ – South African Forestry Journal, published by National Information Solutions Cooperative (NISC)
SBFC – Symposium on Biotechnology for Fuels and Chemicals
SCGFRP – Southern Cross Group of Forest Researchers and Practitioners
SFM – Sustainable forest management
Sida (or SIDA) – Swedish International Development Cooperation Agency
SIM – Society of Industrial Microbiology
SITRA – *Suomen itsenäisyyden juhlarahasto* = the Finnish Innovation Fund
SNP – single nucleotide polymorphism
SSA – Superior Scientist Award, USA
StAB – Stakeholder Advisory Board
STRI – Smithsonian Tropical Research Institute, Panamá, Panama
SUNY – State University of New York
SUNY-ESF – SUNY College of Environmental Science and Forestry
SWST – Society of Wood Science and Technology
TAPPI – Technical Association of the Pulp and Paper Industry; issues TAPPI Journal
TEAKNET – Asia-Pacific Network on Research and Development of Teak
TF – Task Force
UBC – University of British Columbia, Canada
UN FAO – Food and Agriculture Organization of the United Nations
UNDP – United Nations Development Programme
UNEP – United Nations Environmental Programme
USCCC – US-China Carbon Consortium
USDA – United States Department of Agriculture
USDA FS – United States Department of Agriculture, Forest Service
USDoE – United States Department of Energy
USFS – United States Department of Agriculture, Forest Service
VNIILM – All-Union Research Institute of Silviculture and Mechanization of Forestry
WB – World Bank
WCFSD – World Commission on Forests and Sustainable Development
WFC – World Forestry Congress
WG – Working Group
WIF – World Innovation Foundation
WP – Working Party
WSL – Swiss Federal Institute for Forest, Snow and Landscape Research
WST – Wood Science and Technology, journal

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