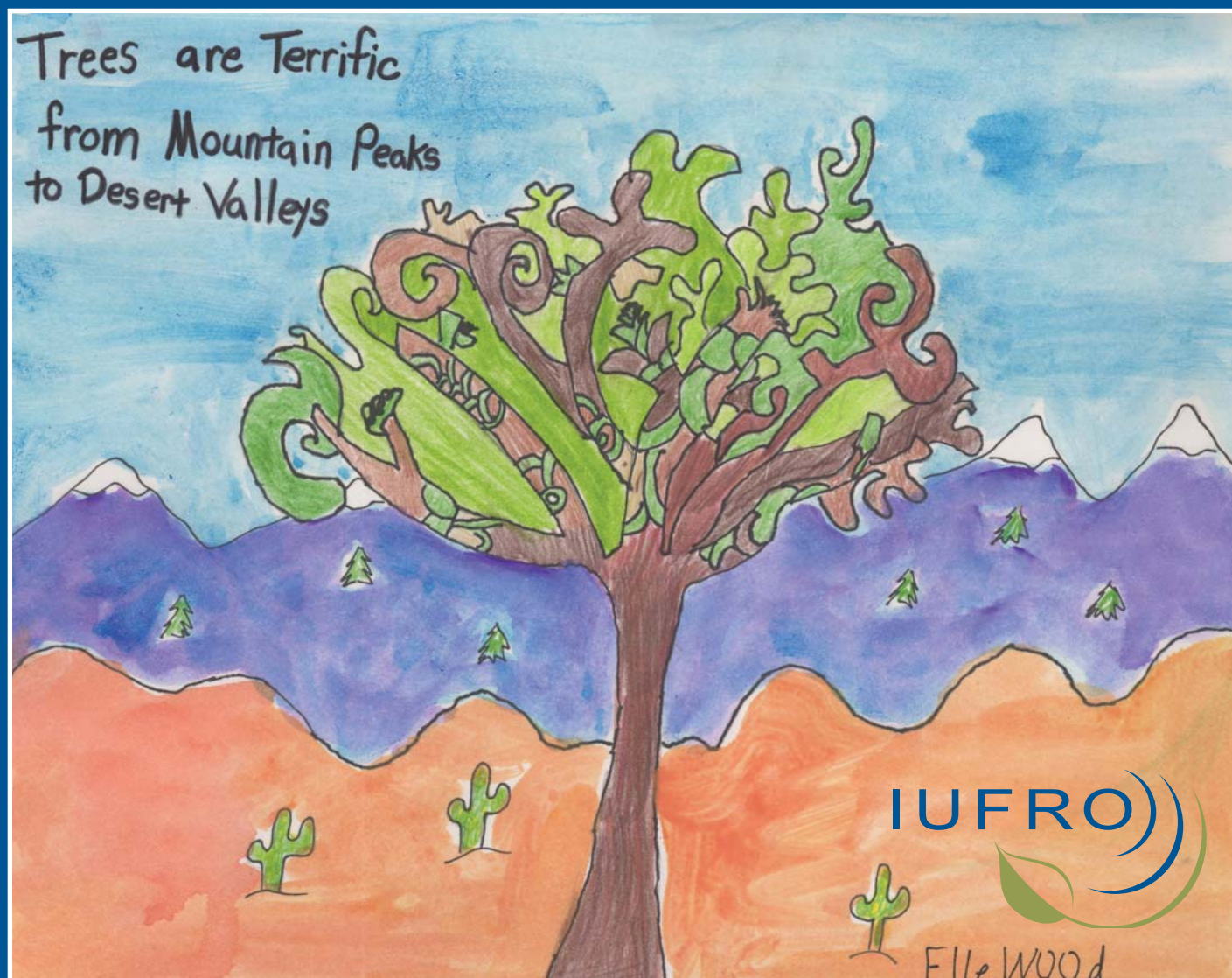


# IUFRO Annual Report 2014



*International Union of Forest Research Organizations  
Union Internationale des Instituts de Recherches Forestières  
Internationaler Verband Forstlicher Forschungsanstalten  
Unión Internacional de Organizaciones de Investigación Forestal*

*The World's Network of Forest Science*  
[www.iufro.org](http://www.iufro.org)

# Foreword

By Niels Elers Koch, IUFRO Immediate Past President

The **24th IUFRO World Congress** celebrated in Salt Lake City, USA, in the 122nd year of IUFRO's history was a truly unique event, and for me the best of the eight IUFRO World Congresses that I have participated in so far. Let me seize this opportunity to express once more my particular thanks to the Chair of the Congress Organizing Committee, Rich Guldin, and to the Chair of the Congress Scientific Committee, John Parrotta, and their excellent teams, as well as to the USDA Forest Service in cooperation with the National Association of University Forest Resources Programs for hosting the Congress, and the Society of American Foresters and the Canadian Institute of Forestry for partnering with us.

During the World Congress, the **International Council (IC)** met twice and discussed and decided on a number of matters of major significance for IUFRO. Thus, the IC elected the new President Mike Wingfield (South Africa), Vice-Presidents Björn Hånell (Sweden) and John Parrotta (United States), and other voting members of the IUFRO Board for 2014-2019. Following a very competitive bidding process and detailed evaluation by the Board, the IC also voted on the host of the next IUFRO World Congress in 2019, which will be held in the beautiful city of Curitiba, Brazil.

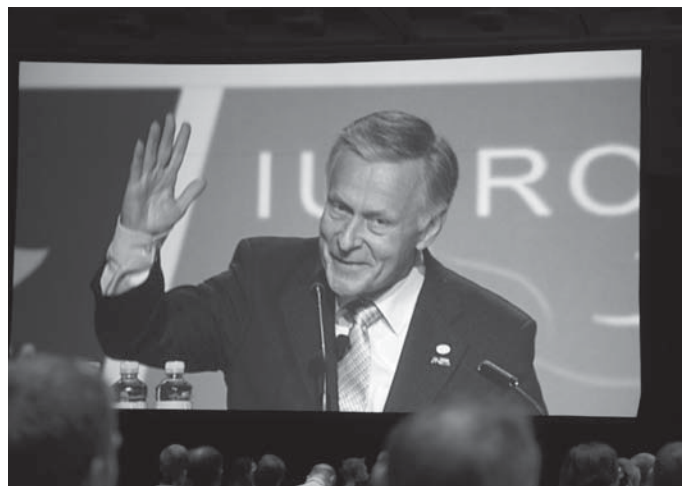
IUFRO also adopted a new **Strategy 2015-2019** with the theme "Interconnecting Forests, Science and People". This Strategy is an essential tool for IUFRO to guide and implement its activities in the years to come.

Of course, IUFRO's activities in 2014 were not limited to the World Congress alone. In addition to the Congress, a total of **53 IUFRO co-sponsored meetings** were held, which is quite a high number in a Congress year.

Also, IUFRO continued to strengthen and expand its collaboration with other organizations such as the **International Forestry Students' Association (IFSA)**. I think the only difference between IFSA and IUFRO is that IFSA is for younger students of forest science, while IUFRO is for the somewhat older students of forest science. As IUFRO President, I therefore participated every year in the IFSA annual symposium. I am also happy to say that the joint IFSA/IUFRO position that had been established in 2013 turned out a great success. Let me therefore thank Hugo Pierre from France for his excellent work in this position and at the same time welcome Andre Purret from Estonia who followed in autumn 2014. I would also like to thank IFSA and its members for their tremendous commitment to the 2014 World Congress.

Furthermore, through the establishment of a Memorandum of Understanding with the **European Geosciences Union (EGU)** in April 2014, a solid foundation has been established for further increasing collaboration with research representing the full spectrum of geosciences. EGU is the premier geosciences union and has an international coverage.

IUFRO also participated actively in the preparation of coordinated thematic input to the deliberations of an Open Working Group (OWG) of the United Nations about future **Sustainable Development Goals (SDGs)**. The SDGs build upon the existing Millennium Development Goals, which expire in 2015, and guide the post 2015 international development agenda. IUFRO used two different channels for providing input to the OWP, namely the Collaborative Partnership on Forests (CPF), of which IUFRO is a very active member, and the International Council for Science (ICSU) as organizing partner of the UN Major Group on Science & Technology. Also as a result of these efforts, the list of propo-



*Farewell as IUFRO President, many thanks and all the best for the future of IUFRO. Photo by Mats Hannerz/Sweden*

sed SDGs adopted by the OWG in July 2014 contains one goal (Nr. 15) which makes explicit reference to forests.

As a member of the **Global Partnership on Forest Landscape Restoration (GPFLR)**, IUFRO continued to actively contribute to international debates on landscape restoration throughout 2014, particularly within the framework of the Bonn Challenge Target of 150 million hectares of land to be under active restoration by 2015.

A major highlight for IUFRO in 2014 was certainly the launch of the highly attractive and functional **new website**. Particular emphasis was placed, among other things, on improving the visibility and accessibility of publications and on integrating news from member organizations. The visibility of IUFRO also grew through the increasing use of social media. The IUFRO World Congress helped tremendously to raise the presence of IUFRO in the social media world.

For me personally, however, the Salt Lake City Congress marked the **end of my term as IUFRO President**. It has been a great honour for me to serve IUFRO in this position, and I do hope that I have paid a little back of all that I owe to this wonderful organisation. You may remember that at the Congress I expressed three wishes for all the participants and, indeed, for everyone in IUFRO. I hope that these wishes have come true, namely:

1. That you have made the same good experiences and got the same excellent opportunities that I got through IUFRO.
2. That you used the Congress to share knowledge with others, so you both benefitted.
3. That you will be committed to and get involved in IUFRO, because the great strength of IUFRO is that it builds on people who are committed and get involved.

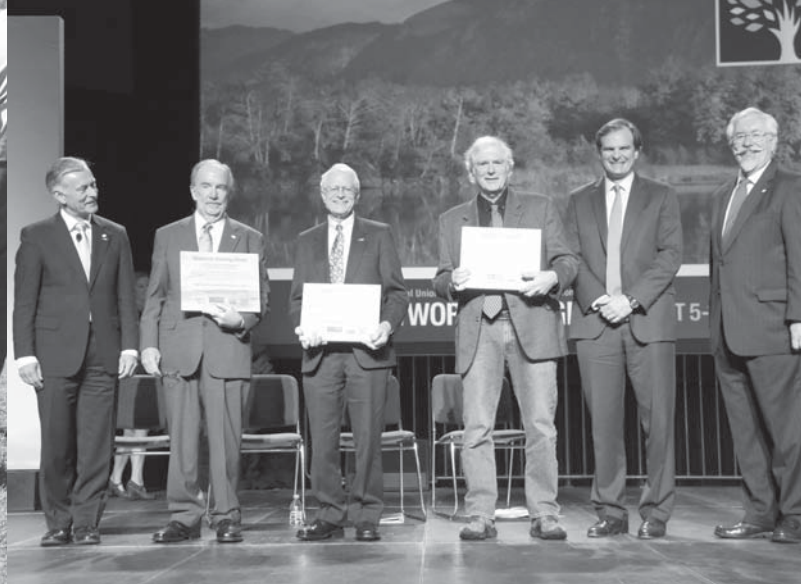
Finally I would like to express my sincere **thanks** to the following organizations and people for their strong and continuous support to me:

- The about 650 member organizations in more than 120 countries.
- The International Council and the Board of IUFRO.
- The Management Committee.
- My two Vice-Presidents: Su See Lee and Mike Wingfield.
- And last but certainly not least: IUFRO Headquarters headed by Executive Director Alexander Buck.

**I have one wish for the future of IUFRO: Maintain and improve all IUFRO's good relations internally and externally.**



*Tree Planting Ceremony at the IUFRO 2014 World Congress.  
Photo by Sherri Eng*



*Recipients of IUFRO 2014 World Congress Host Country Scientific Awards (see page 5). Photo by Eric Schramm*

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### *Note:*

All texts in this Annual Report have either been provided by IUFRO officeholders or have been taken from IUFRO conference information web sites and reports or IUFRO News.

Please note that in the IUFRO context the term “to sponsor” a meeting does not imply any financial assistance. It means that IUFRO officeholders are prominently involved in the meeting and that IUFRO supports the promotion of the event in its media.



Participants of IUFRO 2014 in-Congress tour. Photo by Olivia Sánchez



Incoming IUFRO President Mike Wingfield at the Joint IUFRO/SAF/CIF plenary during the IUFRO 2014 World Congress. Photo by Eric Schramm

## Message from IUFRO President Mike Wingfield

My term as President of IUFRO commenced at the close of the highly successful **IUFRO World Congress** held at Salt Lake City in October 2014. My acceptance speech in the closing ceremony of the Congress included key issues relating to my vision for the 2015-2019 IUFRO Board Term. Let me take this opportunity to once again thank members of the International Council, the Board and the entire IUFRO Community for your support and the confidence that you have placed in me to lead our amazing Union. Importantly I again thank Prof Niels Elers Koch, now Past President for his exceptional leadership during the last Board term as well as the outgoing members of the Board for the great service that they have provided to IUFRO.

During the latter part of the last Board Term, members of the IUFRO Board worked actively to develop our **Strategy 2015-2019**. The elements of our new strategy grew from a rigorous review that took place in 2013. We now have an exceptional plan with a strategy approved by the International Council that will guide our activities going forward. In April we will hold our first meeting of the new IUFRO Enlarged Board in Vienna and this will set in place the action plan for the implementation of our new strategy.

IUFRO's work is strongly defined by the activities of our Research Groups and Working Parties. In this regard, **Prof Björn Hånell, our new Vice President responsible for the IUFRO Divisions**, plays a leading role. It is important that these units are revitalised regularly and especially at the end of our typically five-year Board term. Together with IUFRO Headquarters staff, Björn has already started to work actively to reach this goal. I am happy to report that we now have most of our Research Groups and Working Parties organised and set to operate at full strength. Our aim is to have three deputies for each unit and we hope to also use this opportunity to expand our global reach, improve our gender balance and to build a mentorship stream to bring greater numbers of young forestry researchers into the leadership structures of IUFRO.

IUFRO Task Forces play an important role in providing a focus on current issues of relevance to forestry and forestry research globally. **Dr John Parrotta, our new Vice President responsible for the IUFRO Task Forces** is working actively with Division Co-ordinators and other parties to establish new and more ef-

fective structures for our Task Forces. Importantly, the new Task Forces will have shorter terms than was true in the past. They will thus be more agile and responsive to the many important issues emerging and affecting forests.

Other than IUFRO's regular activities including approximately 90 annual IUFRO meetings, the 2015-2019 period will include numerous larger conferences and activities. In just a few months, we will participate actively in the XIV World Forestry Congress in Durban, South Africa. In October 2016, we will hold an **IUFRO conference for Asia and Oceania** in Beijing, China, and in September 2017 we will celebrate our **125th Anniversary** with a major conference in Freiburg, Germany. Finally, our **next IUFRO World Congress will be held in Curitiba, Brazil** in the latter part of 2019, with IUFRO then having participated in major scientific gatherings in Africa, Asia, Europe and Latin America in a five year period.

The year 2015 will be crucial for forests also from a **policy perspective**. In May 2015, member states of the United Nations Forum on Forests (UNFF) will review the effectiveness of the current international arrangement on forests and decide on a roadmap until 2030. These policy deliberations provide IUFRO and its partners with a historic opportunity to work towards strengthening the interaction of science and policy in a future international arrangement on forests. The UNFF session will also mark the launch of the new IUFRO-led Global Forest Expert Panel report on the contribution of forests to food security and nutrition. Later in the year, the UN General Assembly is expected to adopt a set of universal Sustainable Development Goals and associated targets and indicators, including on forests. And towards the end of the year, the UN Climate Change Conference in Paris (COP-21) is expected to decide on a future international climate agreement. IUFRO will contribute actively to all these processes.

IUFRO represents a remarkable network linking more than 15,000 forest researchers globally. **Our network relies strongly on communication and collaboration** and these have always represented a core strength of IUFRO. Our aim is to continuously build and improve on our channels of communication and I will personally be communicating regularly with our broad and global community and with our stakeholders. **I hope that you will remain connected with us** via our various structures or via our Headquarters staff in Vienna. **And I would be happy to hear from you personally** with comments or suggestions that might help us to promote the interests of IUFRO.

## XXIV IUFRO World Congress 2014

From 5-11 October 2014, the 24th IUFRO World Congress “Sustaining Forests, Sustaining People: the Role of Research” brought together more than 3,500 participants from more than 100 countries in Salt Lake City, Utah, USA. The scientific themes of the Congress encompassed: Forests for People; Forest Biodiversity and Ecosystem Services; Forests and Climate Change; Forest and Water Interactions; Forest Biomass and Bioenergy; Forests and Forest products for a Greener Future; and Forest Health in a Changing World. Special thanks for the excellent organization of this successful event are due to the Congress host, the US Forest Service.

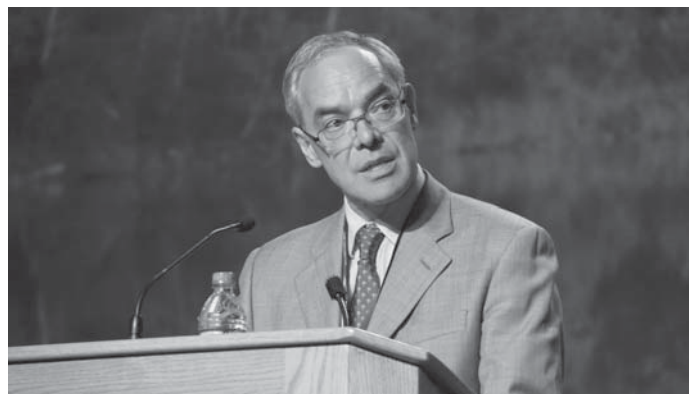
In his closing remarks, Rich Guldin, Chair of the Congress Organizing Committee (COC), stated, “This Congress was truly unique bringing together so many different aspects of the world of forestry in a dynamic and successful collaboration with the Society of American Foresters (SAF) and the Canadian Institute of Forestry (CIF/IFC).”

John Parrotta, IUFRO’s new Vice-President and Chair of the Congress Scientific Committee (CSC), underlined the importance of the Congress, “Forests and trees play a critical role in the sustainable development of human societies worldwide. The 24th IUFRO World Congress took place one year before a new United Nation’s post-2015 development agenda will be launched and the Sustainable Development Goals come into effect.”

The more than 1,200 oral presentations and nearly as many poster presentations in five plenary, 19 sub-plenary, and over 170 technical and poster sessions during the Congress week have certainly contributed substantially to providing a solid base of scientific knowledge that is crucial to achieving these goals.



*Outgoing IUFRO President Niels Elers Koch (right) presents IUFRO’s Distinguished Service Award to Rich Guldin, COC Chair. Photo by Eric Schramm*



*John Parrotta, CSC Chair, presenting the Salt Lake City Declaration. Photo by Eric Schramm*



XXIV IUFRO World Congress  
5-11 October 2014, Salt Lake City, Utah, USA  
Closing Ceremony



### SUSTAINING FORESTS, SUSTAINING PEOPLE: THE ROLE OF RESEARCH – THE SALT LAKE CITY DECLARATION

Forests and trees play a critical role in supporting the livelihoods and quality of life of people worldwide, providing income opportunities, sustaining agricultural productivity, food security and nutrition, providing adequate supplies of clean water, affordable and sustainable sources of renewable energy and forest-based products. Forests and trees also hold the key to our future well-being, improving the environmental quality of growing urban centers, contributing to the mitigation of, and adaptation to, climate change, and the conservation of our planet’s biodiversity upon which our survival will ultimately depend.

The 24th World Congress of the International Union of Forest Research Organizations (IUFRO) “Sustaining Forests, Sustaining People: The Role of Research” brought together 2,500 scientists from more than 100 countries, and 1,200 professional foresters from North America. It provided a unique forum for presentation and discussion of current and future global research needs in forest science. The Congress explored the role of science in crafting practical measures to enhance the resilience of forests and their capacity to provide the environmental, economic, social, cultural, spiritual and health benefits that sustain rural and urban societies worldwide.

Based on this World Congress, IUFRO commits itself to expand and intensify its efforts to develop and promote integrated solutions to the interrelated economic, social and environmental challenges we must face together. These efforts will also inform the discussions that will take place next year at the XIV World Forestry Congress 2015 and other important gatherings, including the United Nations Forum on Forests, which will promote ongoing efforts towards achieving a coherent and integrated development agenda beyond 2015.

Pursuing these goals will require effective collaboration among people across landscapes, sectors and disciplines. During the next five years, IUFRO is committed to building on the strengths of its current global network. In particular, IUFRO will expand its interdisciplinary research and partnerships with scientists in related fields, and broaden its dialogue with, and service to, other organizations, communities, land managers and policy-makers.

The need for international cooperation in forest research and the dissemination of research findings has never been greater. As the global network for forest science, IUFRO shall do its utmost to meet this need.

## Honours and Awards at the Congress

### Honorary Membership

Don Koo Lee, Republic of Korea

### Distinguished Service Award

Richard W Guldin, USA  
Peter Herbst, Austria  
Santiago Barros Asenjo, Chile

### Congress Host Country Scientific Award

Stephen Hubbell, USA  
Harold E. Burkhart, USA  
Chadwick Dearing Oliver, USA

### Scientific Achievement Award

Sally Aitken, Canada  
Jürgen Bausch, Germany  
Benjamin Cashore, USA/Canada  
Richard Hamelin, Canada  
Christopher Eric Harwood, Australia  
Shibu Jose, USA  
Robert A. Kozak, Canada  
Aino Annikki Mäkelä Carter, Finland  
Jolanda Roux, South Africa  
Giuseppe Scarascia Mugnozza, Italy

### Outstanding Doctoral Research Award

Jan R. Bannister Hepp, Germany/Chile  
Susana Barreiro, Portugal  
ShuaiFei Chen, China  
César Pérez Cruzado, Spain  
Puneet Dwivedi, India  
Zhun Mao, China  
Sandra Rodríguez Piñeros, Colombia  
Eli Sagor, USA  
Huei Shing Sik, Malaysia

### Student Award for Excellence in Forest Science

Julius B. Adewopo, Nigeria/USA  
Tolulope Daramola, Nigeria  
Md. Mohitul Hossain, Bangladesh  
Sharif Ahmed Mukul, Bangladesh  
Mika Yoshida, Japan  
Ivana Zivojinovic, Serbia

### Best Poster Award

Emma Soraya, Australia  
Chai Ting Lee, Malaysia  
Lilli Kaarakka, Finland  
Nyein Chan, Japan  
Min-Jay Chung, China-Taipei  
Emmanuel Danquah, Ghana  
Tsutomu Kanasashi, Japan  
Althea A. Archmiller, USA  
Olivia Sánchez, Canada

### Certificates of Appreciation

Lisa Thompson, Nalini Nadkarni, Pat Shea, Matt Menashes, Kelton Chapman, Tim White, Susan Fox, Steve Bullard, Sam Foster, Rima Eid, Nicole Davis, Nan Christianson, Vicki Berrett, Melissa Jenkins, Matt Meade, Louise Murgia, Jorge Esguerra, Jan Engert, Meridith Perkins, Cynthia Miner, Christopher Whited, Carol Redelsheimer, **Jennifer Hayes, Daryl Lederle**

### CPF Wangari Maathai Award

The Mexican environmental campaigner *Martha Isabel 'Pati' Ruiz Corzo* won the Collaborative Partnership on Forests (CPF) Wangari Maathai Award 2014 for her pioneering work to preserve forests and alleviate rural poverty in her native country.

### New IUFRO Board 2015-2019

IUFRO President: Mike Wingfield, South Africa  
IUFRO Vice-President: Björn Hånell, Sweden  
IUFRO Vice-President: John Parrotta, United States

Coordinator Division 1: Jens Peter Skovsgaard, Sweden  
Coordinator Division 2: Yousry El-Kassaby, Canada  
Coordinator Division 3: Woodam Chung, United States  
Coordinator Division 4: Jean-Luc Peyron, France  
Coordinator Division 5: Pekka Saranpää, Finland  
Coordinator Division 6: Tuija Sievänen, Finland  
Coordinator Division 7: Eckehard Brockerhoff, New Zealand  
Coordinator Division 8: Jean-Michel Carnus, France  
Coordinator Division 9: Daniela Kleinschmit, Germany

President's Nominee: Shirong Liu, China  
President's Nominee: John Innes, Canada  
President's Nominee: Ben Chikamai, Kenya  
President's Nominee: Jung-Hwan Park, Republic of Korea  
President's Nominee: Manuel Guariguata, Venezuela

### IUFRO Research Letters presented at the World Congress

The seven Congress themes encompass IUFRO's scientific priorities for the benefit of forests and people worldwide. Information on each of these topics can also be found in the IUFRO publication series entitled "Research Letters" which was published on the occasion of the Congress.

"The Research Letters highlight the scientific findings of nine IUFRO Task Forces between 2011 and 2014 on some of the most relevant issues on forests and related fields such as forests and climate change, forests and human health, and forest bioenergy", says IUFRO Vice President (2010-2014) Su See Lee in Salt Lake City: "These topics are high on the political agenda and of strong concern when discussing sustainable development. The Research Letters hopefully provide a better understanding and useful insights about these topics for all who are interested in the future development of forests and society."

*The following Research Letters are available:*

On Forests for People, On Forests and Human Health, On Forests and Climate Change, On Education in Forest Science, On Resources for the Future, On Biodiversity and Ecosystem Services, On Forest and Water Interactions, On Forest Bioenergy, On International Forest Governance



*Marta Ruiz receives the award at the IUFRO World Congress from Eduardo Rojas-Briales, FAO ADG for Forestry & CPF Chair. Photo by Eric Schramm*

# Silviculture - Division 1

**Coordinator:** Björn Hånell (Jan-Oct) and Jens Peter Skovsgaard (Oct-Dec)

**Deputy Coordinators:**

Isabel Cañellas, Kevin L. O'Hara, Jens Peter Skovsgaard (Jan-Oct)

Kevin L. O'Hara, Khosro Sagheb-Talebi, Pil Sun Park (Oct-Dec)

All of the six main topics that IUFRO addresses in its Strategy 2010-14, (1) Forests for people, (2) Forests and climate change, (3) Forest bioenergy, (4) Forest biodiversity conservation, (5) Forest and water interactions, and (6) Resources for the future, are of special interest to Division 1 and have been included in its work and activities.

Agroforestry is one of the special emphasis areas in **Forests for People** that Division 1 has given strong input to. This includes the implementation and management of agroforestry systems in the Chilean and Argentinean parts of Patagonia, the use of different eucalypt species in combination with silvo-pastoral crop systems (Chile, Brazil) to cope with undesired effects of climate change, and highlighting women in agroforestry (Nepal). In August 2014 a significant *proceedings volume* was published from the 2013 workshop on women in agroforestry, edited by Swoyambhu Man Amatya (IUFRO 1.04), Abhoy Kumar Das and Arun Sharma Poudyal.

Division 1 has also greatly contributed to the **Forests for People** topic via accomplishments in studies on uneven-aged silviculture. The book *"Multiaged silviculture: Managing for complex forest stand structures"* (O'Hara, 2014) is a major achievement in this field of research.

Division 1 is striving towards widening its research sphere to include social and ecological issues to a greater extent than previously. The need for this has become especially obvious in the work on **Forests and Climate Change**. Since the conference on Adaptation of Forests to Climate Change in 2008 Division 1 has organised several international meetings on climate change and made substantial input to the development of responsible and foresighted adaptation and mitigation strategies, most recently in the conference on *"Sustainable Resource Management for Climate Change Mitigation and Social Security in India"* in 2014.

The rapidly growing interest of using **Forest Bioenergy** partially stems from the global population increase. Part of the solution is to replace fossil-based energy with renewable and environmentally friendly bio-based alternatives. A shift into a bio-based economy seems necessary and biomass production is the foundation for the forest-based bio-economy. The *Short-rotation forestry* (SRF) unit of Division 1 aims at optimizing wood biomass production for social and economic purposes from plantations by using fast growing tree species. Recent achievements are silvicultural practices that help meeting wood and energy requirements, generate employment and create sources of carbon sink.

From new knowledge gathered in India recently, SRF practises have been used to reforest areas of barren forest lands, deforested mountains, and salty grounds, as well as for enhancing farm income from subsistence farming, and for mitigating adverse influence of global climate change. One special achievement of Division 1, due to initiatives and work in RG 1.03.00 in general and of the RG Coordinator in particular, is the *new Journal on Short Rotation Forestry* (published by the Scientific and Academic Publishers Co., Rosemead, CA, 91731, USA).

Several Division 1 research units give input to the main topic **Forest Biodiversity Conservation**. One of the most recent



WSL Research Plot 01-051 at Gutschwald, Höhrnen (Switzerland). A stand of European silver fir, Norway spruce and beech managed using 'plentering'; data have been collected since 1983. Photo by Gary Kerr

concerns reference systems for the management and conservation of biodiversity, forest resources and ecosystem services in primeval beech forests. The topic was addressed during an international conference in L'viv, Ukraine, in 2013, resulting in a comprehensive compilation of proceedings with summaries of all presentations and posters.

In Division 1, it is especially Working Party 1.01.02 *Peatland Forest Science* and 1.02.02 *Ecology and Silviculture of Moist Forests in the Tropics* that gave input to the **Forest and Water Interactions** topic. Recent achievements regarding the water-wetland-forest linkages in the boreal zone are management guidelines for mires and peatland, which are discussed thoroughly in the book *"Peatland ecology and forestry – a sound approach"* by Päivänen and Hånell (2012).

A future-oriented accomplishment based on the studies of tropical forests in South America, Africa, and Asia, is the introduction of social silviculture as a new paradigm for sustainable land conservation in the tropics, published in a special issue of Bois et Forêts des Tropiques (issue no. 314, 2012).

Within the special emphasis area of management options, focusing mainly on conservation, restoration of degraded sites, as well as avoiding degradation, Division 1 has provided most substantial input to the topic **Resources for the Future**. Two books from Springer *"Forest landscape restoration: Integrating social and natural sciences"* and *"A goal-oriented approach to forest landscape restoration"*, both by Stanturf & Madsen (2012), represent valuable achievements in restoration research.

## Trends in silviculture

One trend in silviculture is a development towards ecologically based practices with natural regeneration, whereas another trend is characterized by technologically based plantation practices. In Europe, for example, this has led to two, somewhat contrasting lines of development: one with increasing focus on natural regeneration in the established forest and one with increasing focus on plantation practices for afforestation. Similar trends can be observed elsewhere.

Future-adapted silviculture is the main line of development in research as well as in forestry practice. This is obviously true for climate change, but also for the adaption of forest types towards more ecologically-based (sometimes called close-to-nature) forest ecosystems.

## Meetings in 2014

March 13-15, Chandigarh, India  
*ISTS-IUFRO Conference on Sustainable Resource Management for Climate Change Mitigation and Social Security*  
IUFRO 1.03.00

March 17-19, Copenhagen, Denmark  
*Potential for Forest Landscape Restoration to contribute to Climate Change Mitigation and Adaptation, Project Meeting*  
IUFRO 1.06.00 and 1.01.00

March 18-21, Hue, Vietnam  
*IUFRO Acacia 2014 Conference "Sustaining the Future of Acacia Plantation Forestry"*  
IUFRO 1.02.06, 2.08.07, 2.04.01

June 17-19, Zürich, Switzerland  
*Conference on future concepts in uneven-aged silviculture for a changing world*  
IUFRO 1.05.00

August 11-14, Tartu, Estonia  
*International Conference on Forest landscape mosaics: disturbance, restoration and management at times of global change*  
IUFRO 1.01.12

August 25-28, Halmstad, Sweden  
*8th International Forest Vegetation Management Conference*  
IUFRO 1.01.04

September 10-12, Ulaanbaatar, Mongolia  
*Expert Workshop on Ecology and Restoration of Central and Northeast Asian Forests*  
IUFRO 1.01 and 1.06.00

October 14-16, Lafayette, Indiana, USA  
*2nd Restoring Forests Congress: What Constitutes Success in the 21st Century?*  
IUFRO 1.06.00, 1.01.00, 2.01.00, 3.02.00

## Physiology and Genetics - Division 2

**Coordinator:** Yousry A. El-Kassaby (Jan-Dec)

### Deputy Coordinators:

Santiago C. Gonzalez-Martinez (Jan-Dec)  
Robert D. Guy (Jan-Oct), Meng-Zhu-Lu (Jan-Oct)  
Dario Grattapaglia (Oct-Dec)

Division 2 includes research on the physiology of forest trees as a whole and more specifically on xylem, stem, canopy and roots; on sexual and vegetative reproduction; on breeding and genetic resources of conifers and hardwoods in virtually all regions of the world; on quantitative and biological genetics of trees and tree populations, including molecular and cellular genetics; and finally on seed physiology and technology.

Division 2 has **5 Research Groups and 27 Working Parties** with a total number of 92 Officeholders. The recruitment of new Officers is an on-going activity as several new Working Party Coordinators and Deputies have completed their allowable service terms. Dario Grattapaglia (Brazil) has joined as new Division Deputy Coordinator and search for an additional Division Deputy Coordinator to cover the Physiology component of the Division is underway.

In addition to the very successful XXIV IUFRO World Congress (Salt Lake City, UT, USA, October 5-11), the Division hosted **ten meetings during 2014** and activities are underway to host several meetings during 2014 and beyond, notably, the Czech Republic's proposal for holding the All Division 2 meeting in Prague during 2018 (contact person: Dr. Milan Lstiburek, Coordinator 2.04.02 – Breeding theory and progeny testing). It is interesting to note that five out of these ten meetings were intra-Division and inter-Divisions collaboration, creating opportunities for greater intellectual exchange within and among Divisions.

March 18-21, Hue City, Vietnam  
**Sustaining the Future of Acacia Plantation Forestry**  
IUFRO 2.08.07, 1.02.06, 2.04.01

This marked the inaugural meeting for WP 2.08.07 on Acacia Genetics and Silviculture and was held jointly with WP 1.02.06



IUFRO 2.01.00 Restoring Forests Congress, field trip.  
Photo by Douglass F. Jacobs, Purdue University, USA

on Ecology and Silviculture of Acacia and WP 2.04.01 on Population, Ecological and Conservation Genetics and was hosted by the Vietnamese Academy of Forest Sciences (VAFS). The meeting drew a total of 182 participants representing 22 countries. The rapid expansion of Acacia plantations (3M ha) in South East Asia prompt the need for forming an international forum considering the biology and potential manufacturing capacity of these plantations. The collaborative meeting was organized to address three themes; namely, plantation management for sustainable wood production, risk evaluation and management, and genetics and breeding.

September 14-16, Lafayette, Indiana, USA  
**2nd Restoring Forests Congress: What Constitutes Success in the 21st Century?**

IUFRO 1.01.00, 1.06.00, 2.01.00, 3.02.00

The 1st IUFRO-sponsored Restoring Forests Congress was held in September 2011 in Madrid, Spain and attended by more than 100 scientists representing 17 countries. A double special issue of *New Forests* (<http://link.springer.com/journal/11056/43/5/page/1>) was produced from the 1st Congress.

The 2nd IUFRO Restoring Forests Congress was held in Lafayette, Indiana USA (Purdue University) The symposium was organized and supported by Purdue University, the USDA Forest



Service, and the Hardwood Tree Improvement and Regeneration Center, as well as IUFRO Divisions 1.01.00 (Temperate and Boreal Silviculture), 1.06.00 (Restoration of Degraded Sites), 2.01.00 (Physiology), and 3.02.00 (Stand Establishment). The theme of the 2nd Congress was "What constitutes success in the 21st Century?" to examine the continued evolution of the scope of forest restoration and re-explore the need to set realistic goals to achieve restoration success.

Field tours highlighted the ongoing forest restoration research of the Hardwood Tree Improvement and Regeneration Center (<http://www.htirc.org>) at Purdue University, featuring especially the role of genetics in ecological restoration. Selected papers from the congress will once again be published in a special issue of *New Forests*. It was agreed that the 3rd IUFRO Restoring Forests will be held during 2017 in Scandinavia.

*June 15-20, Fort Collins, Colorado, USA*

#### **Joint Conference Breeding and Genetic Resources of Five-Needle Pines and Rusts of Forest Trees**

*IUFRO 2.02.15, 7.02.05*

Species of 5-needle pines ('white pines') occur or are planted in many countries throughout the world. They are appreciated for their ecological, aesthetic and commercial value. All species of 5-needle pines are susceptible to white pine blister rust (WPBR), but those occurring in North America are highly susceptible (*Cronartium ribicola*, causative agent of WPBR, is a non-native invasive pathogen in North America).

The conference covered advances in gene conservation, genomics, rust resistance, impact of climate change, evolutionary dynamics and other related topics with participants including a mix of students, professionals, researchers, and emeritus scientists. In addition to the 2-day indoor sessions and an evening poster session, the meeting featured a 3-day fieldtrip. The meeting's findings will be published in either a proceedings or a special

journal issue. Discussion regarding the group's future meeting is aiming at reciprocating location in Europe (Orleans, France).

#### **Further Meetings in 2014**

12 January, San Diego, California, USA

*Plant and Animal Genome Conference - Forest Tree Workshop*  
IUFRO 2.04.10

3-7 February, Chennai, India

*5th International Casuarina Workshop*  
IUFRO 2.08.02

9 July, Arezzo, Italy

*Research and Innovation in Sustainable Forestry to Advance Competitive Global Bioeconomy*  
IUFRO 2.02.13, 4.02.06, 9.05.01, 9.05.04

20-28 July, Vancouver, BC, Canada

*6th International Poplar Symposium (IPS-VI)*  
IUFRO 2.08.04

25-29 August, Prague, Czech Republic

*Forest Tree Breeding Conference*  
IUFRO 2.04.02, 2.02.07, 2.02.11

8-13 September, Nagoya, Japan

*6th International Symposium on Physiological Processes in Roots of Woody Plants*  
IUFRO 2.02.15

9-12 September, Vitoria-Gasteiz, Spain

*Plant Production Integrating Genetic and Vegetative Propagation Technologies*  
IUFRO 2.09.02

## **Forest Operations, Engineering and Management - Division 3**

**Coordinator:** *Hans R. Heinimann (Jan-Oct)*  
*Woodam Chung, USA (Oct-Dec)*

#### **Deputy Coordinators:**

*Jean-Francois Gingras (Jan-Dec)*  
*Woodam Chung, Hideo Sakai (Jan-Oct)*  
*Ola Lindroos (Oct-Dec)*

#### **Prominent Research Topics**

The 24th IUFRO World Congress in Salt Lake City in October provided excellent opportunities to discuss emerging issues and future outlooks in the Division 3 research areas. Forest biomass utilization, supply chain management, precision forestry, and human factors are still recognized as emerging subjects for the continuously changing economic, social and environmental demands on forest resources and landscapes. New technologies to handle and utilize forest biomass for diverse bioenergy and bio-based products, as well as holistic approaches to evaluate the benefits of biomass utilization are being developed.

The increasingly complex and challenging forest supply chains due to diverse demands on forest resources, higher customer expectations, fragmented supply chain operations, and a large number of stakeholders, call for new approaches, such as control systems engineering, big data mining, and collaborative supply chain management. Precision forestry is recognized as an emerging approach to understand, coordinate and manage the spatio-temporal variability of site and vegetation parameters. Human factors engineering has been revitalizing and expanding



*Participants of the 5th Forest Engineering Conference are watching steep-slope mechanized timber harvesting operations during a field excursion. Photo by Woodam Chung*

its research boundaries to human-machine interfaces and the design of work systems. Several challenges currently faced in the Division fields were also discussed. Improving research and education capacity, expanding research collaboration between forest industries and academia, strengthening communication and knowledge sharing, promoting interdisciplinary research efforts, and enhancing the visibility of research outcomes are among the challenges identified.

Another major highlight in 2014 was the 5th Forest Engineering Conference (FEC) held in Gerardmer, France under the theme of "Forest Engineering: Propelling the Forest Value Chain".

Sponsored by IUFRO Division 3, the FEC has been the major international event in the field of Forest Operations and Engineering and has been held every four years. The 2014 Conference was organized in conjunction with the 47th Symposium on Forestry Mechanization (FORMEC), and brought over 260 participants from 32 countries for the 4-day meeting. With more than 160 oral and poster presentations and a forum for discussion, the Conference provided the opportunity to recognize the complexity of today's forest value chains, the current gaps, as well as potential solutions through technology development.

### Meetings

19-23 May, Sopron, Hungary  
*International IUFRO Symposium "Adaptation in Forest Management under Changing Framework Conditions"*  
IUFRO 3.08.00, 4.05.00

12-13 June, Krakow, Poland  
*International Scientific Conference: The Role of Forest Utilization and Ergonomics in Modern Forestry*  
IUFRO 3.03.00

23-26 September, Gerardmer, France  
*5th Forest Engineering Conference in conjunction with the 47th International Symposium on Forestry Mechanization*  
IUFRO 3.00.00

14-16 October, Lafayette, United States  
*2nd Restoring Forests Congress: What Constitutes Success in the 21st Century?*

IUFRO 1.01.00, 1.06.00, 2.01.00, 3.02.00

### Publications

Vuillermoz, M. [ed.] 2014. Proceedings of the 5th Forest Engineering Conference – Forest Engineering: Propelling the Forest Value Chain. Available at <http://fec2014.fcba.fr/>. Contact person: Morgan Vuillermoz (fec2014@fcba.fr), French Institute of Technology, Deputy Coordinator, IUFRO 3.01.03

Schiberna, E. and Stark, M. [eds.] 2014. Proceedings of the IUFRO Symposium on Adaptation in Forest Management under Changing Framework Conditions. IUFRO 3.08.00 and 4.05.00. 262 pp.

Bieniek, J., Starzyk, J., Sowa, J., Leszczyński, K. [eds.] 2014. Book of Abstracts of the International Scientific Conference on the Role of Forest Utilization and Ergonomics in Modern Forestry. Contact person: Krzysztof Leszczyński (rlleszcz@cyf-kr.edu.pl), Faculty of Forestry, University of Agriculture in Krakow, Poland. 75 pp.

## Forest Assessment, Modelling and Management - Division 4

**Coordinator:** Margarida Tomé (Jan-Oct)  
Jean-Luc Peyron (Oct-Dec)

**Deputy Coordinators:**  
Ronald E. McRoberts, Jerry Vanclay (Jan-Dec)  
Arne Pommerening (Jan-Oct), Lidija Zadnik-Stirn (Oct-Dec)

Forest cover changes already contribute 12-15% of the world's annual carbon emissions associated with the loss of biodiversity and many environmental services. Still major problems exist in providing accurate estimates of forest cover and quality change. The international **Forest Change 2014** conference was held on 2-4 April 2014 in Freising, Germany, and drew 140 participants

*Forest and agriculture/Brazil, Paraná. Photo by Luciano de Faveri*



from 40 countries. It was hosted by the Center of Life and Food Sciences Weihenstephan, Munich Technical University, and co-sponsored by **IUFRO 4.02.00 Forest Resources Inventory and Monitoring**. Analyzing and finally controlling forest change still requires cost-effective inventory methods. Only a comprehensive view on various spatial scales, which integrates forestry and agricultural land-use options, may enable successful strategies in conserving the regulating ecosystem services of forest ecosystems and delivering important provisioning services (food and timber) at the same time. Uncertainty is an overarching issue to be addressed in monitoring concepts and models.

The IUFRO Research Groups 3.08.00 Small-Scale Forestry and **4.05.00 Managerial Economics and Accounting** both place emphasis on microeconomic issues of forest management. Environmental and forest conditions, property rights, traditions, the structure of the forestry sector and the related policies are among the many factors that make small-scale forestry very diverse at the global level, providing an attractive field for researchers. The special aspects of small-scale forestry imply management techniques, and decision support and information systems which are tailored to the circumstances. This created a common ground for the two Research Groups to discuss changes in the framework conditions of forest management and the economics of possible responses at the International IUFRO Symposium "**Adaptation in Forest Management Under Changing Framework Conditions**" that took place in Sopron, Hungary, 19-23 May.

In a world increasingly focused on reducing its carbon footprint, an emerging bioeconomy is becoming a reality, one in which renewable green resources such as

forest biomass, rather than fossil fuels, are used to meet society's needs for energy, chemicals and raw materials. Research and innovation in forestry lay the foundations for a structural change from a fossil-based economy to a bio-based economy. The aim of the workshop on "**Research and Innovation in Sustainable Forestry to Advance Competitive Global Bioeconomy**" (IUFRO 2.02.13, **4.02.06, Resource Data in the Boreal and Temperate Regions** 9.05.04, 9.05.01) in Arezzo, Italy, on 9 July 2014, was to put together the expertise and viewpoints of internationally renowned scientists in the field of forestry and bio-based economy to produce a multi-faceted, updated reference of the available options that contribute to the development of bioeconomy by means of a sustainable forestry practice.

#### Further Meetings

18-19 August, Curitiba, Parana (PR), Brazil  
*II Encontro Brasileiro de Mensuração Florestal/II Brazilian Meeting on Forest Mensuration*  
 IUFRO 4.01.02

23-24 September, Paris, France  
*Final Conference of Cost Action FP1001 on "Improving Data and Information on the Potential Supply of Wood Resources: A European Approach from Multisource National Forest Inventories (Usewood)"*  
 IUFRO 4.02.00

14-16 October, Curitiba, Parana (PR), Brazil  
*XI Seminar on Remote Sensing and GIS applied to Forestry Engineering*  
 IUFRO 4.02.05

4-7 November, Riva del Garda, Italy  
*ForestSAT2014: a bridge between forest sciences, remote sensing and geo-spatial applications*  
 IUFRO 4.00.00

## Forest Products - Division 5

#### Coordinator:

Andrew Wong (Jan-Oct)  
 Pekka Saranpää (Oct-Dec)

#### Deputy Coordinators:

Jamie Barbour (Jan-Dec)  
 Dave Cown, Pekka Saranpää (Jan-Oct)  
 Andrew Wong, Roger Meder (Oct-Dec)

Termites participate in tropical forest ecosystem recycling, yet are regarded as serious pests of forest products as they readily feed on many lignocellulosic materials. In cooperation with IUFRO Research Group 5.03.00 (Wood Protection), the **10th Pacific Rim Termite Research Group Conference** in Kuala Lumpur, on 26-28 February 2014, addressed the serious threats of termites as destroyers of wood in construction in the tropics by discussing the need to identify causal termites more by DNA methods, to devise efficient termite control strategies using innovative baiting techniques, using naturally durable tropical woods or advanced biocidal wood protection strategies. The conference attracted termitologists, experts in wood biodeterioration and wood protection as well as industry supplying pest control chemicals, wood biocides and the pest control operators from the Pacific Rim countries in Asia including the US.

Andrew Wong represented IUFRO in the **2nd World Wood Day** (WWD) commemoration on 21 March in Xianyou, Fujian, China. WWD was organized by the International Wood Culture Society (IWCS) cooperatively with **IUFRO Working Party 5.10.01 (Wood Culture)** to celebrate the sustainable cultural use and appreciation of wood products and artefacts.

WWD coincided with the International Day of Forests to symbolize society's inter-dependence on wood products and forests for a sustainable future. The theme for the WWD celebration on 21-25 March 2014, "Wood in a Changing Culture", drew delegates, wood artists and musicians of wooden instruments from more than 70 nations, with events such as wood carving, wood turning, children's forest education programs, performances with traditional wooden musical instruments from around the world, wood art and wood furniture exhibitions, a wood culture symposium and a tree planting ceremony (symbolizing the need for sustainable wood production). Simultaneous celebrations were held



World Wood Day 2015 - musicians playing wooden instruments.  
 Photo by International Wood Culture Society IWCS

in the US, the Philippines, Italy and Ghana. WWD aims to continually bring to the world a feast of arts and creativity, culture, knowledge, and respect concerning wood as an eco-friendly and sustainable material embodied in the cultures of various societies in the past, present and future.

To support a planned teak conservation programme in original teak-growing countries in an effort to prevent natural teak from disappearing completely, a project planning workshop was jointly organised by the Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG), Thailand, **IUFRO Working Party 5.06.02 (Utilization of Planted Teak)**, Food and Agriculture Organization (FAO) of the United Nations, and International Teak Information Network (TEAKNET) on 26-27 May 2014 in Bangkok, Thailand.

A total of 20 invited delegates from the selected 7 Asian countries participated in the two-day workshop being hosted by RSPG. The workshop was sponsored by IUFRO under the **Special Programme for Development of Capacities (IUFRO-SPDC)** and moderated by SPDC Coordinator, Dr. Michael Kleine of IUFRO Headquarters, Vienna. From this, a joint FAO-IUFRO-SPDC project proposal is in the works aimed at developing capacity

building for the sustainable management and genetic conservation of teak resources in the participating Asian nations that face severe depletion of teak genetic base.

President Niels Elers Koch delivered an opening speech about “forests - resources for the future – key challenges” at the **3rd Forest Science Forum and 12th Pacific Rim Bio-based Composites Symposium** in Beijing, China, held on 4-7 June 2014, gathering about 200 delegates from 11 nations. The event was organized by The Chinese Society of Forestry and The Chinese Academy of Forestry and co-sponsored by **IUFRO 5.05.00**.

The **Society of Wood Science and Technology 57th International Convention (SWST)** in June 23-27, 2014 at the Aula Building of the Technical University in Zvolen, Slovakia, was jointly held with the University of West Hungary’s Hardwood Symposium. Among the sponsors of this Convention was **IUFRO Division 5**. The general theme was: *Sustainable Resources and Technology for Forest Products*.

Division 5 was particularly active at the **24th IUFRO World Congress**, 5-11 October 2014, which attracted more than 3500 delegates from around the world. The Congress with the theme: *“Sustaining forests, sustaining people: the role of research”*, had many Division 5 officers co-organizing technical sessions with other IUFRO Divisions, addressing key thematic areas of the Congress and the IUFRO Strategy. In fact, all research groups

of Division 5 were involved. Of particular relevance to Division 5 was the inspiring talk by congress plenary speaker Andy Buchanan (timber structural engineer) on innovative tall modern wooden buildings.

#### Further Meetings

April 14-16, Trabzon, Turkey  
*1st Euro-Asia International Short Course on Wood-based Composites*.  
IUFRO 5.04.00, 5.05.00

September 24-26, Kuchl/Salzburg, Austria  
*3rd International conference on Processing Technologies for The Forest and Bio-based Products Industries (PTFBPI)*.  
IUFRO 5.04.00, 5.05.00

November 13-15, Yundola, Bulgaria  
*7th International Scientific and Technical conference on Innovations in forest Industry and Engineering Design*.  
IUFRO 50.00.00, 5.04.00

## Social Aspects of Forests and Forestry - Division 6

#### Coordinator:

*Tuija Stevänen (Jan-Dec)*

#### Deputy Coordinators:

*Cecil C. Konijnendijk van den Bosch (Jan-Dec)*

*Dorothy H. Anderson, Taichi Ito (Jan-Oct)*

*Teresa Cristina Magro, Taylor Stein (Oct-Dec)*

**Wellbeing and health benefits** are increasingly becoming one of the main topics that societies are now looking at as the key outputs of forest resources, particularly in developed, highly urbanized countries. Naturally the traditional timber production has still an important role both with regard to economic and social aspects, but a better balance between the timber production and other ecosystem services that forests provide, is a future target. The future prospects underline that the other ecosystem services are rapidly growing in importance.

**Cultural and social ecosystem services** are important particularly to urban populations which are not connected to forests via their jobs, livelihoods or everyday life. Forest is seen as the environment of leisure time and a destination of visit or travel for a majority of people. Scientific evidence of the many benefits from forests is valuable when forestry and related industries and livelihoods need to get acceptance from other sectors and general public, and in some cases to gain economic and social support from communities, public agencies and governments. Work conducted by scientists in Division 6 contributes greatly to this goal.

The **research focusing on the social aspects of forestry** is increasing in interest and importance all over the world. In the programme of the **IUFRO World Congress 2014** in Salt Lake City, the **Forest for People** theme was well represented. A large number of sessions, 16 technical sessions and 3 sub-plenary sessions and one plenary session were particularly related to Division 6 themes. Topics of social sustainability of forestry are researched and discussed more than before from the perspecti-



*The international forum on “Linking Gender, Adaptation, Climate Change and Forestry/Resource Management” was an invitation-only event held at the University of Saskatchewan in Saskatoon, Canada May 27-29, 2014 and organized in cooperation with IUFRO Working Party 6.08.00 Gender and Forestry. Discussions during forum. Photo by Alyssa Scott*

ve of developing countries and in connection with community forestry and community wellbeing. A remarkable number of Forest for People presentations were from ‘new’ countries, particularly from Africa and Latin America.

**Monitoring sustainable forest management and a need for good social indicators** continues to be of interest. There was a strong interest also in topics related to forest and human health, which nowadays are studied in good partnership of forest scientists, social scientists, and scientists from the medical sector and food sector. The studies concern multiple aspects: physical and mental health benefits as well as new pharmacological, cosmetic and food products.

Topics of urban forests, recreation and tourism, landscape planning and management, protected areas and gender issues related to forests as well as forestry education are all topics which were well represented at the IUFRO 2014 Congress program. The highlight of the program was the keynote speech '**City Forests, Forest Cities – Exploring The Complex Liaison Between the Sylvan and the Urban**' presented by Prof. Cecil Konijnendijk van den Bosch, Division 6 Deputy Coordinator.

Division 6 and respective Research Groups have cooperated closely with the Task Forces 'Forests for People' and 'Forest Education'.

#### Other Activities

**Forest Europe** is a European process, which maintains a procedure of systematic monitoring of sustainable forest management. A group of **IUFRO Division 6-based scientists** from Finland, Sweden, Denmark, Scotland, Austria, France and Switzerland has worked for improved indicators and the development of systematic and long term monitoring of sustainability in the recreational use of forests and protected areas in European countries.

The **EFINORD** project 'Forest Europe Indicator 6.10 (Accessibility and intensity of recreational use)' was financed by Sweden. Here, the **IUFRO 6.01.00** network was the core group in preparing an EU Horizon2020 research application (inclusion of social indicators in forest inventories), and the project was accepted.

**Research Group 6.09.00** has worked closely with the SILVA Network (network of European Faculties of Forestry, [www.silva-network.eu](http://www.silva-network.eu)) producing two proceedings 'Bologna cycles 1 to 3 and higher forest education – objectives and reality' and 'Do our students learn what they will need later? About expected learning outcomes and competences of graduates'.

#### Trends and Challenges

Division 6 continues to work for improving the scientific information basis for the social aspects of forests and forestry also in the next IUFRO period. Increasing importance is placed on en-

hancing the management of urban forest infrastructures in view of the ever increasing urbanization of population. **Healthy living environments** with a reasonable amount and access to green spaces including urban forests are crucial for the public health and wellbeing. Green environment provides an easy and inexpensive platform to enhance healthy lifestyles, and thus they act as a resource for preventive health care.

More attention needs to be paid to population groups which are dependent on close-to-home recreation opportunities, e.g. the **children, young and elderly**. The second challenge is to offer information for **sustainable development of forest-dependent communities and rural areas** to maintain and improve their possibilities of livelihoods and social wellbeing. This challenge is faced particularly in developing countries. IUFRO Division 6 aims to enhance scientific research related to these topics.

#### Meetings

2-3 April, Birmingham, UK

*Trees, People and the Built Environment II*  
IUFRO 6.07.00

27-29 May, Saskatoon, Canada

*Workshop on gender, adaptive capacity, and climate change*  
IUFRO 6.08.00

1-7 June, Lausanne, Switzerland

*17th European Forum on Urban Forestry*  
IUFRO 6.07.00

24-28 June, Penang, Malaysia

*Malaysia Urban Green Space and IFPRA Asia Pacific Conference 2014*  
IUFRO 6.06.00, 6.07.00

16-18 June, Alnarp, Sweden

*International Conference on Urban Tree Diversity*  
IUFRO 6.07.00

## Forest Health - Division 7

**Coordinator:** *Eckehard Brockerhoff (Jan-Dec)*

#### Deputy Coordinators:

*Andrzej Bytnerowicz (Jan-Oct),*

*Elena Paoletti (Oct-Dec)*

*Andrew Liebhold, Jolanda Roux (Jan-Dec)*

The Forest Health Division of IUFRO enjoys a high level of activity among the three Research Groups and most working parties. Division 7 Working Parties and Research Groups had a strong showing at the IUFRO Congress in Salt Lake City (October 2014).

**Impacts of global change on tree health** is a cross-cutting issue that is of considerable relevance for all three research groups in Division 7 and for many other IUFRO Divisions and Task Forces. This was a prominent topic of several recent meetings, including issues such as the **increasing threat from new encounters of tree species and pathogens and insects with which they have not co-evolved**. These novel relationships have been facilitated by the human-assisted unintentional movement of pathogens and insects and, in part, by the planting of tree species outside their natural range. This is causing many new tree health problems such as those related to ambrosia beetles and their fungal associates. There are several examples of changes in insect-fungal associations where formerly benign symbioses between



*Field trip during the conference of IUFRO entomology Working Parties 7.03.14, 7.03.06, 7.03.01, 9-14 April 2014, in Antalya, Turkey. Photo by Sandy Liebhold*

beetles and fungi have transformed into highly pathogenic systems with major impacts on forest ecosystems.

Considerable progress has been made regarding **invasions by non-native bark and wood boring insects**. Although this continues to be a problem experienced in most corners of the

world, the world-wide implementation of phytosanitary measures designed to reduce the international movement of such pests is showing some effects.

**Solid wood packing material is considered the primary invasion pathway** for bark and wood boring insects, and an international standard for phytosanitary treatments of wood packaging materials (ISPM 15) appears to have reduced this threat to a degree. In the meantime, efforts are underway to manage and halt the spread of pests that have already become established outside their native range. This applies also to the pine wood nematode, a devastating invasive pest that causes pine wilt disease, leading to widespread mortality of pines in parts of NE Asia and Europe. The management and prevention of pine wilt disease is the subject of a working party that facilitates the exchange of research findings among colleagues from Europe, Asia and other parts of the world.



*Phytophthora austrocedrae* lesion on *Austrocedrus chilensis* in Patagonia. Photo by Everett Hansen

The **international movement of live plants** has been recognised as a **major pathway** for the accidental **introduction of damaging forest insects and pathogens**. The globalization of the nursery industry and increases in international trade in live plants pose considerable risks. A considerable research effort with involvement of numerous contributors to Division 7 activities is now underway, and it is hoped that this will lead to a reduction in international movements of pathogens and insect pests via this pathway.

**Climate change and air pollution are affecting tree health in a number of ways**, directly and indirectly. Trees are expected to suffer as they will encounter an increasingly unsuitable climate that changes from the conditions with which they have co-evolved. Climate change and air pollution interact by enhancing the harmful effects of pollutants. There is a major research gap in our understanding of air pollution effects, in conjunction with climate change, on natural and managed forest and woodland ecosystems. To address this research gap, a network of well-instrumented "Supersites in Forest Research" has been proposed, integrating empirical research, monitoring and process-based, large-scale modelling.

**Climate change may affect forest pests** directly and via effects on host trees and natural enemies. This is an area of considerable research focus. Although there are several instances where climate change has been implicated in forest insect range shifts and changes in outbreak dynamics, there remains much uncertainty about how these effects will play-out. The interactions of climate change, insects and pathogens span across all three research groups in Division 7 (and other divisions), which provides excellent opportunities for inter-disciplinary collaboration.

### Newsletters

Division 7 and our Research Groups produce newsletters on a regular basis, usually one or two per year. In 2014, all three Research Groups (7.01, 7.02, 7.03) published a newsletter, and these can be found on the IUFRO website at the respective Research Group pages under "Publications & References".

### Listservers

The 3 listservers of the Division 7 Research Groups (ForClimAir, ForPath, and ForEnt) continue to enjoy much support from the community. Collectively there are about 1200 subscribers, across the 3 listservers (e.g., <http://lists.iufro.org/mailman/listinfo/rg70300-forent>). In addition there is a Division 7 listserv.

### Meetings

9-14 April 2014, Antalya, Turkey  
*MEDINSECT*  
IUFRO 7.03.06, 7.03.01

18-21 May 2014, Beijing, China  
*Ozone and Plants*  
IUFRO 7.01.00

15-21 June 2014, Fort Collins, Colorado, USA  
*Genetics of five-needle pines and rusts in mountain landscapes – Conservation, utilization and evolution in a changing climate*  
IUFRO 2.02.15 and 7.02.05

31 Aug- 3 Sep 2014, Auckland, New Zealand  
*Participation at the International Council for Science (ICSU) General Assembly*, Ecki Brockerhoff (Div 7) representing IUFRO.  
[www.icsu.org/general-assembly](http://www.icsu.org/general-assembly)

5-11 October 2014, Salt Lake City, USA  
Division 7 was well represented at the *XXIV IUFRO World Congress*. Numerous sub-plenary and technical sessions were organised by Division 7 coordinators and participants. In addition, business meetings of Division 7 and of the three Research Groups took place.

10-14 November 2014, Esquel, Patagonia, Argentina  
*7th Meeting of Working Party 7.02.09 "Phytophthora in Forests and Natural Ecosystems"*  
IUFRO 7.02.09

## Forest Environment - Division 8

**Coordinator:** *Jean-Michel Carnus (Jan-Dec)*

**Deputy Coordinators:**

*Robert Jandl, John Parrotta, Alex Mosseler (Jan-Dec)*

*Sandra Luque, Shirong Liu (Oct-Dec)*

Division 8 concerns the study of forest ecosystems and landscapes, forest biodiversity, watershed hydrology, natural hazards and risk management. Currently, Division 8 includes 3 Research Groups and 21 Working Parties with a total number of 56 Officeholders. In 2014, many units of the Division contributed actively to the success of the World Congress. During the year, Division 8 was also involved in 4 main meetings in South America and Europe through its Research Groups on forest ecosystems and on natural hazards.

As part of the 2014 World Congress, activities in the Division evolved around the preparation of the scientific program and organization of the sessions (5 subplenaries, 28 technical sessions, 180 posters), most of them related to congress scientific themes dealing with forests and water interactions, forests and climate change, biodiversity and ecosystems services. Some major global research challenges and future trends relevant for Division 8 were addressed and discussed during the Congress:

(1) **provision of water from forest catchments** and how it could be secured in the future through cross-sectorial approaches and integrated land-use strategies;

(2) **resilience in the face of rapid environmental changes** and increasing climatic risks; better understanding of interactions between ecosystems, novel approaches and better integration at landscape or system scale, and development of synergies between mitigation and adaptation measures were proposed to enhance forest systems resilience to uncertain futures.

(3) **prevention or mitigation of the loss of biodiversity** at forest and landscape scales, and how management regimes could be adapted to contribute to biodiversity enhancement.



*Informing the public about forest management for better resilience and biodiversity. Photo by Gerda Wolfrum*

(4) **promoting effective multifunctional forestry** and maintaining forest ecosystem services under changing environmental conditions to provide a menu of scale dependent solutions to operationalize ecosystem services for planning applications.

### Meetings

3-8 August 2014, Águas de São Pedro, São Paulo, Brazil  
*Wind and Trees International Conference*  
IUFRO 8.03.05

10-11 September 2014, Bilbao, Spain  
*International Workshop on Soil Degradation Risks in Planted Forests*  
IUFRO 8.01.03

15-17 September 2014, Katowice, Poland  
*Regio-Resources (RR) 21-2014 Conference - A cross-disciplinary dialogue on future perspectives for a sustainable development of regional resources*  
IUFRO 8.01.02

16-18 September 2014, Ostroni, Brindisi, Italy  
*Global change research symposium – Human and Ecosystem Response to Global Change*  
IUFRO 8.01.02

## Forest Policy and Economics - Division 9

**Coordinator:** *Daniela Kleinschmit (Jan-Dec)*

**Deputy Coordinators:**

*Margaret A. Shannon, Konstantin von Teuffel (Jan-Oct)*  
*Mercy Afua Adutwumwaa Derkyi, Jurij Begus (Oct-Jan)*

Division 9 Forest Policy and Economics covers a wide spectrum of equally important research areas such as the historical perspective, the economic and political analysis or the regulative dimension. These areas aim to improve the knowledge on drivers and consequences of change of the social dimension of forests. Furthermore areas like information and communication or traditional forest knowledge support the strong relation to the needs and opportunities of the forest sector concerning the social dimension.

In 2014 major activities were devoted to the IUFRO World Congress in Salt Lake City where many sessions were organized by Research Groups and Working Parties of Division 9. The Division 9 meeting in Salt Lake City offered both a presentation of enduring and successful social scientific work of different sub-groups and individuals as well as new visions and plans for the future. The way forward adapting to challenges for social sciences is mirrored in the development of new working parties.

### New Manual on Communicating Forest Science

In August 2014 Working Party 9.01.02 under the coordination of Cindy Miner published a manual on communication. 30 authors developed a manual for scientists and professional communicators to support communication beyond the scientific community. The manual includes concepts, approaches, and methods for communications. Examples from around the world provide success stories in communicating forest science. Based on the manual a training module has been developed and carried out as a pre-congress training on communications for 35 scientists and professionals across the world in Snowbird, Utah. The session was sponsored by IUFRO-SPDC.

8-11 April, Florence, Italy  
*First European Conference for the Implementation of the UNESCO-SCBD Joint Program on the linkages between cultural and biological diversity*  
IUFRO 9.03.00

A major internationally acknowledged output of this conference is the **Florence Declaration on the links between biological and cultural diversity**. This declaration is based to a great extent on the work of Research Group 9.03.00 on Forest History and Traditional Knowledge and in particular on the work of Mauro Agnoletti who has coordinated this group from 2010 to 2014. The relevance and impact of the declaration is highlighted as the results have been presented by Mauro Agnoletti at COP 12 of the CBD in the Republic of Korea in October 2014.

#### Further meetings in 2014

17-18 March, St. Louis, Missouri, USA  
*International Conference on Forest Economics: Gateway for Sustainability*  
IUFRO 9.04.00

15-16 May, Sheffield, United Kingdom  
*Wilder By Design? – Managing Landscape Change and Future Ecologies*  
IUFRO 9.03.00, 9.03.01

9 July, Arezzo, Italy  
*Research and Innovation in Sustainable Forestry to Advance Competitive Global Bioeconomy*  
IUFRO 4.02.06, 9.05.01, 9.05.04

16-17 July, Nanjing, China  
*Second Global Forum of Ecological Economics in Forestry (GFEEF) Building a Harmony between Ecology and Economy*  
IUFRO 9.04.03

3-5 September, Sheffield, United Kingdom  
*The ecology, landscape, archaeology and heritage of Peatlands*  
IUFRO 9.03.00, 9.03.01

16 October, 20 October, 4 November, Sheffield, UK  
*Workshops: Sphagnum Mosses: Identification, Diversity, Landscapes and Ecology*, IUFRO 9.03.01

26-28 November, Zagreb, Croatia  
*International Conference on Natural Resources, Green Technology and Sustainable Development*  
IUFRO 9.00.00

1-3 December, Lima, Peru  
*Desafíos de las políticas forestales latinoamericanas frente al cambio climático COP 20*  
IUFRO 9.06.01

*Participants of the International Conference on Forest Economics in St Louis, USA.*  
*Photo by Francisco X. Aguilar, University of Missouri*



## Task Force on Forests and Human Health, ForHealth

**Coordinator:** Hannu Raitio, Finland  
**Deputy Coordinator:** Tytti Sarjala, Finland

In the year 2014, the activities of the Task Force on Forest and Human Health, ForHealth, focused on the future projects, creating new collaborative projects and dissemination of knowledge.

The first Newsletter in 2014 was published in June. In this newsletter we highlighted the upcoming merging of the Finnish Forest Research Institute (Metla), MTT Agrifood Research Finland, the Finnish Game and Fisheries Research Institute (RKTL) and the statistical services of the Information Centre of the Ministry of Agriculture and Forestry (Tike) under a new entity called the Natural Resources Institute Finland, which creates promising possibilities for new collaborative projects in the area of the health-promoting effects of forests and non-wood forest products.

Furthermore, we introduced the successful launching of Forest Therapy Bases® or Therapy Roads® with the support of The International Society of Nature and Forest Medicine (INFOM) in Japan as a good example of innovative multi-disciplinary scientific work to utilize forests to improve human health. Increased collaboration with Japanese researchers has proved to be bene-

ficial also in European research projects, which aim to elucidate the medical effects of the forest environment on the human body.

The second Newsletter in 2014 was published in December. In this issue we looked back and thanked all the contributors to the Newsletter, and also encouraged researchers to continue collaboration to enhance research work with this important theme.

During the last four years the Newsletters have covered a wide spectrum of different topics concerning human health and well-being, social aspects, medicinal plants, collaboration between researchers and national and international organizations as well as new approaches to applying research results in practice to promote human health.

The EU funded Leader project “The Network of densely-wooded regions in Europe, partner project Forest Trails” which targeted the dissemination of knowledge of the effects of forests on human health, opened the last restorative forest trail with psychological signposts for the public in May 2014 in Parkano, Finland. The network of similar trails in four European countries enables now also collaborative research which compares the results in different countries.



## Activities in 2014

Seminars, sessions and events:

- 2014 IUFRO World Congress Sub-plenary session “Forest Foods, Medicines and Human Health” and technical session 192 (Food and medicinal forest products).

Publications:

- Report in IUFRO Synthesis Papers, Thematic area: Forests for People
- Forests and Human Health Newsletter 1/2014. Available online <http://www.metla.fi/uutiskirje/For-Health/2014-01/>
- Forests and Human Health Newsletter 1/2014. Available online <http://www.metla.fi/uutiskirje/For-Health/2014-02/>



Forests in Finland. Photo by Geoff Roberts

## Task Force on Forest and Water Interactions

**Coordinator:** Tony Simons, Kenya

**Deputy Coordinator:** Shirong Liu, China

Forest and Water Interactions was identified as one of the six thematic areas in the IUFRO Strategy 2010 – 2014, along with Forests for People, Forests and Climate Change, Forest Bio-Energy, Forest Biodiversity Conservation, and Resources for the Future. During the IUFRO Enlarged Board meeting held in Seoul, South Korea, in August 2010, the Board agreed that Task Forces should be set up to address these six thematic areas. The Task Force on forest and water interactions was formally established in early 2011.

In 2014, prominently, the Task Force showed activeness in contributing to the XXIV IUFRO World Congress held during October 5 – 11 in Salt Lake City, Utah, USA, by organizing one sub-plenary entitled Forests, Water and People as well as six technical sessions respectively addressing:

These activities explored the interactive relationships among people, climate, forests, and water resources from different perspectives. Taking advantage of the global platform provided by the Congress, comparison was made available among research progresses, findings and results worldwide. Relevant discussions closed the knowledge gap in relation to these topics among different corners of the world and consensus was achieved on the emphasis of interactions between a wider range of forests, water, soil, and people and, thus, the scientific researches to understand their processes.

### Activities

Sub-plenary “Forests, Water and People”  
XXIV IUFRO World Congress

*Technical sessions entitled:*

- Long-term watershed studies: What have we learned about eco-hydrological functioning;
- Managing forests and forest uses to protect and provide

clean water;

- Conceptual frames and research strategies for integrated studies of adaptation to drought;
- Land use/land cover change and hydroecology: Consequences at variable spatial scales;
- Role of disturbance in maintaining and stimulating aquatic biological diversity in temperate forest ecosystems; and
- Hydroecological studies in the Mediterranean region.

International conference “**Forests and Water: From Research to Application**” (Kunming, Yunnan, China, March 24 – 26, 2014) Organized by FAO, ICRAF and IUFRO (Task Force on Forest and Water Interactions)



Participants of Kunming conference. Photo provided by Shirong Liu

A special issue in Hydrological Processes from the third international conference Forest and Water in a Changing Environment held in Fukuoka Japan in Sep 2012 (under preparation).

# Task Force on Education in Forest Science

**Coordinator:** Piotr Paschalis-Jakubowicz, Poland

**Deputy Coordinator:** Siegfried Lewark, Germany

The Task Force on Education in Forest Science is the first of its kind with such a wide-ranging research program relating to test methods, purpose and scope.

The objective of the Task Force is to improve the practice of Education in Forest Sciences worldwide. The TF therefore aims at contributing to the development of standards of Education in Forest Sciences that meet today's requirements, using experiences and examples of good practice in the IUFRO community and building a network of higher education experts around the world.

The TF research focuses on asking fundamental questions as to what kind of forest science graduates forestry in the 21st century will need and, what curricula should be applied to educate/train these persons? We also look for the best ways to provide vast and widely accessible opportunities to realize the concept of lifelong learning. There is a need to establish connections and ensure the flow of information in the field of forest education not only between universities but also between employers, and to learn about the requirements relating to employed graduates. Therefore, the research of this TF aims to develop a system design for the flow of information.

## Final results:

- Building knowledge and general skills, understanding phenomena from the point of view of methodology of research, and not exclusively from the point of view of contents and descriptive methods.
- Skills and competencies in the interdisciplinary integration and transfer of knowledge and in the analysis of existing interactions between human beings, society and forests.
- Broader use of knowledge possessed by employees of forest administration authorities in developing and implementing forest study curricula.
- Understanding new approaches to subjects that refer to both a different scale of phenomena and to new issues comprising, among others, climate change, nature conservation, adaptive management of forest ecosystem, environmental management systems, gender equality in societies, role of forests as a source of energy, role of forests and forest products in the development of rural areas and combatting poverty as well as assessment of other environmental and social impacts, including the cultural role of forests.
- Acquisition of skills to analyze and synthesize forest knowledge by a graduate of university-level forest studies, and skills to take systemic decisions and think strategically.

## Publications

Selected research results have already been published in over 20 scientific articles, in indexed journals and in three books.

Other activities and achievements comprise primarily the development of a strong and well-cooperating network of inter-institutional links, including universities and research institutions dealing with the problems of forest education at the university level, as well as deep involvement of IFSA students in the Task Force network.



*Students of the University of Yaounde participating in the IUFRO workshop on education. Yaounde. 2014. Cameroon. Photo provided by Piotr Paschalis-Jakubowicz (in the middle of the picture)*

Forest education graduates pursue their career mostly outside the traditionally understood sector. They are responsible for various tasks, sometimes only slightly related to forests.

In countries and regions that belong to the developing world, we also observe an increase in the number of women graduating in forestry.

The general assessment of forestry curricula at the university level by students and graduates of forestry contains many observations relating to the traditional curricula construction of an education system.

The general assessment by the employers of graduates of forest universities and colleges is positive. However, they draw attention to the absence of many subjects that are required to implement forest management in the twenty-first century.

Recent studies on the proposed IUFRO Learning Initiative indicate a need for this form of university education programs.

## Seminars, sessions and events

- IUFRO World Congress. Technical session: A-34 (131) Forestry Education Serving Science And Practice. Moderator: Piotr Paschalis-Jakubowicz.
- The 42 International Forestry Students Symposium. University of British Columbia. Canada. (9 August 2014).
- At 65th Anniversary of the Faculty of Forestry in Kraków. Poland. (12-13. 03. 2014).
- 2014 IUFRO Task Force Education in Forest Science Learning Initiatives. Enhancing Landscape Management through the Model Forest Approach. Gołuchów. Poland.
- The International Symposium on Agribusiness and Agricultural Risks Management in Africa. Role of Tertiary Agricultural Education. 25-28 August 2014, Yaounde. Cameroon.

# IUFRO Task Force on Resources for the Future

**Coordinator:** John Innes, Canada

2014 was a very active year for IUFRO's Task Force on "Resources for the Future". Many of the papers presented at a conference held in Vancouver in 2013 were enhanced and published in a book by Earthscan entitled: "**Forests and globalization: Challenges and opportunities for sustainable development**". This was released in time for the IUFRO World Congress in Salt Lake City. At the **World Congress**, the Task Force organized two sessions: a sub-plenary session on the future of forest resources and a technical session of ecosystem services. Both were very well-attended and attracted a lot of interest. While the papers presented in the sub-plenary session are covered in the Task Force book, those in the technical session were primarily voluntary and will likely be published in a special issue of Environmental Conservation.

The Task Force is now terminated, providing an opportunity to reflect on some of its successes. Possibly the greatest of these has been the **development of a partnership that extends far beyond the traditional membership of IUFRO**. The forest industry was heavily involved in the Task Force, and provided important ideas on the future direction of the utilization of forest resources. The inclusion of investment advisors revealed the complexity of global forest products markets, and the difficulties involved with bringing new products to market. Policy advisors explained some of the **complexities associated with utilizing research in decision-making**, and provided indications of how this might be done more effectively in future. Overall, the Task Force provided some important ideas on how IUFRO's research program might be better integrated with other actors in the forest sector, broadly defined.

## IUFRO Special Programme for Development of Capacities (SPDC)

**Coordinator:**  
Michael Kleine, Austria

**Regional Coordinator for Asia Pacific:**  
Sim Heok-Choh, Malaysia

**Regional Coordinator for Latin America and the Caribbean:**  
Bastiaan Louman, Costa Rica

**Number of supported conference participants in 2014: 100**

- IUFRO Acacia 2014 Conference *Sustaining the Future of Acacia Plantation Forestry*, Hue, Vietnam, 18-21 March, 2014: **3 supported participants**
- *Sustainable Management and Genetic Conservation of Teak Resources*, Bangkok, Thailand, 26-27 May 2014: **6**
  - *Genetics of five-needle pines and rusts in mountain landscapes – Conservation, utilization and evolution in a changing climate*, Fort Collins, USA, 15-21 June 2014: **2**
  - *Sixth International Poplar Symposium (IPS-VI)*, Vancouver, Canada, 20-28 July, 2014: **2**
  - *Expert Workshop on Ecology and Restoration of Central and Northeast Asian Forests*, Ulaanbaatar, Mongolia, 10-12 September, 2014: **7**
  - *XXIV IUFRO World Congress 2014*, 5–11 October 2014, USA (Congress Scientist Assistance Program): **80**

### IUFRO-SPDC pre-Congress Training Week

Following the model of the two previous IUFRO World Congresses, a one-week training event was organized at Snowbird Mountain Resort near Salt Lake City, prior to the IUFRO World Congress from 29 September to 3 October 2014. A total of 71 early and mid-career forest scientists from 32 countries in Africa, Asia and Latin America were selected from a list of more than 300 applicants who expressed interest to participate in the Pre-Congress training event.

The participants could choose between the following two main training modules: **Training in Research Methods** or **Communicating Forest Science**. These two training workshops were concurrently held from Monday to Thursday.

On Friday participants attended a short workshop on "Introduction to the Global Forest Information Service (GFIS)" lead by the GFIS Team, followed by a Knowledge Café as a wrap-up session of the training week.



Participants of the pre-Congress Training Workshop in Snowbird, Utah, USA. Photo by Ramin Khorchidi

### Scientist Assistance Program 2014

IUFRO's efforts in providing support to forest scientists from economically disadvantaged countries in Africa, Asia, and Latin America continued in 2014 with the main focus on the XXIV IUFRO World Congress in Salt Lake City, USA. Apart from mobilising funding and arranging the participation of 80 scientists in the IUFRO World Congress, IUFRO-SPDC was able to finance additional 20 participants to join 5 IUFRO scientific meetings and conferences as detailed in the table below. Supporting a total of 100 scientists in 2014 would not have been possible without the generous contributions by IUFRO-SPDC's main donors namely the Ministry of Foreign Affairs of Finland, the Korea Forest Research Institute and the US Forest Service. Their support is greatly appreciated.

#### WORKSHOP 1: TRAINING IN RESEARCH METHODS

This training workshop with 41 participants was co-led by Dr. Rolfe Leary, U.S. Forest Service (retired), and Dr. John Kershaw, University of New Brunswick.

The workshop presented the scientific process, including: problem identification, question formulation, effective literature reviews, hypothesis development, scientific inference, sampling theory, experimental design, statistical inference, strong inference and research ethics. Each participant was asked to bring a question or problem statement related to research they are currently undertaking to be used as examples and case studies. The workshop was structured so that participants understood the connections and parallels between philosophical and conceptual constructs of science and the mechanics of doing science.

#### WORKSHOP 2: COMMUNICATING FOREST SCIENCE: MAKING SCIENCE WORK FOR POLICY AND MANAGEMENT

A total of 30 participants participated in this workshop co-led by Cindy Miner, U.S. Forest Service, Bastiaan Louman, CATIE and Dr. Michael Kleine, IUFRO. This session provided basic and advanced concepts in communications. Concepts explored included one-way and two-way communications - the latter including symmetrical and asymmetrical approaches, negotiation, and symbiotic changes in attitudes and behaviours. Communications strategies were also discussed.

#### WORKSHOP 3: INTRODUCTION TO THE GLOBAL FOREST INFORMATION SERVICE (GFIS)

On 3 October 2014, the Global Forest Information Service (GFIS) Coordination Unit led by its Coordinator Eero Mikkola (METLA, Finland) conducted a half-day workshop for all 71 participants of the pre-Congress training week aimed at promoting the GFIS gateway and addressing the challenges to scientific information sharing across different scales.

Overall, the results of the training week show that the training sessions on communication of research, the science-policy interface, GFIS, and research methodology were relevant and addressed needs in the participant's countries. They also underline the need by the forest science community to increase efforts

in further developing capacities in research and networking, in order to achieve a greater impact of forest science in these countries.

#### Regional Projects

*IUFRO-FORNESSA-ITTO Project (ITTO funded: 2012-2014)*  
Strengthening the capacity of ITTO producer countries in Africa of generating and disseminating scientific information on Reducing Deforestation and *Forest Degradation and Enhancing Environmental Services from Forests* (REDDES). This project was completed and the results presented in a side event at the XXIV IUFRO World Congress 2014, 5–11 October 2014, USA.  
Visit: <https://www.fornis.net/ittorededes/home>

*ECOADAPT Project (EU funded: 2012-2016)*  
Ecosystem-based strategies and innovations in governance networks for adaptation to climate change in Latin American landscapes. With the focus on improving water governance in sites of the Model Forest Network in Argentina, Bolivia, and Chile, the project has generated new insights into joint learning and knowledge creation between scientists and local communities. The results will be published in 2015. Visit: <https://www.ecoadapt.eu/>

*IUFRO-World Resources Institute Project (BMU/Germany funded: 2013-2016)*

Forest Landscape Restoration as a Strategy for Mitigating and Adapting to Climate Change. In this project IUFRO partners with the World Resources Institute in implementing a joint project in support of the Bonn Challenge Global Forest Landscape Restoration (FLR) Policy Initiative. To this end, a group of IUFRO scientists, led by IUFRO RG 1.06.00 "Restoration of degraded sites", has developed a framework to demonstrate how FLR contributes to climate change mitigation and adaptation and how this contribution can be enhanced through more efficient methods and systems. This communication tool should help decision-makers to build resilient landscapes and learn how climate objectives can be addressed through FLR. Preliminary results of the project have been presented in a side event at the XXIV IUFRO World Congress 2014, 5–11 October 2014, USA. Visit the activities webpages of IUFRO Research Group 1.06.00.

## Special Project World Forests, Society and Environment (IUFRO-WFSE)

**Coordinator:** Pia Katila, Finland

*Participants of the WFSE Steering Committee meeting, February 2014 at CIRAD, Montpellier, France. Photo by Wil de Jong*



WFSE is an open, global network of scientists and experts that is steered by ten international research organizations and coordinated at the Natural Resources Institute Finland (Luke). WFSE supports sustainable forest-related development, livelihoods and inclusive growth as well as related policy processes by collating and critically analysing existing scientific knowledge on topics of international relevance in the forest, society and environment interface and by undertaking new research to fill in crucial gaps in existing knowledge. WFSE addresses these topics in a participatory and holistic manner producing interdisciplinary, science-based, future oriented policy-relevant information.

On 14 February 2014 IUFRO's Special Project on World Forests, Society and Environment (IUFRO-WFSE) held its Steering Committee meeting at CIRAD, Montpellier, France. At this occasion, IUFRO Executive Director Alexander Buck conveyed the thanks of IUFRO to Gerardo Mery, who retired from the position of Coordinator of IUFRO-WFSE, and presented him the IUFRO Distinguished Service Award. The new Coordinator as of 1 January is Pia Katila (Luke).

### The WFSE partner organizations are:

CATIE (Tropical Agricultural Research and Higher Education Center), CIAS (Centre for Integrated Area Studies, Kyoto University), CIFOR (Center for International Forestry Research), CIRAD (Centre de coopération internationale en recherche agronomique pour le développement), EFI (European Forest Institute), FAO (Food and Agriculture Organization of the United Nations), Luke (Natural Resources Institute Finland), Thünen Institute of International Forestry and Forest Economics, University of Florida, VITRI (Viikki Tropical Resources Institute, University of Helsinki).

In 2014 WFSE activities concentrated on the finalization, publishing and distribution of the book **Forests under Pressure - Local Responses to Global Issues** and the related Issue Brief that presents the main findings of the book and recommendations for the way forward in a concise format. The book is the result of a collaborative work of 144 scientists and experts who acted as authors in different capacities and over 60 peer reviewers. Building on 27 case studies from different parts of the world the book focuses on conditions that foster or hinder progress towards sustainable forest management (SFM) and forest-related development. The case studies use a common analytical framework of prerequisite conditions to examine the implementation of SFM. The analysis allows to distinguish prerequisite conditions and combinations of conditions that foster or constrain progress towards SFM and sustainable local development. It draws attention to the importance of interactions among different conditions.

The WFSE Technical Session in XXIV IUFRO World Congress in Salt Lake City 10 October 2014 included seven presentations and a moderated discussion. The session introduced the book **Forests under Pressure - Local Responses to Global Issues** and the Issue Brief and presented the main findings of the book.

### Meetings

The editors of the new book convened in an editorial meeting at CIRAD Montpellier, France, 11-13 February 2014 to discuss and advance the finalization of the different parts of the book.

The representatives of the WFSE partner organizations convened in the WFSE Steering Committee meetings 14 February in CIRAD, Montpellier, France, and 10 October in Salt Lake City, USA.

### Publications and briefs

Katila, P., Galloway, G., de Jong, W., Pacheco, P., Mery, G. 2014. *Forests under pressure – Local responses to global issues*. IUFRO World Series Vol 23. 561p.

Katila, P., Galloway, G., de Jong, W., Pacheco, P. 2014. Synergistic policies and measures are the key to advancing sustainable forest management and forest-based development. IUFRO WFSE Issue Brief 1/2014. 4p.

Katila, P., Galloway, G., de Jong, W., Pacheco, P. 2014. Advancing sustainable forest-related local development. Brief for Sustainable Development Report 2015. Available at: <http://sustainabledevelopment.un.org/topics/science/crowdsourcedbriefs>.

### Newsletters

In 2014 WFSE produced two Newsletters also available online. They were distributed to WFSE partners, members of the WFSE-network from research organizations and universities around the world, donors, IUFRO officeholders and member organizations.

## Global Forest Expert Panels (GFEP)

**Coordinator:** Christoph Wildburger, Austria

The IUFRO-led Global Forest Expert Panel Initiative (GFEP) of the Collaborative Partnership on Forests (CPF) provides a mechanism for effectively linking the information requirements of intergovernmental processes related to forests with existing scientific expertise. GFEP produces interdisciplinary scientific assessment reports on key issues emerging from international policy debates. The reports are prepared by thematic Expert Panels consisting of internationally recognized scientific experts in their field. All reports undergo rigorous peer review.

GFEP successfully completed three major assessments (adaptation of forests to climate change, the international forest regime, biodiversity and REDD+) so far and developed into an internationally respected mechanism with impact. GFEP outcomes served as background information for discussions, briefing documents for negotiators as well as guidance for strategic policy development, including for the Global Environment Facility (GEF), the financial mechanisms for the implementation of several multilateral environmental agreements (e.g. the Climate Convention). GFEP publications are used by scientists and communicators as comprehensive, interdisciplinary and scientifically sound information source. GFEP Panels also triggered multi-disciplinary approaches involving a broad range of scientists from various disciplines in IUFRO's work and increased collaborations with non-forest sectors.

Based on the Terms of Reference (ToR) approved by CPF members in November 2013 the **Global Forest Expert Panel on Forests and Food Security** commenced its work in early 2014. Taking into account regional and cultural diversity as well as gender balance, the GFEP Coordinator and the Panel Chair, Dr. Bhaskar Vira, University of Cambridge, had invited more than 25 leading experts representing various scientific disciplines to join the Panel.



The Panel's work focused on three key objectives: to clarify the different dimensions and the roles that forests and trees play in providing food security and nutrition; to analyze the social, economic, and environmental synergies and trade-offs between forests and food security and nutrition, and related management interventions; and to assess relevant frameworks and responses.

Throughout the year 2014, the Panel Members convened in three meetings, in March in Bogor, Indonesia, in July in Cambridge, United Kingdom, and in November 2014 in New Delhi, India. Participants discussed structure, key terms and concepts of the assessment and clarified issues arising. Author teams developed their chapters and aligned their approaches under the leadership of Coordinating Lead Authors (CLAs).

In October 2014, GFEP initiated a double-blind review of the first drafts of the assessment report's chapters. Renowned scientists from various disciplines were invited as peer reviewers for individual chapters as well as the full report. The authors then addressed review comments and revised their texts. The revised chapters of the assessment report, drafted around by 60 researchers, were submitted for editing in early 2015.

*Photo of cocoa fruits (Costa Rica) by Michael Kleine*

# Global Forest Information Service (GFIS)

**Coordinator:** Eero Mikkola, Finland

The year 2014 saw many changes to the GFIS initiative. The gateway saw an increase in active partners, social media network growth, and consistent traffic throughout the year. The CPF joint initiative led by IUFRO attracted 46 partner organizations focused on forests that utilize GFIS to help disseminate their information. The [www.gfis.net portal](http://www.gfis.net) averaged over 20,000 information seekers visiting each month seeing a significant increase in traffic generated organically, through referral and from direct sources, an increase in 121%, 123%, 59% over 2013 respectively.

The GFIS gateway underwent significant developments over the year 2014. The website unveiled a new look featuring a complete redesign of the graphics, colour scheme, as well as minor adjustments to the layout. In addition, content was made available according to the regions it is attributable to, and there is a built-in system to tag information, which allows for better information filtering. These developments greatly enhance the visual appeal and functionality of GFIS.

The social media outlets of GFIS continued to grow with a 3200-follower milestone on twitter and over 750 subscribers on

the newsletter. In addition, it was noted an increasing number of organizations/individuals are utilizing GFIS as an information source when developing their newsletters, and web-based papers.

GFIS participated in the XXIV IUFRO World Congress and hosted a pre-congress training session in Snowbird, Utah, USA. The workshops were hosted in coordination with the IUFRO-SPDC. Between the training session and a booth at the Congress, GFIS gained significant promotion and saw a notable increase in traffic and newsletter subscriptions from North America following the events.

2015 plans include developing an online training course to assist organizations and individuals interested in utilizing GFIS. There are also plans to develop the gateway further to improve usability and service offerings based off of insight from a users survey.

GFIS is thankful to all its partner organizations and sponsors and looks forward to another successful year. The Global Forest Information Service was sponsored in 2014 by the United States Forest Service, Korea Forest Service and the Austrian Ministry of Life.

## New Members 2014

### Member Organizations

#### Argentina 1001.00.00

Dirección de Bosques  
Subsecretaría de Planificación y Política Ambiental  
Secretaría de Ambiente y Desarrollo Sustentable de la Nación  
1004 BUENOS AIRES

#### Australia 1005.00.00

Murdoch University  
MURDOCH WESTERN AUSTRALIA 6150

#### Cuba 0999.00.00

Universidad de Pinar del Rio  
Hermanos Saiz Montes de Oca  
PINAR DEL RIO 20100

#### India 1004.00.00

Haryana Forest Development Corporation Ltd.  
PANCHKULA HARYANA 134112

#### Ireland 0998.00.00

Teagasc, Forestry Development Department  
Mellows Development Centre  
ATHENRY CO. GALWAY

#### Kenya 1002.00.00

African Forest Forum (AFF)  
00100 NAIROBI

#### Malaysia 1000.00.00

Institute of Tropical Forestry and Forest Products (INTROP),  
Universiti Putra Malaysia  
43400 UPM SERDANG SELANGOR

#### United States 1003.00.00

World Bamboo Organization  
PLYMOUTH MASSACHUSETTS 02360

### Associated members

#### Bangladesh 815

**Uddin Mohammad Belal**  
University of Science and Technology  
Department of Forestry and Environmental Science; School of Agriculture and Mineral Sciences; SYLHET 3114

#### Benin 827

**Aoudji Augustin K.N.**  
Université d'Abomey-Calavi  
Faculté des Sciences Agronomiques  
COTONOU

#### Brazil 822

**Zweede Johan**  
Instituto Floresta Tropical  
BELEM, PARA 66025-660

#### Canada 826

**Chavez-Varela Virginia**  
Alberta Innovates BioSolutions  
EDMONTON T6J 3G2

#### Colombia 820

**Coca Castro Alejandro**  
Centro Internacional de Agricultura Tropical (CIAT), CALI

#### Gambia 824

**Jarju Ebrima**  
Department of Forestry  
BANJUL

#### Iceland 817

**Sigurdsson Bjarni D.**  
Agricultural University of Iceland  
311 BORGARNES

#### India 819

**Sehgal Sandeep**  
JAMMU JAMMU AND KASHMIR 180010

#### Italy 823

**Luchi Nicola**

Consiglio Nazionale delle Ricerche  
Istituto per la Protezione Sostenibile delle Piante  
50019 SESTO FIORENTINO

#### Japan 821

**Take Masanori**  
University of Tsukuba  
Certificate Programme on Nature Conservation  
Faculty of Life and Environmental Sciences  
TSUKUBA, IBARAKI 305-8572

#### Japan 825

**Ota Takahiro**  
Ritsumeikan University  
College of Policy Science  
KYOTO 603-8577

#### Mexico 814

**Rodríguez-Pineros Sandra**  
Universidad Autónoma de Chihuahua  
Facultad de Zootecnia y Ecología  
CHIHUAHUA CP 33820

#### Nepal 818

**Kandel Yadav Prasad**  
WWF-Nepal  
KATHMANDU 44600

#### Switzerland 829

**Newbery David M.**  
Universität Bern  
Institut für Pflanzenwissenschaften  
3013 BERN

#### United States 828

**Smart Lawrence**  
Cornell University  
New York State Agricultural Experiment Station  
Department of Horticulture  
GENEVA, NEW YORK 14456

#### Uzbekistan 816

**Botman Evgeniy**  
Republican Scientific Production Centre for Decorative Gardening and Forestry  
TASHKENT 111104

# Finances

Note: The figures given below are the final figures before auditing.

## IUFRO Balance - as per 31 December 2014 in Euro

A S S E T S		TOTAL	E Q U I T Y and L I A B I L I T I E S		TOTAL
<b>A. Fixed Assets</b>			<b>A. Equity</b>		
I.	Intangible property	17,855	I.	Capital as per 31.12.2013	781,294
II.	Tangible assets	17,666	II.	Loss 2014	-35,758
III.	Financial assets	410,138			
	<b>Total</b>	<b>445,658</b>		<b>Total</b>	<b>745,536</b>
<b>B. Current Assets</b>			<b>B. Accruals</b>		
I.	Accounts receivable	33,915			
II.	Other receivables	74,922	<b>C. Liabilities from contributions not yet used</b>		
III.	Cash on hand and in banks	703,613			
	<b>Total</b>	<b>812,450</b>	<b>D. Liabilities</b>		
<b>C. Prepaid Expenses</b>			<b>E. Deferred income and credits</b>		
		989			
<b>TOTAL ASSETS</b>		<b><u>1,259,097</u></b>	<b>TOTAL LIABILITIES</b>		<b><u>1,259,097</u></b>

## IUFRO International Union of Forest Research Organizations - UNION Profit and Loss - Overview 31 December 2014 in Euro

Capital 31 Dec 2013 781,294

### INCOME 2013:

Membership Fees (received)	257,623
Publications	303
Donations for budget year 2013	1,319,309
Other income / refunds	745
Interest (bank)	11,099

**TOTAL INCOME** **1,589,078**

### EXPENDITURE 2014:

Salaries and contracts	-825,004
Contributions for third organizations	-2,000
Office equipment and maintenance	-22,950
Printing, postage and PR activities	-107,123
Travel	-73,195
Organization of meetings, travel support, SAP	-504,559
Legal expenses, accounting	-49,633
Equipment, operating costs, insurances	-32,050
Bank charges, currency differences	38,724
Others	-47,045

**TOTAL EXPENDITURE** **-1,624,836**

**Loss for the year 2014** **-35,758**

Capital 31 Dec 2014 745,536

Please note that the donations include the rest balances of the year 2013, but exclude the accruals of revenue into the year 2015.

## Sponsorships

Grants and in-kind contributions to IUFRO in 2014

IUFRO is most grateful to all our donors for their generous contributions!

### Sponsor categories:

Gold:	more than EUR 100,000	
Silver:	from EUR 50,000 to 100,000	
Bronze:	from EUR 25,000 to 49,999	

Note: All figures in the table below are given in Euro. These are the final figures before auditing.

## IUFRO Officeholders (OF), Member Organizations (MO); and Meetings (MT) per Region

Region:	OF	MO	MT
Europe:	304	227	29
Northern America:	167	125	7
Latin America:	47	58	5
Africa:	34	61	0
Asia:	112	138	12
Oceania:	32	25	0
<b>Total:</b>	<b>696</b>	<b>634</b>	<b>53</b>

## Sponsorships actually received in 2014 in the various cost centers in Euro (Grants and in-kind contributions)

Grantors / Contributors	SPDC	GFIS	WFSE	GFEP	Secretariat	In-kind contributions <sup>1</sup>	TOTAL
Austrian Ministry and BFW	0	25,000	0	0	464,100	153,986	643,086
Ministry of Foreign Affairs of Finland	135,000	0	70,000	95,000	0	0	300,000
Finnish Forest Research Institute (METLA)	0	0	0	0	0	236,716	236,716
US Forest Service (USA)	147,212	22,563	0	39,902	0	0	209,677
Korea Forest Research Institute (KFRI)	83,129	21,701	0	0	39,559	0	144,389
Contribution GIZ	0	0	0	0	55,000	0	55,000
Contribution EU	21,979	0	0	0	0	0	21,979
Contribution CIFOR	12,206	0	0	0	0	0	12,206
Contribution ITTO	6,233	0	0	0	0	0	6,233
Contribution DEISTAF	2,700	0	0	0	0	0	2,700

<sup>1</sup> These are all non-cash contributions such as staff time and office facilities.



## IUFRO Board (Jan-Oct 2014)

Find a list of newly elected Board members until 2019 on page 5.

### IUFRO Senior Officeholders:

**President:** Niels Elers Koch, Denmark  
**Vice-President Divisions:** Mike Wingfield, South Africa  
**Vice-President Task Forces, Special Programmes, Projects and IUFRO-led Initiatives:** Su See Lee, Malaysia  
**Immediate Past President:**  
Don Koo Lee, Republic of Korea

### Division Coordinators:

Division 1: Björn Hånell, Sweden  
Division 2: Yousry El-Kassaby, Canada  
Division 3: Hans Rudolf Heinemann, Switzerland  
Division 4: Margarida Tomé, Portugal  
Division 5: Andrew Wong, Malaysia  
Division 6: Tuija Sievänen, Finland  
Division 7: Ekehard Brockerhoff, New Zealand  
Division 8: Jean-Michel Carnus, France  
Division 9: Daniela Kleinschmit, Sweden

### President's Nominees:

Ulrike Pröbstl, Austria; José J. Campos Arce, Costa Rica;  
Ben Chikamai, Kenya; Elena Kulikova, Russian Federation;  
Shirong Liu, China

### Other Voting Board Members:

**IUFRO Headquarters Host Country Representative:**  
Gerhard Mannsberger, Austria

### Non-voting ex officio Board Members:

**IUFRO Executive Director:** Alexander Buck, Austria  
**IUFRO Congress Organizing Committee Chair:**  
Richard Guldin, USA  
**IUFRO Congress Scientific Committee Chair:**  
John Parrotta, USA

### Task Force Coordinators

**(All Task Forces were terminated in October 2014.)**

**TF Resources for the Future:** John Innes, Canada  
**TF Forest and Water Interactions:** Tony Simons, Kenya  
**TF Biodiversity and Ecosystem Services:**  
Ekehard Brockerhoff, New Zealand  
**TF Forest Bioenergy:** Rolf Björheden, Sweden  
**TF Forests for People:** Ulrike Pröbstl, Austria  
**TF Forests and Climate Change:** Markku Kanninen, Finland  
**TF Forests and Human Health:** Hannu Raitio, Finland  
**TF International Forest Governance:** Ben Cashore, USA  
**TF Education in Forest Science:** Piotr Paschalis-Jakubowicz,  
Poland

### Special Programmes, Projects and Initiatives

**IUFRO Special Programme for Development of Capacities (IUFRO-SPDC) and IUFRO Deputy Executive Director:**  
Michael Kleine, Austria  
**IUFRO World Forests, Society and Environment (IUFRO-WFSE):** Pia Katila, Finland  
**Global Forest Information Service (GFIS):**  
Eero Mikkola, Finland  
**CPF Global Forest Expert Panels (GFEP):**  
Christoph Wildburger, Austria

### FAO Representative

Eduardo Rojas Briales

### Observer Organizations

IFSA, WWF, ICRAF, IUCN, CIFOR

## IUFRO Headquarters (Vienna Office)

**Executive Director:** Alexander Buck, Austria  
**Deputy Executive Director and SPDC Coordinator:**  
Michael Kleine, Austria  
**Web Management and Communication:**  
Brigitte Burger, Austria  
**Library and Database Administrator:**  
Sylvia Fiege, Austria  
**SPDC Project Management and Translation Services:**  
Margareta Khorchidi, Austria  
**Junior Professional Officer – IUFRO/IFSA Joint Position:**  
Hugo Pierre, France (Jan-Oct), Andre Purrel, Estonia (Oct-Dec)  
**Project Coordinator:**  
Renate Prüller, Austria  
**System Administrator:**  
Heimo Schaffer  
**SPDC/GFEP Project Management and Translation Services:**  
Eva Schimpf  
**Finances and Administration (on maternity leave):**  
Judith Stoeger-Goiser  
**Finances and Administration:**  
Astrid Toppel  
**PR & Communication, Publications and Translation:**  
Gerda Wolfrum

## IUFRO Honours and Awards

For those who received awards at the 2014 IUFRO World Congress, please see page 5.

**Distinguished Service Award:** Gerardo Mery, Chile/Finland  
**Certificate of Appreciation:** NghiêM Quỳnh Chi, Vietnam

## IUFRO Headquarters Publications 2014

- Forests under pressure: Local responses to global issues. IUFRO World Series Volume 32
- 9 IUFRO Research Letters, published individually and also as IUFRO Occasional Paper 28
- Potentials to Mitigate Climate Change Using Biochar
- Occasional Paper No. 27
- Forest governance scholarship for the real world: Building strategic insights through policy learning Occasional Paper 26
- IUFRO News Issues 1-12, 2014
- 12 Scientific Summaries
- 12 IUFRO Spotlight issues
- IUFRO Annual Report 2013

## Editorial:

### Annual Report 2014:

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Elle Woods, Reid School, 1st Grade, one of the winners of the drawing competition at the IUFRO 2014 World Congress

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If you want to join IUFRO, contact us at: [office@iufro.org](mailto:office@iufro.org)

## **Mission**

IUFRO advances research excellence and knowledge sharing, and fosters development of science-based solutions to forest-related challenges for the benefit of forests and people worldwide.



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