

# IUFRO Annual Report 2019

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



**iufro2019**  
Curitiba • Brazil



Congress Opening ceremony. Photo Morne Booij-Liewes (FABI)



IUFRO World Congress COC and CSC leaders: Joberto Veloso de Freitas (right), Yeda Maria Malheiros de Oliveira (left), Jerry Vanclay (center)  
Photo courtesy of the Congress Organizing Committee (COC)

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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.



*IUFRO World Congress plenary session.  
Photo courtesy of the Congress Organizing Committee (COC)*



*Outgoing President Mike Wingfield (left) and incoming President John Parrotta  
at Closing Ceremony of the IUFRO World Congress in Curitiba.  
Photo courtesy of the COC*

## Foreword

### By IUFRO President John Parrotta

At the closing ceremony of the XXV IUFRO World Congress in Curitiba, Brazil, I began my term as President of our great organization, a role passed on to me by Mike Wingfield. Mike's leadership these past 5 years has been critical to the steady growth and success of IUFRO as *the* global network for forest science collaboration. Thanks to his outstanding work, supported by the dedication and professionalism of our Headquarters "Dream Team" in Vienna, the IUFRO Board, the involvement of our 630 Member Organizations in 127 countries, our 699 IUFRO officeholders throughout the world, and the generous support of our donors, IUFRO has never been stronger, more vibrant, or more relevant.

This is good news because the world urgently needs what IUFRO has to offer in these times of rapid environmental, economic, social and technological change. These changes present critical multi-dimensional challenges for forests and people. Events of recent years and our deliberations during the Curitiba Congress forcefully reminded us of these mounting global challenges, including, among others: climate change; land degradation; biodiversity loss and biological invasions; depletion of freshwater resources; deforestation resulting from short-sighted and poorly planned land conversion for agriculture, infrastructure, mining, and urban development; and the imperative to move from a fossil fuel-based global economy to a sustainable bioeconomy.

The global forest science community represented by IUFRO already has the knowledge needed to face many of these challenges. Our collective work deepens our understanding of the complexities of forest systems, from molecular to continental scales. Our innovative multidisciplinary research shines a light on the relationships between forests and their utilization in the context of broader ecological, socio-economic

and cultural landscapes. The knowledge we generate provides us with a solid, scientific basis for assessing both the positive and negative impacts of forest management, land-use change, and technological innovation.

In order to realize our full potential to translate this knowledge into the sustainable solutions that the world needs and is increasingly demanding, greater efforts are needed to harness the expertise, experience and creativity within our network through greater integration of scientists and IUFRO Member Organizations. IUFRO can also multiply its impact by expanding our collaboration in research, science synthesis and communications well beyond the boundaries of our current network. This may include, for example, expanded collaboration with our scientific and professional colleagues in fields such as agriculture, medicine, spatial planning, environmental engineering, bio-refinery and chemistry, environmental education, the arts and humanities.

Our dedicated and creative leaders in IUFRO's nine disciplinary Divisions, as well as our Task Forces, Special Programmes, Projects and IUFRO-led Initiatives, are all well-positioned to lead such efforts. They can count on my enthusiastic support in these efforts, together with the support of IUFRO's outstanding Headquarters team, led by Executive Director Alexander Buck and Deputy Executive Director Michael Kleine, our new Vice-President for Divisions, Daniela Kleinschmit, and Vice-President for Task Forces, Shirong Liu. I look forward to working closely with them, as well as with others on the IUFRO Board, our Member Organizations and International Council representatives, to deepen and expand IUFRO's diverse efforts to interconnect, forests, science and people for a better world.



Botanical Garden of Curitiba. Photo IUFRO



Mike Wingfield at the Tree Planting Ceremony of the XXV IUFRO World Congress in Curitiba, Brazil. Photo courtesy of the COC

## Message

### From IUFRO Immediate Past President Mike Wingfield

One of the greatest honours of my career as a forest scientist has been to serve IUFRO as its President. When my five year-term (2014-2019) came to an end after our highly successful and impressive World Congress in Curitiba last October, I began a period of reflection on this amazing privilege. This also especially considering what IUFRO means to a huge community of researchers across a wide diversity of disciplines, policy makers and many other stakeholders that serve as custodians of our world's forests.

In my acceptance speech presented at the closing ceremony of our 2014 World Congress in Salt Lake City, I undertook to focus my Presidency on a number of goals. Other than guiding our Union with general leadership and ensuring our role as "the global network for forest science cooperation", I sought to promote the interest of the youth in forest research and particularly as this pertains to mentorship and education. As IUFRO's first African President I also hoped to enhance the position of IUFRO in Africa (as well as other less well represented areas of the world).

Furthermore, one of my goals was to improve IUFRO's channels of communication and to build stronger relationships not only with the public but also with the private sector. While there will always be new challenges and many more goals to accomplish than can realistically be realised in a relatively short period of time, I am happy to report that IUFRO is much stronger in all these domains than we were five years ago.

Most importantly, all accomplishments and the growth that IUFRO has undergone during the past five years are due to a remarkable leadership team. This includes committed members of the IUFRO Management Committee, the IUFRO Board, the team at the IUFRO Headquarters and importantly a very large group of officeholders underpinned by our fundamentally important (approximately 250) Research Groups and Working

Parties. Let me take this opportunity to thank this remarkable and globally distributed team for their support, not only for me personally but for IUFRO as a whole. It is this commitment and energy that enables IUFRO to connect and to serve more than 15,000 forest researchers globally.

I would like to briefly review some of the major highlights and achievements of IUFRO during our 2014 to 2019 Board Term.

In 2016, IUFRO organized a Regional Congress for Asia and Oceania. The theme of the event was „Forests for Sustainable Development: the Role of Research“. This was the first regional IUFRO Congress to be held in Asia and Oceania and the largest international event related to forest science ever held in China.

In 2017, I had the special privilege of serving as IUFRO President when we celebrated our 125th Anniversary. The highlight of our celebrations was the 125th IUFRO Anniversary Congress held in Freiburg, Germany, an important 'milestone' event. We celebrated a remarkable history also including a small symposium held in Eberswalde where IUFRO was first established. And at the Congress, IUFRO launched its new slogan of „Interconnecting Forests, Science and People“. I sincerely believe that these words project a clear view of our goals going forward.

From 29 September to 5 October 2019 we celebrated the XXV IUFRO World Congress in Curitiba, Brazil. This was the first ever IUFRO World Congress held in Latin America. More than 2,500 researchers and stakeholders representing civil society, women's groups, indigenous peoples, the youth, the private sector, international organizations, NGOs and governments met at this meeting to share and discuss the latest findings in all fields related to forests and trees.



*IUFRO Congress Host Country Award Winners.  
Photo Morne Booij-Liewes (FABI)*

*IUFRO Scientific Achievement Award Winners. Photo by courtesy of the COC*

Consistent with the World Congress theme “Forest Research and Cooperation for Sustainable Development”, the event represented a focal point underpinning the cooperation that the global IUFRO community has with scientists and research institutions in Latin America. The Congress was splendidly organized and hosted by the Brazilian Forest Service and Embrapa Florestas, both important IUFRO Member Organizations. My special thanks go to the teams of the Congress Organizing Committee, jointly chaired by Joberto Veloso de Freitas of the Brazilian Forest Service and Yeda Maria Malheiros de Oliveira of Embrapa Florestas, and the Congress Scientific Committee under the excellent leadership of Jerry Vanclay of Southern Cross University in Australia.

The impressive participation of students at the Curitiba Congress was a special feature of the event and this contributed substantially to its success. I was delighted by this outcome as it linked strongly to one of my priorities as IUFRO President to further promote the interests of students and education in forestry. In this regard, there has been substantial growth in our engagements with young forest researchers and students especially via the International Forestry Students’ Association (IFSA). The IUFRO/IFSA Joint Task Force on Forest Education came into being more or less at the start of my term and it was a pleasure for me to promote this initiative, both in kind and with some financial support. Together with the IUFRO Headquarters staff, we also succeeded in establishing a mentorship programme with the European Forest Institute known as the EFI-IUFRO Young Scientists Initiative (YSI).

During the past five years, IUFRO has systematically strengthened its participation in international processes and enhanced its collaboration with partners and stakeholders. Our Union is now involved in a greater number of international processes and partnerships than ever before. IUFRO’s contributions via these processes have also had a demonstrable impact. For example, I had the privilege of launching a global assessment report on “Forests, Trees and Landscapes for Food Security and Nutrition” at a session of the United Nations Forum on Forests in May 2015. Two major assessments have subsequently been produced and a new one addressing the linkages between forests and poverty alleviation is under way.

When considering the impact of IUFRO, it is pertinent to mention the thematic networking activities of our Special Programme for Development of Capacities (IUFRO-SPDC). More specifically, IUFRO-SPDC’s focus on “Forest Landscape Restoration”. With an estimated quarter of the global land surface to some extent degraded, there are considerable opportunities to promote forest landscape restoration. And this will continue to be a major focus of IUFRO activities going forward.

Funding is always a challenge for organizations such as IUFRO. It is important to recognize our sponsors and donors. IUFRO’s engagement in international processes and partnerships has allowed us to significantly expand our funding base. This, in turn, provides essential support for networking and collaboration. As I said during the opening of our 125th Anniversary Congress “it is impossible to imagine the world of forestry research without IUFRO”.

In closing, let me take this opportunity to thank all IUFRO Stakeholders for the privilege to lead our remarkable Union for the past five years. I assumed this role after some 35 years of involvement in a wide diversity of IUFRO’s activities. This began as a student member of a small Working Party. IUFRO provided a crucial framework for my career and I know that this has also been true for many other researchers and leaders in the world of forests and forestry. Yet to eventually lead IUFRO as President has been an amazing learning and growth experience. And it is one that I have greatly enjoyed and appreciated. My hope now is that many of IUFRO’s younger members will capture the opportunities that our Union offers them. And that they will benefit from this association as I have done.

One of the greatest privileges of a leadership position is to be able to hand over the responsibility to a highly competent and experienced new leadership team. I have no doubt that this great organization will continue to grow from strength to strength, further shaping the future of forest and forestry research, thus serving the increasingly important role of “Inter-connecting Forests, Science and People”.

# XXV IUFRO World Congress

## Curitiba, Brazil

From 29 September to 5 October 2019 more than 2,500 researchers and experts representing civil society, women's groups, indigenous peoples, youth, private sector, international organizations, NGOs and governments met in Curitiba, Brazil, to share and discuss latest findings in all fields related to forests and trees. In line with the Congress theme '**Forest Research and Cooperation for Sustainable Development**', the event represented a cornerstone in the cooperation of the global IUFRO community with scientists and research institutions in Latin America.

IUFRO is grateful to the Brazilian Forest Service and Embrapa Florestas, both important IUFRO Member Organizations, for organizing and hosting the Congress. Special thanks go to the wonderful teams of the Congress Organizing Committee, jointly chaired by Joberto Veloso de Freitas of the Brazilian Forest Service and Yeda Maria Malheiros de Oliveira of Embrapa Florestas, and the Congress Scientific Committee under the excellent leadership of Jerry Vanclay, Southern Cross University, Australia.

Over the course of the five-day high-quality scientific program participants benefited from 350 scientific sessions - including five plenary and 20 sub-plenary sessions - with 1,648 oral presentations, and 964 posters addressing a great diversity of forest and tree-related topics within the scope of five main themes - Forests for People; Forests and Climate Change; Forests and Forest Products for a Greener Future; Biodiversity, Environmental Services, and Biological Invasions; Forests and Interactions with Soil and Water – and one overarching theme related to communication and education.

Among the absolute highlights of the week apart from the scientific sessions were the inspiring tree planting ceremony, the enjoyable social get-togethers such as welcome receptions, the Gala dinner, and the interesting in-Congress tours that offered participants a great experience of the beautiful forests and landscapes and their management in and around Curitiba.

Last but certainly not least, the "Brazilian Square" exhibition area with its 30 national and international exhibitors showcased a variety of forest-based activities in the country presenting wood artifacts and forest foods from different parts of Brazil, as well as providing insights into research and development achievements in the forestry sector nationally and internationally.

Extensive media coverage with in-depth interviews, major press releases, vivid social media activity, videos and photos also contributed significantly to communicating about the Congress to wider domestic and global audiences.

**Find all about the Congress here:**

<https://www.iufro.org/events/congresses/2019/>

**Read about the Congress in IUFRO News 10/2019 here:**

<https://www.iufro.org/publications/news/electronic-news/article/2019/11/05/iufro-news-vol-48-issue-10-november-2019/>



Expo Unimed center. Photo by courtesy of the COC



Mayor of Curitiba, Rafael Greca, visits exhibition. Photo by courtesy of the COC



Field tour. Photo IUFRO

## Honours and Awards at the Congress

### IUFRO Honorary Membership

*Niels Elers Koch*, Denmark, IUFRO Immediate Past President

### IUFRO Distinguished Service Award (DSA)

*Yeda M. Malheiros de Oliveira*, Brazil,

Congress Organizing Committee Co-Chair

*Joberto Veloso de Freitas*, Brazil,

Congress Organizing Committee Co-Chair

*Jerry Vanclay*, Australia,

Congress Scientific Committee Chair

*Piotr Paschalis Jakubowicz*, Poland,

promoter of IUFRO activities in forest education

*John Stanturf*, U.S.A.,

engagement in IUFRO-SPDC thematic networking and training activities

### IUFRO World Congress Host Scientific Award

*Sebastião do Amaral Machado*

*José Natalino Macedo Silva*

*Celso Edmundo Bochetti Foelkel*

*Maria José Zakia (Zezé)*

### IUFRO Scientific Achievement Award (SAA)

*S. Ellen Macdonald*, Canada

*José L. de Moraes Gonçalves*, Brazil

*Maria Nijnik*, U.K.

*David J. Nowak*, U.S.A.

*Elena Paoletti*, Italy

*Marielos Peña-Claros*, Netherlands

*Terence C.H. Sunderland*, Canada

*Margarida Tomé*, Portugal

*Daowei Zhang*, U.S.A.

*Junyong Zhu*, U.S.A.

### IUFRO Outstanding Doctoral Research Award (ODRA)

*Angela L. de Avila*, Brazil/Germany

*Sarah L. Burns*, Argentina

*Andrea Hevia Cabal*, Spain

*Verónica F. Loewe Muñoz*, Chile

*Lichao Jiao*, China

*Rubén Valbuena*, U.K.

*Ida Wallin*, Germany

*Zhen Yu*, U.S.A.

*René Zamora-Cristales*, U.S.A./Guatemala

### IUFRO Student Award for Excellence in Forest Science (ISA)

*Shankar Adhikari*, Nepal

*Katharina Albrich*, Austria

*Shourav Dutta*, Bangladesh

*Ange A. Raharivoloniaina*, Madagascar

*Andrea M. Vasquez-Fernandez*, Peru

*Khalil Walji*, Canada

### IUFRO Best Poster Award

*Elizabeth Neire da Silva*, Brazil

*Angeline Martini*, Brazil

*Masakazu G. Iwaizumi*, Japan

*Wouyo Atakpam*, Togo

*Naohiro Imamura*, Japan

*Giovanni Mastrolonardo*, Italy

*Luiz Felipe de Castro Galizia*, Spain

*Tchegoun Blaise Tchetan*, Benin



Former IUFRO President Niels Elers Koch (right) received Honorary Membership. Photo by courtesy of the COC



Winners of ODRA and ISA. Photo IUFRO



Hiroto Mitsugi (left), FAO Assistant Director-General of the Forestry Department, and Mike Wingfield (right), IUFRO President, present Wangari Maathai Award to Leonidas Nzigiyimpa (center). Photo by courtesy of the COC

### IUFRO Certificates of Appreciation

*Juliana Mendes Gomes, Maristela Avila Abrantes, Katia Regina Pichelli, Erich Gomes Schaitza und Patrícia Póvoa do Mattos*

### Wangari Maathai 'Forest Champions' Award

*Leonidas Nzigiyimpa*, Burundi

### IUFRO Certificates of Appreciation not related to the Congress

*Alberto Santini and Team*, IUFRO WP 7.02.02 and WP 7.02.03 "Phyllosphere Diseases"

*Michael Grabner*, 2019 World Wood Day Symposium and the 2<sup>nd</sup> IUFRO Forest Products Culture Research Group Colloquium

## IUFRO Board until 5 October 2019

### IUFRO Senior Officeholders:

President: Mike Wingfield, South Africa  
Vice-President Divisions: Björn Hånell, Sweden  
Vice-President Task Forces, Special Programmes, Projects and IUFRO-led Initiatives: John Parrotta, U.S.A.  
Immediate Past President: Niels Elers Koch, Denmark

### Division Coordinators:

- Division 1: Jens Peter Skovsgaard, Sweden
- Division 2: Yousry El-Kassaby, Canada
- Division 3: Woodam Chung, U.S.A.
- Division 4: Jean-Luc Peyron, France
- Division 5: Pekka Saranpää, Finland
- Division 6: Tuija Sievänen, Finland
- Division 7: Eckehard Brockhoff, New Zealand
- Division 8: Sandra Luque, France
- Division 9: Daniela Kleinschmit, Germany

### President's Nominees:

John Innes, Canada  
Shirong Liu, China  
Ben Chikamai, Kenya  
Jung-Hwan Park, Korea (Rep)  
Manuel Guariguata, Venezuela/Peru

### IUFRO Executive Director:

Alexander Buck, Austria

### IUFRO Headquarters Host Country Representative:

Maria Patek, Austria

**COC and CSC Chairs:** Joberto Veloso de Freitas and Yeda Maria Malheiros de Oliveira, Brazil, Jerry Vanclay, Australia

### FAO Representative:

Hiroto Mitsugi, Japan/Italy

### IUFRO Task Force Coordinators:

- Forests, Soil and Water Interactions: Xiaohua (Adam) Wei, U.S.A.
- Forest Biomass Network: Maliwan Haruthaithanasan, Thailand
- Resources for the Future - Transformation in Forest Use: John Innes, Canada
- Sustainable Planted Forests for a Greener Future: Christophe Orazio, France
- Forest Adaptation and Restoration under Global Change: Andreas Bolte, Germany
- Climate Change and Forest Health: Elena Paoletti, Italy
- Forests and Biological Invasions: Andrew Liebhold, U.S.A.
- Joint IUFRO-IFSA Task Force on Forest Education: Sandra Rodríguez-Pineros, IUFRO/Mexico, Khalil Walji, IFSA/FAO
- Monitoring Global Tree Mortality Patterns and Trends: Henrik Hartmann, Germany

### Special Programmes, Projects and IUFRO-led Initiatives:

- IUFRO Special Programme for Development of Capacities (IUFRO-SPDC): Michael Kleine, Austria
- IUFRO World Forests, Society and Environment (IUFRO-WFSE): Pia Katila, Finland
- Global Forest Information Service (GFIS): Eero Mikkola, Finland
- Global Forest Expert Panels (GFEP): Christoph Wildburger, Austria
- IUFRO Special Programme Directors' Forum (IUFRO-SPDF): Konstantin von Teuffel, Germany

## New Board Members 2019-2024

### IUFRO Senior Officeholders:

President: John Parrotta, U.S.A  
Vice-President for Divisions: Daniela Kleinschmit, Germany  
Vice-President for Task Forces, Special Programmes, Projects and IUFRO-led Initiatives: Shirong Liu, China  
Immediate Past President: Mike Wingfield, South Africa

### Division Coordinators:

- Division 1: Jens Peter Skovsgaard, Sweden
- Division 2: Santiago González Martínez, France
- Division 3: Woodam Chung, U.S.A.
- Division 4: Donald Hodges, U.S.A.
- Division 5: Pekka Saranpää, Finland
- Division 6: Cecil Konijnendijk, Canada
- Division 7: Eckehard Brockhoff, Switzerland
- Division 8: Sandra Luque, France
- Division 9: Mónica Gabay, Argentina

### President's Nominees:

Hubert Hasenauer, Austria  
Erich Gomes Schaitza, Brazil  
Xiao Wenfa, China  
Tadesse Wubalem Wondifraw, Ethiopia  
Elena Paoletti, Italy  
Kugbo Shim, Korea (Rep)  
Olga Shaytarova, Russia

### IUFRO Executive Director:

Alexander Buck, Austria

### IUFRO Headquarters Host Country Representative:

Maria Patek, Austria

**COC and CSC Chairs:** Fredrik Ingemarson, Sweden, and Elena Paoletti, Italy

### FAO Representative:

Hiroto Mitsugi, Japan/Italy

### IUFRO Task Forces Coordinators

- Forest Education: Sandra Rodríguez-Pineros, Mexico, and Alex Onatunji, Nigeria
- Monitoring Global Tree Mortality Patterns and Trends: Henrik Hartmann, Germany
- Fire\$ - Economic Drivers of Global Wildland Fire Activity: François-Nicolas Robinne, Canada
- Forests and Water Interactions in a Changing Environment: Xiaohua (Adam) Wei, U.S.A.
- Gender Equality in Forestry: Gun Lidestav, Sweden
- Resilient Planted Forests Serving Society & Bioeconomy: Christophe Orazio, France
- Strengthening Mediterranean Nursery Systems for Forest Reproductive Material Procurement to Adapt to the Effects of Climate Change: Fulvio Ducci, Italy
- Unlocking the Bioeconomy and Non-Timber Forest Products: James Chamberlain, U.S.A.
- Transforming Forest Landscapes for Futures Climates and Human Well-Being: Andreas Bolte, Germany

### Special Programmes, Projects and IUFRO-led Initiatives:

No changes except for the Coordinator of IUFRO-SPDF: Peter Mayer, Austria

The **XXVI IUFRO World Congress** under the theme "Forest and Society Towards 2050" will be held in Stockholm, Sweden, in 2024. The Swedish University of Agricultural Sciences and the City of Stockholm in close collaboration with the Nordic and Baltic partners, welcome delegates from all over the world.



# Silviculture - Division 1

**Coordinator:** Jens Peter Skovsgaard, Sweden (no change)

**Deputy Coordinators:**

Pil Sun Park, Korea (Rep) (no change)

Khosro Sagheb-Talebi, Iran (no change)

Kevin L. O'Hara, U.S.A. (previous term)

Teresa Fonseca, Portugal (new term)

**Major achievements in 2019**

IUFRO Division 1 Silviculture with its 10 Research Groups and 19 Working Parties was involved in organizing nine major events during 2019. In addition to these, most Units of Division 1 were involved in organizing sessions at the XXV IUFRO World Congress in Curitiba. These include sub-plenary and technical sessions in close cooperation with other Divisions, Task Forces and IFSA. Several officeholders in Division 1 were assisting in the many poster presentation sessions, covering simultaneous translation of a range of different languages.

In 2019, we contributed to the World Congress on Agroforestry. Another significant event was the 50th Anniversary Conference of our Unit for *Abies ecology and silviculture* (box 1). Still going strong, this unit is one of the oldest in Division 1 and has a tremendous record of professional meetings, proceedings and other publications.

Just around New Year IUFRO 1.03.01 published the significant book '*Coppice forests in Europe*', authored by 115 expert scientists and forestry practitioners from 35 countries across Europe and beyond. The book covers all aspects of coppice forestry, including silviculture, ecology, economics and social aspects.

The coppice book focuses on classical coppice, but also addresses contemporary short-rotation coppice forestry. The publication is based on work from COST Action FP1301 EuroCoppice, supported by COST (European Cooperation in Science and Technology). The book is free for download at <http://www.eurocoppice.uni-freiburg.de/coppice-forests-in-europe> (ISBN 978-3-9817340-2-7).

Another major contribution was made by IUFRO 1.08.00 to the significant book '*Non-Wood Forest Product in Europe. Ecology and Management of mushrooms, tree products, understory plants and animal products*', the outcome of COST Action FP1203 on European NWFPs. The book (ISBN: 978-3-7494-7546-9) was authored by 102 experts from 25 countries across Europe and beyond.

In recent years, we have seen an expansion of activities regarding long-term field experiments, experimental forests and long-term forest research in general. To put more emphasis on experiments in silviculture we widened the scope of an existing Unit and established the new IUFRO Research Group 1.10.00 *Long-term research on forest ecosystem management*.

In 2019, Division 1 enhanced efforts to communicate with the Deputy Coordinators of the Units to update the information and prepare the transition from one term to the next for officeholders (2020-2024). Vertical changes were identified and reinforcements with new deputies, including junior scientists, were promoted.



IUFRO 1.08.00 field tour to primary mixed forest with Korean pine and broadleaved tree species at Tiger Mountain in Russian Far East.  
Photo: Hailong Shen

**Box 1: Unique long-term cooperation on in international forest research on fir**

In 2019 IUFRO 1.01.09 *Ecology and silviculture of fir* celebrated its 50th anniversary by organizing the well-attended conference "*Prospects for fir management in a changeable environment*". The conference was hosted by the Agricultural University of Krakow, Poland. During the 50 year period, 17 international *Abies* conferences were organized under the auspices of IUFRO 1.01.09. In 2016, the Unit expanded its focus from *Abies alba* (European silver fir) to cover the ecology and silviculture of all fir species, and the motto "Bringing knowledge of fir species together" remains a main guideline for all activities.

The next conference will be organized in Sarajevo, Bosnia and Herzegovina, a country where silver fir is the most important tree species. This will be a great opportunity for participants to visit famous virgin forest remnants and to get insight into nature-based silver fir management.

**Meetings in 2019**

7-12 April, Vienna, Austria

1.03.01, 7.01.03

**Biomass in future energy and resource systems (EGU) 2019**

20-22 May, Montpellier, France

1.04.00

**4th World Congress on Agroforestry**

28-30 May, Krakow, Poland

1.01.09

**Prospects for fir management. 50th anniversary of *Abies***

16-22 June, Warsaw, Poland

Division 1

**Forests in Science, Practice and Education**

2-4 September, Lviv, Ukraine

1.01.07, 8.01.01

**Temperate and boreal primeval forests in the face of global change**

16-18 September,  
Vladivostok, Russia  
1.08.00

**International Symposium  
on Korean pine biology  
and silviculture**

22 November,  
Coimbra, Portugal  
1.01.10

**Silviculture of maritime  
pine**

3-4 December,  
Jastrebarsko, Croatia  
1.01.03/Divisions 1 and 2

**Climate Change and New Challenges in Production of Forest  
Reproductive Material**

**Products 2019**

**Proceedings**

Forests in Science, Practice and Education

<https://www.iufro.org/publications/proceedings/proceedings-meetings-2019/#c28376>

**Proceedings**

International Symposium on Korean pine biology and silviculture  
<https://www.iufro.org/publications/proceedings/proceedings-meetings-2019/#c28378>

**Commissioned review article**

Sheppard J.P., Chamberlain J., Agúndez D, Bhattacharya P., Chirwa P.W., Gontcharov A., Sagona W.C.J., Shen H.L., Tadesse W., &



Poster presentation during IUFRO's World Congress 2019 in Curitiba, Brazil.  
Photo provided by Division 1

Mutke S. (2020). *Sustainable Forest Management Beyond the Timber-Oriented Status Quo: Transitioning to Co-production of Timber and Non-wood Forest Products – a Global Perspective*. Current Forestry Reports. <https://doi.org/10.1007/s40725-019-00107-1>

**Project reports**

Vacik H., Hale M., Spiecker H., Pettenella D, Tomé M. (eds.) 2019. *Non-Wood Forest Products in Europe. Ecology and Management of mushrooms, tree products, understory plants and animal products*. Books on Demand GmbH, Norderstedt, 414 p. ISBN: 978-3-7494-7546-9.

Unrau, A., Becker, G., Spinelli, R., Lazdina, D., Magagnotti, N., Nicolescu, V.N., Buckley, P., Bartlett, D., Kofman, P.D. (Eds.) (2018). *Coppice Forests in Europe*. Freiburg i. Br., Germany: Albert Ludwig University of Freiburg. <http://www.eurocoppice.uni-freiburg.de/coppice-forests-in-europe>

## Physiology and Genetics - Division 2

**Coordinator:**

Yousry A. El-Kassaby, Canada (previous term)  
Santiago C. González-Martínez, France (new term)

**Deputy Coordinators:**

Janice Cook, Canada (no change)  
Dario Grattapaglia, Brazil (no change)  
Marjana Westergren, Slovenia (new term)  
Ilga Porth, Canada (new term)

**Division 2 includes 5 Research Groups (RGs) and 29 Working Parties (WPs), which are organized as follows:**

RG 2.01.00: Physiology (6 WPs)  
RG 2.02.00: Conifer breeding and genetic resources (8 WPs)  
RG 2.02.00: Genetics (5 WPs)  
RG 2.08.00: Hardwood improvement, culture and genetic resources (6 WPs)  
RG 2.09.00: Tree seed, physiology and biotechnology (3 WPs)

**Cooperation and Policy Processes**

A new Task Force *Strengthening Mediterranean Nursery Systems for Forest Reproductive Material Procurement to Adapt*



Best Oral Presentation by Young Scientist presented to Ms. Ye Ji Kim (Seoul National University, Republic of Korea) by Prof. Yousry El-Kassaby (University of British Columbia, Canada) (Wednesday, October 16th, 2019).  
Photo Credit: IUFRO Seed Orchard Conference 2019.

to the Effects of Climate Change was presented on behalf of FAO Silva Mediterranea WG4 "Forest genetic resources in the Mediterranean Region", with the formal approval by the Committee on Mediterranean Forestry Questions of FAO Silva Medi-

terranea (SM), and of IUFRO WP 2.02.13 at the 24th Committee meeting held in Brummana, Lebanon, on 1-5 April 2019. The Task Force was approved by the IUFRO Enlarged Board at the Meeting held in Curitiba, Brazil on 26-27 September 2019. The main goal of the TF is the establishment of a regional strategy for the conservation and sustainable management of forest genetic resources, in particular for new plantations that will maintain forest ecosystem services and for social/urban forestry.

In 2019, the *Alpine Forest Genomics Network* (AForGeN, WP 2.04.11) continued to focus on the Silver Fir Genome Project (SFGP) initiated in 2016; a scientific paper presenting the first reference genome sequence for *A. alba*, produced thanks to a crowdfunding scheme, was published in G3 journal (<https://doi.org/10.1534/g3.119.400083>). The next step for the SFGP project is the establishment of an extended network of researchers working on an improved version of the reference genome, development of a SNP chip and linkage maps. The WP 2.09.02 was associated in 2019 to the organization of an international post-graduate course at the University of La Plata (UNLP), Argentina (March 18-22, 2019) entitled “*New technologies and approaches for adding value to wood*” (<http://www.bioeconomia.mincyt.gov.ar/posgrado-internacional/>). It is one important mission of this Unit to promote the field of tree vegetative propagation and enabling technologies to students in forestry and (budding!) young scientists.



AForGeN2019 Meeting, 12-14 June in the French Alps, the region of Mont Ventoux. Group photo by Santiago C. González-Martínez

### Meetings, workshops and conferences

During 2019, Division 2 Genetics and Physiology was involved in organizing eight conferences, meetings, workshops and other events, including 14 technical and 1 supplementary sessions at the XXV IUFRO World Congress in Curitiba, Brazil. Three of these events were interdivisional. Events were hosted in Asia, Europe and North America.

A prominent example of bridging generations as well as academia and industry was the biennial *IUFRO Tree Biotechnology Conference* (WP 2.04.06). In the 2019 edition, it brought together 160 students, postdoctoral fellows, and scientists from academia and industry to discuss cutting-edge advancements in many facets of forest biotechnology research in Raleigh, United States. The participants highlighted the need for enhancement of phenotyping as more and more genotyping data becomes available; the advent of collaborative metadata analyses and integration of systems biology with climate and geographical data; and the challenges of genome editing



Participants visiting Tsunami rehabilitation plantations of Casuarina in Krabi, Thailand. Photo: Secretariat of the 6th International Casuarina Workshop

with the understanding of the infinitesimal effect of alleles. These messages were interwoven with the need to include local indigenous groups and public in the conversation, forest molecular biology, as well as increasing measures of diversity in our scientific community.

A good example of cooperation between WGs and Task Forces was the *Sixth International Casuarina Workshop* in Krabi, Thailand, a joint workshop between WP 2.08.02 and T30. The 70 participants from 10 countries decided to quantify the overall socio-economic and environmental benefits of casuarina planting to provide the industry leaders and policy makers with the information required for increased prioritization and investments to advance research and development efforts. They also agreed to strengthen the ongoing programs on genetic improvement, biological nitrogen fixation through *Frankia* symbiosis and evolving appropriate silvicultural techniques.

Another good example of interaction within Division 2, involving Working Parties of three different RGs (WPs 2.09.01, 2.09.03, 2.04.02, 2.02.23 and 2.02.07), was the *IUFRO Seed Orchard Conference* that took place in Nanjing, China, on 14-16 October 2019 under the subtitle “*Seed Orchards and Climate Change*”. The conference covered a broad variety of topics from seed orchard design and management, fertility variation and genetic diversity of seed crops, seed processing and treatment to gene conservation and adaptation of forest trees to changing climate and linking forest tree seed orchards with long-term breeding. Besides, genomic selection and its integration into forest tree improvement programs took up a substantial portion of the conference agenda – three out of fourteen keynote presentations were dedicated to this topic.

Owing to a number of oral and poster presentations given by Chinese researchers, the conference provided a great opportunity for foreign participants to learn about China’s progress in seed orchards and forest tree improvement. For illustration, China was the world’s leading country in terms of forest area gain in 2010–2015, with net gains exceeding 1.5 million hectares per year – a figure that demonstrates China’s commitment to reducing net carbon dioxide emissions.

One major accomplishment of WP 2.08.04 in 2019 was the development of the *WG Science Briefs*, which are two-page information bulletins that summarize peer-reviewed manuscripts, reports, and activities related to poplar and willow genetics and physiology.

Finally, among the events highlighted in this section, it is worthy to notice the important contribution of Division 2 to the XXV IUFRO World Congress in Curitiba, Brazil, with 14 technical sessions and 1 supplementary session held within Division 2.

Important issues were discussed and decisions made at the *Division 2 Administrative Meeting*, including the replacement of about 1/3 of officeholders in the Division, to improve gender balance and geographical representation. During the meeting, the *Division 2 Best Poster Award* was given to *Masakazu G. Iwaizumi*, from the Forestry and Forest Products Research Institute, Ibaraki, Japan, for his remarkable work on geographic clines in genetic diversity and variation in adaptive traits of two major pine species in Japan. Dr. Cristiano Vernesi, from Fondazione Edmund Mach, closed the Administrative Meeting with his presentation about the new COST ACTION, 'G-BIKE: Genomic Biodiversity Knowledge for Resilient Ecosystems', which aims to integrate genetic and evolutionary knowledge into conservation planning policies (<https://sites.google.com/fmach.it/g-bike-genetics-eu/home>). A news piece from this meeting was published at the EVOLTREE webpage and largely disseminated through its October Newsletter (<http://www.evoltree.eu/index.php/network/current-information/news/29-news/163-strong-evoltree-presence-in-brazil?acm=111>).

#### Meetings in 2019

12-14 June, Mont Ventoux, France  
2.04.11

##### AForGeN 2019

23-28 June, Raleigh, NC, U.S.A.  
2.04.06

##### 2019 IUFRO Tree Biotechnology Conference: Forests, Technology and Society

22-26 July, Invermere, BC, Canada  
2.02.15 (& 7.02.05)

##### 2019 Joint Meeting of IUFRO Working Parties: Genetics and Breeding of 5-needle pines (2.02.15) and Rusts of Forest Trees (7.02.05)

26-30 August, Quebec City, Canada  
2.02.09

##### 14th International Christmas Tree Research and Extension Conference

16-20 September, Shchuchinsk, Kazakhstan  
2.02.00

##### 6th International Conference on "Conservation of Forest Genetic Resources"

29 September - 5 October, Curitiba, Brazil  
1 supplementary and 14 technical sessions within Division 2  
**XXV IUFRO World Congress 2019**

14-16 October, Nanjing, China  
2.09.01, 2.09.03, 2.04.02, 2.02.23, 2.02.07

##### The IUFRO Seed Orchard Conference 2019 - Seed Orchards and Climate Change

21-25 October, Krabi, Thailand  
2.08.02 (& Task Force Forest Biomass Network)

##### The Sixth International Casuarina Workshop: Casuarinas for green economy and environmental sustainability

3-4 December, Jastrebarsko, Croatia  
2.00.00 (& 1.00.00, 1.01.03)

##### Climate Change and New Challenges in the Production of High-Quality and Well Adapted Forest Reproductive Material. 60th Anniversary of Forest Seed Science and Technology in Croatia

## Forest Operations, Engineering and Management - Division 3

**Coordinator:** Woodam Chung, U.S.A. (no change)

**Deputy Coordinators:** Ola Lindroos, Sweden (no change)  
Yaoxiang Li, China (new term)  
Luc Lebel, Canada (new term)

IUFRO Division 3 currently consists of 10 Research Groups and 5 Working Parties. Our research spans all aspects of forest operations and engineering, from forest nursery management and forest restoration to timber production and forest products supply chains. Our research develops and delivers science, innovations and solutions for economically, socially and environmentally sustainable forest management practices.

#### New Term, New Division

An improved Division 3 emerged in the new IUFRO term (2019-2024), and after the XXV World Congress in Brazil. We have new officeholders and a new Division structure.

- 54 global leaders, working in their respective fields, are serving as IUFRO officeholders to advance the Division's 10 Research Groups and five Working Parties; 24 of these science and research leaders are new to their position as Division officeholders.

- "Forest Operations in Difficult Terrain" is the new, more inclusive name for Unit 3.06.00. Their research is focused on forest operations under difficult working conditions due to steep terrain and variability of soils, surface wetness, climate, social and environmental restrictions.
- 2 new Research Groups have been added:

*3.09.00 Sustainable Forest Operations for Forest Landscape Restoration:* This Research Group aims to fill the unmet need for study and successful implementation of forest restoration objectives. New technologies will be developed to meet the unique objectives of forest restoration, beyond those of traditional forest operations on vegetation management and timber production.

*3.10.00 Forest Robotics and Digital Forest Operations:* This new Unit will bring innovative digital and automation technologies to forest practices. The Unit will be devoted to development, testing and implementation of autonomous, semi-autonomous forest equipment, digital and precision forest operations.

#### IUFRO Division 3 Outstanding Contribution Award

Division 3 created the Outstanding Contribution Award to recognize exceptional individuals who have significantly contributed to advancing our knowledge in forest engineering and



A total of 280 participants from 30 countries attended the landmark joint meeting in Hungary. The conference hosted 110 presentations and three parallel sessions on the latest developments in forest engineering research and technology. Two keynote sessions focused on smart forestry, sustainability and digitalization in forest operations.

Conference presentations were capped by the Austria field excursion to attend AUSTROFOMA, the largest forest technology exhibition and in-woods demonstration fair in Central Europe. AUSTROFOMA showcased the most recent product portfolios and newest technology of more than 150 equipment manufacturers and technology providers.

*Capabilities of a new steep-slope forwarder were demonstrated at the AUSTRO-FOMA Expo. The tour was a part of the Joint Annual Meeting of FORMEC and COFE held in Hungary/Austria, October 6-9, 2019. Photo credit: Woodam Chung*

science. Each awardee will have notably contributed to the research community through their participation, service and proven leadership in their organizations, Research Groups and international societies. The first recipient of the award, by vote of Division 3 officeholders, is Professor Raffaele Cavalli, University of Padua, Italy.

#### **The XXV IUFRO World Congress 2019**

Division 3 actively participated in the XXV IUFRO World Congress, held in Brazil, 29 September – 5 October 2019. Division 3 members networked with colleagues and newcomers, organized subplenary and technical sessions, presented research, and organized business meetings.

#### **The First Joint Annual Meeting of FORMEC and COFE – Exceeding the Vision: Forest Mechanization of the Future**

Two of the world's largest forest engineering forums co-organized their first Joint Annual Meeting in Hungary and Austria. The Symposium on Forestry Mechanization (FORMEC), Europe, and the Council on Forest Engineering (COFE), North America, expanded their global reach by networking and research collaboration across the Atlantic Ocean. The inaugural event unified and strengthened Division 3 research fields.

#### **Meetings in 2019**

3-7 March, Puerto Varas, Chile

3.04.00

#### **18th Symposium on Systems Analysis in Forest Resources (SSAFR)**

8-10 July, Duluth, MN, U.S.A.

3.08.00

#### **Small-scale Forestry Conference 2019**

4-6 September, Tirana, Albania

3.01.00

#### **2nd International Symposium of Forest Engineering and Technologies (FETEC 2019)**

29 September – 5 October, Curitiba, Brazil

IUFRO

#### **XXV IUFRO World Congress**

6-9 October, Sopron, Hungary and Forchtenstein, Austria

3.00.00

#### **Joint Annual Meeting of International Symposium on Forest Mechanization (FORMEC) and Council on Forest Engineering (COFE)**

## **Forest Assessment, Modelling and Management - Division 4**

**Coordinator:** Jean-Luc Peyron, France (previous term)  
Don Hodges, United States (new term)

#### **Deputy Coordinators:**

Ronald E. McRoberts, United States (previous term)  
Jerry Vanclay, Australia (previous term)  
Lidija Zadnik-Stirn, Slovenia (previous term)  
Bianca Eskelson, Canada (new term)  
Temesgen Hailemariam, United States (new term)  
Arne Pommerening, Sweden (new term)

This Division is comprised of 5 Research Groups with 27 Working Parties:

RG 4.01.00: Forest mensuration and modelling (6 WPs)  
RG 4.02.00: Forest resources inventory and monitoring (7 WPs)  
RG 4.03.00: Informatics, modelling and statistics (3 WPs)  
RG 4.04.00: Forest management planning (6 WPs)  
RG 4.05.00: Managerial economics and accounting (5 WPs)

This Division is focused primarily on studies of growth and yield (including mensuration); forest resource inventory (collection



During the field trip of the conference 'Celebrating 100 years of Norway's Forest Inventory'. Photo by Andy Hartsell of the USDA Forest Service

and analysis of resource data); forest management planning and managerial economics; remote sensing; management sciences of forest enterprises; statistical methods, mathematics and computer technology. For 2019, and in the future, the focus of Division 4 is on innovations in data collection and monitoring, modelling, evaluation methods, products, and markets to cope with sustainable forest management challenges brought about by the impacts of human activities and changes in social demands for forest goods and services.

Specific research areas identified for this focus include:

- widening the scope of Division efforts beyond timber production to encompass multiple ecosystem services;
- developing information systems for research and management across temporal and spatial scales;
- improving indicators for sustainable forest management;
- integrating new technologies and methods for forest assessment, modelling and management; and
- accounting for changes, risks, and uncertainties.

Much of this was evident in the sessions, presentations, and posters at the XXV IUFRO World Congress in Curitiba, Brazil. Division 4 members contributed with 27 oral sessions and numerous poster sessions, as well as authored 728 abstracts at the World Congress. Session topics included a subplenary session on climate smart forestry, decision support approaches for the 21st century, forest inventory and modelling, monitoring forest dynamics, long-term forest monitoring, cloud computing and remote sensing, forest carbon pools and stocks, valuation of wood and nonwood forest products, establishing benchmarking systems, and multinational forest inventory cooperation.

### Meetings in 2019

20-24 May, Sundvollen, Norway

#### **A Century of National Forest Inventories; Informing Past, Present and Future Decisions**

<https://nibio.pameldingssystem.no/nfi100years>

Co-sponsored by 4.00.00

The conference celebrated the 100th anniversary of Norway's national forest inventory and focused on the history and recent innovations in national forest inventories. The conference focused on the evolution of national inventories from relying

exclusively on standing volume to include a range of other variables, integrating varied sources of information, balancing remote sensing and field sampling, and communicating and utilizing inventory results.

A special issue is planned for the conference: Tomppo, Erkki; Ron McRoberts, Clara Anton Fernandez, Iciar Alberdi and Johannes Breidenbach. *National forest inventories – informing past, present and future decisions*. Forest Ecosystems.

### Publications

- Garcia-Gonzalo, Jordi; Jose G. Borges, Eva-Maria Nordström, Nana Monsu. 2019. *Models and tools for integrated forest management and forest policy analysis*. Forest Policy and Economics 103 (June 2019): 1-166.

This special issue originates from the COST Action FP1207 "Orchestrating forest-related policy analysis in Europe (ORCHESTRA)" and involves researchers from Division 4. The emphasis is on improving the understanding and capacities of forestry decision support tools for integrated policy analysis. It provides an overview of existing models, methods, and/or decision support systems (DSS) that account or may be used for forest-related policy analysis at multiple levels. It discusses benefits and limitations/challenges of the use of these tools with a reference to its application in real case studies. Conclusions on the state-of-the-art in decision support for policy analysis and the needed advances in research are drawn.

- Borges, Jose; Harald Vacik, Keith M. Reynolds, Luiz Carlos E. Rodriguez, Emin Z. Başkent. Forthcoming. *Decision support to address multiple ecosystem services in forest management planning*. Forests. IUFRO units 4.04.04, 4.03.00, and 4.03.03.

This special issue contributes to our understanding of how we can enhance forest management planning, in integrating a wide range of ecosystem services (ES) and assuring a sustainable supply (e.g. products and services listed in the Millenium Ecosystem Assessment). It focuses on models to assess the impact of management options on the provision of ES, target the supply of ES, and analyze tradeoffs between multiple ES; methods assess the sensitivity of ES supply to uncertain parameters; multiple criteria decision support systems; and approaches to map ES demand and the quality and quantity of ES supply.

- Borges, Jose; Susete Marques, Brigitte Botequim. Forthcoming. *Disturbance management in forest ecosystems*. International Journal of Environmental Research and Public Health. IUFRO units 4.04.04.

This publication addresses recent advances in decision support approaches to integrate concerns with disturbance agents into forest planning. Specific focus areas are characterizing disturbance regimes, especially climate change; ecology and management of disturbance agents; assessing disturbance impacts on ecosystem services; incorporating disturbance concerns in planning; and developing regulatory frameworks and policy analysis.

## Forest Products - Division 5

**Coordinator:** Pekka Saranpää, Finland (no change)

**Deputy Coordinators:**

Franka Brüchert, Germany (no change)

Roger Meder, Australia (no change)

Andrew Wong, Malaysia (no change)

Jamie Barbour, U.S.A. (previous term)

Eric Hansen, U.S.A. (new term)

Division 5 has 10 Research Groups (RGs) including 18 Working Parties (WPs) that address all aspects from wood raw material properties and processing to marketing and life cycle analysis.

RG 5.01.00: Wood and fibre quality (5 WPs)

RG 5.03.00: Wood protection (1 WP)

RG 5.04.00: Wood processing (3 WPs)

RG 5.05.00: Composites and reconstituted products

RG 5.06.00: Properties and utilization of plantation wood (2 WPs)

RG 5.07.00: Biorefinery (2 WPs)

RG 5.10.00: Forest products marketing and business management

RG 5.11.00: Non-wood forest products (1 WP)

RG 5.12.00: Sustainable utilization of forest products (2 WPs)

RG 5.15.00: Forest products culture (2 WPs)

Sustainable use of biomass, future wood based products and biorefining, life cycle analysis, cascade use of wood are among key issues in the field of forest products research. Forest products culture and traditional use of wood promote the visibility of Division 5 and IUFRO to wider audiences than the scientific community and decision makers. Division officeholders actively participated in preparing the new Task Force on *Unlocking the Bioeconomy and Non-Timber Forest Products*. Several Units organized their meetings during the IUFRO XXV World Congress in Curitiba, reorganized their structure and recruited new officeholders. Inactive Units were hibernated and Division 5 aims to further modernize the structure.

Highlights of the year 2019 include the XXV IUFRO World Congress in Curitiba during which Division 5 officeholders organized a total of 22 sessions covering both technical, economic and societal aspects related to forest and non-wood products. An inter-Divisional subplenary session on *Managing Forest Ecosystem Resilience and Biological and Social Diversity for Future Forest Products* was organized together with Divisions 1, 3 and 5.

On May 20-22, 2019, the *IAWA-IUFRO International Symposium on Challenges and Opportunities for Updating Wood Identification* was held in China. The symposium was successfully co-organized by the Research Institute of Wood Industry (CRIWI), Chinese Academy of Forestry (CAF) and US Forest Products Laboratory (FPL). Altogether 90 participants from 11 countries registered for the meeting. Presentations focused on recent advances on wood image analysis and database establishment, DNA barcoding techniques, chemical fingerprint techniques as well as policy implementation. The symposium also addressed ways to combat illegal logging,



Xiping Wang (right) accepts a Chief's Award from US Forest Service Chief Vicki Christiansen. Photo by courtesy of US Forest Service

Forest Products Laboratory (FPL) Research Forest Products Technologist Xiping Wang was acknowledged with a Chief's Award for applying knowledge globally. Xiping is also the Coordinator of IUFRO Division 5 Research Group on Wood and Fibre Quality. Dr. Wang has made outstanding contributions to conservation research, specifically with respect to: technologies for assessing standing timber and logs, urban hazard trees, and the condition of wood structures; and heat sterilization strategies and techniques for treating wood products to mitigate the spread of invasive species.

including new techniques of wood identification and global timber tracking techniques.

The Forest Research Institute Baden-Württemberg, USDA Forest Products Laboratory, Forest Products Society, and IUFRO Unit 5.01 jointly organized the *21st International Nondestructive Testing and Evaluation of Wood Symposium*, on September 24-28, 2019, in Freiburg, Germany. Prior to the Symposium a technical workshop, "Nondestructive Testing and Evaluation Opportunities in a Historic European City" was held. It included coursework on the state-of-the-art in NDE as applied to historic structures, and a tour of the historic Freiburg Cathedral. The Symposium's sessions include topics on inspection of historic structures, the use of NDE in industrial environments and application of NDE around the world.

A three-day-long IUFRO WP 5.07.03 *Conference on Green Technology of Pulp, Paper and Allied Industries* was held back-to-back with the BCSIR Congress 2019 at Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka, on 12-14 December 2019. About 300 participants attended the Congress and more than 200 technical papers were presented by experts from 10 countries.

World Wood Day 2019 was held successfully at the Austrian Open Air Museum at Stübing, Austria, on 20-24 March 2019 to celebrate that wood remains an environmentally friendly and sustainable resource for the world. A successful joint WWD 2019 Symposium and *IUFRO Forest Products Culture Research Group Colloquium* were held on 21-23 March 2019, co-organized by IAWA and IAWS with the support of IUFRO HQ.

## Meetings in 2019

21-23 March, Stübing, Austria  
5.15.00

### World Wood Day Symposium and 2nd IUFRO Forest Products Culture Research Group Colloquium

20-22 May, Beijing, China  
5.06.00

### IAWA-IUFRO International Symposium for Updating Wood Identification

24-27 September, Freiburg, Germany  
5.01.00, 5.01.09

### 21st International Nondestructive Testing and Evaluation of Wood Symposium

7-9 November, Brasov, Romania  
5.04.00, 5.05.00, 5.01.10

### 12th International Conference Wood Science and Engineering in the 3rd Millennium (ICWSE)

12-13 November, Ha Noi, Vietnam  
5.05.00

### Linkage of Higher Education, Research and International Integration to Sustainable Forest Resources Management and Bioeconomics

12-14 December, Dhaka, Bangladesh  
5.07.03

### Green Technology for Pulp, Paper and Allied Industries



Technical session on pulping and bleaching during the IUFRO WP 5.07.03 Conference on Green Technology of Pulp, Paper and Allied Industries 12-14 December 2019, in Dhaka, Bangladesh. Photo by courtesy of Bangladesh Council of Scientific and Industrial Research



Demonstration of equipment during the 21st International Nondestructive Testing and Evaluation of Wood Symposium, September 24-28, 2019, in Freiburg, Germany. Photo by Thomas Weidner (FVA)

## Social Aspects of Forests and Forestry - Division 6

**Coordinator:** Tuija Sievänen, Finland (previous term)  
Cecil C. Konijnendijk van den Bosch, Canada (new term)

**Deputy Coordinators:** Taylor Stein, U.S.A. (no change)  
Teresa Cristina Magro, Brazil (previous term)  
Purabi Bose, India (new term)  
Ellyn Kathalina Damayanti, Indonesia (new term)  
Liisa Tyrväinen, Finland (new term)

In 2019, the work in Division 6 was strongly influenced by the XXV IUFRO World Congress in Curitiba. Most of the Research Groups and Working Parties focused their energy on the Congress, (co-)organizing more than 20 technical and other sessions, including a subplenary session on women and forests. Division 6 was also present among the keynote speakers, with Purabi Bose (on communicating with 'people' in the scientific forestry discourse) and Maria-Chiara Pastore (on urban forestry and green building). RG 6.09 was one of the highly active groups at the Congress, organizing jointly with IUFRO's Task Force on Forest Education and the International Forestry Students Association a series of events and (early-career) training workshops both prior to, and after the event. These efforts helped ensure a strong presence of the social aspects of forests and forestry at the Congress.

In 2019 the Division also experienced a major change in its leadership, with about half of all positions changing people. After her leadership of 10 years, *Tuija Sievänen* left the reigns of the Division in new hands. Another major change was the refocusing of the *Forest Ethics* RG (6.05) on the topic of *Conflict Management*.

There were Division 6 activities outside of the World Congress as well. In May, RG 6.06 co-hosted the first *World Conference on Forests for Public Health* in Athens, Greece. During the same month, the *22nd European Forum on Urban Forestry* was held in Bonn, Germany, under the title '*Urban Forests: Full of Energy*' (RG 6.07). Division 6 also supported a conference in Vancouver, Canada, on the topic of '*Transforming Approaches to Forests and Forestry through Traditional and Local Knowledge*'.

The *Gender and Forestry* RG (6.08) played a leading role in developing the proposal for a new Task Force on Gender Equality. This Task Force has now been approved and started its work. Officeholders have been asked regularly to provide expert advice to national and international policy processes on gender issues and forestry.





Poster Presentation by Martin Braun in Session B6p, IUFRO XXV World Congress, 30 Sep 2019, Curitiba, Brazil. Copyright: Marco Charneski, 2019.

Among the Division's publications this year there were several IUFRO Spotlights in the lead up to the World Congress, as well as chapters on gender equality and environmental justice, and cities and communities in a new seminal book on the impact of the Sustainable Development Goals on forests and people. Officeholders from Division 6 are also among the driving forces behind peer-reviewed journals such as *Urban Forestry & Urban Greening* and the *Journal of Outdoor Recreation and Tourism*.

### Meetings in 2019

7 May, Ås, Norway  
RG 6.01.00 and 6.03.00

**Monitoring outdoor recreation. Current status and research needs (Nordic workshop)**

8-11 May, Athens, Greece  
RG 6.06.00

**World Conference on Forests for Public Health**

22-24 May, Bonn, Germany  
RG 6.07.00

**22nd European Forum on Urban Forestry – 'Urban Forests: Full of Energy'**

21-23 August, Vancouver, Canada  
Division 6

**Transforming approaches to forests and forestry through traditional and local knowledge**

1 October, Curitiba, Brazil

IUFRO World Congress subplenary session **'Women and Forests: Promoting gender equality connecting research, public policies and forest management in the tropics'**

### Selected Publications

Chapters in *"Sustainable Development Goals: Their Impacts on Forests and People"* (edited by Katila, P. et al.) – including Chapter 5 on Gender Equality, Chapter 10 on Reduced Inequalities, and Chapter 11 on Cities and Communities. <https://www.cambridge.org/core/books/sustainable-development-goals-their-impacts-on-forests-and-people/5FA75743F80CCE33751BD2095E5754DC>

IUFRO Spotlight #65 – *Tying up loose ends in gender equality in forestry* (RG 6.08). <https://blog.iufro.org/2019/05/20/iufro-spotlight-65-tying-up-loose-ends-in-gender-equality-in-forestry/>

IUFRO Spotlight #69 – *Sifting through underlying values and ethics to make sound nature management decisions* (RG 6.05). <https://iufro2019.com/wp-content/uploads/2019/07/congress-spotlight69-values-and-ethics.pdf>

Kohsaka, R., Rogel, M., 2019. *Traditional and Local Knowledge for Sustainable Development: Empowering the Indigenous and Local Communities of the World*. *Encyclopedia of the UN Sustainable Development Goals. Partnerships for the Goals*, Book Encyclopedia Chapter. Springer Nature. [https://link.springer.com/referenceworkentry/10.1007/978-3-319-71067-9\\_17-1](https://link.springer.com/referenceworkentry/10.1007/978-3-319-71067-9_17-1)

Lidestav, G., Johansson M, Huff, E.S., 2019. *Gender perspectives on forest services in the rise of a bioeconomy discourse*. In: Hujala, T., Toppinen, A., Butler, B.J. (eds.), *Services in family forestry*. World Forests Book Series No. 24. Springer. <https://link.springer.com/book/10.1007%2F978-3-030-28999-7>

Tyrväinen, L., Bauer, N., O'Brien, L. *Impacts of forests on human health and well-being*. In: Marusakova, L., Sallmanshofer, M. (eds.), *Human health and sustainable forest management*. FORESTEUROPE Study, FORESTS EUROPE, Liaison Unit Bratislava. [https://foresteurope.org/wp-content/uploads/2017/08/Forest\\_book\\_final\\_WEBpdf.pdf](https://foresteurope.org/wp-content/uploads/2017/08/Forest_book_final_WEBpdf.pdf)

## Forest Health - Division 7

**Coordinator:** Eckehard Brockerhoff, Switzerland (no change)

**Deputy Coordinators:** Tod Ramsfield, U.S.A. (no change)  
Elena Paoletti, Italy (previous term)  
Andrew Liebhold, U.S.A. (previous term)  
Maartje Klapwijk, Sweden (new term)

### Improving gender balance and geographic representation

All officeholders of Research Groups and Working Parties are encouraged to improve the representation of women and members from Africa, Asia and Latin America in Coordinator and Deputy roles. One way to do this is to appoint more female officeholders and/or officeholders from those regions as

Deputies. Also, up to three Deputies are allowed per Working Party and Research Group, so there is good scope for adding more.

### News and activities

#### Research Group 7.03.00 - Forest Entomology

After 13 years of service as Coordinator of Research Group 7.03 (*Entomology*), Andrew "Sandy" Liebhold (US Forest Service) is handing over the role to current Deputy Coordinator Maartje Klapwijk (Swedish Agricultural University). Previously, Sandy served as Coordinator of



Working Party 7.03.07 (*Population Dynamics of Forest Insects*) for 10 years (1995-2005), and he also had a brief period as Co-ordinator of Division 7 (*Forest Health*) in 2010-2011. We are very grateful for Sandy's many years of service to the IUFRO forest entomology community and for his most valuable contributions to our conferences. Luckily Sandy will continue to help with the latter, and we look forward to the meeting of WPs 7.03.07, 7.03.12 and 8.02.04 themed '*Biological Invasions in Forests: Trade, Ecology and Management*' in Prague (31 May-4 June 2021) that he will be hosting.

Maartje Klapwijk of SLU (the Swedish University of Agricultural Sciences) has kindly agreed to take over as Coordinator from October 2019. Maartje has been a Deputy Coordinator of RG 7.03 since December 2018, and many of you will know her from IUFRO meetings she attended in the past. Welcome aboard!



Barbara Bentz (US Forest Service) and Hervé Jactel (INRAE, France) will continue as Deputies of RG 7.03.00.

#### Working Party Conferences

Working Parties in the Entomology Research Group organized four successful conferences since October 2018. These included a joint meeting of WP 7.03.06 '*Integrated management of forest defoliating insects*' and WP 7.03.07 '*Population dynamics of forest insects*' in July 2019 in Quebec, Canada, a meeting of WP 7.03.10 '*Methodology of forest insect and disease survey*' in September 2019 in Suceava, Romania, a meeting of WP 7.03.04 '*Diseases and Insects in Forest Nurseries*' in October 2018 in Kuşadası, Turkey, and a meeting of WP 7.03.13 '*Biological control of forest insects and pathogens*' in Pretoria, South Africa. We thank the organizers for all their efforts: Deepa Pureswaran, Andrea Battisti, Miloš Knížek, Mihai-Leonard Duduman, H. Tuğba Doğmuş Lehtijarvi, Brett Hurley, Marc Kenis and all the others who contributed.

#### Research Group 7.02.00 – Forest Pathology

Three Working Party conferences of RG 7.02 occurred between January and December 2019. Two of these were held jointly with other IUFRO Working Parties and the participants enjoyed

meeting and interacting with colleagues with complementary interests.

The '*Phyllosphere diseases*' conference, a joint meeting of WPs 7.02.02 and 7.02.03, which attracted 67 attendees from 25 countries, was held in Florence, Italy. The joint meeting of WP 7.02.05 (*Rusts of Forest Trees*) and WP 2.02.15 (*Genetics and Breeding of 5-needle Pines*) in Invermere, Canada, attracted 57 participants from 10 countries. The meeting of WP 7.02.09 (*Phytophthora in Forests and Natural Ecosystems*) in Sardinia, Italy, was particularly well attended with 150 participants from 30 countries. Reports from all these meetings with more detailed information about topics discussed and conclusions can be found on the Working Parties' web pages on the IUFRO website. We thank Alberto Santini, Pascal Frey, Richard Sniezko, Giles Hardy, Bruno Scanu and all their co-organizers for their initiative and all the effort that went into the planning and organization of these conferences.

#### RG 7.01.00 Impacts of air pollution and climate change

Research Group 7.01 organized a meeting on '*Harmonized Growth, Cleaner Environment and Sustainable Forests*' at the Guangxi Forestry Research Institute, Nanning, China, in May 2019. In addition, RG 7.01 co-organized a session at the General Assembly of the European Geosciences Union (EGU) 2019 in April 2019 on '*Biomass in future energy and resource systems: impact on land use, climate and environmental services*'. Since September 2019, RG 7.01 is now based in Division 8.

#### Meetings in 2019

7-12 April, Vienna, Austria

7.01.03, 10.03.01, TF Forest Biomass Network

**Biomass in future energy and resource systems: impact on land use, climate and environmental services** - Session at the General Assembly of the European Geosciences Union (EGU) 2019

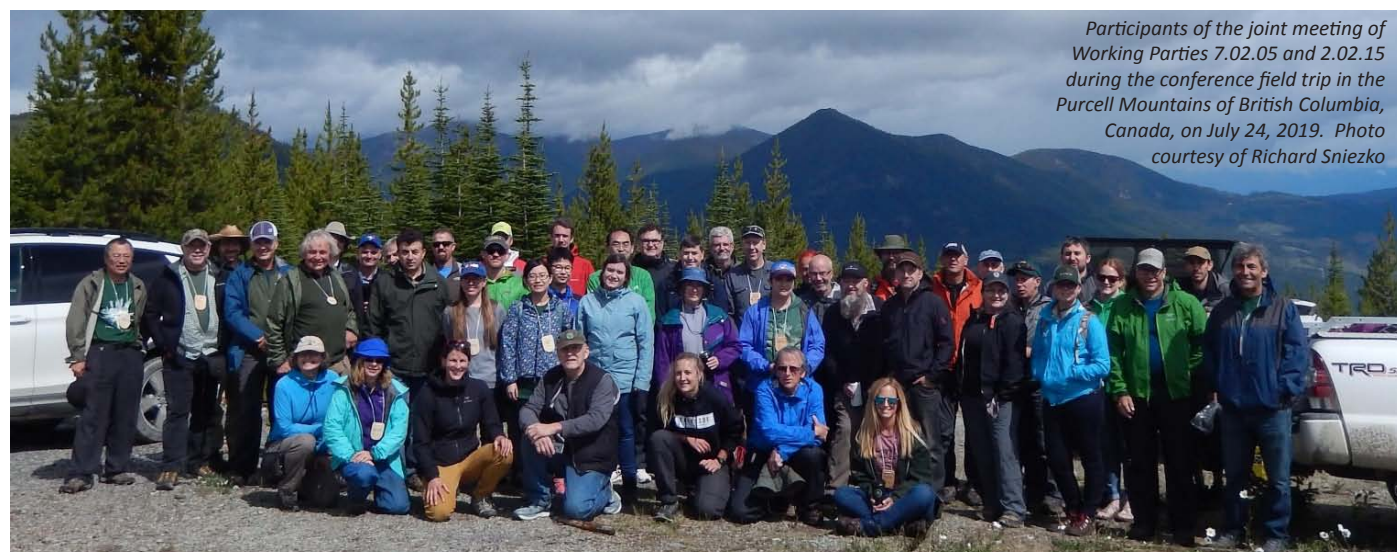
6-10 May, Florence, Italy

7.02.02, 7.02.03

#### Phyllosphere Diseases

13-17 May, Nanning, Guangxi Zhuang Auton. Region, China  
7.01.00

#### Harmonized Growth, Cleaner Environment and Sustainable Forests



Participants of the joint meeting of Working Parties 7.02.05 and 2.02.15 during the conference field trip in the Purcell Mountains of British Columbia, Canada, on July 24, 2019. Photo courtesy of Richard Sniezko

8-11 July, Quebec, Canada

**Joint meeting of WP 7.03.06 'Integrated management of forest defoliating insects' and WP 7.03.07 'Population dynamics of forest insects'**

22-26 July, Invermere, BC, Canada

**Joint meeting of WP 7.02.05 'Rusts of Forest Trees' and WP 2.02.15 'Genetics and Breeding of 5-needle pines'**

16-20 September, Suceava, Romania

7.03.10

**Recent Changes in Forest Insects and Pathogens Significance**

17-25 October, La Maddalena, Sardinia, Italy

7.02.09

**9th Working Party Meeting on Phytophthora in Forests and Natural Ecosystems**

6-8 November, Pretoria, South Africa

7.03.13

**Meeting of the Working Party on 'Biological control of forest insects and pathogens'**

**Publications produced with input from Division 7**

Working Party 'Phytophthora diseases on forest trees' is organizing a special issue of the journal *Forests* on "Phytophthora Infestations in Forest Ecosystems". Guest editors: Bruno Scanu and Thomas Jung

The Working Party "Social dimensions of forest health" is publishing a special issue of the journal *Forests* entitled "Understanding Forest Health under Increasing Climate and Trade Challenges: Social System Considerations". Guest editors: Eva Carina Helena Keskitalo, Mariella Marzano, Tom P. Holmes, Julie Urquhart. The special issue can be viewed at [https://www.mdpi.com/journal/forests/special\\_issues/climate\\_health](https://www.mdpi.com/journal/forests/special_issues/climate_health)

## Forest Environment - Division 8

**Coordinator:** Sandra Luque, France (no change)

### Deputy Coordinators:

Alexia Stokes, France (no change)

Jean-Michel Carnus, France (previous term)

Shirong Liu, China (previous term)

Anna Barbati, Italy (new term)

Elena Paoletti, Italy (new term)

Division 8 concerns research on conservation of forested areas, management and adaptive management practices. Activities in the Division rely on a sound ecological basis, provided by biological and ecological sciences, including wildlife, soil sciences, landscape ecology, conservation biology, biodiversity, and physical environment. Other key areas of interest include a deeper understanding of hazards and disturbances which could affect forest dynamics, such as fire, climate change, pollution and winds.

In September 2019, Division 8 added a new Unit on "Air pollution and climate change", focusing not only on impacts of climate change and air pollution on forests, but also on the interaction of these important drivers in forests. With this latest addition, Division 8 now counts 4 vibrant Units and 27 Working Parties. All in all, the new structure of Division 8 and the reorganization are addressing new challenges integrating wider perspectives towards forest environment and coupling strong synergies in relation to SDGs.

The efforts undertaken to improve gender balance are also worth mentioning. We have managed to add 12 female officeholders; furthermore, Division 8 is the first Division with an all-female coordination team in the history of IUFRO. Division 8 has a particularly strong presence in Europe, North America and Latin America, but needs to improve activities in Africa. One important strength of Division 8 is the social media presence targeting at present more than 5,000 followers. In association with IALE two Facebook sites target Brazil, in particular, and another site targets Latin America.

### Meetings in 2019

Division 8 organized and contributed to a series of key conferences and symposiums during 2019 in different regions of the world. In particular, more than 30 events and sessions were organized during the XXV IUFRO World Congress in Curitiba, including a Division meeting and several WP meetings. In addition, during the Curitiba Congress, we took advantage of the opportunity to meet and exchange views with two important new Task Forces for the Division activities: "Forests and Water Interactions in a Changing Environment" & "Transforming Forest Landscapes for Future Climates and Human Well-Being". We are building up important collaborations between WPs and these Task Forces in particular.

Among the many high-quality sessions at the Congress in Curitiba, Division 8 organized a session in collaboration with the GEO BON network and with IUCN representation, under the title "Improving conservation targets for forest biodiversity: towards operational solutions from remote sensing technology". The session highlighted the importance of remote sensing for decisions in forestry and forested landscapes, a topic that was not very well represented at the Congress, which shows the need for IUFRO to work more closely with Forest SAT, GEO BON and other related networks.



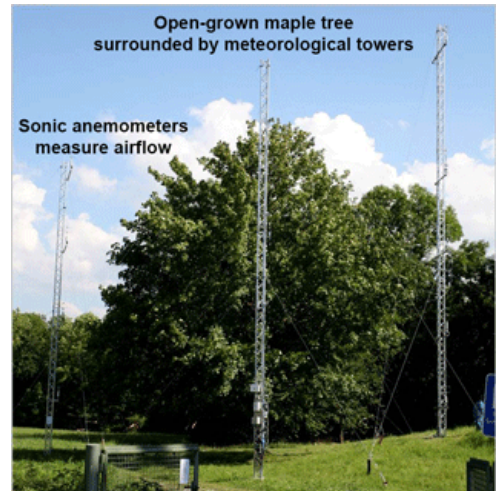
8.01.02 session keynote speakers from right to left, Prof. Maria J. Santo, Dr. Anne-Maarit Hekkala, Dr. Olav Skarpaas, Dr. Anne Chuter. Photo by S. Luque

Research Group 8.01.02 organized a Sub-plenary session at the World Congress on “Forest Biodiversity in the framework of global change and the role of Landscape sustainability science”.

Under the theme “Forests and Forest Products for a Greener Future”, Research Group 8.01.03 organized a fantastic session in Curitiba with the focus on *biogeochemical aspects of harvesting and biomass removal for bioenergy*, also quality of biomass, soil preparation and the renewable wood production chain.

The former WP8.03.07 (now 8.04.07) held a session at the IUFRO World Congress in Curitiba on the *radioactive contamination of forests* experienced in Chernobyl and Fukushima. The WP has been renewed to make it more active.

Wind measurements around an open-grown maple tree in Freiburg.  
Photo B. Gardiner



WP 8.03.06 *Impact of wind on forests* convened at the **Workshop on Open-grown and Urban Trees** in Freiburg im Breisgau, Germany (7-10 April 2019). The workshop was attended by 26 participants from 11 countries. The purpose of the workshop was to bring together arborists, foresters and researchers in order to exchange knowledge and techniques on assessing the response of trees to wind and on assessing the risk of damage.

The Division was invited to participate at the Board meeting of INTECOL (International Congress of Ecology; 1-4 February 2019, Geneva, Switzerland), in preparation for the next INTECOL World Congress in 2021. The interest and possibilities for IUFRO to get more involved in INTECOL was discussed. It is expected that officeholders and members of the Division participate actively in organizing sessions and presenting quality work at the World Congress that will take place in Geneva in August 2021.

#### Awards

Division Deputy Coordinator Prof Elena Paoletti received the SCIENTIFIC ACHIEVEMENT AWARD (SAA) from IUFRO during the Curitiba World Congress. We are very proud to have her involved in Division 8!



8:03.07 Session in Curitiba. Photo by S. Hashimoto

Working Party 8.03.02 on *Snow and avalanches* has worked on the potential effects of windthrow areas in protection forests of the Alps, related to avalanche danger, and on extensive avalanche damage in forests that were caused during the winter of 2018/19. An important international event for WP 8.02.03. was a practical *forum on forests and avalanches* (“Innsbrucker Hofburggespräch”) that was organized on 20 November 2019 by Peter Höller and Michaela Teich in Innsbruck (Austria), bringing together scientists and forest practitioners to discuss new research on this topic.

## Forest Policy and Economics - Division 9

#### Coordinator:

Daniela Kleinschmit, Germany (previous term)  
Monica Gabay, Argentina (new term)

#### Deputy Coordinators:

Mercy Afua Adutwumwaa Derkyi, Ghana (no change)  
Jurij Begus, Slovenia (previous term)  
Jinlong Liu, China (previous term)  
Shashi Kant, Canada (new term)  
Ahmad Maryudi, Indonesia (new term)

Division 9 *Forest Policy and Economics* with its 6 Research Groups and 27 Working Parties seeks to improve the knowledge on drivers and consequences of change of the social dimension of forests. In doing so, it focuses on research on the historical perspective, the economic and political analysis, and the

regulative dimension, and embraces areas like management, information and communication.

Activities in 2019 reached the climax at the IUFRO World Congress in Curitiba, where a great number of sessions addressed Division 9 research topics, including international forest regimes, indigenous and traditional peoples, the role of the forest based industry, forest ownership and forest values, forest policies in changing societies, and communication, to name but a few.

Apart from the World Congress, there were five important **meetings in 2019:**

10-12 April, Vienna, Austria  
9.05.01

**50. Forstpolitiktreffen**

22-23 May, Sheffield, United Kingdom  
9.03.00

### Rewilding Conference: Opportunities and Issues in Rewilding

This conference addressed major challenges facing nature conservation and the still on-going and even accelerating decline of many wildlife species, new and radical approaches are required. The pace of climate change appears to be quickening, urbanisation is accelerating, and the public purse in many countries is shrinking to almost nothing. With problems of biodiversity loss, of countryside heritage under threat, of extreme weather and major floods on the rise, and around the coastlines, with the sea level increasing, there is a need for solutions to be bigger, bolder, and joint. Furthermore, the new approaches must be practical, pragmatic, economically sustained, and above all, long-term.



AFORPOLIS 2019 - Scientific study tour. © AFORPOLIS

3-5 Sep, Yaoundé, Cameroon  
9.05.09

### First Africa-China Workshop on Forestland Governance, Investments and Sustainability

This workshop brought together about 120 participants from China, 11 different African, North American and European countries. This workshop represented a great multi-stakeholder exchange set up involving policymakers, researchers and academics, journalists, representatives from civil society organizations, local communities and indigenous peoples, as well as international technical and financial partners. The workshop was fully funded by UKaid/DFID.

16-18 Oct, Mississauga, Ontario, Canada  
9.04.00

### 1st International Sustainability Conference: Sustainability: Transdisciplinary Theory, Practice and Action (STTPA)

Also, within the Division some changes have been made, for example within Research Group 9.03.00 - *Forest history and traditional knowledge*. There the *Boreal/Temperate* and *Tropical Working Parties* have been fused, to be referred to as *Traditional Forest Knowledge*. Also the name and mandate of 9.03.05 *Indigenous Peoples and forest landscapes* have been revised to provide greater recognition for issues associated with Indigenous Peoples.

Division 9 members were also involved in a series of important publication projects. One example from IUFRO WP 9.01.05 on Research and Development of Indicators for SFM is the publication on *Criteria and indicators for sustainable forest management: Lessons learned in the Southern Cone*, by P. Laclau, A. Meza, J. Garrido Soares De Lima, and S. Linser, published in *International Forestry Review*. Vol. 21(3), pp. 315-323.



dpexcel on Pixabay

21-23 Aug, Vancouver, BC, Canada  
9.03.04, 9.03.05, 6.00.00

### Transforming Approaches to Forests and Forestry through Indigenous and Local Knowledges - Reciprocity, Relationship-building, and Traditional Ecological Knowledge (TEK) in Forest Ecosystems

This 3-day meeting included 77 people from 22 countries around the world. New networks were created to support one another in our research, livelihoods and work. Participants discussed and analyzed topics including forests and forestry, food security, food sovereignty, land rights, education, intergenerational knowledge transmission, public policy and environmental justice. The intention is to continue to connect as a supportive network for one another into the future: "Together we are stronger!"

# Transforming Forest Landscapes for Future Climates and Human Well-being - Task Force

**Coordinator:** Andreas Bolte, Germany

**Deputy Coordinators:**

Mercy Afua Adutwumwaa Derkyi, Ghana

Palle Madsen, Denmark,

John Stanturf, U.S.A.

Stephanie Mansourian, Switzerland

Forest landscapes (FLs), with dominating forest area and embedded other land uses, provide essential multiple ecosystem services (ES) including manifold provisioning, regulating, supporting, and cultural services. In particular, for rural populations, FLs are often the basis for the local economy and social identity. However, FLs are under pressure by the loss and degradation of forest area and conversion to other land uses, as well as environmental and climate change. With this, societies worldwide may face diminishing levels of ecosystem services of FL. For preventing a significant loss of FL ecosystem services on a global scale, combined FL preservation, restoration and adaptive management activities are needed.

In the face of these challenges, the new IUFRO TF is dedicated to providing the scientific basis for transforming FL to climate-resilient land use systems that fulfil the complete spectrum of ES requirements of current and future societies. This includes (1) the establishment of scenarios for future FL development referring to climate change and varying societal requirements, (2) the development of FL management and restoration standards, and (3) the elaboration of guidelines for the implementation of FL restoration and adaptive management.

During the first months of the TF in 2019 we further developed the concept, scope, and implementation of the TF activities. We have established three participant groups contributing to three different activities until 2021: Activity 1 - Establishing scenarios and projections for future FL development; Activity 2 - Analysing towards best practice approaches (BPA) for FL preservation, restoration and adaptive management, and Activity 3 - Developing suitable outreach and education as well as R & D schemes on FL issues for different stakeholder groups.

- A new IUFRO TF webpage has been launched, and ongoing activities like the analyses online survey on Forest Adaptation and Restoration with now nearly 200 complete datasets has been adopted from the previous TF Forest Adaptation and Restoration under Global Change <http://gdi.thuenen.de/wo/limesurvey/index.php/883655?lang=en>.
- Moreover, we have continued the Topical Collection on Forest Adaptation and Restoration under Global Change [https://link.springer.com/journal/13595/topicalCollection/AC\\_439db748d724c61f9bdaaf709c4d5040](https://link.springer.com/journal/13595/topicalCollection/AC_439db748d724c61f9bdaaf709c4d5040).
- A publication on the “FLR Implementation Snapshot” project, combining the lessons learned from the nine countries involved in the project, was prepared and will be published in January 2020.

## Activities achieved in 2019

### Seminars, Sessions and Events

- 1st Task Force meeting during the IUFRO World Congress in Curitiba, Brazil, 1 October 2019



Links between sustainable development goals (SDGs) and forest landscape restoration constructs. Five SDGs (on the left) are “enabling” (Mansourian 2018: In the eye of the beholder: Reconciling interpretations of forest landscape restoration. *Land Degrad Dev.* 29:2888–2898; DOI: 10.1002/ldr.3014.

- International Side Event at the XXV IUFRO World Congress in Curitiba, Brazil (1 October 2019) “Forest Landscape Restoration Implementation – Progress on the Ground”
- Stanturf, J., Kleine, M., Mansourian, S., Madsen, P., Kant, P., Burns, J. Implementing forest landscape restoration under the Bonn Challenge. Oral presentation at the IUFRO World Congress, 29 September to 5 October 2019, Curitiba, Brazil.

### Publications

- Jandl, R., Spathelf, P., Bolte, A., Prescott, C.E. (2019). Forest adaptation to climate change - is non-management an option? *Annals of Forest Science* 76:48, <https://doi.org/10.1007%2Fs13595-019-0827-x>
- Stanturf JA, Kleine M, Mansourian S, Parrotta J, Madsen P, Kant P, Burns J, Bolte A (2019) Implementing for-est landscape restoration under the Bonn Challenge: a systematic approach. *Annals of Forest Science* 76:50, <https://doi.org/10.1007%2Fs13595-019-0833-z>
- FLR Snapshot Project prepared reports for 17 landscapes in 9 countries. Individual reports, posters, videos and input to the interviews at the FLR Side Event in Curitiba - available on the SPDC website at: <https://www.iufro.org/science/special/spdc/netw/analysis/>

Degraded forest reserve in Ghana. Photo by John Stanturf



# Monitoring Global Tree Mortality Patterns and Trends - Task Force

**Coordinator:** Henrik Hartmann

(Max-Planck-Institute for Biogeochemistry, Germany)

**Deputy Coordinators:** Aster Gebrekirstos Afwork (World Agroforestry Center, Kenya), Nadine Ruehr (Karlsruhe Institute for Technology, Germany), Tanja Sanders (Thünen Institute for Forest Ecosystems, Germany), Bernhard Schuldt (University of Würzburg, Germany)

The Task Force has currently 53 Members.

## Prominent research/discussion topics

We are currently developing methods to merge datasets from different sources both within disciplines (e.g. different forest inventories, different remote sensing products) and across disciplines (e.g. combining information from remote sensing with field data) to derive intercomparable and coherent estimates of tree mortality rates at a global scale. To this end, we currently also organize the resources necessary to build the required infrastructure for data hosting and management. These resources will be provided by in-kind contributions from participating institutions as well as external funding from different agencies.

## List of activities, presentations & publications

### (i) Meetings and Workshops

- Task Force coordinators' workshop on strategic planning, 6-7 February 2019, Würzburg, Germany.
- Consolidation of international tree mortality network, 21-22 May 2019, Jena, Germany.
- Workshop on the extreme summer drought in Central European forests in 2018, 4 June 2019, Basel, Switzerland.
- Session convened at the XXV IUFRO World Congress in Curitiba, Brazil: *Global monitoring network of tree mortality patterns and trends*, 30 September to 4 October 2019.
- Task force coordinators' meeting and workshop planning, 4-5 December 2019, Freising, Germany.



Participants of workshop on the effects of the extreme drought in Central Europe in 2018 held in Basel, Switzerland. Photo provided by H. Hartmann

### (ii) Task Force presentations

- Hartmann, H., Ruehr, N., Sanders, T. & Schuldt, B. The tree mortality network - a global initiative for monitoring of climate change-induced tree mortality. Workshop "Dynamics



Meeting of the International Tree Mortality Network in Jena, Germany. Photo provided by H Hartmann

of water-limited forests in a drying climate and biophysical feedbacks", Beijing University, China, April 14-17, 2019.

- Tanja Sanders: "Assessing large-scale tree mortality", Joint Expert Panel Meeting of ICP Forests, Brussels, Belgium, March 2–29, 2019.
- TGM Sanders, H Hartmann, N Ruehr, B Schuldt: Topic driven research infrastructure - the example of the global tree mortality network, ILTER 2nd Open Science Meeting, Leipzig, Germany 2-6 September 2019.
- Hartmann, H., Schuldt, B., Ruehr, N., Sanders, T. & Gebrekirstos, A. Global monitoring network of tree mortality patterns and trends – a new IUFRO Task Force. IUFRO World Congress, Curitiba, Brazil. September 29 - October 5, 2019.

### (iii) Publications directly linked to the TF work or by TF members referring to the TF scope

- Etzold S, Ziemnińska K, Rohner B, Bottero A, Bose AK, Ruehr NK, Zingg A, Rigling A (2019) One Century of Forest Monitoring Data in Switzerland Reveals Species- and Site-Specific Trends of Climate-Induced Tree Mortality. *Frontiers in Plant Science*. 10
- DeSoto, L., Cailleret, M., Sterck, F. et al. Low growth resilience to drought is related to future mortality risk in trees. *Nat Commun* 11, 545 (2020).
- Bugmann, H., Seidl, R., Hartig, F., Bohn, F., Brůna, J., Cailleret, M., ... & Hülsmann, L. (2019). Tree mortality submodels drive simulated long-term forest dynamics: assessing 15 models from the stand to global scale. *Ecosphere*, 10(2), e02616.
- Sanders TGM, Spathelf P, Bolte A (2019) The response of forest trees to abiotic stress. *Burleigh Dodds Ser Agric Sci* 71:99-116.
- Cailleret, M., Dakos, V., Jansen, S., ....Bugmann, H., ..., Hartmann, H., & Martínez-Vilalta, J. (2019). Early-warning signals of individual tree mortality based on annual radial growth. *Frontiers in Plant Science*, 9: 1964.

### (iv) Other Activities

- The visibility of the Task Force is increasing and the in 2019 opened twitter account @Tree\_mortality has now 98 tweets and 397 followers (as of 4 Feb 2020).
- An international tree mortality network has been initiated including a selected advisory board based on the TF. The website <https://www.tree-mortality.net> includes a survey to identify potential TF members and collect forest plot networks to be included.

# Resources for the Future: Transformation in Forest Use - Task Force

**Coordinator:** John Innes, Canada

**Deputy Coordinator:** William Nikolakis, Canada

Edited book, Cambridge University Press, “**The Wicked Problem of Forest Policy: A Multidisciplinary Approach to Sustainability in Forest Landscapes**”

Task Force members, along with other leading scientists and experts, have contributed to an edited book, entitled: *The Wicked Problem of Forest Policy: A Multidisciplinary Approach to Sustainability in Forest Landscapes*, Cambridge University Press. The book examines the concept of wicked forest policy problems, or dynamic problems where there are no clear solutions, and where solutions often exacerbate the problem. The book is to be published in September 2020 – see <https://www.cambridge.org/ca/academic/subjects/life-sciences/natural-resource-management-agriculture-horticulture-and/wicked-problem-forest-policy-multidisciplinary-approach-sustainability-forest-landscapes?format=HB>

## The Joint IUFRO-IFSA Task Force on Forest Education

**Coordinators:** Sandra Rodriguez, Mexico  
Khalil Walji, Germany

**Deputy Coordinators:** Mika Rekola, Finland,  
Ashley Lehto, and Juliet A. Owuor, both Germany

The Joint IUFRO-IFSA Task Force on Forest Education (JTF) promotes students’ involvement in IUFRO activities, capacity development for early scientists, and research in forest education. We work in close collaboration with IFSA’s numerous commissions, especially the forest education commission. The JTF recorded many achievements in 2019.

The second phase of the GOFE (Global Outlook on Forest Education) Project (GOFE. 2.0) was conducted in three African countries (Ghana, Nigeria, and Cameroon), with African forestry students playing an important role.

The GFIS (Global Forest Information Service) platform was updated to include an “online resources” section which features online courses, tools and other useful information for users. One outstanding feature of the modified platform is the inclusion of community usership and updates, through live forms, which allows users to populate the page with pertinent information, promoting interactivity, increasing usability, and building a larger community of practice.

Three trainings were conducted in 2019 in collaboration with IFSA-FAO, IUFRO-IFSA, and IFSA-REFORESTAMOS, on climate simulations, scientific writing, and forest social entrepreneurship respectively. The JTF financed the North African Regional Meeting (NARM) held at Njala University, Sierra Leone. These events have raised awareness of the JTF among students and encouraged active participation in forest education issues.

The JTF launched the first Global Best Practices Competition in Forest Education; 71 applications were received from primary, high school and tertiary levels of education. The competition

**A supplementary session for the IUFRO World Congress 2019 Curitiba, Brazil**

The session entitled *Solving Wicked Forest Policy Problems: Lessons from Practice*, involved presentations from Task Force members and others who have been involved in the development of the book and the special issue. The session provided a multidisciplinary and global perspective, exploring ways in which policy has solved complex trade-offs between economic, social and ecological goals at local scales, and how these solutions can be scaled up to regional, national and global scales. The session involved four 15-minute presentations from across the globe, followed by questions from the floor.

Presenters in this session included Mayte Benicio Rizek (CIFOR), Shannon Hagerman (UBC), Daniel Williams (US Forest Service) and Michaela Foster (Yale).



Northern Africa Regional Meeting 2019 in Njala University, Sierra Leone-  
International Forestry Students’ Association

was a great outreach opportunity as well as a way to share innovative teaching methods from around the world.

The JTF was actively involved in the XXV IUFRO World Congress in Curitiba. The immense contributions were well received by both trainers and trainees, and greatly impacted the students’ confidence in specific and general skills as well as creating new connections in the Latin American region. A more in depth look at the training and its impact can be found in the IFSA newsletter and in IUFRO News.

In addition, the JTF organized 2 technical sessions F6b: *Effective educational strategies for the next generation of forest* and F6c: *How to teach forest sciences in the future - challenges and opportunities of changing ecological, socio-economic, and technological circumstances*. We also contributed to the technical session F1a: *Teaching and training in silviculture, silvics and silvology*.

Finally, the JTF is actively involved in the Global Student Networking and Green Jobs in the Forest Sector Project in collaboration with the European Forest Institute (EFI) and IFSA. The project focuses on employment in the forest sector, green jobs and forest education and is funded by the German Federal Ministry of Food and Agriculture.



# Forests, Soil and Water Interactions - Task Force

**Coordinator:** Xiaohua (Adam) Wei, Canada

**Deputy Coordinators:** Richard Harper, Australia, Shirong Liu, China

## 1) Brief overview of the objectives of the Task Force

The key goal of the Task Force on Forests, Water and Soils established in April 2015 is to promote research excellence on forests, soil and water interactions in a changing environment, through effective networking, publications and communications among various Divisions and Task Forces of IUFRO at regional and global scales, and to strengthen connections and innovations between science and policy in managing forests, soil and water interactions.

The specific objectives of the Task Force are to:

- Develop a network of forest, water and soil researchers and research organizations.
- Examine the interactions of forests, water and soils in a broad context that considers impacts of climate change, emerging climate mitigation markets, and adaptive forest soil and water management.
- Examine the interaction between science and the related policy responses with respect to declining water values in forest areas, global forest decline, and inter-related climate and landscape scale forest disturbance impacts.
- Examine the effects of human use of forest resources on forest, water and soil interactions.
- Produce new knowledge on the synthesis of forest, soil, water and climate change.
- Identify new and emerging issues in and around the theme,
- Provide an international focus and leadership on issues related to Forests, Water and Soils.
- Bridge science, forest management and policy.

## 2) Key activities in 2019

(1) Three sessions were organized at the IUFRO Congress (Sept 29-Oct 5, 2019; Curitiba, Brazil). These were “Forest Management Practices and the Responses of Soil Carbon, Water, Nutrients and Their Interactions” by Prof. Shirong Liu; “Nexus: Forests, Water and Climate” by Prof. Adam Wei and others; and “Tropical Forest Ecosystem Restoration for Water Related Ecosystem Services” by Prof. Silvio Ferraz.

(2) A meeting with 15 Task Force members was arranged on Oct 4, 2019 in Curitiba to discuss future activities which might be implemented for the new Task Force “Forests and Water Interactions under a Changing Environment” for the period of 2019-2024.

(3). As a representative of the IUFRO Forests and Water Task Force, Adam Wei was invited to attend the third Forest Water Champions workshop organized by FAO, IUCN and SIWI on August 25, 2019 in Stockholm.

(4) We have initiated our discussion and planning for an international workshop on landscape restoration, forest carbon and water in Australia in the fall of 2020 between the *Forest and Water Task Force* and the *Transforming Forest Landscapes*

*for Future Climates and Human Well-being Task Force* (Prof. Andreas Bolte, Prof. Richard Harper). In addition, we are planning to jointly organize a symposium on multi-functional ecosystem management of planted forests in Nanning, China in 2020 with Chinese Academy of Forestry, UBC, IUFRO Division 8 and the Task Force *Sustainable Planted Forests for a Greener Future*.

(5) Planning has commenced for the 6th International Conference on Forests and Water to be held in Beijing in 2021. Chief organizers will be Prof. Zhang and Prof. Liu. We have recruited Professor Zhiqiang Zhang (Beijing Forest University) into our Task Force.

## 3.) Publications (books or book chapters)

Jones *et al.*, 2020. *Forest-Water Interactions Under Global Change*. In *Forest-Water Interactions* edited by Levia, D.F., Carlyle-Moses, D.E., Lida, S., Michalzik, B., Nanko, K, Tischer, A. Ecological Studies, Springer.

*Forests: Nature-Based Solutions for Water*, 2019, Unasylva, 251, ISBN: 978-92-5-131910-9, Publisher: FAO

Special Issue reprint book “*Forest Hydrology and Watershed*” has been published online in *Forests*, edited by Fan-Rui Meng, Qiang Li, M. Altaf Arain, and Michael Pisaric and is freely accessible on the MDPI Books platform (<http://www.mdpi.com/books/pdfview/book/1498>)



TF Deputy Coordinator Dr Shirong Liu (first on the right) and Division 8 Coordinator Dr Sandra Luque (second from the right) at the Tree Planting Ceremony of the IUFRO Congress in 2019, Curitiba, Brazil. Photo provided by Shirong Liu.

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

**Coordinator:** Pia Katila, Finland

WFSE is an open, global network of scientists and experts. It supports sustainable development, livelihoods, and inclusive growth, and the related policy processes by drawing out important lessons learned and recommendations through collating, critically analyzing, and synthesizing 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 holistic and interdisciplinary fashion encouraging innovative approaches and anticipating future developments that will influence forest-related development at different scales, from local to global. WFSE produces science-based, future-oriented, policy-relevant information. It publishes scientific publications and policy and information briefs.

In 2019 WFSE continued the work on analyzing the interactions among forests and Sustainable Development Goals (SDGs). The activities focused mainly on the development, review, finalization, technical editing and publication of the assessment of the potential and likely impacts of efforts towards reaching the Sustainable Development Goals (SDGs) on forests and people.

The SDGs and their targets form a complex, integrated system with clear sectoral emphases but also strong interlinkages among goals and targets. However, the goals do not explicitly address these interlinkages, nor the synergies and trade-offs among different targets. In many instances, efforts to advance one target can directly or indirectly contribute to the advancement of other targets. In other instances, progressive measures for one target can hinder the achievement of others.

This complexity and interlinkages motivated WFSE to initiate in late 2017 a systematic scientific assessment of potential and anticipated impacts of efforts to achieve the SDGs on forests and related socio-economic systems, the important interconnections and interlinkages among the SDGs from the point of view of forests and people, and the contextual conditions that determine how SDGs are implemented and prioritized.

Altogether 120 scientists and experts from over 70 research and development organizations and universities from different parts of the world contributed to the development of this comprehensive assessment.

Furthermore, 38 scientists and experts contributed importantly to the development of this assessment through the peer review process. Each of the 17 SDG chapters was reviewed and commented by at least two reviewers.

The policy brief that especially focuses on the synergies and trade-offs among the SDGs and their targets from the point of view of forests and people depending on them was developed on the basis of the information from the assessment and earlier WFSE publications on community and smallholder forestry and the SDGs.

The development and publication of the book and the related policy brief were made possible by the financial contributions of the Ministry for Foreign Affairs of Finland and the Natural Resources Institute Finland and the valuable in-kind contributions from the large number of research and development organizations and universities that participated in the assessment.

## WFSE publications in 2019

The book **Sustainable Development Goals: Their Impacts on Forests and People** was published by Cambridge University Press as an open access publication in December 2019 and it is available at:

<https://www.cambridge.org/core/books/sustainable-development-goals-their-impacts-on-forests-and-people/5FA75743F80CCE33751BD2095E5754DC>

The book discusses the conditions that influence how the different SDGs are implemented and prioritized, and provides a systematic, multidisciplinary global assessment of interlinkages among the 17 SDGs and their targets, increasing understanding of potential synergies and unavoidable trade-offs between goals from the point of view of forests and people.

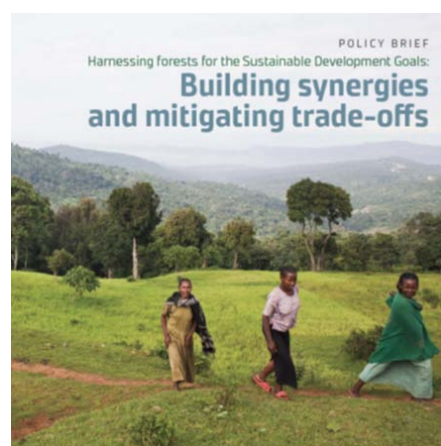
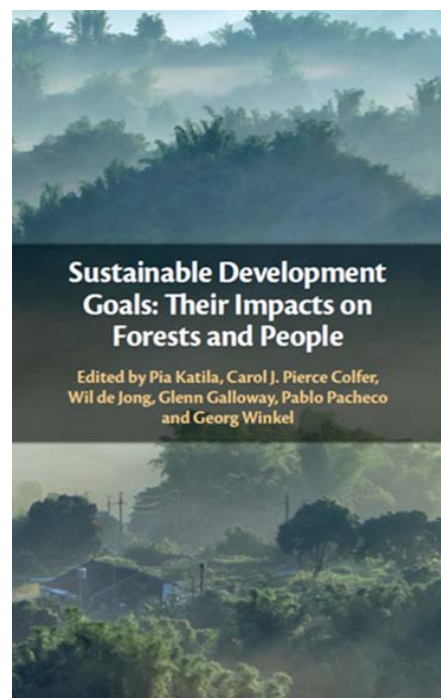
The related policy brief **Harnessing forests for the Sustainable Development Goals: Building synergies and mitigating trade-offs** is available at:

<https://www.iufro.org/fileadmin/material/science/spps/wfse/wfse-pol-brief-building-synergies-mitigating-tradeoffs.pdf>

## WFSE events in 2019

### United Nations Forum on Forests, UNFF, May 2019

WFSE Coordinator, Pia Katila, participated at UNFF 14 as a member of a panel on *Forests, inclusive and sustainable economic growth and employment*. Her presentation *Critical interlinkages between SDG 8 and Global Forest Goals* was based on the findings of the WFSE publication *Sustainable Development Goals: Their Impact on Forests and People*. A summary is available at: <https://www.iufro.org/science/wfse/wfse-news/#c30479>



### A subplenary and a technical session at the IUFRO XXV World Congress September 29 - October 5, 2019 in Curitiba, Brazil

At the IUFRO XXV World Congress WFSE organized a subplenary and a technical session to present the main findings and conclusions from the project's new book *Sustainable Development Goals: Their Impacts on Forests and People*. The presentations in the subplenary introduced the project and the approach to develop the book, and presented the main findings and conclusions of the book across the 17 SDGs and related targets. The presentations in the technical session focused more specifically on the potential and likely impacts of eleven specific SDGs and the related trade-offs and potentials for positive synergies. The sessions included altogether 15 presentations, which can be viewed at: <https://www.iufro.org/science/wfse/wfse-news/#c30481>

### International Seminar – Sustainable Development Goals: Their Impacts on Forests and People in Helsinki 21 November 2019

The seminar presented the main findings and conclusions from the new book and the policy brief. The event was organized jointly with the Ministry for Foreign Affairs of Finland, WFSE and Natural Resources Institute Finland.

### WFSE-FAO-EFI-Luke joint event at Global Landscapes Forum in Bonn, 23 June 2019: The SDG-tenure nexus in forest landscapes: applying a rights-based approach

How are tenure and rights included in the Sustainable Development Goals? What is the evidence on the links between rights/tenure and sustainable landscapes, and why is the progress on strengthening tenure rights of local communities so low? What are the more promising approaches to strengthening the link?

The session organized in connection with the Global Landscapes Forum explored these questions through an introductory presentation and a panel discussion. The event was organized jointly by WFSE, Food and Agriculture Organization of the United Nations (FAO), European Forest Institute (EFI) and Natural Resources Institute Finland (Luke). The summary and main messages from this event are available at: <https://www.iufro.org/science/wfse/wfse-news/#c30481>

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

By Michael Kleine, Janice Burns, Daniel Boehnke

### IUFRO-SPDC's Capacity Development Activities in 2019

In the year 2019 IUFRO-SPDC implemented a larger thematic networking project on forest landscape restoration, managed the Young Scientist Initiative (YSI) and contributed to the XXV IUFRO World Congress in Curitiba, Brazil, by organizing a scientist assistance program, four pre-congress training workshops, and one side event on progress made in forest landscape restoration (FLR) in selected countries in Africa, Asia and Latin America.

#### Thematic Networking 2019

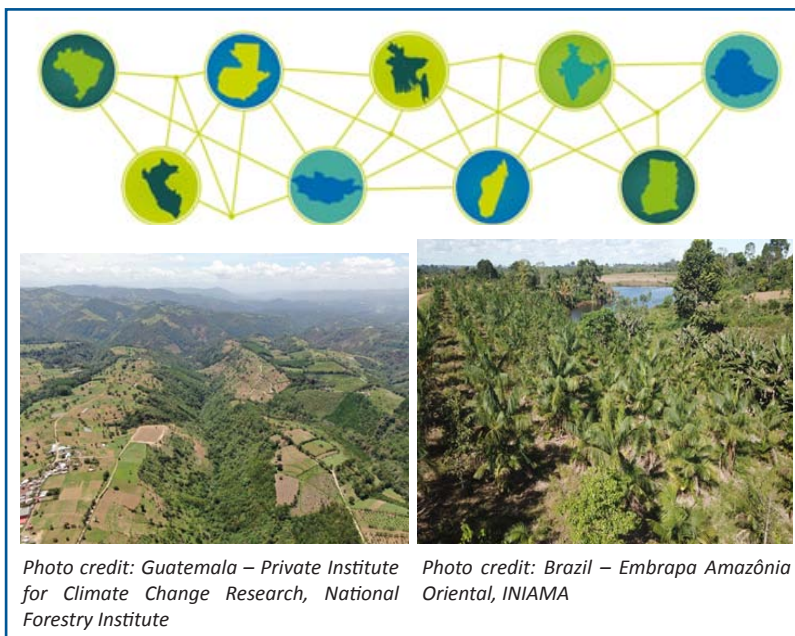
A scientific analysis of progress made in FLR implementation was commissioned by the German Ministry of Environment, Nature Conservation and Nuclear Safety (BMU) and was coordinated by IUFRO-SPDC.

The goal of the project was to improve understanding among IUFRO members, national and international FLR professionals (and beyond) of what progress has been made in FLR implementation in selected landscapes in Asia, Africa, and Latin America, and what opportunities exist for up-scaling to achieve global restoration goals such as the Bonn Challenge targets. Over 40 scientists (mostly local FLR experts from participating

countries of Bangladesh, Brazil, Ethiopia, Ghana, Guatemala, India, Madagascar, Mongolia, and Peru) used a common methodology to collect and analyse data. Their research addressed questions about FLR implementation in specific landscapes such as: Who is involved? What actions are taken? What is working? What is not working? What has been achieved? Which of the policies are supporting or hindering implementation? What has been learned to date? And what could be done differently?

The project produced the following outputs:

- International Side Event at the XXV IUFRO World Congress in Curitiba, Brazil (1 October 2019) "Forest Landscape Restoration Implementation – Progress on the Ground" showcasing observations and lessons learned from selected landscapes assessed in the project.
- Video recordings of interviews with FLR experts during the side event, detailed reports from each country, posters summarizing country results, and a series of IUFRO blog posts.
- "Forest Landscape Restoration Implementation: Lessons learned from selected countries in Africa, Asia and Latin America" Publication combining the lessons learned from the nine countries involved in the project.



The results of the project (<https://www.iufro.org/science/special/spdc/netw/analysis/>) provide FLR facilitators, decision makers and practitioners with insights on FLR processes from a variety of ecological and socioeconomic contexts, identifying over 60 specific lessons learned from the selected landscapes and 10 overarching lessons learned with clear implications for practice.

### IUFRO-SPDC Training Workshops 2019

Within the framework of IUFRO's XXV World Congress which was held in Curitiba, Brazil, a total of four pre-congress Training Workshops were organized from 26 - 28 Sept. 2019. The concurrently running workshops included:

- Scientific Methods in Forest Research;
- Systematic Reviews in Forest Science;
- Implementing Forest Landscape Restoration in Africa and Asia; and
- Implementing Forest Landscape Restoration in Latin America (in Spanish language).

Each workshop was led by a senior scientist from the IUFRO network specialised in the respective workshop theme. In total 12 trainers and resource persons contributed their expertise on specific topics and practical case studies from various regions in the world. The workshops were attended by a total of 78 participants.

#### Training Workshop I - SCIENTIFIC METHODS IN FOREST RESEARCH

*Trainers & Resource Persons:*

- John Kershaw, Professor, University of New Brunswick, Canada,
- Ting-Ru Yang, Research Assistant, University of New Brunswick, Canada.

This workshop focused on the components of the research process involving problem identification, question generation, hypotheses, and methods. The Gowin's "Vee" was used to structure the approach and a series of lectures and examples to guide participants through the process of developing specific "Vee". The process essentially involved three stages: Stage 1 is on the real system under study with composition, structure, and environment. Stage 2 analyses the properties in the system composition and represents these by using constructs – either a concept or a proposition or a theory. This stage ends when there is a testable statement or claim about nature. Stage 3 begins when the methods of testing the claim about nature are identified. Participants in this workshop learned about an approach to research study plan preparation that is simple, straight forward, and comprehensive. In addition to learning how to structure a research problem basic sampling strategies, statistical inference, and ethics in science were covered.

#### Training Workshop II - SYSTEMATIC REVIEWS IN FOREST SCIENCE

*Trainers & Resource Persons:*

- Gillian Petrokofsky, Research Fellow, Oxford Long-term Ecol. Lab, University of Oxford, UK
- William Harvey, Oxford Long-term Ecol. Lab, University of Oxford, UK

In this workshop a set of tools for systematic reviews of forestry knowledge with a view to supporting good decision-making

were presented. Using a participatory approach, participants were instructed in preparing a series of systematic reviews to support and prioritise policy questions. Participants were introduced to the skills required for evidence-based forestry analysis. In a series of several sessions issues such as framing answerable questions to address policy and practice concerns were explored, looking at "what is evidence" for individual review questions, finding the best available evidence to answer the question, recognizing the limitations of available studies and the problem of bias, and critically appraising the evidence for its validity and usefulness. In terms of management of reviews, participants learned about planning a systematic review, collaborating to form a systematic review team, devising active dissemination strategies to publicise results and presenting results in different formats for different audiences.

#### Training Workshop III - IMPLEMENTING FOREST LANDSCAPE RESTORATION IN AFRICA AND ASIA

*Trainers & Resource Persons:*

- John Stanturf, Visiting Professor, Estonian University of Life Sciences, Estonia
- Promode Kant, Director, Institute of Green Economy, India
- Ernest Foli, Forest Research Institute of Ghana, Ghana
- Andras Darabant, Consultant, BOKU University, Austria
- Kangana Mudiyansele Ariyaratne, FD-Research, Education and Development, Sri Lanka
- Stephy Makungwa, Lilongwe University of Agriculture and Natural Resources, Malawi
- Michael Kleine, Coordinator IUFRO-SPDC, Austria

The workshop introduced participants to the concept and practice of forest landscape restoration (FLR), representing a broad approach of returning trees to the landscape so that they meet the needs of people and at the same time enhance ecosystem functioning related to biodiversity, soils, water and adaptation to a changing climate. The training workshop introduced the FLR process with the help of the IUFRO guidance book on "Implementing Forest Landscape Restoration: A Practitioner's Guide". The underlying approach to FLR implementation is the concept of project cycle management that takes users on a systematic path from the initial project idea to measurable results in the landscape. In addition, the challenges of transferring science to policy and practice, while avoiding advocacy, was the lead-in to the group work. This resulted in the presentation of science-policy communication products devised by participants including a policy brief aimed at a donor for financing, a policy brief targeting government officials at local, provincial and national levels to scale-up the FLR case study, and an advocacy presentation in the framework of a personal audience with the Minister of Forests of Madagascar done by the group as a play.

#### Training Workshop IV - LA PRÁCTICA DE LA RESTAURACIÓN DE LOS PAISAJES FORESTALES

*Trainers & Resource Persons:*

- Roger Villalobos, Senior Scientist, CATIE, Costa Rica
- Marianela Argüello, Communication Specialist, CATIE, Costa Rica

This workshop held in Spanish language was directed towards scientists interested or involved in forest landscape restoration in the Latin American region. The content was based on the Spanish Edition of the IUFRO guidance book on "Implementing Forest Landscape Restoration: A Practitioner's Guide" which –

in a separate SPDC-coordinated project in 2019 – was translated from English into Spanish by scientists from CATIE, Costa Rica, with external reviews by Latin American experts. Similar to the FLR workshop for Africa and Asia, this event also concentrated on the FLR process followed by case studies on progress made in the practical implementation of restoring forest landscapes in Latin America.

More information about these workshops including the workshop reports and training resources can be found at: <https://www.iufro.org/science/special/spdc/tw/iwc19tws/>.



Pre-Congress training Curitiba, Photo credit: I. Lakyda

### IUFRO-SPDC Scientist Assistance Program 2019

In 2019 IUFRO-SPDC continued supporting scientists from economically disadvantaged countries in Africa, Asia, Latin America and Eastern Europe to participate in IUFRO scientific meetings and conferences through its Scientist Assistance Program (SAP). 2019 being a congress year, all efforts were concentrated on providing travel grants to attend the XXV IUFRO World Congress in Curitiba, Brazil. With more than 1000 applications for support there was a tremendous interest and need for support for participating in the IUFRO Congress. Based on available donor funding, a total of 103 scientists from 45 countries received the SAP support package. This covered air travel to Curitiba, accommodation, subsistence and the congress registration fees. Gender balance was achieved by allocating 54% of the SAP packages to female and 46% to male scientists. In terms of regional participation, around 40% of scientists came from Latin America while 30% each were from Africa and Asia.

In addition, SPDC also financed the participation in the Congress of another 13 scientists from various countries as these had been subcontracted for specific work with SPDC's Congress activities as workshop trainers, resource persons or advisors on forest science communication and outreach.

### Young Scientists' Initiative (YSI)

YSI is a new collaboration between IUFRO and the European Forest Institute, formally established in early 2018, to make mobility grants and opportunities available to early career scientists from Africa, Asia, Latin America and Europe. Broadly, the initiative aims to provide future forestry professionals and

leaders in the forestry sector with international experience to better equip them to address future global challenges and identify, create and fully utilise emerging opportunities. Since the creation of the YSI, a total of fifteen grants have been awarded to support short scientific visits (SSV), each to various European and Asian forest-related institutions.

In the year 2020 the YSI plans to provide ten grants, four of which are funded by the Austrian Government and hold the specific purpose of advancing the careers of women in forestry. More information on this initiative, including calls for application, is available at: <https://www.iufro.org/science/special/spdc/ysi/>.

### Support by Donors

IUFRO-SPDC would like to acknowledge with thanks the generous support received in 2019 by the following donor agencies: Austrian Federal Ministry of Sustainability and Tourism (BMNT), Austrian Federal Forest Research Centre (BFW), Forestry and Agriculture Biotechnology Institute (FABI), South Africa, German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU), Global Environment Facility (GEF), Ministry of Foreign Affairs of Finland (MFA), Republic of Korea's National Institute of Forest Science (NIFoS), US Forest Service, German Federal Ministry of Food and Agriculture (BMEL) through the European Forest Institute (EFI) and Foundation Audemars-Watkins, Switzerland.

## Special Programme Directors' Forum (IUFRO-SPDF)

**Coordinator:** Konstantin von Teuffel, Germany (previous term)  
Peter Mayer, Austria (new term)

The XXV IUFRO World Congress marked the start of a new approach to the IUFRO Directors' Forum. The role and potential for the coming years have been discussed by a small group of invited leaders in forest research and identified strategies and topics for future work. Topics for future work include an effective knowledge transfer of research results to political processes and the challenge to successfully shape this interface. Commu-

nication strategies in general have been identified as a very important activity for research organizations. A close link between the Directors' Forum and the IUFRO communicators group is felt to be beneficial for the future work of the Directors Forum.

Related to communication it was suggested that an exchange of experiences and strategies to meet the demands of different interest groups related to forests and forestry would be a task to be discussed by the Directors' Forum. Another topic of importance for research managers identified is social skills and social skills development – both for managers and staff of research organizations.

Further issues to be dealt with in the future are related to education, i.e. how to increase attractiveness for students to study forestry and how to regain a forest focus in forestry education in some countries.

In order to operate the Directors' Forum successfully periodic meetings of the Directors' Forum back to back with other international meetings will be planned. The goal is to make meetings of the Directors' Forum attractive to attend for directors and deans worldwide. Nevertheless, the meetings should produce summaries of their findings for the public.

Finally, the link of the activities of the Directors' Forum to the overall IUFRO strategy was felt as being important to be kept in order to contribute to the goals of IUFRO and to strengthen its membership base.



Alexander Friend, Deputy Chief R&D, USDA Forest Service, U.S.A., talking at SPDF session in Curitiba. Photo courtesy of COC

## Global Forest Expert Panels (GFEP) Programme

**Coordinator:** Christoph Wildburger, Austria

**Project Managers:** Andre Purret, Estonia  
Magdalena Lackner, Austria

**GFEP website:** [www.iufro.org/science/gfep](http://www.iufro.org/science/gfep)

The core activities of IUFRO's GFEP Programme are based on the joint GFEP initiative of the Collaborative Partnership on Forests (CPF), which is led and coordinated by IUFRO. Its mission is to support intergovernmental processes related to forests and trees by assessing available scientific information in a comprehensive, interdisciplinary, objective, open and transparent way. By producing independent peer-reviewed scientific reports on key issues of high concern, the GFEP initiative supports more informed decision-making at the regional and global level.

To date, six scientific assessments have been completed (Forests and Water; Illegal Logging and Related Timber Trade; Forest and Food Security; Biodiversity, Forest Management, and REDD+; International Forest Governance; Adaptation of Forests and People to Climate Change). All of them received considerable international media attention and had significant impacts on international policies. The outcomes of GFEP assessments have served as background information for discussions, briefing documents for negotiators as well as guidance for strategic policy development. GFEP reports have been used as comprehensive, interdisciplinary and scientifically sound information source for scientists and communicators, and as teaching materials for universities.

After the successful launch of the global scientific assessment on Forests and Water in 2018, the GFEP coordination team conducted an extensive background research on potential themes for the next global scientific assessment, to be undertaken by the GFEP initiative in 2019-2020. Based on consultations with scientists, stakeholders and CPF members, "Forests and Poverty" was taken as the thematic focus for the next, seventh global assessment in the frame of GFEP.

The GFEP Expert Panel on Forests and Poverty is carrying out a global scientific assessment and preparing a comprehensive peer-reviewed scientific report and associated policy brief

on the topic in the second half of 2020. The GFEP assessment on Forests and Poverty will contribute to the 2030 Agenda by highlighting the nexus between SDG 1 on "ending poverty" and SDG 15 on "life on land", as well as relevant links to SDG 8 on "decent work and economic growth" and SDG 10 on "reduced inequalities".

A cross-sectoral, aligned and synergistic implementation of the 2030 Agenda for Sustainable Development and its 17 goals (the SDGs) requires the development of measures that take into account the role of forests and trees in poverty alleviation. In this context, reliable and synthesized scientific information is needed to enhance synergies and to achieve optimal trade-offs between poverty reduction and restoration, sustainable management and conservation of forests.

The assessment kicked off in early spring 2019 with a Scoping Meeting from 23-24 May 2019 at FAO Headquarters in Rome, Italy. Participating scientists, CPF members and invited experts discussed the goals, objectives and scope of the assessment.



Start of the Scoping Meeting of GFEP on Forests and Poverty. Photo by Andre Purret, IUFRO



Participants of the 1st Expert Panel meeting in Ann Arbor.  
Photo by courtesy of Dan Miller, Panel Chair

Resulting from the meeting, the Terms of Reference for the Expert Panel on Forests and Poverty, including the thematic outline of the assessment, were developed and officially endorsed by the CPF in June 2019. Keeping in mind the required scientific expertise, regional balance, gender balance and cultural diversity, GFEP invited selected scientists to join the Expert Panel. The Expert Panel consists of 22 internationally recognized and leading scientists on the topic. A full list of Panel Members can be found here:

<https://www.iufro.org/science/gfep/forests-and-poverty-panel/panel-members/>

The first meeting of the GFEP Expert Panel on Forests and Poverty was convened from 27-29 August 2019 in Ann Arbor, Michigan, U.S.A. The meeting was kindly hosted by the University of Michigan and the Forests & Livelihoods: Assessment, Research, and Engagement (FLARE) Network. It was attended by twenty participants. Based on the Terms of Reference and GFEP Rules of Procedure, Panel Members agreed on key concepts and methodological approaches, developed an annotated outline of the assessment report and its chapters, clarified the roles and specific contributions of Panel Members in their role as authors, and identified areas of expertise that require the involvement of additional scientific experts. During the meeting, Panel Members designated Prof. Daniel C. Miller (University of Illinois, United States) as the Scientific Chair of the Expert Panel.

The chapter groups continued their scientific work after the meeting and were expected to deliver draft manuscripts by the end of 2019. Following established GFEP procedures, the manuscripts will be finalized in the course of two further Expert Panel meetings. The second meeting of the Panel will take place from 29-31 January 2020 in the World Agroforestry Centre (ICRAF) in Nairobi, Kenya. The third Panel Meeting will be held in Vienna, Austria, in spring 2020. The launch of the report and policy brief on Forests and Poverty is planned to take place during the 75th session of the United Nations General Assembly (UNGA-75) in the second half of September 2020 at UN Headquarters in New York.

Outreach activities and promotion of the assessment in 2019 included the participation of GFEP team members in the 14th session of the United Nations Forum on Forests (UNFF-14), the Global Landscapes Forum 2019 (GLF 2019), the XXV IUFRO World Congress and other smaller events in Bonn, Brussels, Paris, Geneva and Rome.

In November 2019, the German Federal Ministry for Economic Cooperation and Development (BMZ) and IUFRO entered into a strategic partnership to enhance the interaction between the science community and policy makers. This new partnership between IUFRO and BMZ aims to better link forest science with international development policies. The core activities of the partnership will be carried out in the frame of IUFRO's GFEP Programme.

From January 2020 on, IUFRO's GFEP Programme will thus be expanded, including activities such as update studies of global GFEP assessments, developing regional activities, as well as strengthening its communication at the science-policy interface. Through this partnership, IUFRO's science-policy programme will be further developed into a full-fledged advisory mechanism for policy and implementation agencies in the development arena.



From right to left: Heiko Warnken, BMZ, and IUFRO Executive Director Alexander Buck signing the multi-year cooperation agreement on 14 November 2019.  
Photo by Janice Burns, IUFRO

As a result of the expansion, a new GFEP team member started her work in IUFRO Headquarters in late 2019. Ms Magdalena Lackner joined the team in Vienna, Austria, as the second Project Manager for the GFEP Programme. She will work on future global assessment reports, updates of studies, regional activities as well as communication efforts of GFEP.



1st Expert Panel meeting in Ann Arbor. Plenary session.  
Photo by Andre Purrett, IUFRO

# Welcoming New Members in 2019

## Member Organizations

Australia 1037.00.00  
**University of South Australia**  
**Forest Research Mount Gambier**  
Adelaide, South Australia

Austria 1041.00.00  
**Mondi AG**  
Wien

Colombia 1042.00.00  
**Instituto Amazónico de Investigaciones Científicas Sinchi**  
Bogotá

Hungary 1031.00.00  
**Silvanus Forestry Kft.**  
Budapest

India 1039.00.00  
**Institute of Forest Genetics and Tree Breeding**  
**Indian Council of Forestry Research and Education**  
Coimbatore

Indonesia 1032.00.00  
**Watershed Management Technology Center**  
Surakarta

Malawi 1035.00.00  
**Centre for Applied Systems Analysis (CASA)**  
Lilongwe

Nigeria 1033.00.00  
**Federal University of Agriculture Makurdi**  
Sabie

South Africa 1040.00.00  
**The New Forests Company**  
Rosebank

Turkey 1034.00.00  
**Bartın University**  
**Faculty of Forestry**  
**Department of Forest Engineering**  
Bartın

United States 1036.00.00  
**Colorado State University**  
**Warner College of Natural Resources**  
**Department of Forest and Rangeland Stewardship**  
Fort Collins

## Associated Members

Azerbaijan 894  
**Dilzara Aghayeva**  
Institute of Botany  
Azerbaijan National Academy of Sciences  
Baku



*Photo by John Parrotta, IUFRO President*

Bangladesh 895  
**Md. Nazmus Sadath**  
Forestry and Wood Technology Discipline  
Khulna University  
Khulna

Brazil 884  
**Antonio Carlos Ferraz Filho**  
Universidade Federal do Piauí  
Bom Jesus

Congo.Dem.Rep (New Zaire) 901  
**Jean Semeki Ngabinzeke**  
Faculté des Sciences Agronomique  
Département de Gestion des Ressources Naturelles  
Université de Kinshasa  
Kinshasa

Denmark 899  
**Palle Madsen**  
InNovaSilva ApS  
Vejde

Germany 881  
**Bernhard Schuldt**  
Universität Würzburg  
Lehrstuhl für Ökophysiologie und Vegetationsökologie  
Würzburg

Germany 883  
**Nadine Rühr**  
Karlsruhe Institut für Technologie (KIT)  
Institut für Meteorologie und Klimaforschung  
Atmosphärische Umweltforschung  
Garmisch-Partenkirchen

Guatemala 885  
**Fernando Castillo Cabrera**  
Centro de Estudios Conservacionistas – CECON  
Facultad de Ciencias Químicas y Farmacia  
Universidad de San Carlos de Guatemala  
Ciudad Guatemala



India 882

**Ajita Tiwari Padhi**

Laya Resource Center  
Visakhapatnam

India 886

**Shivani Dobhal**

College of Horticulture & Forestry  
Central Agricultural University  
Pasighat, Arunachal Pradesh

India 891

**Rashmi Shanbhag**

Bangalore, Karnataka

India 893

**Anil Kumar**

College of Horticulture & Forestry, Central Agricultural  
University, Department of Forest Products and Utilisation  
Pasighat, Arunachal Pradesh

Indonesia 896

**Andes Rozak**

Indonesian Institute of Sciences (LIPI)  
Research Center for Plant Conservation and Botanic Gardens  
Cibodas Botanic Gardens  
Cianjur, West Java

Nepal 892

**Rajesh Jha**

Far Western Univeristy  
Bhim Datta

New Zealand 888

**Rebecca (Beccy) Ganley**

Plant and Food Research  
Te Puke

Nigeria 887

**Folaranmi Babalola**

Department of Forest Resources Management  
University of Ilorin  
Ilorin, Kwara State

Norway 898

**Lars G.F. Tellnes**

Kr aker y

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Medicine, Faculty of Horticulture and Forestry  
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United States 897

**Carsten W. Glaeser**

Flushing, New York

United States 900

**Luiza Teixeira-Costa**

Harvard University Herbaria  
Department of Organismic & Evolutionary Biology  
Cambridge, Massachusetts

## IUFRO Scientific Structure

**9 Divisions with 239 Units (62 Research Groups and 177 Working Parties):**

Division 1: RG 10, WP 19

Division 2: RG 5, WP 28

Division 3: RG 10, WP 5

Division 4: RG 5, WP 27

Division 5: RG 10, WP 19

Division 6, RG 10, WP 2

Division 7: RG 2, WP 23

Division 8: RG 4, WP 27

Division 9: RG 6, WP 27

9 Task Forces (interdisciplinary)

5 Special Programmes, Projects and

IUFRO-led Initiatives

For details: <https://www.iufro.org/science/>

## IUFRO Management and Administration

International Council

Board and Board Committees

IUFRO Headquarters

For details: <https://www.iufro.org/who-is-who/>

## Member Organizations and Officeholders in Regions

| Region           | OF         | MO         |
|------------------|------------|------------|
| Europe           | 315        | 215        |
| Northern America | 153        | 126        |
| Latin America    | 50         | 61         |
| Africa           | 30         | 70         |
| Asia             | 126        | 132        |
| Oceania          | 25         | 26         |
| <b>Total</b>     | <b>699</b> | <b>630</b> |

## IUFRO Meetings in Regions

|                  |           |
|------------------|-----------|
| Africa           | 2         |
| Asia             | 7         |
| Europe           | 25        |
| Latin America    | 2         |
| Northern America | 7         |
| Oceania          | 0         |
| <b>TOTAL</b>     | <b>43</b> |



## Finances

### IUFRO Balance - as of 31 December 2019 in Euro

| ASSETS                     |                         | TOTAL                   | EQUITY and LIABILITIES                |                            | TOTAL                   |
|----------------------------|-------------------------|-------------------------|---------------------------------------|----------------------------|-------------------------|
| <b>A. Fixed Assets</b>     |                         |                         | <b>A. Equity</b>                      |                            |                         |
| I.                         | Intangible property     | 6,379                   | I.                                    | Capital as per 31 Dec 2018 | 618,328                 |
| II.                        | Tangible assets         | 11,396                  | II.                                   | Loss actual 2019           | -135,507                |
| III.                       | Financial assets        | 428,951                 |                                       |                            |                         |
| Total                      |                         | 446,726                 | Total                                 |                            | 482,821                 |
| <b>B. Current Assets</b>   |                         |                         | <b>B. Accruals</b>                    |                            |                         |
| I.                         | Accounts receivable     | 2,607                   |                                       |                            |                         |
| II.                        | Other receivables       | 19,858                  | <b>C. Liabilities</b>                 |                            |                         |
| III.                       | Cash on hand & in banks | 819,414                 | <b>D. Deferred income and credits</b> |                            |                         |
| Total                      |                         | 841,879                 | 0                                     |                            |                         |
| <b>C. Prepaid Expenses</b> |                         | 1,375                   |                                       |                            |                         |
| <b>TOTAL ASSETS</b>        |                         | <b><u>1,289,908</u></b> | <b>TOTAL EQUITY and LIABILITIES</b>   |                            | <b><u>1,289,908</u></b> |

### IUFRO International Union of Forest Research Organizations - UNION Profit and Loss - Overview 31 December 2019 in Euro

|  |                   |
|--|-------------------|
| <b>Capital 31 Dec 2018</b>                       | <b>618,328</b>    |
| <b>INCOME 2019:</b>                              |                   |
| Membership Fees                                  | 216,441           |
| Publications                                     | 32                |
| Donations for budget year 2019                   | 1,704,935         |
| Other income / refunds                           | 66,744            |
| Interest/profit from financial result (bank)     | 5,804             |
| <b>TOTAL INCOME</b>                              | <b>1,993,956</b>  |
| <b>EXPENDITURE 2019:</b>                         |                   |
| Salaries and contracts                           | -1,143,356        |
| Contributions for third organizations            | -11,495           |
| Office equipment and maintenance                 | -25,418           |
| Printing, postage and PR activities              | -98,043           |
| Travel   | -105,677          |
| Organization of meetings, travel support, SAP    | -560,099          |
| Legal expenses, accounting                       | -70,248           |
| Equipment (deprec.), operating costs, insurances | -17,274           |
| Bank charges, currency differences               | -2,679            |
| Others   | -95,174           |
| <b>TOTAL EXPENDITURE</b>                         | <b>-2,129,463</b> |
| <b>Loss for the year 2019</b>                    | <b>-135,507</b>   |
| <b>Capital 31 Dec 2019</b>                       | <b>482,821</b>    |

Please note that the donations include the rest balances of the year 2018, but exclude the accruals of revenue into the year 2020.

## Sponsorships

### Grants and in-kind contributions to IUFRO in 2019

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

#### Sponsorship categories:




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



Photo by Gerda Wolfrum, IUFRO

### Sponsorships actually received in 2019 in the various cost centers in Euro

(Grants and in-kind contributions)

| Grantors/Contributors   | In-kind contributions <sup>1</sup> | TOTAL   |
|---|------------------------------------|---------|
| Austrian Federal Ministry for Sustainability and Tourism & BFW <sup>2</sup> , Austria | 154,864                            | 674,533 |
| Ministry of Foreign Affairs (MFA), Finland  | 0                                  | 400,000 |
| Federal Environment Ministry (BMU), Germany   | 0                                  | 318,995 |
| US Forest Service, U.S.A.   | 0                                  | 184,059 |
| Natural Resources Institute (LUKE), Finland   | 140,255                            | 140,255 |
| National Institute of Forest Science (NIFoS), Korea                                   | 0                                  | 129,704 |
| Audemar Watkins Foundation, Switzerland   | 0                                  | 98,530  |
| European Forest Institute, Finland  | 0                                  | 56,500  |
| Mondi, Austria  | 0                                  | 30,000  |
| The World Bank, U.S.A.  | 0                                  | 20,943  |
| Brazilian Agricultural Research Corporation (Embrapa) (advance)                       | 0                                  | 28,650  |
| Forestry and Agricultural Biotechnology Institute (FABI), South Africa                | 0                                  | 10,000  |

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

<sup>2</sup> Austrian Research Centre for Forests (BFW)

## IUFRO Headquarters, Vienna, Austria

*Executive Director:* Alexander Buck, Austria

*Deputy Executive Director and  
IUFRO-SPDC Coordinator:*  
Michael Kleine, Austria

*Project Coordinator:*  
Renate Prüller, Austria

*Finances and Administration:*  
Astrid Toppel, Austria

*Finances and Administration (Projects):*  
Judith Stöger-Goiser, Austria

*Web Management, Communication and Social  
Media:* Brigitte Burger, Austria

*Communication, PR, Publications and Translation:*  
Gerda Wolfrum, Austria

*Library and Database Administration:*  
Sylvia Fiege, Austria

*System Administrator:*  
Heimo Schaffer, Austria

*GFEP Coordinator:*  
Christoph Wildburger, Austria

*GFEP Project Manager:*  
Andre Purret, Estonia

*GFEP Project Manager:*  
Magdalena Lackner, Austria

*IUFRO-SPDC/GFEP Project Management and Translation Services:* Eva Schimpf, Austria

*IUFRO-SPDC Project Management and Translation Services:*  
Margareta Khorchidi, Austria

*Thematic Networking Manager:*  
Janice Burns, Canada

*Junior Professional Officer (IUFRO-EFI YSI):*  
Daniel Boehnke, South Africa



May 2019: IUFRO HQ celebrates 80th birthday of former IUFRO Executive Secretary Heinz Schmutzenhofer. Photo IUFRO

## IUFRO HQ Publications 2019

- Honorary Members of IUFRO: 1953 - 2019
- The Scientific Achievement Award of the International Union of Forest Research Organizations: 1971 – 2019
- 12 issues of IUFRO News
- 6 Scientific Summaries related to IUFRO News
- 11 IUFRO Spotlight issues
- IUFRO Annual Report 2018

## Editorial

Annual Report 2019: Copyright by IUFRO, Vienna, 2020  
Cover: Photo by Alexander Buck, IUFRO, edited  
<https://www.iufro.org/publications/annual-report/>

IUFRO, the International Union of Forest Research Organizations, offers a global network for voluntary cooperation. The network is open to all individuals and organizations dedicated to forest and forest products research and related disciplines. IUFRO aims to contribute to achieving the Sustainable Development Goals set by the United Nations.

IUFRO

Interconnecting  
Forests, Science and People

