

Forest Genetics for Productivity – the Next Generation

Report by Heidi Dungey, Coordinator IUFRO Working Party 2.02.20 - Breeding and genetic resources of Southern Pines
Book of Abstracts: <http://www.iufro.org/science/divisions/division-2/20000/20200/20220/publications/>

Forest genetics has now reached a time when advances in genomics and remote sensing have become accessible to practitioners. The cost of genomics is now low enough that this technology can be operationally implemented into breeding programs. Remote sensing, in particular LiDAR or photogrammetry through unmanned aerial vehicles (UAVs) has the potential to replace on-ground assessments to provide data that are more accurate and less subjective than any data of any scale we have had before. The opportunities are enormous.

An international conference entitled “Forest Genetics for Productivity – the Next Generation” was held in Rotorua, New Zealand from March 14-18, 2016. This meeting presented on a range of topics relevant to modern tree breeding: from practical requirements for breeding trees to quantitative and molecular genetics and the importance of phenotyping. Experts in their fields were invited to talk to show the challenges and future and issues that we need to think about.

Keynote speaker Antoine Kremer from INRA, France, first gave the conference an update and overview of genetics, the current status and future trends. Key issues for forest genetics included the use of new technologies and dealing with climate change for long-lived trees. Robert Banks, CEO of the Animal Genetics and Breeding Unit, Australia, presented a vision for forest genetics, highlighting learnings and directions from animal breeding.

Forestry industry representative, acting CEO of Timberlands David Balfour and John Butcher, CEO of the Radiata Pine Breeding Company (Conference Platinum Sponsor) challenged scientists with outcomes that New Zealand forestry growers would like to see addressed by science and how these would impact delivery.

Keynote speakers included Dario Grattapaglia (EMBRAPA & Universidade Católica de Brasília, Brazil), Jerry Tuskan (Oak Ridge Laboratory, TN, USA), Uli Schurr (Forschungszentrum Jülich, Germany), John McEwan and David Pont (Scion, New Zealand) impressed the delegates with a wide range of experience in genetics, genomics, phenotyping - both from a large and a fine scale.

It was great to see the participation of the Australian and New Zealand forestry sector and scientists as part of the aligned Australasian Forestry Breeding Conference as well. One hundred and nine delegates attended the conference,



Cypress clonal blocks visited on the Tuesday field day. Photo provided by H Dungey. A video of the flyover by UAV, demonstrated on the day is available at

<https://www.youtube.com/watch?v=1UP17-2IWjc>

from 17 countries, including New Zealand, Australia, Canada, Chile, the Czech Republic, Estonia, France, Japan, Poland, South Korea, Sweden, U.S.A., Brazil and Germany.

The meeting was sponsored by several IUFRO Working Parties:

Unit 2.02.20 – Breeding and genetic resources of Southern Pines

Unit 2.02.02 – Breeding theory and progeny testing

Unit 2.02.05 – Breeding and genetic resources of Pacific Northwest conifers

Unit 2.04.06 – Molecular biology of forest trees

A three-day study tour to the South Island of New Zealand was held following the conference. The tour viewed planted and natural forest systems, and talked about the conflict of land use, species siting and issues with wilding pines.

Participants who wish to publish their papers have been asked to submit them for special publication in the New Zealand Journal of Forestry Science.

Presentations are now available on the website:

<http://www.fgpc2016.nz>

Forest Landscape Restoration and Land Degradation Neutrality in Asia

Report by Ho Sang Kang, Deputy Coordinator, IUFRO Working Party 1.01.13, from a session on 26 February 2016 in Clark, Philippines, in the course of the FAO Asia Pacific Forestry Week (APFW)

Proceedings: <http://www.iufro.org/science/divisions/division-1/10000/10100/10113/publications/>

Deforestation, forest degradation and land degradation manifest themselves in many different forms across the vast region of Asia. Out of a total land area of 4.3 billion ha, Asia contains some 1.7 billion ha of arid, semi-arid and dry sub-humid land including deforested land areas. There are expanding deserts in China and Mongolia, and severe land degradation in the DPR of Korea, in particular. Deforestation, forest degradation and land degradation have also negatively affected human livelihoods. The forest landscape restoration (FLR) approach pursues both ecological integrity in forest/land restoration and enhancement of human well-being at the same time. It includes not only tree planting, managing natural regeneration and improving land management, but also encourages active stakeholder engagement in sustainable agriculture, agroforestry, protecting wildlife reserves, watershed protection etc., which is a more holistic approach towards restoring environment and human livelihoods.



Group photo after the session.
Photo provided by Miin Bang

Against this background, the session during APFW, which attracted 50 participants, focused on this holistic approach to both ecological restoration and socioeconomic improvement and underlined the importance of cooperation among various stakeholders to cope with the social challenges in implementing forest landscape restoration. For this purpose, adequate capacity building for each level of stakeholders (government officials, research, technician, local community etc.) as well as knowledge sharing and technical cooperation for effective plantation, agroforestry and sloping land management are key. Central and local governments should make forest and landscape restoration one of the national priorities.

At the meeting participants shared information on the achievements and challenges of the forest and landscape restoration approach in Central Asia, Northeast Asia (Mongolia and DPR of Korea) and Southeast Asia (Myanmar and Vietnam). In cooperation with domestic and international level of stakeholders, the presenting countries have achieved ecological restoration in degraded forest/land areas, diversification of income sources for local community and

improvement in the capability of responding and adapting the climate change. Nevertheless, there still exist challenges in social (encroachment, land tenure, inadequate legal framework on forest/land management, income generation, communication among various stakeholders), technical (nursery, species selection, silvicultural treatment, soil improvement) and physical (poor soil property, severe climatic condition, unpredictability of environment, lack of energy/financial sources) aspects.

At the IUFRO Regional Congress for Asia and Oceania (<http://www.iufro-ao2016.org>) to be held on 24-27 October 2016 in Beijing, China, a session on "Forest and Landscape Restoration in Central Asia" will be co-organized by IUFRO Working Parties 1.06.00 and 1.01.13, and the National Institute of Forest Science (NIFoS). Another session on "Forest Landscape Restoration and Sustainable Development in Northeast Asia" will be organized by IUFRO Working Party 1.01.13 there.

Call for Abstracts

<http://www.iufro-ao2016.org/en/news.asp?id=35.html>

Deadline for Submissions: 15 May 2016



IUFRO Regional Congress for Asia and Oceania 2016

Forests for Sustainable Development: The Role of Research

Beijing, China October 24 - 27, 2016



Austrian Minister Welcomes IUFRO President



IUFRO President Mike Wingfield (right) meets Andr  Rupprecht, the Austrian Federal Minister of Agriculture, Forestry, Environment and Water Management. Photo by courtesy of BMLFUW.

On 18 April 2016 IUFRO President Mike Wingfield met with the Austrian Minister responsible for forests, Mr Andr  Rupprecht, to discuss the collaboration between Austria and IUFRO. The Government of Austria hosts IUFRO Headquarters in Vienna and provides indispensable funding and support for its operations.

In the meeting Mr Rupprecht expressed the continued support of the Government of Austria to IUFRO and underlined IUFRO's important role as a provider of scientific knowledge and best practices in key forestry issues not only to Austria but to the world.

Announcements

Air pollution, climate change and forest ecosystems on Facebook

In order to share its information as widely as possible IUFRO Research Group 7.01.00 *Impacts of air pollution and climate change on forest ecosystems* has established a Facebook group! Join our group: <https://www.facebook.com/groups/959912024041551/>

Decision Support for Forest Ecosystem Management Sustainability

IUFRO Working Party 4.04.04 *Sustainable forest management scheduling* is coordinating a Special Issue in Decision Support for Forest Ecosystem Management Sustainability, to be published in Sustainability (<http://www.mdpi.com/journal/sustainability>), a SCIE and SSCI (Web of Science) journal published in open access form.

Visit: <http://www.mdpi.com/journal/sustainability/special-issues/forest-ecosystem-management>

The deadline for manuscript submission:

30 September 2016

Contact: Jose Guilherme Borges,
joseborges(at)isa.ulisboa.pt

More Heat with Less Wood

The joint UNECE/FAO Forestry and Timber Section published the video "*More Heat with Less Wood*" during the 38th joint ECE/FAO Working Party on Forest Statistics, Economics and Management on 23rd March 2016.

The video is available in English with Russian subtitles. "*Making a fire is easy, but making efficient use of wood energy at home is everything else but easy!*"

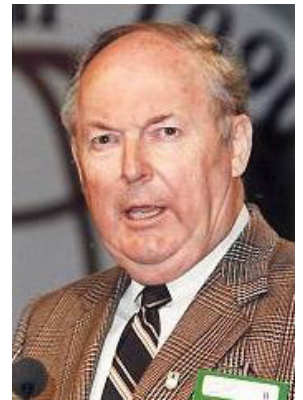
Find out more: <https://www.youtube.com/watch?v=9z-EGVeKTrc&feature=youtu.be>

Seeking Assistant Professor in Forestry

The Department of Forestry at National Chung Hsing University in China-Taipei is seeking to appoint a full-time Assistant Professor or above in Forest Biology or Forest Management from February 1, 2017. Details: <http://www.iufro.org/discover/noticeboard/position-announcements/>

Obituary for Dr Robert E Buckman (1927 – 2016)

The Presidency of IUFRO requires the officeholder to have research and managerial experience, motivation to support and encourage research collaboration, and the ability to lead a large organization of 15,000 individuals from 700 institutions in over a hundred countries. Dr Robert (Bob) Buckman demonstrated these qualities par excellence.



Dr Buckman began his research career in the US Forest Service in 1955 and worked on growth and yield modelling plus fire ecology. Following his doctorate in forestry and conservation at the University of Michigan in 1959 he returned to the USFS where he became Director of the Northwest Forest and Range Experiment Station in 1971. In 1975 Bob was appointed to the Forest Service Headquarters in Washington, D.C., where he served for ten years as Deputy Chief and Director of Research and International Programs. It was this latter responsibility that gave him insights into the forestry and forest research activities and problems of many countries.

Buckman was elected to the Executive Board of IUFRO in 1977 and appointed as Vice-President in 1981 at the IUFRO Congress in Kyoto, Japan. At that Congress, John Spears (World Bank), Mike Arnold (FAO) and I presented a document "Forestry research needs in developing countries". This triggered in Bob great enthusiasm and motivation to support the growth and relevance of research in tropical and developing countries. This eventually led to the creation of the Centre for International Forestry Research in Bogor, Indonesia, and IUFRO's own Special Programme for Developing Countries in Vienna, Austria.

While on the Board of IUFRO Buckman chaired the Honours and Awards Committee and worked with Past President Walter Liese to improve the financial affairs of the Union. Bob was elected President of IUFRO for the period 1986 – 1990 and continued to improve administrative procedures. He ensured the adoption of Spanish as the fourth official language of the Union. He worked hard to gain recognition of the importance of forestry research in the international governmental arena but throughout his time with IUFRO he emphasized the non-political and non-governmental nature of the Union.

Among the many committees he served a major one for forestry was the Marcus Wallenberg Prize Selection Committee (Stockholm, Sweden). Bob played an important role in identifying, soliciting and evaluating nominations.

In recognition of his exemplary work for IUFRO and the world of forestry research Dr Buckman was awarded Honorary Membership of the Union at the Centenary Anniversary Congress in Eberswalde/Berlin, Germany, in 1992.

When he retired from the USFS in 1986 Dr Buckman was appointed Professor of Forest Resources at Oregon State University in Corvallis, USA, where he focussed on international forestry. His enthusiasm for his subject continued for many years as did his passion for salmon fishing.

With his passing IUFRO and the world of forestry research have lost a major advocate and dedicated worker.

Professor Jeffery Burley, Past President 1996 – 2000

Publications

New: IUFRO Occasional Paper 31 ACMECS Bioenergy 2015 - Three Years of Efforts Towards a Regional Bioenergy Network

A publication prepared by members of the *IUFRO Task Force Sustainable Forest Biomass Network (SFBN)* with the support of regional biomass experts.



*Biomass plantations on degraded land
(Image credit:
Raymond Miller, MSU)*

Authors: Viktor J. Bruckman, Maliwan Haruthaithanasan, Florian Kraxner, Raymond Miller, Andras Darabant, Gnhoung Choumnit, Sithong Thongmanivong, Memh Ko Ko Gyi, Ho Thi Lan Houng and Warawut Supamitmongkol
For download, go to: <http://bit.ly/1Sky9Dl>

Vegetative Propagation of Forest Trees

Online Edition. Edited by Yill-Sung Park, Jan M. Bonga and Heung-Kyu Moon. National Institute of Forest Science, South Korea. 2016. 668 pages.

The book describes many different aspects of modern, vegetative propagation techniques of forest trees and is divided into two parts. <http://www.iufro.org/science/divisions/division-2/20000/20900/20902/publications/>

IUFRO-Japan News No. 117

In this issue Alexander Buck, IUFRO Executive Director, introduces "*IUFRO at the Science/Policy Interface*". You will find relevant background information in the article "*IUFRO and International Partnerships*". In addition, the newsletter reports about two IUFRO conferences where IUFRO-Japan members were involved. Finally, A. Buck presents a

welcome message to IUFRO-Japan members for the 125th IUFRO Anniversary Congress.

Download PDF from: http://www.iufro.org/download/file/23906/5542/iufro-japan-news-117_pdf/

Gender and Forests - Climate Change, Tenure, Value Chains and Emerging Issues

Edited by Carol J. Pierce Colfer, Bimbika Sijapati Basnett, Marlène Elias. Published 2016 by Routledge.

This book brings together the work of gender and forestry specialists from various backgrounds and fields of research and action to analyze global gender conditions as related to forests. Focusing particularly on tropical forests, the book presents both local case studies and global comparative studies from Africa, Asia, and Latin America, as well as the US and Europe.

For details, visit: <http://bit.ly/1Tu0J7z>

Teaknet Bulletin 1/2016

This first issue in 2016 brings, among other things, an interesting contribution on the functional genomics of teak. Read more at: <http://teaknet.org/system/files/Volume%209%20Issue%201.pdf>

Courses

Forest Governance: Operationalising Equity and Justice in REDD+, PES and FLEGT

This course on 16–27 May 2016 in Norwich, United Kingdom, targets managerial level professionals of government institutions, civil society organizations, donor agencies, international organizations and the private sector who are involved in negotiating agreements and/or designing, implementing and monitoring forest governance schemes such as REDD+, PES and FLEGT. The course is organized by the International Development UEA, together with RECOFTC.

Details at: <https://www.uea.ac.uk/international-development/dev-co/professional-training/forest-governance>

Ecotone Thinking in the Landscape Field: A model for collaboration in theory and practice

With demands ever increasing for inter- and trans-disciplinary research, developing effective processes for working between and across historically separate knowledge areas has become ever more urgent. This PhD course explores how PhD researchers in the landscape field cooperate and communicate with colleagues whose working methods, disciplinary frameworks, theories and value sets differ from their own. The course is organized by the Swedish University of Agricultural Sciences (SLU) and will take place on 3-7 October 2016 in Alnarp Sweden.

Deadline for application is 15 May 2016.

Details at: http://www.iufro.org/download/file/23832/5548/nb-slu-alnarp-course-ecotone_pdf/

Oxford Summer School in Ecological Economics

The Oxford Summer School 2016 to be held at Balliol College, 4-10 September is accepting applications: <http://environnementeurope.org/education/7>

The School will address key elements of the new economy transformation, exploring the cutting edge methods and policy applications in ecological economics.

Awards

European Young Urban Forester of the Year 2016 – YUFA2016

Closing date for applications 27 May 2016!

The award consisting of a cash sum of €200 and a free subscription for one year to Urban Forestry Urban Greening is made annually at the European Forum of Urban Forestry on 31 May – 4 June 2016 in Ljubljana, Slovenia: <http://efuf2016.gozdis.si/> For more information, please contact: Clive Davies, [clive.davies\(at\)md2.org.uk](mailto:clive.davies(at)md2.org.uk)

IUFRO Meetings

Search our online calendar for a full list of meetings: <http://www.iufro.org/events/calendar/current/>
Find non-IUFRO meetings on the IUFRO Noticeboard: <http://www.iufro.org/discover/noticeboard/>
Also search for forest-related events in GFIS at: <http://www.gfis.net>

31 May-2 Jun 2016

10th IUFRO International Conference on Uneven-aged Silviculture: The science and art of uneven-aged silviculture

Little Rock, Arkansas, United States

IUFRO 1.05.00

Contact: Jim Guldin, [jguldin\(at\)fs.fed.us](mailto:jguldin(at)fs.fed.us)

<http://www.srs.fs.usda.gov/news/events/iufro-2016/>

2 Jun 2016

Sustainable Intensification of planted forests: potential and limits - Side event at the IUFRO Genomics and Forest Tree Genetics Conference

Arcachon, France

[IUFRO Task Force](#) Sustainable Planted Forests for a Greener Future

Contact: Christophe Orazio, [christophe.orazio\(at\)efi.int](mailto:christophe.orazio(at)efi.int)

<https://colloque.inra.fr/iufro2016/The-Conference/IUFRO-Task-Force-event-Evoltree-Satellite-meeting/IUFRO-Task-Force-event>

8-11 Jun 2016

Study Tour of Atlantic Planted Forests

France, Spain

[IUFRO Task Force](#) Sustainable Planted Forests for a Greener Future

Contact: Christophe Orazio, [christophe.orazio\(at\)efi.int](mailto:christophe.orazio(at)efi.int)

<http://www.efiatlantic.efi.int/portal/events/?bid=2302>

13 Jun 2016

International Scientific Seminar: Sustainable Intensification of Planted Forests - How Far Can We Go?

Biarritz, France

[IUFRO Task Force](#) Sustainable Planted Forests for a Greener Future

Contact: Christophe Orazio, [christophe.orazio\(at\)efi.int](mailto:christophe.orazio(at)efi.int)

<http://www.efiatlantic.efi.int/portal/events/?bid=2302>

21-22 Jun 2016

COST Action EuMixFor: Management and use of mixed forests

Valladolid, Palencia, Spain

IUFRO 1.01.10

Contact: Felipe Bravo, [fbravo\(at\)pvs.uva.es](mailto:fbravo(at)pvs.uva.es)

19-24 Sep 2016

DEMO International Conference

Vancouver, BC, Canada

IUFRO 3.00.00

Contact: Kevin Lyons, [kevin.lyons\(at\)ubc.ca](mailto:kevin.lyons(at)ubc.ca)

<http://www.demointernational.com/>

22-23 Oct 2016

2nd Asian Air Pollution Workshop (AAPW-2)

Beijing, China

IUFRO 7.01.02

Contact: Zhaozhong Feng, [fzz\(at\)rcees.ac.cn](mailto:fzz(at)rcees.ac.cn)

<http://www.iufro.org/science/divisions/division-7/70000/70100/70102/activities/>

24-26 Oct 2016

4th International Conference on Process Technologies for the Forest & Biobased Products Industries (PTFBPI 2016)

St. Simons Island, GA, United States

IUFRO 5.04.00, 5.05.00

Contact: Marius Barbu, [marcat\(at\)gmx.at](mailto:marcat(at)gmx.at)

<http://www.forestprod.org/technology/>

24-27 Oct 2016

IUFRO Regional Congress for Asia and Oceania

Forests for Sustainable Development: The Role of Research

Beijing, China

<http://www.iufro-ao2016.org>

Call for Abstracts

<http://www.iufro-ao2016.org/en/news.asp?id=35.html>

Deadline for Submissions: 15 May 2016

Please note that for this Congress there are three streams and the Call applies to all of them:

- 1) **IUFRO-AO 2016** (the Regional Congress, covering nine topic areas);
- 2) **All Division 8 Meeting** (an independent event organized by IUFRO Division 8); and
- 3) **The 4th Forest Science Forum of Chinese Society of Forestry** (an independent forum organized by CSF).

3-5 Nov 2016

9th Scientific Conference „Innovations in Forest Industry and Engineering Design“

Yundola, Bulgaria

IUFRO 5.00.00

Contact: Conference Organizers, [inno_conference\(at\)abv.bg](mailto:inno_conference(at)abv.bg)

<http://inno.ltu.bg/>

27 Feb-2 Mar 2017

Precision Forestry 2017: Producing More from Less. Towards Optimising Value in the Bio-economy from Data Driven Decisions

Stellenbosch, South Africa

IUFRO 3.00.00

Contact: Pierre Ackerman, [packer\(at\)sun.ac.za](mailto:packer(at)sun.ac.za)

<http://conferences.sun.ac.za/index.php/pf/2017>

19-25 Mar 2017

8th Meeting of IUFRO Working Party 7.02.09: Phytophthora in Forests and Natural Ecosystems

Sapa, Vietnam

IUFRO 7.02.09

Contact: Giles Hardy, [G.Hardy\(at\)murdoch.edu.au](mailto:G.Hardy(at)murdoch.edu.au)

<http://www.iufrophytophthora2017.org/>

19-22 Sep 2017

IUFRO 125th Anniversary Congress 2017

Freiburg, Germany

Visit: <http://iufro2017.com/>

Call for Session Proposals now open:

<http://iufro2017.com/call-for-session/>

