



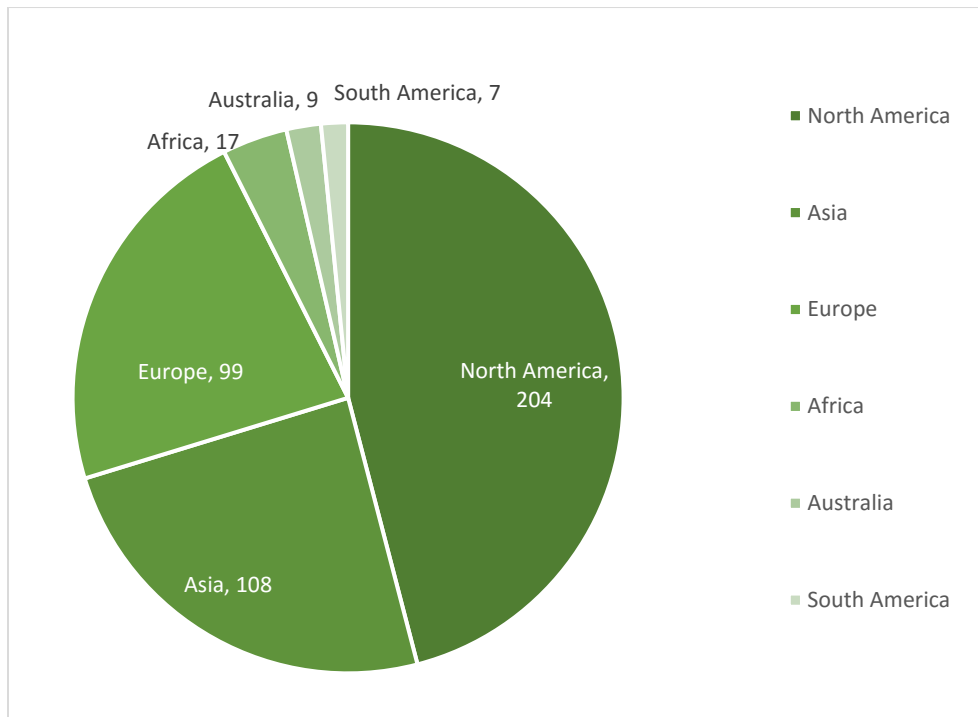
**IUFRO**  
2017 Division 5 | SWST 60th  
**CONFERENCE** | **International Convention**  
Vancouver, BC June 12th-16th

Conference Secretariat  
Faculty of Forestry  
University of British Columbia  
2005 - 2424 Main Mall  
Vancouver, BC, V6T 1Z4  
Canada  
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[iufro.2017@ubc.ca](mailto:iufro.2017@ubc.ca)  
[www.iufrodiv5-2017.ca](http://www.iufrodiv5-2017.ca)

### Conference in numbers

<b>445</b>	Total Conference delegates
<b>49</b>	Countries
<b>21%</b>	Students
<b>20%</b>	Non-IUFRO members
<b>8%</b>	Delegates from countries with lower income economies
<b>22</b>	Scientist Assistance Program delegates
<b>299</b>	Oral presentations
<b>116</b>	Poster presentations
<b>22</b>	Poster competition (Society of Wood Science and Technology), 4 winners

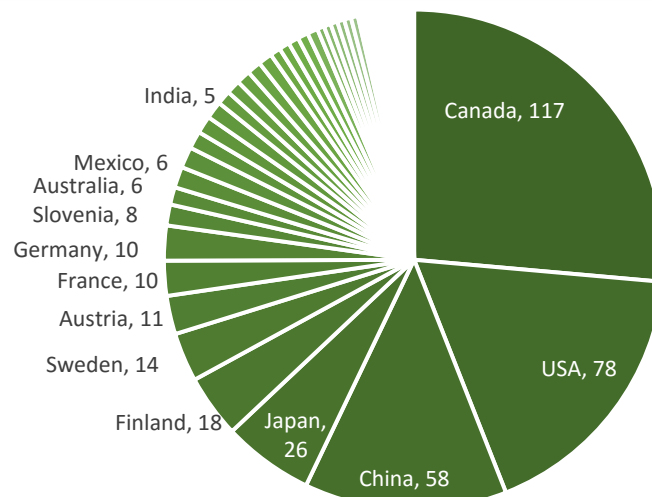
### Representatives by region



## Country profile

Country	Participants
Canada	113
USA	78
China	58
Japan	26
Finland	18
Sweden	14
Austria	11
France	10
Germany	10
Slovenia	8
Australia	6
Mexico	6
Brazil	5
Ghana	5
India	5
Taiwan, China	5
Czech Republic	4
Denmark	4
Indonesia	4
Norway	4
South Africa	4
Uganda	4
Costa Rica	3
Latvia	3
New Zealand	3

Country	Participants
Romania	3
Thailand	3
Iran	2
Italy	2
Kenya	2
Netherlands	2
Slovakia	2
Philippines	2
Burkina Faso	1
Chile	1
Great Britain	1
Madagascar	1
Malaysia	1
Mali	1
Moldova	1
Morocco	1
Poland	1
Switzerland	1
United Arab Emirates	1
Argentina	1
Singapore	1
Albania	1
Korea	1
Spain	1



### Organizations

#### Albania

University of Applied Sciences in Ferizaj

#### Argentina

Universidad Nacional Córdoba, Facultad  
Agronomía

#### Australia

Queensland Government  
SilviScan Pty Ltd  
University of Melbourne  
University of Tasmania  
University of the Sunshine Coast

#### Austria

Kompetenzzentrum Holz GmbH  
University of Natural Resources and Life  
Sciences (BOKU) - Vienna

#### Brazil

Brazilian Forest Service  
Santa Catarina State University  
Universidade do Estado de Mato Grosso  
University of Brasília  
University of São Paulo

#### Burkina Faso

Ouagadougou University

#### Canada

Association of BC Forest Professionals  
BC Ministry of Forests, Lands and Natural  
Resource Operations  
CIRAIG, Polytechnique Montréal  
Cobden Strategies Inc  
Cold Stream Consulting  
CRM  
FPInnovations  
Genome BC  
Lakehead University  
NRCan - Canadian Wood Fibre Centre  
NCASI  
NRCan - Canadian Forest Service  
Simon Fraser University  
SMT Research Ltd.  
Transformation International

### Organizations

Université du Québec à Rimouski

Université Laval

University of Alberta

University of British Columbia

University of New Brunswick, Wood Science  
and Technology Centre

University of Northern British Columbia

Western Ecology Ltd.

University of British Columbia, Faculty of  
Forestry

Brinkman Group

University of Moncton, Edmundston

#### Chile

UDT, University of Concepción

#### China

Beijing Forestry University, College of  
Materials Science and Technology  
Fujian Agriculture and Forestry University  
Guangdong Academy of Forestry  
International Centre for Bamboo and Rattan  
Northeast Forestry University  
Nanjing Forestry University  
Northwest A&F University  
Research Institute of Forestry New Technology  
Shaanxi University of Science & Technology  
South China Agricultural University  
State Forestry Administration  
Research Institute of Chemical Processing and  
Utilization of Forest Products  
Central South University of Forestry and  
Technology  
Jiangxi University of Finance and Economics  
Chinese Academy of Forestry, Research  
Institute of Wood Industry  
Chinese Academy of Forestry, Experimental  
Center of Tropical Forestry  
Chinese Academy of Forestry, Research  
Institute of Resource Insects  
South China Agricultural University, College of  
Materials and Energy

### Organizations

#### Costa Rica

Instituto Tecnológico de Costa Rica  
Novelteak Costa Rica

#### Czech Republic

Mendel University in Brno

#### Denmark

Aarhus University  
University of Copenhagen

#### Finland

Aalto University  
Kajaani University of Applied Sciences  
Natural Resources Institute Finland (Luke)  
NIRAS International Consulting  
University of Eastern Finland  
University of Helsinki, Dept. of Forest Sciences  
University of Vaasa

#### France

AgroParisTech  
Ecole Supérieure du Bois  
FCBA  
GRENOBLE INP  
INRA  
Institut Charles Gerhardt Montpellier  
Institut technologique FCBA

#### Germany

Albert-Ludwigs Universität Freiburg  
Bauen-auf-Mietgrund  
Forest Research Institute Baden-  
Wuerttemberg  
Master School for Carpentry  
Thünen Institute of Wood Research  
Universität Hamburg  
University of Freiburg  
Wood Research Munich

#### Ghana

BIDG  
Resource Management Support Centre of  
Forestry Commission, Ghana  
Samartex Timber and Plywood Company  
Limited  
Forestry Commission of Ghana

### Organizations

#### Great Britain

Forest Research UK

#### India

Forest Research Institute  
International Teak Information Network  
Panjab University  
Institute of Wood Science and Technology,  
India

#### Indonesia

Bogor Agricultural University (IPB)  
Center of Research and Development of Forest  
Products  
Kerala Forest Research Institute  
University of Muhammadiyah Purwokerto

#### Iran

Research Institute of Forests and Rangelands

#### Italy

CNR - IVALSA  
GESAAF University of Florence

#### Japan

Akita Prefectural University  
Building Research Institute  
Chiba Institute of Technology  
Forestry and Forest Products Research  
Institute  
Graduate School of Agricultural and Life  
Sciences, The University of Tokyo  
International Tropical Timber Organization  
(ITTO)  
JEMAI  
Kumamoto University  
Nagoya University  
National Institute of Advanced Industrial  
Science and Technology (AIST)  
Norinchukin Research Institute  
Shizuoka University  
Showa Women's University  
University of Tokyo  
University of Tsukuba

#### Kenya

Kenya Forestry Research Institute (KEFRI)

#### Korea

Korea University

### Organizations

#### Latvia

LRCAF, Institute of Forestry  
Green home

#### Madagascar

School of Agronomy, Department of Water  
and Forests

#### Malaysia

Faculty of Resource Science & Technology

#### Mali

Institute of Rural Economy

#### Mexico

Kaltia Consultoria y Proyectos SA de CV  
Postgrado en Ciencias Forestales, Colegio de  
Postgraduados-México  
Universidad Autonoma Chapingo  
Forestry Science Division, Chapingo

#### Moldova

Forest Research and Management Institute

#### Morocco

Faculty of Sciences, Mohammed 5 University in  
Rabat

#### Netherlands

MOSO International BV  
Utrecht University

#### New Zealand

Scion

#### Norway

Inland Norway University of Applied Sciences  
Norwegian Institute of Wood Technology  
Norwegian University of Life Sciences

#### Philippines

Forest Products Research and Development  
Institute  
Pest Science Corporation

#### Poland

Wood Technology Institute

#### Romania

Faculty of Wood Engineering  
Transilvania University of Brasov  
University Transilvania Brasov

#### Singapore

Nanyang Technological University

### Organizations

#### Slovakia

Technical University in Zvolen

#### Slovenia

University of Ljubljana  
University of Primorska, Faculty of  
Mathematics, Natural Sciences and Information  
University of Primorska, InnoRenew CoE

#### South Africa

Hans Merensky Holdings Pty Ltd  
Stellenbosch University  
University of Pretoria

#### Spain

Spectraply Biotechnology

#### Sweden

Linköping University  
Linnaeus university  
Luleå University of Technology  
Swedish University of Agricultural Sciences

#### Switzerland

Swiss Federal Institute of Technology

#### Taiwan, China

National Taiwan University  
National Chung Hsing University, Department  
of Forestry

#### Thailand

Nakhon Si Thammarat Rajabhat University  
School of Engineering and Resources, Walailak  
University

#### Uganda

Makerere University

#### United Arab Emirates

Faculty of Art and Architecture, Department of  
Architecture, Shiraz Branch, Isla

#### USA

Bowyer and Associates, Inc.  
Colorado School of Mines  
International Wood Culture Society  
Iowa State University  
JELD-WEN INC.  
Louisiana Forest Products Development Center  
Michigan Technological University  
North Carolina State University

### Organizations

Northern Arizona University  
Oregon State University  
Portland State University  
School of Forest Resources  
Smithsonian Institution  
Society of Wood Science and Technology  
SUNY-ESF  
University of Georgia  
University of Maine  
University of Minnesota  
University of North Texas  
University of Washington

### Organizations

University of Wisconsin-Stout  
US Forest Service  
Utah State University Forestry Extension  
Washington State University  
West Virginia University  
Virginia Tech, Dept. of Sustainable  
Biomaterials  
US Forest Service  
US Forest Service - Forest Products Laboratory  
Pennsylvania State University  
University of Washington, Center for  
International Trade in Forest Products

### Plenary talks

June 12	<i>Forest Sector Innovation: Then, Now and ???</i> - Jim Bowyer, Bowyer and Associates	
June 13	Innovations in Forest Products and Services	
	Canada's Forest Innovation System: A Retrospective and Way Forward Catherine Cobden, Cobden Strategies Inc.	Essential Oils from Forest Trees as Source of Natural Herbicides: Opportunities, Prospects and Challenges Daizy Rani Batish, Panjab University
June 14	Innovations in Wood Building and Design: Brock Commons John Metras, UBC Campus and Community Planning	
June 14	International Academy of Wood Science (IAWS) Academy Lecture: <i>Renaissance of Wood Building Design and Construction in North America</i> Ian de la Roche, UBC Forestry	
June 14	CEO Panel: <i>Innovations in Forest Products Successful models from around the world</i>	Alex Berg, Chile Johanna Buchert, Finland Benhua Fei, China World L-S Nieh, USA Trevor Stuthridge, Canada
June 15	Innovations in Forest Policy and Management	
	Potential Forest Sector Contributions to <i>Greenhouse Gas Emission Reductions</i> Werner Kurz, NRCanada	Using Global Trends to Our Advantage: Successful Forest Management in an Uncertain Future Doug Konkin, UBC Forestry
June 16	Innovations in Business Models and Management	
	Forest Innovation: The Canadian Way. How a national commodity-focused industry has evolved into a world leader in sustainability and a global hub of innovation Jean-François Levasseur, NRCanada	Innovations in Indigenous Business Models and Management Carol Anne Hilton, Transformation International

### Concurrent general meetings

IUFRO Foresight Task Force
Society of Wood Science and Technology Business meeting
Division 5 Meeting and Research Group reporting

### Technical sessions (in order of occurrence)

Session theme/Research group	Chair and Co-Chairs
Recycled Wood and Non-Wood Lignocellulosics for the Composite Industry	<b>Chair:</b> Mark Irle, Ecole Supérieure du Bois <b>Co-Chair:</b> Marius Catalin Barbu, Universitatea Transilvania Brasov
Wood and Forest Culture: A Path to a Greener Future	<b>Chair:</b> Howard Rosen, US Forest Service R&D <b>Co-Chair:</b> Ping Yang, Faculty of Education, Kumamoto University
Innovations in Wood Property Assessment and Characteristics of Forest Resources	<b>Chair:</b> John Moore, Scion <b>Co-Chair:</b> Xiping Wang, USDA Forest Products Laboratory
New Frontiers in Wood Science and Technology	<b>Chair:</b> Rupert Wimmer, Universitat fur Bodenkultur Wien, Austria - BOKU <b>Co-Chair:</b> Andreja Kutnar, University of Primorska
Structural Bamboo Products: Global Trends, Products and Processes	<b>Chair:</b> Felix Boeck, UBC Faculty of Forestry
Novel Wood Protection Technologies and Environmental Awareness	<b>Co-Chair:</b> Nami Kartal, Faculty of Forestry, Istanbul University
Forest and Mill Residues to Biojet	<b>Chair:</b> Jack Saddler, UBC Faculty of Forestry
Innovative Utilization of Bamboo and Rattan Resource for a Green World	<b>Chair:</b> Yan Yu, International Center for Bamboo and Rattan, China <b>Co-Chair:</b> Fei Benhua, International Center for Bamboo and Rattan, China - ICBR
Advances in Wood Quality Modelling Methods and Simulation Software	<b>Chair:</b> Alexis Achim, Université Laval <b>Co-Chair:</b> David Auty, Northern Arizona University
Perspectives on Quality for Forests and Timber Resilience	<b>Chair:</b> Rupert Wimmer, Universitat fur Bodenkultur Wien, Austria - BOKU <b>Co-Chair:</b> Pekka Saranpää, Natural Resources Institute Finland
Ensuring a Greener Future with Non-Timber Forest Products	<b>Chair:</b> James Chamberlain, US Forest Service



Session theme/Research group	Chair and Co-Chairs
Wood Deconstruction for Biorefinery Purposes: Recent Developments and Promising Approaches	<b>Chair:</b> Dominique Lachenal, Grenoble INP <b>Co-Chair:</b> Md Sarwar Jahan, Pulp and Paper Research Division, BCSIR
Industrial Engineering and Logistics for Greening the Production	<b>Chair:</b> Manfred Gronalt, BOKU – University of Natural Resources and Life Sciences, Vienna, Institute of Production and Logistics <b>Co-Chair:</b> Henry Quesada, Virginia Tech
Using Wood in the Built Environment to Promote Human Health, Social wellbeing, and Environmental Sustainability	<b>Chair:</b> Michael Burnard, University of Primorska <b>Co-Chair:</b> David Fell, FPIInnovations
Recent Developments in Wood Protection Research Relevant to Climate Change Mitigation by Conferring Long-term Carbon Storage in Wood	<b>Chair:</b> Andrew H.H. Wong, University Malaysia Sarawak (Unimas) <b>Co-Chair:</b> Rod Stirling, FPIInnovations
Transforming Lignin and Hemicelluloses into Bioproducts and Biomaterials of High Added Value	<b>Chair:</b> Dominique Lachenal, Grenoble INP <b>Co-Chair:</b> Md Sarwar Jahan, Pulp and Paper Research Division, BCSIR
X-Ray and 3-D Scanning Technology	<b>Chair:</b> Julie Cool, University of British Columbia <b>Co-Chair:</b> Dick Sandberg, Luleå University of Technology
Impacts of Forest Certification on Sustainable Forest Management	<b>Chair:</b> Robert Deal, USDA Forest Service, PNW Research Station <b>Co-Chair:</b> Wenming Lu, Chinese Academy of Forestry
Prefabrication Building Solutions and What it Means to the Forest Industry	<b>Chair:</b> Mark Kaustinen, FPIInnovations
Timber Drying: Basic and Applied R&D for Optimum Processing and Product Quality	<b>Chair:</b> Stavros Avramidis, University of British Columbia <b>Co-Chair:</b> Ciprian Lazarescu, FPIInnovations
The Economic Role of Ecosystem Services and Markets	<b>Chair:</b> Robert Deal, USDA Forest Service, PNW Research Station

Session theme/Research group	Chair and Co-Chairs
Learning from the Past: Wood Quality, Species Selection and Properties in Former Times vs. Today	<b>Chair:</b> Rupert Wimmer, Universitat fur Bodenkultur Wien, Austria - BOKU <b>Co-Chair:</b> Michael Grabner, University of Natural Resources and Life Sciences, BOKU – Vienna, Austria
Evolution of the Global Wood-based BioEnergy Sector	<b>Chair:</b> Richard P. Vlosky, Louisiana State University
New Approaches in Mechanical Wood Conversion and Manufacturing	<b>Chair:</b> Alfred Teischinger, BOKU, Department of Material Science and Process Engineering <b>Co-Chair:</b> Marius-Catalin Barbu, Salzburg University of Applied Sciences
Linking Life Cycle Assessment to Carbon Accounting and Multi-criteria Indicators for Sustainable Forest Products	<b>Chair:</b> Richard Bergman, USDA Forest Service <b>Co-Chair:</b> Arno Fruehwald, University of Hamburg
Enabling the Forest Sector of Tomorrow to Contribute to Global Challenges: a Test for Governments, Industry, and Society	<b>Chair:</b> Anne-Helene Mathey, Canadian Forest Service, NRCanada
Fundamental Properties of Green Bio-economy Building Blocks to Innovative Materials	<b>Chair:</b> Saurabh Patankar, University of British Columbia
Principles of the Innovation Systems Approach for Forestry	<b>Chair:</b> John Moore, Scion
Case Studies Describing Innovative Indigenous Forest Products and Markets	<b>Chair:</b> Andrea Lyall, University of British Columbia, Canada <b>Co-Chair:</b> Chris Gaston, University of British Columbia / FPInnovations
No-added Formaldehyde Adhesives for Manufacturing of Wood and Lignocellulose Products	<b>Chair:</b> Marius-Catalin Barbu, Salzburg University of Applied Sciences <b>Co-Chair:</b> Milan Sernek, University of Ljubljana, Biotechnical Faculty
Function Driven Variability in Wood and Bark: A Joint IAWA - RG 5.01 Session	<b>Chair:</b> Paul McLean, Forest Research (UK) <b>Co-Chair:</b> Pekka Saranpää, Natural Resources Institute Finland
The Bioeconomy: Implications for Business and Marketing Structures and Practices	<b>Chair:</b> Richard P. Vlosky, Louisiana State University <b>Co-Chair:</b> Eric Hansen, Oregon State University
Innovative Mass Timber and Timber Hybrid Structural Systems	<b>Chair:</b> Lech Muszynski, Oregon State University

Session theme/Research group	Chair and Co-Chairs
Improving the Efficiency of the Forest Products Value Chain through Innovative Non-destructive Evaluation	<b>Chair:</b> Xiping Wang, USDA Forest Products Laboratory <b>Co-Chair:</b> Franka Brüchert, Forest Research Institute of Baden-Wurttemberg
Decision Support Tools and Models for the Forest Products Sector	<b>Chair:</b> Taraneh Sowlati, UBC
Collaborative Approaches to Forest Management between Indigenous and Non-Indigenous Governments and Industry	<b>Chair:</b> Ngaio Hotte, University of British Columbia <b>Co-Chair:</b> Stephen Wyatt, Université de Moncton Campus d'Edmundston
Opportunities, Challenges and Successes in Replacing Native Forest Harvest with Plantation-Grown Resources in the Tropics	<b>Chair:</b> Roger Meder, University of the Sunshine Coast, Australia <b>Co-Chair:</b> Andrew H.H. Wong, University Malaysia Sarawak (Unimas)
Student & Early Stage Researcher Incubator: An IUFRO, International Forestry Students Association, and Society of Wood Science and Technology Collaborative Special Session	<b>Chair:</b> May Anne Then <b>Co-Chair:</b> Pekka Saranpää, Natural Resources Institute Finland <b>Co-Chair:</b> Jamie Barbour, USDA, Forest Service
Structural Assessment and Monitoring of Wood Structures - Wood Structures	<b>Chair:</b> Mariapaola Riggio, Oregon State University
Innovations in Sensing Technologies for the Forest Products Industry	<b>Chair:</b> Zarin Pirouz, FPIInnovations <b>Co-Chair:</b> Brigitte Leblon, University of New Brunswick Forestry
Nano Cellulose Composites and Potential Applications	<b>Chair:</b> Zhiyong Cai, USDA Forest Service
Teak Resources for a Sustainable Future	<b>Chair:</b> Yafang Yin, Chinese Academy of Forestry <b>Co-Chair:</b> Thulasidas PK, International Teak Information Network
Supply Chain Analytics based on Enhanced Forest Inventory	<b>Chair:</b> Denis Cormier, FPIInnovations <b>Co-Chair:</b> Vincent Roy, Canadian Wood Fibre Centre, Canadian Forest Service

Session theme/Research group	Chair and Co-Chairs
Innovation in Forest Products Education and Knowledge Transfer: Opportunities and Challenges	<b>Chair:</b> Robert Smith, Virginia Tech <b>Co-Chair:</b> Sudipta Dasmohapatra, North Carolina State University, USA
Current Developments in Cellulose Nano Materials	<b>Co-Chair:</b> Jianxiong Lyu, Research Institute of Wood Industry, Chinese Academy of Forestry Manzhen Xiong, Research Institute of Wood Industry, Chinese Academy of Forestry
Development of Wood Biomass Use	<b>Chair:</b> Marius-Catalin Barbu, Salzburg University of Applied Sciences <b>Co-Chair:</b> Marian Marinescu, FPIInnovations