



## **IUFRO Regional Congress for Asia and Oceania 2016 (IUFRO-AO 2016)**

### ***“Forests for Sustainable Development: The Role of Research”***

**Beijing, China**

**October 24 – 27, 2016**

#### **Brief Session Descriptions**

#### **4. Impacts of changing climate and atmospheric deposition on forest ecosystem structure, function and management**

*Organizers:* Steven McNulty (USDA South East Regional Climate Hub, USA), Enzai Du (Beijing Normal University, China) & Elena Paoletti (SISEF, Italy)

*Format:* Oral and poster presentations

*This session will focus on climate change and atmospheric deposition and their integrated ecological impacts on forest ecosystems from site to global scale, with an emphasis on knowledge exchanges and discussion on the future research directions related to ecosystem health and management.*

#### **7. Future of forest industrial business: co-management of ecosystem services and corporate sustainability?**

*Organizers:* Anne Toppinen (University of Helsinki, Finland), Christian Gamborg (University of Copenhagen, Denmark) & Maarit Kallio (LUKE, Finland)

*Format:* Oral presentations and posters

*The session brings together a rich collection of research-based evidence on ecosystem service management and the emerging interactions between businesses, industrial plantations and local livelihoods. The session also addresses impacts from changing international trade flows and foreign investments on the sustainable future of forest industry.*

## **9. Towards a green economy in Asia: Inserting forests into the sustainable development goals**

*Organizer:* Pia Katila (IUFRO WFSE/Natural Resources Institute Finland)

*Format:* Oral presentations with a moderated discussion

*This session will focus on different forest-related approaches and mechanisms employed in Asian countries to steer development and investment towards a green economy and sustainability and discuss how they are understood and applied in different contexts, their potential for advancing transition towards a green economy and the lessons learned.*

## **10. Evaluating the impacts and enhancing the effectiveness of China's ecosystem restoration programs**

*Organizer:* Yin Runsheng (Michigan State University, USA)

*Format:* Moderated panel discussion

*China has been undertaking several major ecosystem restoration programs since the late 1990s, including the Sloping Land Conversion Program (SLCP) and the Natural Forest Protection Program (NFPP). Presentations in this session will examine these programs with respect to their socioeconomic and environmental impacts and options for improved governance.*

## **17. Promoting sustainable forest management through market based instrument of forest certification in the Asia Pacific Region**

*Organizers:* Lu Wenming (Chinese Academy of Forestry), Ben Gunneberg (PEFC, Switzerland) & Wang Wei (China Forest Certification Council)

*Format:* Oral presentations only

*This event will focus on promoting sustainable forest management through market based instrument of forest certification in the Asia and Pacific Region, which covers both for sustainable forest management and trade on certified timber and timber products.*

## **20. Valuating the Ecosystem Services of Forests: a Gross Ecosystem Product approach**

*Organizers:* Zhu Chuqun (IUCN China)

*Format:* Oral presentations only

*This session will focus on the valuation of forest ecosystem services as a mean of forest management, with a comprehensive illustration of methodologies, case studies and major China*

forest programmes.

## **26. Approaches for sustaining agroforestry systems and practice in Asia and Oceania**

*Organizer:* Dr. Swoyambhu Man Amatya (Nepal Agroforestry Foundation, Nepal);

*Format:* Oral presentations

*This session will explore the agroforestry systems and practices in the Asia and Oceania region and discuss the sustainable approaches should be promoted so that agroforestry can play a greater role in improving food security, enhancing livelihood conditions and minimize the effect of climate change.*

## **28. Understanding Role of Forest Traditional Knowledge and application in Forest Management in Asia and Pacific Region**

*Organizers:* Youn Yeo-Chang (Seoul National University, Republic of Korea), Ryo Kohsaka (Kanazawa University, Japan) & Liu Jinlong (Renmin University of China)

*Format:* Oral presentations and posters

*This session will provide a platform for academics in the Asia-Pacific region to share the latest scientific advance in the fields of traditional forest-related knowledge and for science-policy interface in the region. The main scope is non-timber forest product including mushrooms, bees and medicinal plants but open to other cultural and regulating services.*

## **29. Multipurpose or single purpose planted forests: which options serve society best?**

*Organizer:* Christophe Orazio (European Forest Institute, France), Santiago C. González-Martínez (INRA, France) & Wu Shuirong (Chinese Academy of Forestry)

*Format:* Oral presentations and moderated panel discussion

*This session will provide an opportunity to discuss how planted forests can meet wider societal demand for a range of ecosystem services in a variety of contexts. We expect this to be an interdisciplinary session with presentations related to many aspects of planted forests, e.g., soils, protection, biodiversity, physiology and genetics, water management, public perception, products, etc.).*

## **30. Sustainable biomass for Asia's growing bioeconomy: regional initiatives and promising examples**

*Organizers:* Viktor J. Bruckman (Austrian Academy of Sciences, Austria; coordinator IUFRO TF "SFBN"), Maliwan Haruthaithanasan (Kasetsart University, Thailand; deputy coordinator

IUFRO TF “SFBN”) & Wu Shuirong (Chinese Academy of Forestry, China)

*Format:* Oral presentations and posters

*This session aims to present concepts and cases for a sustainable development of biomass in Asia and Oceania. Topics addressed are regional biomass networks, enhancement of livelihoods of rural population, policy development, and sustainable management, innovative concepts in silviculture and short rotation management and biomass integration in national energy programs, among others.*

### **32. Development of Adaptation Strategies for Climate Change using GM Trees**

*Organizer:* Eung-Jun Park(National Institute of Forest Science)

*Format:* Oral and poster presentations

*This session will mainly focus on the latest generation of GM tree researches, emphasizing on biotic/abiotic stress tolerance, biofuel production and so on, for assessing impacts of, and adaption to climate change.*

### **34. Forestry genomics: Advances in physiology and genetics**

*Organizer:* Yousry A. El-Kassaby (UBC, Canada) and Lu Mengzhu (Chinese Academy of Forestry)

*Format:* Oral and poster presentations

*This session will provide an opportunity for presentations and discussion of current research demonstrating the power of genomics in understanding the fundamental mechanisms controlling tree growth and development, adaptation, and pest resistance, resulting in speeding breeding cycles, increasing genetic gain per unit time, cost and efforts.*

### **35. Sustainable biomass operations to facilitate forest and landscape rehabilitation and restoration**

*Organizers:* Nathaniel Anderson (U.S. Forest Service, Rocky Mountain Research Station) & Woodam Chung (Oregon State University, USA)

*Format:* Oral and poster presentations

*The objectives of this session are to highlight the latest research focused on the synergies between restoration and biomass utilization. The session will be focused on methods to predict biomass yields from treatments, logistics to improve recovery and reduce costs, and ways to measure and reduce environmental impacts from biomass harvesting.*

### **36. Illegal timber of the global East: Can China and Japan meet their obligations to eliminate unauthorized timber from global supply chains**

*Organizer:* Wil de Jong (Kyoto University, Japan), Li Ning (Nanjing Forestry University, China),

Mari Momii (Green Consulting, Japan) & Daisuke Naito (Kyoto University, Japan)

*Format:* Oral and poster presentations

*This session aims to take stock of the magnitude and diverse aspects of illegal timber trade in Asian consumer and producer countries, and of the progress in efforts of timber legality verification. The session will also explore opportunities and needs for academic inquiry, specifically focused on the Asian region and on global timber supply chains that involve Asian countries.*

### **38. Forest and landscape restoration in Central Asia**

*Organizers:* Nyam-Osor Batkhoo (National University of Mongolia), John Stanturf (USDA Forest Service), Sung Joo Han (Korea Forest Service), & Ho Sang Kang (Seoul National University, Republic of Korea)

*Format:* Oral presentations and posters

*The purpose of the session is to provide a forum for further exchange of information on the ecology of forests in Central Asia, focusing on forest types, silvicultural systems, and current threats from natural and human disturbances. Restoration needs and currently used methods of reconstruction, rehabilitation, and reclamation will be shared. Integration of information across biomes (particularly commonalities and differences) and identification of knowledge gaps will provide needed information for pursuing restoration pledges in support of the Bonn Challenge.*

### **39. The role of urban forests in improving air quality**

*Organizers:* Zhaozhong Feng, (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences), Elena Paoletti (National Research Council of Italy) & David Nowak (Northern Research Station, USDA Forest Service, USA)

*Format:* Oral presentations and posters

*This session aims at summarizing the state of the art about urban forest removal of air pollutants, including approaches for monitoring and modelling removal at urban and regional scale.*

### **40. Forest landscape restoration and sustainable development in Northeast Asia**

*Organizer:* Ho Sang Kang (Seoul National University, Republic of Korea)

*Format:* Oral and poster presentations

*The objective of this session is to provide a platform to exchange the knowledge on the progress of forest landscape restoration approaches and to share some relevant experiences/efforts in Northeast Asian region by various stakeholders including international organizations, government agencies, research institutes, universities and NGOs. This Session is based on the network built through international workshops, symposia and capacity-building projects conducted over the past*

10 years in the region.

#### **41. Eucalypt pest and disease management: challenges and opportunities arising from new technologies**

*Organizers:* Chen Shuaifei (China Eucalypt Research Centre, Chinese Academy of Forestry) & Jolanda Roux (Forestry and Agricultural Biotechnology Institute, University of Pretoria, South Africa)

*Format:* Oral presentations and posters

*The objectives of this session will be to highlight the importance of comprehensive research of identification, population biology, genomics, traditional/molecular breeding and biological control on eucalypt pest and disease management in Asia and Oceania.*

#### **44. The Target Plant Concept: a foundation for forest regeneration success**

*Organizers:* Anthony S. Davis, (University of Idaho Center for Forest Nursery and Seedling Research, USA); Jeremiah R. Pinto (USDA Forest Service Rocky Mountain Research Station); R. Kasten Dumroese (USDA Forest Service Rocky Mountain Research Station)

*Format:* Oral presentations

*The objective of this session is to introduce the holistic Target Plant Concept to researchers (and practitioners) from Asia and provide the foundation for broader collaborative research aimed at improving forest regeneration and restoration success.*

#### **45. Tackling climate change adaptation in tropical and subtropical forests**

*Organizer:* Wang Guangyu (UBC, Canada)

*Format:* Oral presentations only

*The objective of this session is to share the knowledge produced over the first four years of the Adaptation of Asia-Pacific Forests to Climate Change project (conducted in the Faculty of Forestry, University of British Columbia). It will include presentations by experts on climate and ecological modeling and sustainable forest management (SFM), as well as presentations by local partners from three of our pilot site economies in SE Asia that will demonstrate the use of the online tools developed by this project and discuss how they can be applied in a local forest for SFM.*

#### **47. Companies, communities and countries: certification and other governance mechanisms for sustainable forests in Asia-Pacific**

*Organizers:* Peter Edwards (Scion Research; Victoria University of Wellington, New Zealand), Ani Kartikasari & Mark Bloomberg (Lincoln University, New Zealand) & Bruce Manley (University of Canterbury, New Zealand)

*Format:* Oral presentations and posters

*This session invites participants to share experiences of governance and in particular certification. The focus should be two-fold: first, how local, national, regional or international initiatives can help overcome technical, financial, economic, policy and participatory barriers to forest certification/governance in Asian and Pacific countries. Second, experiences in implementing certification, particularly how criteria, indicators and verifiers are understood at an operational level, with the resultant effects on companies and other stakeholders.*

## **50. Sustaining management and utilization of bamboo and rattan resources**

*Organizer:* Yu Yan (International Center for Bamboo and Rattan, China) & Fu Jinhe, (International Network for Bamboo and Rattan, China)

*Format:* Oral and poster presentations

*Bamboo and rattan have wide applications in many fields: bamboo are currently used in construction, decoration, furniture, paper making, packaging, transportation, pharmacy, food, textile, chemical industry and other fields, while rattan is used mainly for the production of furniture, handicrafts and decorative materials. This session will focus on recent advancements in the sustainable management and utilization these important non-timber forest resources.*

## **51. IUFRO Task Force on Climate Change and Forest Health**

*Organizers:* Elena Paoletti (SISEF, Italy), Marcus Lindner (EFI, Finland), Andrzej Bytnerowicz (USDA Forest Service, USA) & Eckehard Brockerhoff (University of Canterbury, New Zealand)

*Format:* Oral presentations and posters

*This session presents results and prospects of the activities of the IUFRO Task Force on Climate Change and Forest Health and is open to TF members and not members.*

## **52. Air pollution and climate change impacts on forest ecosystems**

*Organizers:* Elena Paoletti (SISEF, Italy) & Shang He (CAF, China)

*Format:* Oral presentations and posters

*This session deals with the interactive impacts of air pollution and climate change on forest ecosystems in Southeast Asia compared to other areas, including : energy production; reactive nitrogen; wildland-urban interface; ecophysiological understanding of impacts; modeling.*

#### **54. Status of regeneration, management and conservation of Asian oak forests**

*Organizers:* Somidh Saha (Albert Ludwigs University of Freiburg, Germany), Saroj K. Barik (North Eastern Hill University, Shillong, India) & Lei Yuancai (Chinese Academy of Forestry)

*Format:* Oral presentations and posters

*This session will focus ecological and silvicultural studies on Asian oak species. The session aims to understand the current state of the art on management and conservation of oak forests in Asia.*

#### **59. Social responsibility of forestry corporations**

*Organizers:* Scarlett Wang Sijia & Wen Zuomin (Nanjing Forestry University, China)

*Format:* Oral presentations and posters

*Forestry corporate social responsibility refers to the responsibilities that forestry companies have to employees, consumers, communities as well as forest ecosystems, while pursuing profits and meeting legal requirements. This session will discuss research on how forest corporations consider the value of people during production, as well as the actual or potential contributions of forestry corporations to ecosystems, consumers, and the society as a whole.*

#### **60. Forest transition pathways in Asia and Pacific**

*Organizers:* Wil De Jong (Kyoto University, Japan), Xia Jun (APFnet, China), Liu Jinlong (Renmin University of China)

*Format:* Oral presentations and posters

*This session will report on recent studies that shed new light on the comprehensive and dynamic interrelationship between forest transition and economic, social, cultural and political changes and discuss the implication for forest policy and related environmental and climate change policies.*

#### **62. The role of higher education in promoting sustainable forest management**

*Organizers:* Ioan Vasile Abrudan (Transilvania University of Brasov, Romania) & Florin Ioras (Buckinghamshire New University, UK)

*Format:* Oral presentations and posters

*This session will focus on the main challenges of nowadays higher education in forestry in addressing sustainable forest management, with a particular emphasis on inter-sectoral linkages, development of soft-skills and forest career adaptation to the changing demands of society.*

### **63. Woody biomass management and utilization for bioenergy and nioproducts**

*Organizers:* Fei Benhua (International Center for Bamboo and Rattan, China), Wang Jingxin (West Virginia University, USA), Liu Shirong (Chinese Academy of Forestry), Richard Bergman (USDA Forest Products Laboratory, USA)

*Format:* Oral presentations and posters

*This session concentrates on biomass feedstock development, processing, conversion and advanced manufacturing technologies for bioenergy and value-added bioproducts. The session also discusses socio-economic and environmental impacts, policy and sustainability of biomass utilization.*

### **64. Sustainable forest operations – A foundation of the green economy**

*Organizers:* Woodam Chung (Oregon State University, USA) & Enrico Marchi (University of Florence, Italy)

*Format:* Oral and poster presentations

*The essential elements of sustainable forest operations (SFO) may include environment, human factors, social acceptance, and quality control on both product and operational process. Holistic views and approaches are required to measure the performance on each element to ensure the sustainability of forest operations. The objectives of this session are to 1) review the concept of sustainable forest operations as a foundation of the green economy, 2) understand dynamic linkages among the essential elements, and 3) provide examples of quantitative approaches to assessing performance of forest operations sustainability.*

### **65. Forest adaptation and restoration under global change: Asian and Oceanian perspectives**

*Organizers:* Andreas Bolte (Thünen-Institute, Institute of Forest Ecosystems, Eberswalde, Germany) & John Stanturf (USDA Forest Service, Athens (GA))

*Format:* Oral presentations and panel discussion

*This session will focus on: (1) identifying knowledge gaps in the adaptive potentials of tree species/provenances under climate change, (2) comparing existing activities and techniques used for restoration actions in stand-level adaptive forest management (AFM) and in the context of broader forest landscape restoration (FLR) objectives in different climatic zones and continents, and (3) evaluating the success of restoration actions involving AFM and FLR measures and present best practice approaches for those concepts.*

## **67. Nanotechnology for biobased materials**

*Organizers:* Organizers: Wang Siqun (University of Tennessee, USA & Research Institute of Wood Industry, Chinese Academy of Forestry, China) & Lyu Jianxiong (Research Institute of Wood Industry, Chinese Academy of Forestry, China)

*Format:* Oral presentations and posters

*This session will focus on the nanoscience and nanotechnology's role in the design, synthesis, and characterization of various novel biobased materials for the use and production of renewable and sustainable nanomaterials. The topics will include (but not limited to) the preparation and application of cellulose nano crystals (CNC) and cellulose nanofibrils (CNF), nano-structure characterization and methodology, aerogels (foams) and hydrogels, nanocomposite and its application.*

## **68. Wood culture: merging the old with the new**

*Organizers:* Howard N. Rosen (USDA Forest Service, Washington, D.C. USA) & Su Jinling (International Wood Culture Society, Beijing, China)

*Format:* Oral presentations and posters

*IUFRO's Division 5 Wood Culture Working Party joins with the International Wood Culture Society in advocating the concept "Wood is Good" and encouraging a harmonious coexistence between the products of the forest and people. This session will focus on the traditional knowledge and the historical use of wood including, wooden instruments, ancient wooden structures (including buildings and boats), wooden crafts, and perspectives on World Wood Day held annually on March 21st.*

## **69. Policies for improved contributions of forest plantations to economies, societies and the environment**

*Organizers:* Rodney Keenan (University of Melbourne, Australia), Peter Kanowski (Australian National University) & Somvang Phimmavong (National University of Laos)

*Format:* Moderated panel discussion

*This session will bring together policy researchers and experts from a number of countries in the region to discuss current problems and best practice approaches to plantation development that best serves the needs of industry, communities, smallholders and the environment. Panelists will consider policy issues such as land tenure and allocation processes; regulation and enforcement; finance, incentives and education programs for smallholder plantations; support for domestic processing and value-adding to plantation timber; and approaches for integrating environmental values and benefits. Mechanisms for facilitating improved outcomes from plantation development*

*will also be discussed.*

#### **70. Forest remote sensing activities in Asia and Oceania**

*Organizers:* Li Zengyuan (Chinese Academy of Forestry), Nicholas Coops (University of British Columbia, Canada) & Pang Yong (Chinese Academy of Forestry)

*Format:* Oral presentations and posters

*This session will explore innovative methods and exchange operational application achievements for forest coverage mapping and carbon assessment in Asia and Oceania (but not limit to), including topics such as integration of forest inventory with remote sensing technologies, forest change detection, forest carbon mapping and uncertainty analysis, forest biodiversity monitoring, ecosystem services evaluation, and related works. Data from satellites, aircrafts, and terrestrial based systems are targeted for forest observation purposes.*

#### **71. Role of university and experimental forests in the long-term forest research and enhancing forest technology in East Asian region**

*Organizers:* Pil Sun Park (Seoul National University, Republic of Korea) & Kyu-Seok Kang (Seoul National University, Republic of Korea)

*Format:* Oral presentations and posters

*The session deals with scientific findings and academic roles of university and experimental forests and will discuss the ways to develop the function of university and experimental forests as well as the collaboration among university and experimental forests.*

#### **72. Gender competence for forestry, natural resources management and wood industry**

*Organizers:* Siegfried Lewark (Nanjing Forestry University, China / University of Freiburg, Germany) & Yu Na (Nanjing Forestry University, China)

*Format:* Oral presentations and posters

*This session will focus on the gender specific situation of female and male students and teachers and of graduates in their working lives, then lead to the need of gender competence of graduates and gender issues as content of courses in study programmes.*

#### **73. Long-term flux monitoring using forest tower measurement -Interaction with forest and environmental condition change**

*Organizers:* Yuji Kominami & Katsumi Yamanoi (Forestry and Forest Products Research Institute of Japan)

*Format:* Oral presentations and posters

*Since last half of 1990's, many carbon uptake monitoring forest sites have been constructed in Asia and many data have been accumulated. In this session we will discuss ways to use these data to improve estimates of carbon uptake under present and future conditions, improvement of flux estimation (e.g. model and new technique), cross validation using another carbon flux measurement method (e.g. chamber method, biometric method and cross sites comparison) and measurement of other gas fluxes (e.g. delta C13, COS and BVOC).*

#### **74. Forest education in a changing environment**

*Organizers:* Magdalena Lackner (IFSA - International Forestry Students' Association) & Mika Rekola (Helsinki University, Finland)

*Format:* Oral presentations only

*This session is designed to sharing and discussing higher forest education teaching and learning. We welcome research papers and case studies, on topics related to e-learning, latest education tools and technologies, communication, professional competencies, professional certification, new perspectives on education, learning for climate change, educational policy, curriculum development, and other topics related to forest education.*

#### **75. Scientific approach of forest carbon monitoring for the realization of REDD+**

*Organizers:* Yasumasa Hirata (Forestry and Forest Products Research Institute of Japan)

*Format:* Oral presentations only

*Since last half of 1990's, many carbon uptake monitoring forest sites have been constructed in Asia. This session aims to exchange scientific knowledge on forest carbon measurement and monitoring for building REDD+ measurement, reporting and verification (MRV) systems. It will include topics such as forest inventory development, forest carbon measurement protocols, uncertainty analysis, integration of forest inventory and remote sensing data for estimating forest carbon stocks, and related works.*

#### **76. Implications of the Paris Climate Change Agreement (CoP21) on forests, water and soils**

*Organizers:* Richard J Harper (Murdoch University, Australia), Liu Shirong (Chinese Academy of Forestry) & Heidi Asbjornsen (University of New Hampshire, USA)

*Format:* Oral presentations and posters

*This session will examine direct impacts of different mitigation activities on water yield and soil conservation. Mitigation activities will occur in a changing climate, and presenters will be asked to consider the likely impacts of climate change on forests and efficacy of carbon mitigation. The likelihood of different environmental services related to water and soils being valued in carbon trading systems will also be examined.*

### **77. Conserving and utilizing of forest genetic resources in Asia and Oceania: opportunities for and benefits from regional collaboration**

*Organizers:* Yongqi Zheng (Chinese Academy of Forestry), Kyu Suk Kang (Seoul National University, Republic of Korea) & Judy Loo (Bioversity International, Italy)

*Format:* Oral presentations and posters

*In this session, researchers from across Asia and the Pacific showcase results of research on how forest genetic resources (FGR) contribute to local livelihoods, forest products development, climate change adaptation and forest and landscape restoration; but also how they remain poorly understood and threatened by extinction before their potential has even been explored. Participants will present and discuss on recent ongoing regional initiatives on FGR which include collaborating in training in the Asia and Oceania region, and identify priority topics for future collaborative research and capacity strengthening initiatives.*

### **78. Linking life-cycle assessment to sustainable forest and forest product carbon management activities**

*Organizers:* Hongmei Gu & Richard Bergman (USDA Forest Service, Forest Products Laboratory), Arno Fruehwald (University of Hamburg, Germany), and Zhen Wang (Beijing Forestry University, China)

*Format:* Oral presentations and posters

*This session focuses on how sustainable forest products or low carbon products can mitigate impacts contributing to climate change and other environmental impacts over their whole life cycle from forest resources to wood utilization to the end of product life or to re-use (ie cascading) using life-cycle assessment and forest product carbon accounting activities.*

### **80. Role of research in forest restoration and rehabilitation**

*Organizers:* Florita E. Siapno & Antonio A. Daño (Ecosystems Research and Development Bureau, the Philippines)

*Format:* Oral presentations only

*This session will focus on science-based strategies, techniques, methodologies in forest restoration and rehabilitation in the Asian and Oceania regions. Moreover, it will highlight research outputs/successes of different forest restoration projects.*

#### **84. Law sciences and logic sciences for forest law enforcement, governance and trade (FLEGT)**

*Organizers: Lu Wenming (Chinese Academy of Forestry), B. C. Y. Freezailah (Malaysia Timber Certification Council) & Ioan Abrudan (Transilvania University of Brasov, Romania)*

*Format: Oral presentations and moderated panel discussion*

*This event will focus on scientific aspects of illegal logging and associated trade. A keynote presentation will analyze the fundamental law sciences and logic sciences related to FLEGT which few people are aware of. Then 2 panelists will comment this analysis, one focusing on law sciences and logic sciences and the other focusing on the preliminary failure of FLEGT VPA process, followed by questions and answers.*

#### **85. Future for nature-based recreation and tourism**

*Organizers: Tuija Sievänen (Natural Resources Institute Finland) & Frank S. Jensen (University of Copenhagen, Denmark)*

*Format: Oral presentations and posters*

*The aim of the session is to invite scientists to discuss the future prospects of research in the field of nature-based recreation and tourism aimed at improving recreation opportunities, support the positive output of health and wellbeing benefits of green infrastructure, as well as providing a good knowledge base for nature based recreation policy and planning. This session will include topics such as: trends and scenarios of recreation demand; development of inventory methods of recreation resources; and methods to evaluate the balance between recreation demand and supply.*

#### **86. Management of forest research in Asia and Oceania**

*Organizers: Peter Mayer (BFW, Austria) & Liu Shirong (Chinese Academy of Forestry)*

*Format: Moderated panel discussion*

*The Directors Forum, a Special Programme of IUFRO, brings together heads of forest research institutes and deans of forest faculties, and provides a platform for the exchange and development of views on the management of forest research. This session the Directors Forum will discuss the organization, funding and management of forest research in Asia and Oceania for maintaining the relevance of forest-focused research institutions, as well as recent developments in the region and*

*strategies for the future which may also be of relevance for global management recommendations.*

#### **87. Innovation in the Panel Industry: Outlook and Concerns**

*Organizer:* Dr B.N. Mohanty (Indian Plywood Industries Research and Training Institute)

*Format:* Oral presentations

*This session will focus on the research and technological innovations relevant to wood panel industries. It will also discuss current scientific, technological, environmental and legal issues affecting wood panel industries.*

#### **89. Preventing invasions of forest insects and pathogens**

*Organizers:* Eckehard Brockerhoff (New Zealand Forest Research Institute), Andrew Liebhold, (USDA Forest Service) & Elena Paoletti (Italian Society of Silviculture and Forest Ecology)

*Format:* Moderated panel discussion

*Invasions of forest insect pests and pathogens continue at an unprecedented rate, often causing serious environmental and economic impacts. Good progress has been made with phytosanitary policies aimed at making international trade safer but further efforts are needed to prevent further invasions and their consequences. The session aims to facilitate communication among all relevant stakeholders through discussions of a variety of phytosanitary measures and methods to respond to incursions. It will include presentations from scientists studying invasion ecology, economists, social scientists, plant protection organizations, and trade organizations.*

#### **91. Microbial biodiversity in Asian forests: Opportunities or Threats?**

*Organizers:* Jolanda Roux (Forestry and Agricultural Biotechnology Institute, University of Pretoria, South Africa) & Chen Shuaifei (China Eucalypt Research Centre, Chinese Academy of Forestry)

*Format:* Oral presentations and posters

*The objectives of this session are to report on, and discuss efforts to identify and characterize the microbial and insect biodiversity of regions in Asia and Oceania.*

#### **98. Forest-based sustainable bioenergy in Asia and the Pacific**

*Organizers:* Soo Min Lee (National Institute of Forest Science, Republic of Korea) & Himlal Baral (Center for International Forestry Research, Indonesia)

*Format:* Oral presentations

*This session will focus on biomass conversion technologies for energy production and value added bio-based material from forest, socio-economic and environmental impacts of bioenergy and bioenergy policy of Asia-Pacific countries.*

#### **99. REDD+ between transformational change and business-as usual – lessons from 7 years of global comparative analysis**

*Organizers:* Maria Brockhaus and Levanía Santoso (Center for International Forestry Research, Indonesia)

*Format:* Oral presentations

*This session will explore the current status of policies and processes related to REDD+ and provide an early impact assessment in terms of effectiveness, efficiency, and equity outcomes of REDD+ globally and in the SEA region.*

#### **100. Forest restoration in hilly and mountainous landscapes: Integrating social protection and economic opportunity**

*Organizers:* Louis Putzel (Center for International Forestry Research, Indonesia), Zhang Kun (China National Forest Economics and Development Research Center) & Li Yanxia (International Network for Bamboo and Rattan, China)

*Format:* Oral presentations only

*This session is to present relevant research from China, Ethiopia and Vietnam, with specific attention to the social and economic dimensions of forest landscape restoration in upland landscapes. Speakers and panelists will address topics related to smallholder management for ecosystem service provision; outcomes of land tenure reallocations, compensation, loan schemes and alternative livelihood programs implemented to offset the opportunity costs of expanding forest cover; aligning restoration goals with production of timber non-timber forest products; and maximizing benefits and reducing social risks of large scale land-use change in the context of climate change and demographic transitions.*

#### **101. Forest tenure reform process in developing countries: achievements and critical challenges**

*Organizers:* Mani Ram Banjade (Center for International Forestry Research), Chen Shaozhi (Chinese Academy of Forestry) & Naya Sharma Paudel (ForestAction Nepal)

*Format:* Moderated panel discussion

*Forest tenure reforms in Nepal, Indonesia and China have allocated a considerable area to*

*smallholder and community-based forest management though they vary greatly in terms of their design and implementation, including which rights and responsibilities, as well as economic incentives, are associated with land transfers. This session will bring together scholars and practitioners primarily from these countries to share national and sub-national case studies of tenure reform processes. Cases will seek to characterize common variables as well as context specific factors that have so far affected reform outcomes.*

## **102. Reforming forest tenure and governance in Asia**

*Organizers:* Yin Runsheng (Michigan State University, USA)

*Format:* Moderated panel discussion

*Reforming forest tenure and enhancing forest governance has attracted broad attention for addressing such issues as reducing deforestation and forest degradation, promoting forest restoration and management, and improving forest ecosystem quality and productivity. However, significant knowledge gaps and policy challenges hinder efforts to implement such reforms. In this session the theoretical and practical requirements for resolving some of these problems will be discussed, based on the recent experience of China, India, and Nepal, and advances of institutional economics in such areas as property rights, collective action, transaction cost, and nested governance structure.*

## **103. Policies, governance and economics at the intersection between REDD+ and swidden systems in Southeast Asia**

*Organizers:* Grace Wong and Maria Brockhaus (Center for International Forestry Research)

*Format:* Oral presentations and discussants

*This session will discuss the policies (and politics), governance, socio-economics and land use practices in swidden landscapes of Southeast Asia, and assess if, and how, REDD+ can have a role to incentivize forest management and equitable development in these landscapes.*

## **105. Interdisciplinary research to support forest and landscape restoration in tropical America: principles and applications of business models, impact investment, natural regeneration and climate change adaptation**

*Organizers:* Bryan Finegan (CATIE, Costa Rica)

*Format:* Oral presentations and moderated panel discussion

*This session will focus on the projected large-scale forest restoration in tropical America will be discussed from different perspectives, and how the very ambitious restoration commitments and*

*objectives may be achieved through the interdisciplinary integration of these perspectives. Speakers will present principles and concrete examples regarding socioecological, policy and financial aspects of forest restoration, and restoration in practice in Latin America.*

**106. Emerging ecofriendly wood protection strategies for plantation-grown wood for a greener society**

*Organizers:* Cao Jinzhen (Beijing Forestry University, China), Andrew H. H. Wong (Universiti Malaysia Sarawak, Malaysia), Jiang Mingliang (Chinese Academy of Forestry) & Joran Jermer (International Research Group on Wood Protection, Sweden)

*Format:* Oral and poster presentations

*This session will focus on the alternative methods used in the world, especially in Asia and Oceania, to improve protection of wood from planted forests. It will also cover methods and tests to evaluate the enhanced performance of these treated wood, and also the service life prediction and durability classification of such treated wood.*

**107. Urban forests – the foundation of sustainable future for human health and social well-being**

*Organizers:* He Xingyuan (Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences),

*Format:* Oral presentations only

*In this session, we will explore theoretical contributions as well as practical applications to advance understanding of how ecological services from urban forests may be maintained and enhanced. The session aspires to better articulate problem identification, methodological approaches, and application of results of urban forest research in support of both knowledge generation and environmental management.*

**108. Conservation, restoration and sustainable use of dryland ecosystems**

*Organizers:* Lu Qi (Chinese Academy of Forestry), Liu Jian (UNEP-IMEP, China), Yang Youlin (UNCCD, Thailand) & Park KiHyung (National Institute of Forest Science, Republic of Korea)

*Format:* Oral presentation and posters

*This session will focus on how to combat desertification, halt and reverse land degradation and halt biodiversity loss in dry land.*

**111. ITTO and CITES: collaboration on threatened tropical tree species**

*Organizers:* Steve Johnson, Li Qiang & Ramon Carrillo (International Tropical Timber Organization, Yokohama, Japan)

*Format:* Oral presentations only

*This session will present the objectives, activities and accomplishments of the ITTO–CITES Programme for Implementing CITES Listings of Tropical Timber Species. This programme, begun in 2006, has worked to ensure that international trade in tropical tree species listed in the CITES appendices is consistent with the sustainable management and conservation of those species.*

#### **112. Building pathway for sustainable plantation, experiences from Asia Pacific**

*Organizer:* Li Ruilin (Reserved Forest Division, China's State Forestry Administration) Wang Hong (Chinese Academy of Forestry) & Huang Wenbin (WWF China)

*Format:* Oral and poster presentations

*This session will focus how to sustainably manage plantation, and make it contribute to timber demand and mitigation of GHE due to deforestation and degradation with the experiences from China and Asia–Pacific.*