INTECOL -Bulletin

International Association for Ecology

Invitation

The 12th International Congress of Ecology (INTECOL2017Beijing) organized by INTECOL will be held in Beijing, August 20-25, 2017. As the host of the congress, the Ecological Society of China warmly welcome you to join this meeting together with leaders in ecology from the globe, as well as scientists, educators, practitioners and policy-makers, who are dedicated to protecting and preserving our planet.

The theme of the congress is 'Ecology and Civilization in a Changing World', which will focus on harmonious and sustainable development among people, nature, and society in the context of global development. During the congress, the issues on the following fields will be thoroughly discussed, i.e., ecosystem service valuation and sustainable development, culture conservation and human well-being, global change, environmental change in urbanization, ecosystem restoration and management, biodiversity conservation and ecosystem health, ecological civilization, molecular ecology and ecological genomics. We do hope you can join us for discussing the issues faced by human and finding solutions to them, as well as making new friends from the other regions.

We are looking forward to seeing you in Beijing in August 2017!

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Plenary Speakers

(1) Prof. William J. Bond (University of Cape Town, South Africa)

Title: Ecology on the light side: explorations of non-forested ecosystems

Abstract: It will be a talk on those ecosystems that occur in climates and on soils that can support forests but instead support grasslands, savannas, shrub-lands or open woodlands. I consider them to be a major anomaly to much classic ecological theory and, partly as a result, greatly misunderstood in international policy arenas.

(2) Prof. Kai Ming Adam Chan (University of British Columbia, Canada)

Title: Leveraging Values for Societal Transformations towards Sustainability: Some BoldPropositions

Abstract: The socioeconomic transformation needed for the world's nations to meet global targets for biodiversity and ecosystem services will likely require more than a steady growth in the current conservation and sustainability efforts. Strategies suggested within the social sciences, including nudge and social practice interventions, seem to require large changes in infrastructure if they are to yield more than marginal change. What then will enable the needed upheaval of infrastructure? In this talk, I argue that we have given too little attention to social infrastructure--the institutional arrangements that specifically leverage widely held pro-sustainability values. Relational values (values about human-nature relationships) are especially useful here, because they can be broadly enacted via novel norm-setting incentive schemes and finance tools. I will close by proposing a few bold pathways forward--as a starting point for welcome critique and debate.

(3) Prof. James S. Clark (Duke University, USA)

Title: Generative models for ecological forecasting: how entire communities will respondto climate change

Abstract: Models used to anticipate community responses to climate change, termed species distribution models (SDMs), are increasingly recognized as unreliable and too imprecise to provide guidance—current estimates range from 0 to 50% species loss. SDMs fail to accommodate the joint relationships between species and the multiple scales at which different species are measured. A new, generative model, generalized joint attribute modeling (GJAM), accurately predicts the richness and abundance of species jointly as well as their organization in communities. It fingerprints the environment and location of sampled communities, verifying the capacity to predict new distributions and entire communities with climate change. Precision forecasts for ground beetles, vascular plants, and small mammals in the new National Ecological Observatory Network show that, contrary to previous emphasis on vulnerable high latitudes, community sensitivity is in fact highest in the South. The combination of rapid climate change in the north and high sensitivity in the south makes the velocity of risk highest in the continental interior.

(4) Prof. Gretchen C. Daily (Stanford University, USA)

Title: The Science and Practice of Valuing Nature in Decisions

Abstract: Over the past decade, efforts to recognize and value ecosystems as vital capital assets have been promoted by many as the last, best hope to secure Earth's life-support systems and human well-being. The recognition is now dawning worldwide, and the challenge is to turn it into incentives and institutions that will guide wise investments in natural capital on a large scale. I will discuss a strategy for meeting this challenge, and advances being made on three key fronts. The first is in characterizing the production of ecosystem services, in biophysical, economic, health, and cultural dimensions. The second frontier is the integration of this understanding into new, practical tools and approaches for use in high-leverage decision contexts. The third frontier is in policy and finance mechanisms now being implemented around the world. Six lessons stand out in the many pilot demonstrations underway in China and across the world concerning the science-policy process; the utility of simple models in real-world decisions; enabling conditions and local capacity building; the reporting of values in different metrics (not only monetary); the science gap in linking biophysical change to changes in human well-being; and communicating uncertainty. I will conclude with a vision for the work ahead to accelerate and greatly magnify the impact of the revolution underway.

(5) Prof. Isabel Hilton (Kings College London & China Dialogue Trust, UK)

Title: Ecological Civilization: a map for the future?

Abstract: This paper will examine the emergence of the idea of ecological civilization in China's late industrial period, its connections with past thinking on ecology and its relationship to the particular challenges facing China at the turn of 21st century; it will explore the implications for China's political economy, and ask how applicable this approach is elsewhere.

(6) Prof. Anikó Kovács-Hostyánszki (Institute of Ecology and Botany, Hungary)

Title: Bee or not to be? – Importance of wild bees for well-being and the threats of land-use change

Abstract: Animal pollination is necessary for almost 90% of angiosperm species and three-quarters of the 100 globally most important crop species. As numerous scientific studies and the recent global assessment by Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES) published as 'Assessment Report on Pollinators, Pollination and Food Production' pointed out, both the domesticated honeybees and wild pollinators such as wild bees, hoverflies are endangered by several drivers such as land-use change, land management, plant invasion, pests and climate change, and several species show considerable declines at different parts of the world, including the honeybee. As a consequence their pollination service for crops and non-crop plants can be failed. Therefore to suffice crop yields and the natural assemblages, conservation of pollinators and appropriate management of the semi-natural and the managed agricultural habitats is crucial. My talk will be addressed to 1) wild pollinator focused case studies in Central-Eastern Europe, a region harboring still diverse wild pollinator

communities but facing also different new challenges due to changing economic and environmental conditions; 2) science-policy interface through the work of IPBES and major outcomes of its global assessment on pollinators and pollination; and 3) based on our recent review highlighting ecological intensification as a strategic alternative to ameliorate pollinator decline while supporting sustainable food production, by promoting biodiversity beneficial to agricultural production.

(7) Prof.Bastiaan Ibelings (University of Geneva, Switzerland)

Title: From vials to lakes: on the role of environmental complexity for eco-evolutionary feedbacks in microbial communities

Abstract: In this presentation I will explore the importance of environmental complexity - somewhat akin landscape heterogeneity - for microbial biodiversity. In particular I will seek to discuss the feedbacks between (i) environmental complexity, (ii) the evolution of biodiversity and (iii) species co-existence and the long term maintenance of biodiversity in face of ecological processes like competition and parasitism. I will cover spatial scales ranging from micrometers in glass vials to hundreds of meters in deep alpine lakes and temporal scales from hours to decades. What creates complexity of the environment, which processes contribute? Complexity, amongst others is created through activity of the microbes themselves, so that one could say that it is life itself that generates the conditions for biodiversity ecosystems - through a process known as niche construction. In a heterogeneous and dynamic landscape, diversity is maintained through frequency dependent selection and non-transitivity – as in the game rock-paper-scissors. There are no overall winners which dominate the microbial community under all conditions1. In lakes the indirect effects of climate warming have greatly altered the physical structure of the water-column and have enhanced heterogeneity, arguably allowing the co-existence of more phytoplankton species in alpine lakes at present than in the past2. Climate change also plays a critical role in the interactions between phytoplankton and parasitic – chytrid – fungi. These host x parasite interactions are crucial for the maintenance of genetic diversity in ecosystems, but here climate change effects on lake ecosystems seem to negatively impact genetic biodiversity3. In short, I will discuss questions concerning the evolutionary and ecological processes that create and maintain microbial biodiversity as well as the role of a changing environment on these eco-evolutionary feedbacks.

(8) Prof. Shirong Liu (Chinese Academy of Forestry, China)

Title: China's Research in Ecology - Interface between Science and Policy-Making

Abstract: Ecology is traditionally defined as the study of how living and non-living things interact with each other and also with their environment, while the scope of Ecology is dramatically expanding with cross-scale and cross-disciplinary approaches in response to the complex and emerging regional/global eco-environmental problems. To tackle the existing challenges and cope with uncertainties under climate change, China's ecology research not only aims at the

global ecology research frontier, but also emphasizes its role in underpinning the well-informed policy-making and the implementation of national strategies in support of eco-civilization and sustainable development, through provision of eco-friendly philosophy and concepts, ecological techniques and knowledge for national key engineering projects China's ecology research has accomplished a number of achievements in basic ecology, applied ecology and long term ecosystem research network. The future China's ecology needs highlighting innovative scientific discovery and intrinsic ecosystem mechanism understanding, and interdisciplinary research on multi-processes and multi-scales; emphasizing process-based system modelling and prediction, while bridging ecological science and well inform decision and policy making. China's ecology will continue to attach attention on global change ecology, ecosystem services and ecosystem management, ecology in extreme living environment, degraded ecosystem rehabilitation, conservation biology, invasive species and ecological control, biogeochemical cycles, eco-hydrology and watershed management, epidemic ecology and evolution, urban ecology, eco-civilization and sustainable development.

(9) Prof. Zhiyun Ouyang (Research Center for Eco-environmental Sciences, Chinese Academy of Sciences, China)

Title: Ecosystem pattern, services, challenges and governance in China

Abstract: Covering 9.6 million km2, China has diverse ecosystems from permanent ice fields to tropical moist forests and holds 15% of the world's vertebrate and 12% of its plant species. Since 2000, government policies have led to rapid urbanization, aspired to protect more land, prevent deforestation, convert agricultural land to forests and restore degraded land — and do so on an unprecedented geographical scale. In 2012, China launched China national ecosystem assessment (CEA) to quantify ecosystem status and trends, and ecosystem service provision between 2000 and 2010.

(1) Changes in ecosystem Patterns. In 2010, grassland occupied 2,836,758 km2 (30.0%) of China's land surface, followed by forest (20.2%), agricultural land (19.2%), and deserts (13.5%). Shrublands, wetlands, urban areas and others constituted the remaining 17.1%. Between 2000 and 2010, 195,803 km2 (or 2.1%) of China underwent a change in major ecosystem type. Major changes occurred in urban areas; the net increase was 55,004 km2, followed by forest (29,093 km2), while agricultural land decreased by 48,234 km2. The third major change was forest, shrub and grassland restoration. Some 41,330 km2 of forest, 9,111 km2 of shrubs, and 21,103 km2 of grassland converted from other ecosystems — 54.6% from agricultural land.

(2) Changes in ecosystem quality. Overall, ecosystem quality was low for forest, shrub and grassland ecosystems. In 2010, high- and moderately high-grade ecosystems only occupied 21.0%, 19.4% and 17.4% of all forests, shrubs and grasslands respectively. Low and poor grade ecosystems occupied 44.1%, 61.0% and 68.2%. From 2000 to 2010, 72.3% of forests, 53.1% of shrubs, and 50.3% of grasslands improved, while 17.6% of forests, 14.3% of shrubs, and 34.7% of grasslands degraded.

(3) Changes in ecosystem services. All ecosystem services evaluated increased between 2000 and 2010, with the exception of habitat provision for biodiversity. Food production had the largest increase (38.5%), followed by carbon sequestration (23.4%), soil retention (12.9%), flood mitigation (12.7%), sand storm prevention (6.1%), and water retention (3.6%), while habitat provision decreased slightly (-3.1%). Not all regions had a positive trend. There are also tradeoffs between services (e.g., food production and soil retention). However, we see many synergistic increases or decreases among services (e.g., carbon sequestration, soil retention and sand storm prevention).

(4) Changes in ecological problems. China still faces serious ecological problems. Soil erosion and sand desertificationaffected 18.0% and 19.0% of the land in 2010. While from 2000 to 2010, degraded land decreased by 5.6%. Coastal areas experienced serious degradation. The natural costal line decreased from 10,118 km (64.5% of the total coastline) to 9,040 km (56.2%). In addition, natural wetlands along the coast decreased from 11,923 km2 to 10,149 km2, with the net decrease of 14.9%. Conversely, artificial wetlands increased from 11,817 km to 14,805, with the net increase of 25.2%.

(5) Reasons for ecosystem change. Urbanization, ecological restoration and concerns for food security were the major factors changing ecosystem types in China. In brief, of the total change between 2000 and 2010, 28.8% of land converted to urban areas. Another 32.6% was agricultural land converted to natural ecosystems, or grassland and shrub to forest. Overall, our results suggest that China's national conservation policies contributed significantly in improving ecosystem pattern, ecosystem quality and provision of ecosystem services from 2000 to 2010 in China. The results showed that improving ecosystem services and economic growth can co-exist.

(6) Policy implementations. The results generated by the CEA have already been applied by policy makers in China at national, provincial, and local levels. For example, 49.4% of China's land area has been newly incorporated into Ecosystem Function Conservation Areas (EFCAs), designed to secure the nation's most vital natural capital, based on the CEA's characterization of important source areas for ecosystem service provision. The CEA also informed the national-level policy of ecological protection red-lining (EPR) that designates lands for strict protection to ensure sustainable provision of ecosystem services. The findings and data set developed by CEA has also applied in national park system planning, urban planning, regional development and conservation polices.

(10) Prof. Norma Salinas (Pontificia Universidad Catolica del Peru, Peru)

Title: Understanding tropical forests and climate change: a journey along an elevation transect in the Amazon and Andes

Abstract: Tropical forests have a major influence on global patterns of biodiversity, ecosystem ecology, productivity and biogeochemical cycles, but they remain relatively understudied. Moreover, our understanding of many global patterns (e.g. of how biodiversity, ecophysiology or ecosystem function vary with latitude) are often influenced by a handful of data points from tropical lati-

tudes (in contrast to swarms of data points from temperate regions). In this talk, I argue that many times the wet tropics are often treated as a warm, wet 'end-point' of most global analyses. However, comparison of tropical with extratropical regions is not straightforward, because of the vast geographical separations involved that lead to complications resulting from both biogeography and climate. I will also talk about the global awareness of the significance of the role that tropical forests play in the global carbon cycle has never been greater, but much uncertainty still exists as to the exact magnitude of this role. And I will close by arguing that our understanding of ecosystem ecology and function can be greatly advanced by considering environmental gradients within the tropics, whether gradients of moisture or of other climate variables. In particular, we propose that tropical montane elevation transects make excellent natural laboratories for understanding environmental controls on ecosystem function, especially temperature and it is a particularly powerful tool to further understanding of the influence of temperature on the biodiversity, ecology, ecosystem function and global change response of forest ecosystems.

(11) Prof. Hideaki Shibata (Hokkaido University, Japan)

Title: Changing winter climate alter nitrogen biogeochemistry in northern forest ecosystems

Abstract: Nitrogen cycle is key process to support ecosystem productivity and functioning, affected by various natural and anthropogenic disturbances. Climate changes are one of the strong drivers to alter the cycle of nitrogen through various pathways. Changes in temperature and precipitation directly affect soil microbial vitality that contribute to nitrogen mineralization, immobilization, nitrification, denitrification, and leaching in the soil system. Winter climate (i.e., decrease of snowfall, increase of soil freezing-thawing events and/or increase of winter rainfall) has been recognized to influence the microbial nitrogen transformation even beneath the snowpack during the mid-winter. Those perturbations of nitrogen cycle in winter by climate change might cause significant impact for the ecosystem processes during the following growing season. I present the recent research findings on the effect of snowpack decrease and increase of soil freeze-thaw cycle on nitrogen cycles in northern forest ecosystems using in-situ experimental manipulation of snowpack in Hokkaido, northern Japan. The increase in soil freezing-thawing cycles significantly altered soil nitrogen processes especially for net ammonium production as a source of microbial nitrification, plant nutrient uptake and nitrogen leaching from soil system during the following growing seasons. Those impacts would be important to predict future changes of forest structure and functions under various environmental changes not only for climate changes but also change in atmospheric nitrogen deposition. Further knowledge gaps and future research needs will be also addressed.

(12) Prof. William Sutherland (University of Cambridge, UK)

Title: Collating the global evidence and using it to make local conservation decisions

Abstract: Conservation is difficult, the solutions are likely to vary between locations, there are challenges

to doing field tests of conservation interventions and the literature is difficult to access. I will describe means of overcoming this problem. This includes the process of Subject-wide Evidence Assessment, a means of carrying out literature reviews on an industrial scale (we have over a thousand reviews on www.ConservationEvidence.com), the Local evidence assessment tool (a means of applying the global evidence to your particular local issue) and decision making processes for incorporating evidence with local experience and values.

Programme at a Glance

Programme at a glance

Time	Sunday 20 AUG	Monday 21 AUG	Tuesday 22 AUG	Wednesday 23 AUG	Thursday 24 AUG	Friday 25 AUG
07:30		Registration	Registration	Registration	Registration	Registration
08:00						
08:30			08:30-10:00 Plenary Session	08:30-10:00 Plenary Session	08:30-10:00 Plenary Session	08:30-11:00 Plenary Session
09:00		09:00-09:50 Opening Ceremony				
09:30						
10:00	10:00-20:00 Registration		10:00-10:20 BREAK	10:00-10:20 BREAK	10:00-10:20 BREAK	10:00-10:20 BREAK
10:30		09:50-10:15 BREAK	10:20-12:20 Parallel Sessions	10:20-12:20 Parallel Sessions	10:20-12:20 Parallel Sessions	10:20-11:20 Plenary Session & Closing Ceremony
11:00		10:15-12:30 Plenary Session				
11:30						
12:00						
12:30		12:30-13:30 BREAK	12:20-13:30 BREAK	12:20-13:30 BREAK	12:20-13:30 BREAK	
13:00						
13:30		13:30-15:10 Parallel Sessions	13:30-15:10 Parallel Sessions	13:30-15:10 Parallel Sessions	13:30-15:10 Parallel Sessions	
14:00						
14:30						
15:00		15:10-15:30 BREAK Poster Session & BREAK	15:10-15:30 BREAK Poster Session & BREAK	15:10-15:30 BREAK Poster Session & BREAK	15:10-15:30 BREAK Poster Session & BREAK	
15:30		15:30-17:10 Parallel Sessions	15:30-17:10 Parallel Sessions	15:30-17:10 Parallel Sessions	15:30-17:10 Parallel Sessions	
16:00						
16:30						
17:00						
17:30		17:10-18:00 Poster Session	17:10-18:00 Poster Session	17:10-18:00 Poster Session	17:10-18:00 Poster Session	
18:00						
18:30	18:00-20:00 Welcome Social Reception Party		18:00-20:00 Banquet (Chinese culture show including folk music and Chinese Acrobatics)			
19:00						
19:30						
20:00						

Session Introduction

Theme1: Ecosystem services and management

T1-01: Conservation, ecotourism and human health: ecological consequences of cultural differences in attitudes to nature

Organizer: Ralf Buckley (Griffith University, Australia) r.buckley@griffith.edu.au

Co-organizer: Linsheng Zhong, zhlsheng@263.net

T1-02: Ecosystem-service-based Management: Science and Policies

Organizer: Shang Chen (First Institute of Oceanography, SOA of China, China) qdcs@163.com

Co-organizers: Masahito Hirota, mmhirota@affrc.go.jp / Hua Zheng, zhenghua@rcees.ac.cn

T1-03: Can Art help Science to think out of the box?

Organizer: Juul Limpens (Wageningen University, Netherlands) Juul.Limpens@WUR.nl

Co-organizer: Milena Holmgren, Milena.Holmgren@wur.nl

T1-04: Remote sensing for ecosystem services

Organizer: Bingfang Wu (Institute of Remote Sensing and Digital Earth, CAS, China) wubf@radi.ac.cn

T1-05: EcoScience + Art: Interdisciplinary collaboration between ecosystem science and art to enhance ecological communication and resilience

Organizer: Changwoo Ahn (George Mason University, USA) cahn@gmu.edu

T1-06: Sustainable and climate smart land management to enhance dryland ecosystems services

Organizer: Zengming Song (PRC-GEF Partnership on Land Degradation in Dryland Ecosystems, China) songzmgef@126.com

Co-organizers: Dongya Ran, randongya@sina.com/ Ming Xu, mingxu@igsnrr.ac.cn / Shirong Liu / Ulrich Apel, uapel@thegef.org

T1-07: Ecosystem services in the built environment

Organizer: Teresa Balser (Curtin University, Australia) tcbalser@ufl.edu

Co-organizer: Joseli Macedo, joseli.macedo@curtin.edu.au

T1-08:Sustainable Ecosystem services and innovative management strategies

Organizer: Surayya Teki (Adikavi Nannaya University, India) tekisunny@gmail.com

Co-organizer: R.K. Mishra, ramkumarmishra@gmail.com

T1-09: Civilization and ecology in the Anthropocene: Improving a broken relationship?

Organizer: Peter Søgaard Jørgensen (The Global Economic Dynamics and the Biosphere at the Royal Swedish Academy of Sciences and associated with the Stockholm Resilience Centre, Sweden) psjoergensen@gmail.com

Co-organizers: INNGE, innge-working-group@list.innge.net

T1-10: Recent progress and next challenges toward cross-scale understanding on ecosystem structure and function by remote sensing

Organizer: Hibiki M. Noda (Center for Global Environmental Research, National Institute for Environmental Studies, Japan) noda.hibiki@nies.go.jp

Co-organizers: Shin Nagai, nagais@jamstec.go.jp / Hideki Kobayashi, hkoba@jamstec.go.jp

T1-11: Alpine ecosystems in the 21st century and beyond: structure, function and ecosystem services

Organizer: Laszlo Nagy (Universidade Estadual de Campinas, Brasil) lnagy@unicamp.br / manauara.nagy@gmail.com

Co-organizers: Eva Spehn, eva.spehn@unibas.ch / John Grace, j.grace@ed.ac.uk

T1-12 Interactions between air pollution and ecosystems: functioning and services

Organizer: Elena Paoletti (Institute of Sustainable Plant Protection, National Council of Research of Italy, Italy) elena.paoletti@cnr.it

Co-organizer: Zhaozhong Feng, fzz@rcees.ac.cn

T1-13: Ecological Protection Redlines and Protected Areas System

Organizer: Jixi Gao (NIES, China) gjx@nies.org

Co-organizer: Jiquan Chen, jiquan.eco@gmail.com

T1-14: Hindu Kush Himalaya Ecosystems: Resilience, Adaptation and Services

Organizer: Yanfen Wang (University of Chinese Academy of Sciences, China)

Co-organizer: David Molden

T1-15: The Role of Soils and Urbanization in Forest Ecosystem Services and Biodiversity

Organizer: Wenjie Wang (NE Forestry University & NE Institute of Geography and Agroecology, CAS, China) Wangwenjie@iga.ac.cn; wwj225@nefu.edu.cn

Co-organizer: Xingyuan He, hexingyuan@iga.ac.cn / Takayoshi Koike, tkoike@for.agr.hokudai.ac.jp / Scots X Chang, scott.chang@ales.ualberta.ca / Yuhong Zhang, Zhangyuhong@163.com

Theme2: Global climate change and ecosystem adaptation

T2-01: Global climate change and ecosystem adaptation

Organizer: Mai, Doan Huong (Hanoi University of Science, Vietnam) maidh@vnu.edu.vn

Co-organizer: Faculty of Biology Hanoi University of Sciences Vietnam National University, hus@vnu.edu.vn

T2-02: Adaptation of native broadleaved forests under a scenario of global change: threats and opportunities for sustainable rural development

Organizer: Ignacio J. Diaz-Maroto (The University of Santiago de Compostela, Spain) ignacio.diazmaroto@usc.es

Co-organizers: Azevedo, J.C., jazevedo@ipb.pt / Dunlian Qiu, quidunlian@imde.ac.cn / Costa, G., guy.costa@unilim.fr

T2-03: Synthesizing macrosystem ecology across the long term ecological research network

Organizer: Shuli Niu (Institute Of Geographic Sciences And Natural Resources Research, CAS, China) sniu@igsnrr.ac.cn

Co-organizers: Guirui Yu, yugr@igsnrr.ac.cn / Shenggong Li, lisg@igsnrr.ac.cn / Leiming Zhang, zhanglm@igsnrr.ac.c

T2-04: Modeling species distributions and functional responses under global change

Organizer: Brendan Mackey (Griffith University, Australia) b.mackey@griffith.edu.au

Co-organizer: Keping Ma

T2-05: Climate change and land use/land cover change on hydrology: modelling

Organizer: Ping Zhou (Guangzhou Institute of Geography, China) zhoupinger@qq.com

Co-organizers: Zhiyong Liu, zhiyong.liu@geog.uni-heidelberg.de / Xiuzhi Chen, chenxz@scbg.ac.cn

T2-06: Linking ecological observations in space and time for global understanding of environmental change

Organizer: Hiroyuki Muraoka (River Basin Research Center, Gifu University, Japan) muraoka@green.gifu-u.ac.jp

Co-organizers: Nikki Thurgate, Nikki.thurgate@adelaide.edu.au / Abad Chabbi, Abad.Chabbi@Lusignan.inra.fr / Michael Mirtl, michael.mirtl@umweltbundesamt.at

T2-07: Eastern Asian grasslands under environmental changes towards sustainable future

Organizer: Mitsuru HIROTA (University of Tsukuba, Japan) hirota@biol.tsukuba.ac.jp

Co-organizer: Yanhong Tang, tangyh@pku.edu.cn

T2-08: Interactive Effects of Climate Change and Land Management on Vegetation Dynamics and Ecosystem Functions: Field Evidence and Modeling Projections

Organizer: Ge Sun (USDA Forest Service, USA) gesun@fs.fed.us

Co-organizers: John Kim, jbkim@fs.fed.us / Lu Hao, hl_haolu@163.com

T2-09: Grassland function and its adaptive management

Organizer: Deli Wang(Northeast Normal University, China), Guodong Han(Inner Mongolia Agricultural University, China) wangd@nenu.edu.cn

Theme3: Urbanization and regional environmental change

T3-01: Urban ecosystem services, ecological infrastructure and ecological management

Organizer: Feng Li (Research Center for Eco-Environmental, CAS, China) lifeng@rcees.ac.cn

Co-organizer: Jun Yang, larix001@gmail.com

T3-02: Building urban green infrastructure for resilient ecosystem services in socio-ecological systems: theories, strategies, and practices

Organizer: Fanhua Kong (Nanjing University, China) fanhuakong@163.com

Co-organizers: Weining Xiang, wnxiang@mail.ecnu.edu.cn / wxiang@uncc.edu

T3-03: Biological Adaptation in Urban Environments- Drivers, Responses and Implications for Future Cities

Organizer: Mark McDonnell (The University of Melbourne, Australia) markmc@unimelb.edu.au

Co-organizer: Amy Hahs, hahsa@unimelb.edu.au

Theme4: Biogeochemical cycling and ecosystem health

T4-01: Understanding ecosystem carbon dynamics from field manipulative experiments

Organizer: Junwei Luan (Associate research professor of International Centre for Bamboo and Rattan, China) junweiluan@126.com

Co-organizer: Jianghua Wu, jwu@grenfell.mun.ca

T4-02: Biodiversity Monitoring for Global Conservation Targets

Organizer: Haigen XU (Nanjing Institute of Environmental Sciences under the Ministry of Environmental Protection of China, China) xhg@nies.org / xuhgs@sina.com

Co-organizer: Eun-Shik Kim, kimeuns@kookmin.ac.kr

T4-04: Science of Life Community and Sustainable Development

Organizer: Yaozong Feng (The International Life Community Research Centre, China) fengyaoz@163.com

Co-organizers: Laboratory of Cell Signaling, Kunming University of Science and Technology, tianruixu@kmust.edu.cn / Xishuangbanna Tropical Botanical Garden of The Chinese Academy of Sciences, wenwenb@xtbg.org.cn

T4-05:Soil organic matter dynamics under a changing climate

Organizer: Kate Lajtha (Oregon State University, USA) lajthak@science.oregonstate.edu

Co-organizer: Edith Bai, baie@iae.ac.cn

Theme 5: Ecological degradation and ecosystem restoration

T5-01: Vegetation transitions in boreal & arctic ecosystems: mechanisms and consequences

Organizer: Juul Limpens (Wageningen University, Netherlands) Juul.Limpens@WUR.nl / wangxianwei@iga.ac.cn

Co-organizers: Monique Heijmans, Monique.Heijmans@wur.nl / Milena Holmgren, Milena.Holmgren@wur.nl

T5-02: Karst Ecosystem: Global to Local Significance, Degradation and Restoration

Organizer: Jianhua Cao (KARST ECOSYSTEM in China, China) jhcaogl@karst.ac.cn

Co-organizers: Azim Mallik, aumallik@hotmail.com / Yuching Huang, 838841223@qq.com / Alena Petrvalská, alena.petrvalska@upjs.sk / Jinxing Zhou, zjx9277@126.com

T5-03: Structure and function of forest canopy trees, recent research advances

Organizer: Kunfang Cao (Guangxi University, China) kunfangcao@gxu.edu.cn

Co-organizer: Frank Sterck, frank.sterck@wur.nl

T5-04: Plant resistance to drought: from trait syntheses at plant-scale to vegetation models

Organizer: Maurizio Mencuccini (The University of Edinburgh, UK) m.mencuccini@ed.ac.uk

Co-organizers: John Grace, jgrace@ed.ac.uk / Patrick Meir, patrick.meir@anu.edu.au / Jordi Martinez-Vilalta, jordi.martinez.vilalta@uab.cat, jordi.martinez.vilalta@uab.cat

T5-05: Species diversity mechanism in ecosystem and landscape restoration

Organizer: Xuehua Liu(Tsinghua University, China) xuehua-hjx@tsinghua.edu.cn

T5-06: Invasive plants and ecological restoration of invaded ecosystems

Organizers: Shaolin Peng(Sun Yat-Sen University, China) lsspsl@mail.sysu.edu.cn / Carla M D'Antonio(University of California, Santa Barbara, USA) dantonio@es.ucsb.edu /Tom Dudley(University of California, Santa Barbara, USA) tdudley@msi.ucsb.edu

Co-organizers: Baoming Chen, chbaoming@163.com /Huixuan Liao, liaohuix5@mail.sysu.edu.cn / Ting Zhou, zhout32@mail.sysu.edu.cn

Theme6: Environmental stress and biodiversity conservation

T6-01: Karst biodiversity: understanding diversity and threats in Asia's forgotten ecosystem

Organizer: Alice C. Hughe (Xishuangbanna Tropical Botanical Garden, CAS, China) ach_conservation2@hotmail.com

T6-02: Assessing changes in Asian ecosystems and biodiversity with special reference to threats and restorations through human activities

Organizer: Shin-ichi Nakano (Kyoto University, Japan) nakano@ecology.kyoto-u.ac.jp

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T6-04: Patterns of freshwater biodiversity and ecosystem management

Organizer: Boping Han (Jinan University, China) tbphan@jnu.edu.cn

Co-organizers: Jun Yang, jyang@iue.ac.cn/ Guangjie Chen, guangjiechen@gmail.com / Qinglong Wu, qlwu@niglas.ac.cn / Zhengwen Liu, tzwliu@jnu.edu.cn

T6-05: Modern synthetic approaches to Taylor's Law and mean-variance scaling, and applications in pure and applied ecology

Organizer: Daniel C. Reuman (The University of Kansas, USA) reuman@ku.edu.

Co-organizers: Joel E Cohen, cohen@rockefeller.edu / Lei Zhao, leizhao@ku.edu

T6-06: Species in a changing world: the population perspective

Organizer: Edgar J. González (Universidad Nacional Autónoma de México, Mexico) edgarjgonzalez@ciencias.unam.mx

Co-organizer: Roberto Salguero-Gómez, r.salguero@sheffield.ac.uk

T6-07: Role of ecological non-monotonocity in regulating stability and persistence of ecosystems

Organizer: Zhibin Zhang (Institute of Zoology, CAS, China) zhangzb@ioz.ac.cn

Co-organizer: Nils Stenseth, n.c.stenseth@ibv.uio.no

T6-08: Conservation of tropical plant diversity and ecosystem functions

Organizer: Wenxing Long (Hainan University, China) oklong@hainu.edu.cn

Co-organizers: Xiaobo Yang, yanfengxb@163.com / Zhenghong Tan, tanzh@xtbg.ac.cn / Mingxun Ren, renmx@hainu.edu.cn / Liang Song, songliang@xtbg.ac.cn/ Han Xu, hanxu81@gmail.com

T6-09: Species interaction and community structure in severe environment

Organizer: Jianming Deng(Lanzhou University, China) dengjm@lzu.edu.cn

Co-organizer: Sa Xiao, xiaos@lzu.edu.cn

Theme7: Industrial ecology and green economy

T7-01: Industrial Ecology for Sustainable Industrial and Urban Development Transition

Organizer: Lei Shi (Tsinghua University, China) slone@tsinghua.edu.cn

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Theme8: Molecular ecology and evolution

T8-01: Plant clonality in changing environments: Responses and effects

Organizer: Ming Dong (Hangzhou Normal University, China) dongming@hznu.edu.cn

Co-organizers: Yaobin Song, ybsong@hznu.edu.cn / Xuehua Ye, xuehuaye@ibcas.ac.cn

Theme9: Landscape pattern, process and sustainability

T9-01: Landscape ecology and biodiversity conservation

Organizer: Zehao Shen (Peking University, China) shzh@urban.pku.edu.cn

Co-organizers: George P. Malanson, malanson@uiowa.edu/ Songlin Fei, sfei@purdue.edu / Yuanman Hu, huym@iae.ac.cn

T9-02: The importance of biodiversity in human-modified landscapes

Organizer: Marc W. Cadotte (The University of Toronto-Scarborough, Cannada) mcadotte@utsc.utoronto.ca

Co-organizer: J. Scott MacIvor

T9-03: Landscape homogenization and intensification: patterns of change

Organizer: Sandra Luque (National Research Institute of Science and Technology for Environment and Agriculture, France) sandra.luque@irstea.fr

Co-organizer: Graciela M. Rusch, graciela.rusch@nina.no

T9-04: Achieving land degradation neutrality: challenges to sustainable development of all countries

Organizer: Mauro CENTRITTO (Trees and Timber Institute (IVALSA) - National Research Council (CNR), Italy) direttore@ivalsa.cnr.it

Co-organizer: Maurizio SCIORTINO, sciortino@enea.it

T9-05: Landscape sustainability science - Linking biodiversity, ecosystem functions, ecosystem services, and human well-being

Organizer: Chunyang He(Beijing Normal University, China) hcy@bnu.edu.cn

Co-organizers: Jianguo (Jingle) Wu, Jingle.Wu@asu.edu/ Deyong Yu, ydy@bnu.edu.cn

Theme10: Ecohydrology and watershed management

T10-01: Eco-hydrological Processes in the changing world: Knowledge and Application

Organizer: Genxu Wang (Institute of Mountain Hazards and Environment, CAS, China) wanggx@imde.ac.cn

Co-organizers: Xianli Xu, xianlixu@isa.ac.cn / Xiaohua (Adam) Wei, adam.wei@ubc.ca

T10-02: Stream Ecological Restoration and Ecosystem Services

Organizer: Yixin Zhang (Xian Jiaotong-Liverpool University, China) Yixin.Zhang@xjtlu.edu.cn

Co-organizer: Alan Covich, alanc@uga.edu

T10-03: Moving towards a new understanding of ecohydrological processes across scales

Organizer: Shirong Liu (Ecological Society of China, China) liusr@caf.ac.cn

Co-organizers: Ge Sun / Mingfang Zhang, mingfangzhang@uestc.edu.cn / Richard Harper

T10-04: Ecohydrology and Watershed Management

Organizer: Chansheng He (Western Michigan University, USA / Lanzhou University, China) he@wmich.edu

T10-05: Blue Carbon: A key ecosystem service in coastal wetlands

Organizer: Jianwu Tang (University of Chicago, USA) jtang@mbl.edu

Co-organizer: Xiuzhen Li, xzLi@sklec.ecnu.edu.cn

T10-06: Ecosystem adaptation to extreme events at watershed scale

Organizer: Qinghua Cai (Institute of Hydrobiology (IHB), CAS, China) qhcai@ihb.ac.cn

Co-organizer: Yaoyang Xu, yyxu@iue.ac.cn

T10-07: Wetland restoration, conservation and wise use under changing environment

Organizer: Lu Xianguo (Northeast Institute of Geography and Agroecology, CAS, China) luxg@iga.ac.cn

Co-organizer: Marinus Otte, marinus.otte@ndsu.edu

T10-08: Wetlands: ecological restoration, wastewater treatment and catchment management

Organizer: Shuqing An (Nanjing University, China) anshq@nju.edu.cn

Co-organizer: Jos Verhoeven, j.t.a.verhoeven@uu.nl

Theme11: Paleoecology, ecological dynamics and environmental assessment

T11-01: Wildfire ecology and life evolution: from ancient time to present

Organizer: Tianhua He (Curtin University, Australia) Tianhua.He@curtin.edu.au

Co-organizers: Jian Yang, Yangjian@iae.ac.cn / Brett Murphy, brett.murphy@cdu.edu.au

T11-02: Historical Ecology and Climate Change

Organizer: Qibin Zhang (Institute of Botany, CAS, China) qbzhang@ibcas.ac.cn

Co-organizers: Paolo Cherubini, paolo.cherubini@wsl.ch

T11-03: Eco-cultural Solution of Global Island Issues

Organizer: Sun Kee Hong (Mokpo National University, Korea) landskhong@gmail.com

Co-organizer: Shona Myers, shona.myers@vodafone.co.nz

Theme12: Agroecology, sustainable agriculture and rural development

T12-01: Ecological agriculture and Forestry: Environmental sustainability, food safety and increased productivity

Organizer: Shiming Luo (South China Agricultural University, China) smluo@scau.edu.cn

Co-organizers: Azim Mallik, amallik@lakeheadu.ca / azim.mallik@lakeheadu.ca / Wenxiong Lin, lwx@fafu.edu.cn / Wenliang Wu, Wuwenl-66@163.com

T12-02: Ecosystem Services and Management of Agricultural Heritage Systems

Organizer: Qingwen Min (Center for Natural and Cultural Heritage, Institute of Geographic Sciences and Natural Resources Research, CAS, China) minqw@igsnrr.ac.cn

Co-organizer: Parviz Koohafkan, Koohafkan@worldagriculturalheritage.org / p.koohafkan@cgiar.org

Workshop

W-01: How ecologists can contribute to the work of IPBES, the Intergovernmental Platform on Biodiversity and Ecosystem Services

Organizer: András Báldi (Hungarian Academy of Sciences, Hungary) baldi.andras@okologia.mta.hu

Co-organizer: Yi Huang yhuang@pku.edu.cn

W-02: Publishing in high-quality ecology journals

Organizer:Erika Newton (British Ecological Society, UK) Erika@britishecologicalsociety.org / Helen Eaton,The Royal Society, UK)

W-03: Building your Researcher Profile

Organizer: Alison Paskins (Taylor & Francis, UK) Alison.Paskins@tandf.co.uk

INTECOL, International Association for Ecology

INTECOL is affiliated with the ICSU family of scientific organizations as the section responsible for general ecology within the International Union of Biological Sciences (IUBS). The association will assist and/or support the development of the science of ecology and the application of ecological principles to global problems, especially by assisting international cooperation; the collection, evaluation and distribution of information about ecology; national, regional and international actions which will serve ecological research, training of personal, coordination of general publications of ecological principles and the recognition of the importance of ecology for economy and society; the organization of conferences, meetings, symposia, programs and projects, conduct of speaking-series, publication of manuscripts, and measures which are deemed necessary to reach the goals of the association.

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