



北京林业大学
BEIJING FORESTRY UNIVERSITY

GLOBAL CHANGE RESEARCH SYMPOSIUM 2024

Smart Solutions for Sustainable and Healthy Cities

October 16-18, 2024 | Beijing - CHINA

SYMPOSIUM PROGRAM

Notes to chairpersons and presenters

- Chairpersons must be in their respective rooms 5 minutes before the start of their session to meet with the presenting authors.
- Authors must meet with the chairperson of their session 5 minutes before the start of the session.
- Authors must strictly keep to the time allocated for their presentation to ensure the smooth running of the programme.
- This programme is subject to last-minute alterations, please refer to the conference notice board for the most up-to-date information.

www.globalchange2024.com



Global Change
RESEARCH SYMPOSIUM 2024



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Wednesday, 16 October 2024

09.00-18.00 Arrival of Conference participants
 Journals' Editorial Board meeting

Thursday, 17 October 2024

- 08.00** **Registration**
- 09.15** **Symposium Opening** *by the Dean of College of Forestry, Beijing Forestry University (BFU) & the Dean of DISSPA Department of the University of Bari Aldo Moro (UNIBA)*
- 09.30** **Keynote address** *moderated by Prof. Raffaele Laforteza*
- Smart solutions for sustainable cities – IoT sensors for ecosystem services monitoring
Prof. Riccardo Valentini, IPCC & University of Tuscia, Italy
- On the National Park construction and biodiversity protection
Prof. Xiangrong Wang, Fudan University, Shanghai, China
- Applications of science & technology for managing Singapore's urban forest
Prof. Puay Yok Tan, National University of Singapore, Singapore

11.00 **Coffee-break & Poster Session**

- Keynote address** *moderated by Prof. Wendy Chen*
- Tree species selection and landscape pattern optimization of urban forest based on ecological function enhancement
Prof. Xingyuan He, Institute of Applied Ecology, Chinese Academy of Science
- The role of urban forests in improving public health and quality of life
Prof. Giovanni Sanesi, DISSPA, University of Bari Aldo Moro, Italy
- Growing resilient trees and urban forests through standards of care
Prof. Richard Hauer, University of Wisconsin, USA

12.30-14:00 **Lunch-break**

- Keynote address** *moderated by Prof. Giovanni Sanesi*
- Urban ecological space in China: scope, scale, component and layout
Prof. Cheng Wang, Chinese Academy of Forestry Science, Beijing, China
- The quantity and quality of urban greenery across the globe solutions for CO₂ removal
Prof. Wendy Chen, The University of Hong Kong, Hong Kong, China
- Urban Forests as Nature-based Solutions – a comparative analysis between Europe and China
Prof. Rik De Vreese, European Forest Institute, Bonn, Germany

- 16.00** **Beijing LI-COR Bioscience LTD**
BFU CAMPUS VISIT (LAB & MUSEUM)

- 18:30** **CONFERENCE DINNER (to be announced)**

Friday, 18 October 2024

Parallel Session A (MAIN HALL)

*The AgriTech Project Workshop
(chairperson: Prof. Matteo Spagnuolo)*

09.15 Sustainable nature-based solutions for soil and water management and remediation specific for marginal areas
Matteo Spagnuolo and Maria De Angelis, DISSPA, University of Bari, Italy

09.30 Soil bioengineering techniques as NBS for environmental protection in Mediterranean ecosystems
Francesco Gentile, DISSPA, University of Bari, Italy

09:45 Expanding opportunities for irrigating fruit tree crops with reclaimed water
Gaetano Alessandro Vivaldi, DISSPA, University of Bari, Italy

10:00 Fire age and severity affect forest biodiversity and ecosystem service multifunctionality
Giovanni Tamburini and Mario Elia, DISSPA, University of Bari, Italy

10.15 Genetic and biotech tools to improve plant resilience in response to climate change
Domenica Nigro and Cinzia Montemurro, DISSPA, University of Bari, Italy

Parallel Session B (ROOM A0411)

Restoring urban ecosystems, ecosystem services, and human wellbeing (chairperson: Prof. Angela Stefania Bergantino)

"Sadness smile" curve: A novel system evaluating thermal comfort in urban forest environment
Hongxu Wei, Chinese Academy of Sciences

Do atmospheric conditions and environmental hazards affect citizens' well-being in Italy? Evidence from sentiment score data
Mario Intini and Angela Stefania Bergantino, University of Bari, Italy

Landscape features to support the health and well-being of elderly residents in the nursing homes
Enting Zha, University Putra Malaysia

Visitors' recreational & leisure experiences in the blue corridors of Kuala Lumpur, Malaysia
Peng Cheng, University Putra Malaysia

How does urban green infrastructure influence tourists' loyalty: A moderated mediation model
Liangliang Rong, Guangdong Eco-Engineering Polytechnic, China

10:30-11:00 Coffee-break & Poster Session

Parallel Session C (ROOM B0302)

*Urban forests and greenspaces as nature-based solutions
(chairperson: Prof. Giovanni Sanesi)*

11.15 Dynamic carbon sequestration by Shanghai urban forests at multiple scales based on long-term monitoring
Shan Yin, Shanghai Jiao Tong University, China

11.30 Sustainable land use and management enhance carbon sequestration in urban areas: a framework for local carbon credits
Maria Vincenza Chiriaco, CMCC, Italy

Parallel Session D (ROOM A0411)

*Smart solutions for mitigating soil, water and air pollutions
(chairperson Prof. Francesco Gentile)*

Effects of ozone pollution on carbon sequestration in coniferous and broadleaf forests in five major urban agglomerations in China
Guangzhao Wu, Beijing Forestry University

Leveraging LiDAR technology for climate-resilient urban sustainability and environmental research
Vincenzo Giannico, DISSPA, University of Bari, Italy

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| 11:45 | Compare different management intensity of a projected urban forest: a win-win solution for increasing benefits and reducing impacts
<i>Elena Di Pirro, University of Molise, Italy</i> | Exploring the mechanisms underlying the relationship between urban green spaces (UGS) spatial structural and thermal environment based unmanned aerial vehicle (UAV)
<i>Feng Fei, Beijing Forestry University</i> |
| 12:00 | Vegetation Structure and Conservation Management Challenges of Utaki Sacred forests on the Ryukyu Islands
<i>Fuka Ito, University of the Ryukyus, Japan</i> | Evaluation of ecological service functions of urban greening tree species in northern China based on Species-specific Air Purification Index
<i>Yuqian Sun, Beijing Forestry University</i> |
| 12:15 | Assessing urban biodiversity: the interactions among the root system and the abiotic/biotic components of the tree-centered holobiont by a non-disruptive protocol
<i>Gabriella Sferra, University of Molise, Italy</i> | Promoting biodiversity in compact city: Lessons learned from a benchmark study on natural sites and urban green roofs
<i>Yang Chen, The Hong Kong Polytechnic University, Hong Kong, China</i> |
| 12:30 | Selective capture of PM _{2.5} by urban trees: The role of leaf wax composition and physiological traits in air quality enhancement
<i>Dele Chen, Shanghai Jiao Tong University, China</i> | The coupling effect of multiple urban features on Land Surface Temperature in Europe
<i>Yaxue Ren, DISSPA, University of Bari, Italy</i> |

Parallel Session E (ROOM 411 - College of Forestry at BFU)

*Smart solutions for climate change adaptation and mitigation
(chairperson Prof. Dayong Fan)*

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| 11:15 | <i>A seasonal resilience index to evaluate the impacts of super typhoon to urban vegetation in Hong Kong
Yasong Guo, The University of Hong Kong, China</i> |
| 11:30 | Relative growth rate for trees at the growth stage is coordinated with leaf bulk modulus of elasticity and osmotic potential in a subtropical forest of China
<i>Zeyu Lin, Beijing Forestry University</i> |
| 11:45 | Functional traits and site conditions effect the NO ₃ - uptake capacity of urban tree
<i>Miao Yu, Beijing Forestry University</i> |
| 12:00 | The impact of ozone pollution on nutrient allocation and release in urban tree species: a study of leaves and fine roots
<i>Xiaofan Hou, Beijing Forestry University</i> |

12:15 Effects of urban park construction years on woody plant species diversity, structural diversity, landscape patterns and their associations in Changchun, Northeast China

Xiao Yao, Changchun University, China

12:30 Summer urban synergistic effects of anthropogenic pollutants and low-molecular-weight biogenic volatile organic compounds on secondary organic aerosol

Long Yuchong, Shanghai Jiaotong University, China

13:00 **Lunch-break**

POSTER PRESENTATION

- A1** Potential nutritional and healthy values of the seed nut oils of tropical trees in Okinawa, Japan
Miho Uehara, Okinawa Prefectural Kyuyo Senior High School
- A2** Effects of three types of green space exposure behavior on physical and mental health
Wu Yue, Shanghai Jiao Tong University
- A3** Research and Demonstration of Technology for Health Service Function Improvement of Urban Green Space from the Perspective of Big Data
Yu Zheng, Minjiang University, China
- A4** The Relationship between Forest Structure and Woody Plant Species Diversity in Northern Cities: A Case Study of Beijing
Jiixin Guo, Beijing Forestry University, China
- A5** Forest structure has a significant effect on urban soil organic carbon - A test in Beijing urban forest
Rentian Xie, Beijing Forestry University, China
- A6** Driving Mechanisms of Landscape Fragmentation: An Exploration of Spatial Heterogeneity and Nonlinear Relationships
Jiang Simin, Beijing Forestry University, China
- A7** Spatial-temporal changes in mangrove forest in coastal cities of Tanzania and the implications on provisioning of ecosystem services
Anasia Elingaya Saria, State Key Laboratory of Estuarine and Coastal Research, East China Normal University, Shanghai, China
- A8** Study on the color richness of urban forest landscape in Spring in Beijing
Xuan Guo, Beijing Forestry University, China
- A9** Response of leaf hydraulic architecture in *Fraxinus velutina* street trees to the percentage of impervious pavement in Beijing
Xingyue Li, Beijing Forestry University, China
- A10** Research on the Public Perception Differences between Urban Parks and Forest Parks Based on Big Data
Feiyue Li, Beijing Forestry University, China
- A11** Variation in fine root traits with rock fragment content in ornamental trees insights from branching order and functional groups
Wei Liuduan, Beijing Forestry University, China
- A12** Estimating carbon stocks and sequestration potential from two Mangrove estuaries in Tanzania urban areas
Anasia Elingaya Saria, State Key Laboratory of Estuarine and Coastal Research, East China Normal University, Shanghai, China

- A13** Urban greening a solution for health and an ecological approach to urban planning in Tanzanian cities
Michael Elias Mgalula, Mkwawa University College of Education of the University of Dar es Salaam
- A14** Spatiotemporal Characteristics and Robustness Analysis of the Thermal Network in Beijing
Xiang Cao, Beijing Forestry University, China
- A15** Cross-climate prediction of retail shop number against street tree canopy shade
Yifeng Liu, Laboratory of Black Soils Conservation and Utilization, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Changchun, China
- A16** Non-disruptive methods to study the root systems and their abiotic and biotic interactors: new tools to get insights into the urban biodiversity
Gabriella Sferra, University of Molise, Italy
- A17** How Land Use Structure Influences Holiday Population Density: An Analysis Based on Baidu Heat Maps
Xianwen Li, Beijing Forestry University, China
- A18** Growing Resilient INclusive and Sustainable: the GRINS Project initiatives for Territorial Sustainability and Data Platform and Knowledge Transfer. First outcomes and progresses
Angela Stefania Bergantino, University of Bari, Italy
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CONFERENCE CO-ORGANIZERS AND SPONSORS

The **GLOBAL CHANGE SYMPOSIUM 2024** organizers are very grateful to the following organizations and companies for their support:



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AGRITECH Project

www.agritechcenter.it (PNNR MUR – M4C2
“National Research Centre for Agricultural
Technologies” Agritech CUP HUB –
B63D21015240004)



GRINS Project

<https://www.grins.it> (Growing Resilient,
Inclusive and Sustainable) Next-GenerationEU
(NATIONAL RECOVERY AND RESILIENCE
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