

International Young Scientist Forum for Climate Change Bamboo-based Solutions

About the Forum

The International Young Scientist Forum for Climate Change is committed to investigating bamboo-based solutions to address the urgent issue of global climate change, emphasizing the crucial role of young scientists. The ongoing climate crisis poses significant and irreversible impacts on natural ecosystems, human societies, and economies, demanding urgent, immediate, and ambitious efforts to drastically reduce greenhouse gas emissions and initiate a transition toward a sustainable and resilient future.

Bamboo, a fast-growing woody grass, has shown immense potential as a nature-based solution to climate change. It outperforms many tree species in similar regions in terms of carbon sequestration and storage capacity. Bamboo forests, now covering over 35 million hectares globally, serve as an exceptional renewable resource, yielding a variety of durable and sustainable products, from flooring to furniture, that can substitute carbon-intensive materials, thereby reducing deforestation and pollution. In 2022, the International Bamboo and Rattan Organization (INBAR) launched the 'Bamboo as a Substitute for Plastic Initiative.' This initiative aims to amplify the use of bamboo to mitigate plastic pollution and address climate change challenges. With the global bamboo industry estimated to reach USD 90 billion by 2030, the development of bamboo-based products holds significant economic potential. In addition, introducing improved forest management activities in bamboo forests can generate carbon offset credits, providing financial incentives for farmers to better manage their bamboo forests and thus contributing to climate change mitigation and rural poverty reduction.

The forum seeks to gather young scientists from around the world, including graduate students, postdoctoral fellows, and young professors, to delve into the potential of bamboo as a climate change solution. The forum will explore a range of topics, including bamboo livelihood and rural development strategies, climate change mitigation strategies, sustainable management practices, and biodiversity conservation. By facilitating collaboration and knowledge exchange, the forum aims to inspire and empower young scientists to contribute to a more sustainable future. The forum will encourage good-quality article submissions to the Journal of *Advances in Bamboo Science*.

Time

- 1) **Vancouver:** 5-9 PM, 18-19 December 2023
- 2) **Beijing:** 9 AM-1 PM, 19-20 December 2023

Main Room & Room 1 (Zoom)

Meeting ID: 991 962 0731
Passcode: 632520

Room 2 (Zoom)

Meeting ID: 635 1299 6567
Passcode: 13742

Live streaming:

Main Room and Room 1

<https://www.koushare.com/lives/room/805188>



Room 2

<https://www.koushare.com/lives/room/060846>



Forum Agenda

Day 1: 18th December, 2023 (Vancouver Time)

Date	18-Dec (Vancouver)	
Main Room	Everyone stays in this room	
Opening Remarks		Moderator: Guangyu Wang
17:00-17:15	Zhejiang A&F University (ZAFU)	Opening Remark 1 – Vice-President Jiasheng Wu
	University of British Columbia (UBC)	Opening Remark 2 – Dean Rob Kozak
	International Bamboo and Rattan Organization (INBAR)	Opening Remark 3 – Deputy Director General Wenming Lu
Keynote Speech		Moderator: Chunyu Pan
17:15-17:45	Keynote Speaker 1	Theme: Sustainable Forest Management
	John Innes	Professor, Faculty of Forestry, University of British Columbia, Canada
17:45-18:15	Keynote Speaker 2	Theme: Bamboo LCA and Climate Change
	Pablo van der Lugt	Biobased Building Specialist, Faculty of Architecture, Delft University of Technology Head of Sustainability, MOSO Bamboo Products



Short Break		
18:15-18:40	Switching Rooms	

Date	18-Dec (Vancouver)	
Parallel Room 1	<i>Bamboo Forest Cultivation and Management</i>	
Young Scientist Forum	18:40-21:00	Moderator: Renyi Gui
18:40-19:00	Speaker 1	Predicting Potential Suitable Areas of <i>Dendrocalamus brandisii</i> under Global Climate Change
	Weiye Liu	Associate Professor, Southwest Forestry University
19:00-19:20	Speaker 2	Degradation increases soil microbial carbon utilization efficiency but reduces soil organic carbon stability in Moso bamboo forests
	Lin Xu	Associate Professor, Zhejiang A&F University
19:20-19:40	Speaker 3	TBD
	Ar Neelam Manjunath	Advisor and Adjunct professor, Sustainability and Bamboo Affairs, Dayalbagh Educational Institute
19:40-20:00	Speaker 4	The miRNA-mRNA regulatory network during bamboo shoots development
	Ying Li	Research Assistant, International Centre for Bamboo and Rattan
20:00-20:20	Speaker 5	Combatting Climate Change by Rongmei community with Bamboo-based Solutions
	Lumgailu Panmei	PhD Candidate, Tripura University, India
20:20-20:40	Speaker 6	Bamboo Offsets as NbS to Combat Climate Change
	Chunyu Pan	PhD Student, University of British Columbia
20:40-21:00	Speaker 7	Overwintering performance of bamboo leaves, and establishment of mathematical model for the distribution and introduction prediction of bamboos
	Yufang Wu	Master Student, Southwest Forestry University



Date	18-Dec (Vancouver)	
Parallel Room 2	<i>Bamboo Timber Processing and Utilization</i>	
Young Scientist Forum	18:40-21:00	Moderator: Jayaraman Durai
18:40-19:00	Speaker 1	Bamboo Grading---a key point to Bamboo utilization for a Sustainable future
	Huanrong Liu	Professor, International Center for Bamboo and Rattan
19:00-19:20	Speaker 2	Prospects of bamboo sheaths as potential raw materials for paper making
	Zhan Hui	Associate Professor, Southwest Forestry University
19:20-19:40	Speaker 3	Chemical-free engineering of natural bamboo into highly sensitive humidity-driven actuators
	Qi Chen	Sichuan Agricultural University
19:40-20:00	Speaker 4	A novel engineered bamboo products made with arc-shaped bamboo strips
	Bin Huang	State Forestry and Grassland Administration of China
20:00-20:20	Speaker 5	Online Market Potential of Selected Bamboo Products in the Philippines
	Emerson Espina	BS Forestry 2023 Graduate, University of the Philippines Los Baños
20:20-20:40	Speaker 6	Bamboo bridges as a sustainable, community-centred solution for rural transportation infrastructure development in Sri Lanka
	Isuru Nanayakkara	Postgraduate Research Student, University of Sheffield
20:40-21:00	Speaker 7	Bamboo's roles in Combating Climate Change
	Gad Okodi	Makerere University - Student



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Day 2: 19th December, 2023 (Vancouver Time)

Date	19-Dec (Vancouver)	
Parallel Room 1	<i>Bamboo Forest Cultivation and Management</i>	
Young Scientist Forum	17:00-20:00	Moderator: Renyi Gui
17:00-17:20	Speaker 1	The Dynamics of Non-Structural Carbohydrates in Different Types of Bamboo in Response to Their Phenological Variations: Implications for Managing Bamboo Plantations
	Juan Li	Associate Professor, Southwest Forestry University
17:20-17:40	Speaker 2	Haplotype-resolved pangenomes reveal genetic variations and climate adaptation of Moso bamboo populations
	Hansheng Zhao	Researcher, International Centre for Bamboo and Rattan
17:40-18:00	Speaker 3	Potential accessions of <i>Dendrocalamus strictus</i> Roxb. as climate change warriors
	Ram Gopal	Assistant Professor, North Eastern Hill University (NEHU) Tura Campus
18:00-18:20	Speaker 4	Unveiling the Intrinsic Mechanism of Bamboo Photoprotection under High Light Stress in the Context of Global Climate Change
	Huayu Sun	Research Assistant, International Center for Bamboo and Rattan
18:20-18:40	Speaker 5	Farmers' local knowledge of soil fertility in bamboo plantations in the Western Highlands, Cameroon
	Gilles Rolin ANANFACK KENFACK	PhD Student, Université de Dschang-Cameroon
18:40-19:00	Speaker 6	Study on the thermal comfort of recreational spaces in Qionglai bamboo forest town in Chengdu
	Xiaoxia Zhang	Ph.D student, Sichuan Agricultural University
19:00-19:20	Speaker 7	Carbon Storage Assessment and Potential Prediction of Bamboo Products in China Based on IPCC First-order Decay Method and Prophet Model
	Wenzhu Li	Student, International Center for Bamboo and Rattan



19:20-19:40	Speaker 8	The Emergence of Bamboo in Sub-Saharan Africa: A Key Player for the Restoration of Ecosystems, the Sustainable Management of Forest Resources and the Preservation of Biodiversity."
	Kadirath-lah AHLIN	Master Student, Laboratory of Biomathematics and Forestry Estimations, Faculty of Agricultural Sciences, University of Abomey Calavi (Benin)
19:40-20:00	Speaker 9	Reviving Our Planet with Bamboo: A Paradigm Shift in Climate Solutions.
	Bashir Isia Ahmad	Student, University of Maiduguri

Date	19-Dec (Vancouver)	
Parallel Room 2	<i>Bamboo Timber Processing and Utilization</i>	
Young Scientist Forum	17:00-20:00	Moderator: Jayaraman Durai
17:00-17:20	Speaker 1	Enhancing the indigenous skills of Bhujelâ€™s in Nawalpur, Nepal through bamboo restoration, technological interventions and market innovations
	Aarati Khatri	Research Officer, Forest Action Nepal
17:20-17:40	Speaker 2	Does phosphorus addition alter water use strategies of Moso bamboo (<i>Phyllostachys edulis</i> (CarriÃˆre) J. Houz.) forest in subtropical China?
	Yuelin He	Lecturer, Zhejiang A&F University
17:40-18:00	Speaker 3	Source and water-driving mechanism of carbon uptake for newly sprouted bamboo culms during the explosive growing period
	Tingting Mei	Assistant Professor, Zhejiang A&F University
18:00-18:20	Speaker 4	Impacts of bamboo tree on climate change mitigation and adaptation in Nigeria
	Ismaila Abdullateef	Manager, School Shopping World Services
18:20-18:40	Speaker 5	ANALYSIS OF BAMBOO VALUE CHAINS: A CASE STUDY OF BAMBOO HANDICRAFTS IN NORTHERN VIETNAM
	Tham La Thi	Lecturer, Vietnam National University of Forestry
18:40-19:00	Speaker 6	Ethiopian Bamboo: Emerging Versatile Forest Resource



	Amsalu Nigatu	PhD Student, University of British Columbia
19:00-19:20	Speaker 7	Study on the Antibacterial Activity of Volatile Organic Compounds (BVOCs) in Bamboo and the Effect of Drought on Their Emission
	Cong Ma	PhD Student, Sichuan Agricultural University (SAU)
19:20-19:40	Speaker 8	Carbon accounting of bamboo structural products
	Xiaoyu Liu	Master Student, University of British Columbia
19:40-20:00	Speaker 9	Bamboo, the construction material for the future: Experimenting with bamboo pavilions in Sri Lanka
	Vinya Kaluarachchi	Undergrad Student, University of Moratuwa

Day 2: Closing Ceremony

Date	19-Dec (Vancouver)	
Main Room	Everyone comes back to this room	
Closing Ceremony		Moderator: Guangyu Wang
20:20-20:25	Best Poster Award	3 Awardees
20:25-20:35	Best Presenter Award	13 Awardees
Declaration		
20:35-20:45	Youth Declaration of Bamboo for Climate Change	Delegate: 1 Youth
Closing Remark		
20:45-21:00	UBC	Guangyu Wang

ZAFU Agenda

Room 1 (Tencent)

Meeting ID: 114 540 731

Room 2 (Tencent)

Meeting ID: 675 448 583

Live streaming:

Room 1

<https://www.koushare.com/lives/room/805188>



Room 2

<https://www.koushare.com/lives/room/060846>



Date	18-Dec (Vancouver), but will proceed in Beijing Time at ZAFU	
Parallel Room 1	<i>Bamboo Forest Cultivation and Management</i>	
Dec 19 (Beijing Time)	14:00-18:20	Note: This is only for ZAFU Onsite (will be live-streamed)
14:00-14:20	Speaker 1	Study of the relationship between the spatial structure and thermal comfort of a pure forest with four distinct seasons at the microscale level
	Wei Lin	Lecturer- Zhejiang A&F University
14:20-14:40	Speaker 2	Molecular identification of <i>Bambusa changningensis</i> is the natural bamboo hybrid of <i>B. rigida</i> × <i>Dendrocalamus farinosus</i>
	Juan Zhuo	Lab Assistant- Zhejiang A&F University
14:40-15:00	Speaker 3	Partitioning of respired CO ₂ in newly sprouted Moso bamboo culms
	Chongyu Ye	PhD Student - Zhejiang A&F University
15:00-15:20	Speaker 4	Management scheme influence and nitrogen addition effects on soil CO ₂ , CH ₄ , and N ₂ O fluxes in a Moso bamboo plantation
	Junbo Zhang	PhD candidate - Zhejiang A&F University



15:20-15:40	Speaker 5	Systematic integration analysis of mineral nutrient resources during the growth of bamboo shoots in phyllostachys pubescens forest
	Kecheng Wang	Postgraduate Students - Zhejiang A&F University
15:40-16:00	Speaker 6	Microbial Strategies Coordinating Efficient Phosphorus Utilization in Moso Bamboo
	Yijing Xing	PhD student - Zhejiang A&F University
16:00-16:20	Speaker 7	Effect mechanism of AM fungi on phosphorus acquisition and utilization of Phyllostachys edulis seedlings
	Ning Gao	PhD student - Zhejiang A&F University
16:20-16:40	Speaker 8	Improving extraction phenology accuracy using SIF coupled with the vegetation index and mapping the spatiotemporal pattern of bamboo forest phenology
	Yanxin Xu	PhD Student - Zhejiang A&F University
16:40-17:00	Speaker 9	Highly efficient transformation of Dendrocalamus asper via Agrobacterium tumefaciens
	Haiwen Lu	Graduate Student - Zhejiang A&F University
17:00-17:20	Speaker 10	Study on the relationship between sap flow of Moso bamboo shoots and stand spatial structure
	Weijiao Li	Master Student - Zhejiang A&F University
17:20-17:40	Speaker 11	Integrated transcriptome and metabolome analyses provided insight into the variation in flavor and quality of green bamboo (Bambusa oldhamii) shoots
	Kaiting Pan	Graduate Student - Zhejiang A&F University
17:40-18:00	Speaker 12	Study on the effects of different management measures on soil carbon stocks in moso bamboo forests and bamboo groves: based on Meta-analysis and controlled experiments
	Ziliang Zhao	Graduate Student- Zhejiang A&F University
18:00-18:20	Speaker 13	Several simplified synthetic communities for growth promotion and soil nutrient activation of Phyllostachys edulis seedlings
	Ying Zhu	Graduate Student- Zhejiang A&F University

Date	18-Dec (Vancouver), but will proceed in Beijing Time at ZAFU
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Parallel Room 2		<i>Bamboo Timber Processing and Utilization</i>
Dec 19 (Beijing Time)	14:00-17:20	Note: This is only for ZAFU Onsite (will be live-streamed)
14:00-14:20	Speaker 1	Transcriptome analysis reveals key developmental and metabolic regulatory aspects of moso bamboo during zygotic embryo development
	Simeng Kong	Graduate Student- Zhejiang A&F University
14:20-14:40	Speaker 2	Research on greenhouse gas emissions and carbon and water footprints during the processing of bamboo shoots
	Zixiang Weng	Graduate Student- Zhejiang A&F University
14:40-15:00	Speaker 3	Temporal-spatial analysis of market-oriented environmental regulation on bamboo forest mining and transportation industry
	Ting Gao	Master Student - Zhejiang A&F University
15:00-15:20	Speaker 4	Research on grading methods of products of using bamboo as substitutes for plastic based on comprehensive environmental impacts
	Meng Zhang	PhD Student – Beijing Forestry University
15:20-15:40	Speaker 5	The potential of bamboo seeds for natural biofortification of dietary zinc and iron
	Qifang Hu	Master student- Zhejiang A&F University
15:40-16:00	Speaker 6	A comparative evaluation of chemical composition and nutritional value of bamboo seed and major cereals reveals the potential utility of bamboo seed as functional food
	Xianyu Pan	Master student - Zhejiang A&F University
16:00-16:20	Speaker 7	Physiological, transcriptomic, and molecular characterization of cadmium uptake in Moso bamboo (<i>Phyllostachys edulis</i>), a non-timber forest species
	Fan Yang	PhD student- Zhejiang A&F University
16:20-16:40	Speaker 8	Development Evolution and Characteristics of China's Modern Bamboo Industry: A Comparative Analysis Based on Zhejiang and Sichuan Provinces
	Danting Wang	Master Student- Zhejiang A&F University



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16:40-17:00	Speaker 9	The Impact of Benefit and Profit Cognition on Farmers' Carbon Sink Bamboo Forest Management Decision
	Mengjia Ying	Master Student- Zhejiang A&F University
17:00-17:20	Speaker 10	Study on the relationship between sap flow of Moso bamboo shoots and stand spatial structure
	Qiuyue Fang	Master Student- Zhejiang A&F University