International Symposium on Bioenergy and Biorefinery (ISBB 2026)

Detailed Session Profile & Technical Program Overview

▪ Session Overview

Session Number:	Session #3
Session Title:	**Thermal and Catalytic Conversions (TCC)**
Scope & Focus:	Thermochemical processing, advanced pyrolysis, gasification, and heterogeneous green catalysis for converting solid municipal waste and biomass into clean fuels and hydrogen.

▪ Committee & Invited Speakers

SESSION CHAIR

Prof. Jun ZHAO

Hong Kong Baptist University

Email: zhaojun@hkbu.edu.hk

Prof. Zhao Jun is an Associate Professor at Hong Kong Baptist University (HKBU) and Director of the Applied Research Centre for Pearl River Delta Environment (ARCPE). He earned his Ph.D. from Nanyang Technological University (NTU), Singapore, and led the Biomass and Bioenergy Laboratory at HKBU since 2019. Prof. Zhao is a leading expert in green catalysis and sustainable chemical engineering, specializing in turning municipal solid waste and plastics into green hydrogen, clean fuels, and value-added chemicals via low-energy catalytic pathways. He has authored over 150 high-impact papers in elite journals such as Energy & Environmental Science, Advanced Materials, and Nature Communications. Standing among the "World's Top 2% Scientists" (2023–2025), he is also a Vebleo Fellow and a recipient of the 2025 IAAM Scientist Medal. He contributes widely to the academic community as a member of ACS, CCS, and CSES, and as an editorial board member for journals including Environmental Technology and Energy, Ecology and Environment.

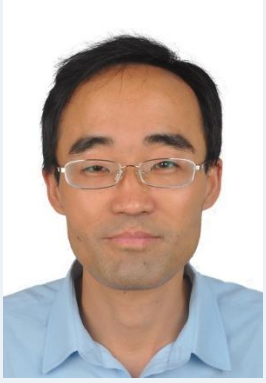
SESSION CO-CHAIR & PLENARY SPEAKER

Prof. Guoqing GUAN

Hirosaki University

Email: guan@hirosaki-u.ac.jp

Prof. Dr. Guan Guoqing is a Full Professor at Hirosaki University, Japan, and was elected as a Member of the Engineering Academy of Japan (EAJ) in 2025. He earned his Ph.D. from Sichuan University in 1995 and previously conducted advanced research as a Humboldt Fellow in Germany and a JSPS Fellow in Japan. Prof. Guan is a leading expert in energy technologies, environmental catalysis, and process design, boasting a prolific publication record of over 490 peer-reviewed papers and 67 international patents (US, Japan, etc.). He is the recipient of the 2024 Endo Award, Hirosaki University's highest academic accolade. Currently, he lends his expertise as the Associate Editor for Carbon Resources Conversion, Resources Chemicals and Materials, and MetalMat, alongside board memberships in premier journals like Fuel Processing Technology and leadership committees within WSETC, GACCE, and SCEJ.



KEYNOTE SPEAKER

Prof. Yan Kai

Sun Yat-sen University

Email: yank9@mail.sysu.edu.cn

Prof. Dr. Yan Kai is a Full Professor and Ph.D. Supervisor at Sun Yat-sen University, recruited under the university's prestigious "Hundred Talents Program" and supported by the National Elite Youth Talent Program. Leading an interdisciplinary research group in environmental chemistry and materials science, his expertise spans heterogeneous catalysis for biomass upcycling into liquid fuels/chemicals, electrocatalysis, and waste degradation. Prof. Yan has authored more than 200 SCI papers in top-tier journals yielding an H-index of 59 and over 13,000 citations. He serves as a Regional Editor for two international journals, a board member for six journals, and a reviewer for 37 major publications (e.g., JACS, ACS Catal., AIChE J.). His international profile is highlighted by his engagement in European ERC, German Cluster of Excellence, Canadian NSERC, and US Department of the Air Force research programs.

KEYNOTE SPEAKER

Prof. Zhuohua SUN

Beijing Forestry University

Email: sunzhuohua@bjfu.edu.cn

Prof. Dr. Sun Zhuohua is a Full Professor and Ph.D. Supervisor at Beijing Forestry University, supported by the National Overseas High-Level Talent Youth Program. He received his Ph.D. from the University of Groningen (Netherlands) and completed his postdoctoral training under the guidance of the eminent Academician Prof. Avelino Corma in Spain. Specializing in the catalytic upcycling of biomass, Prof. Sun has been repeatedly named among the "World's Top 2% Scientists." He has authored over 60 high-impact papers in elite journals such as Nature Catalysis, Chemical Reviews, and Nature Communications. His research portfolio includes leading NSFC General Programs, MOST National Key R&D sub-projects, and High-End Foreign Expert Programs. He is also a Youth Board Member for Transactions of Tianjin University and serves as the Deputy Secretary-General of the National Innovation Alliance for High-Value Utilization of Lignin.