



CCIB Workshop on Bioenergy: A Road to Carbon Peaking and Carbon Neutrality

The rapid consumption of fossil oils since the industrial revolution has led to the shortage of fossil resources together with a series of environmental problems such as global warming. The Paris Agreement adopted in 2015 set the goal of achieving net-zero emissions in the second half of this century and thus more and more countries are turning it into a national strategy to pursue a low-carbon future.

As one of the most important renewable energies with great potential, bioenergy has become a worldwide choice to cope with the challenges of resource shortage and environmental deterioration. The demand for bioenergy from lignocellulose, industrial waste gas and so on is rising. In this context, the workshop will mainly address the following topics: technological and industrial innovation on biohydrogen, cellulosic ethanol, syngas-to-ethanol, biogas and its chemicals. The workshop aims to promote the dialogue between scientists and enterprises and explore potential cooperation opportunities for joint R&D and industrial demonstration.



Prof. SUN Jibin is the Deputy Director-General of Tianjin Institute of Industrial Biotechnology (TIB), CAS, Secretary-General of Biomufacturing Industry (Talent) Alliance and the founding Director of COMSATS Joint Center for Industrial Biotechnology (CCIB) which is an open, shared and innovative cooperation platform to promote the development of biotechnology and bioindustry in the Global South.

He actively participated the activities of COMSATS network and is the co-organizer of the 22nd Meeting of COMSATS Coordinating Council. He is one of the eminent figures in the area of industrial biotechnology of China with research focus on understanding and upgrading the industrial strains. He contributed substantially to the foundation of the National Center of Technology Innovation for Synthetic Biology which offers a unique platform to host CCIB and international cooperation.

Prof. LI Demao is the Coordinator of the Joint R&D Group on Bioenergy, CCIB and the Principal Investigator of Industrial Biosystem and Engineering Group, TIB, CAS. He received his Ph.D. degree from Institute of Oceanology, Chinese Academy of Sciences in 2007. Since 2011, he has been working at TIB. His research mainly focuses on bioconversion of C1 gas to biochemicals and bioenergy. He has co-authored more than 100 peer-reviewed original research papers and co-invented more than 20 issued patents.



For more information, please contact:

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Zoom Meeting Link :

<https://tinyurl.com/BioEnergyCarbon>

Tuesday, June 14, 2022
@19:30, Beijing time
(UTC/GMT+8)

Program

Prof. Michael C. Jewett is the Charles Deering McCormick Professor of Teaching Excellence, the Walter P. Murphy Professor of Chemical and Biological Engineering, and Director of the Center for Synthetic Biology at Northwestern University. Dr. Jewett received his PhD in 2005 at Stanford University, completed postdoctoral studies at the Center for Microbial Biotechnology in Denmark and the Harvard Medical School, and was a guest professor at the Swiss Federal Institute of Technology (ETH Zurich). He is the recipient of the NIH Pathway to Independence Award, David and Lucile Packard Fellowship in Science and Engineering, Camille-Dreyfus Teacher-Scholar Award, and a Finalist for the Blavatnik National Awards for Young Scientists, among others. He is the co-founder of SwiftScale Biologics, Stemloop, Inc., Pearl Bio, Induro Therapeutics, and Design Pharmaceuticals. Jewett is a Fellow of AIMBE, AAAS, and NAI.



Prof. REN Nanqi is an academicien of the Chinese Academy of engineering. He serves as the member of the Academic Degree Commission of the State Council, the member of Resources and the Environment and Earth Sciences council of the Ministry of Education, vice chairman of environmental engineering education guidance committee of Ministry of Education, deputy director of the microbiology and environmental microbial Committee of the Chinese Society of Microbiology, vice chairman of the China Institute of Environmental Sciences; vice chairman of China Energy Society. His research focused on bioenergy theory and process technology, biological wastewater treatment technology, source and sink of pollutants, transformation principles and removal mechanisms, etc. He has got numerous awards at the provincial, ministerial and national level. He has published 12 monographs and 300 papers on international journals. He also has been granted 28 national patents.



Prof. Habib Bokhari is the Professor & Vice Chancellor of Kohsar University Murree. He received his PhD in Infection and Immunology from the University of Glasgow (2002) and completed three postdocs from London School of Hygiene & Tropical Medicine & University of Pennsylvania & George Mason University (GMU), USA. He is a recipient of the Commonwealth and Fulbright Fellowship Fellowships (1998/2013; 2016-2017). Dr. Bokhari has been an affiliate faculty to GMU and visiting scientist in top-ranked universities in Asia, Europe and USA. He has successfully completed >7 national & international research projects & published >140 peer reviewed-research publications & main focus of his research/lab is to understand the biology of clinical & environmental microbes impacting human health, animal/livestock health, and determining their genomic diversity via their pathogenesis.



Prof. Dr. Azize Ayol is the senior researcher of Department of Environmental Engineering at Dokuz Eylul University (DEU). Her active research areas are wastewater treatment, enzymatic treatment, energy recovery from waste, and so on. She has a strong track record of scientific leadership and has been a researcher in many national and international research projects and has built wide research collaborations partnership with other international research groups from Europe, USA, Japan, and Australia. She has many scientific papers in SCI journals and conference proceedings. She has recently worked on membrane processes, microbial fuel cells, biogas production via anaerobic processes, and gasification process, waste management for cities, and smart cities-living labs.



Prof. Mehrdad Azin currently works at the Department of Biotechnology, Iranian Research Organization for Science & Technology. He got Ph.D. in Biotechnology (Biological Products) from Pasteur Institute of IRAN in 1996. His research is involved in Biotechnology and Microbiology. He has published 77 papers on International Journals.



Mr. CHAO Wei, senior engineer, is the deputy general manager of Beijing Shougang LanzaTech New Energy Technology Co., Ltd. (hereafter referred to as SGLT) and the general manager of Beijing Shoulang Biological Technology. He got doctor degree of Chemistry from Peking University. In 2015, he joined SGLT and led the company's technological R&D, industrial implementation, and project development. He has successively undertaken and participated in several national, provincial, and municipal R&D courses/events since 2021, such as the National Key Technologies R&D Program. He has published more than 10 papers and is credited for more than 40 patent applications.



Prof. TIAN Chaoguang, is the Principal Investigator of Fungal Synthetic Biology Group, TIB, CAS. After postdoc study at UC Berkeley in 2009, he joined TIB. His current research mainly focuses on fungal synthetic biology, developing the CBP technology for lignocellulose bioconversion using thermophilic fungi *Myceliophthora thermophila* as host, constructing the cell factory for bio-based chemicals and industrial proteins, and developing the new techniques for genome editing.



19:30-19:35 **Introductory Remarks**
Prof. Jibin Sun
TIB Deputy Director-General & CCIB Founding Director

19:35-19:40 **Opening Remarks**
Prof. Ashraf Shaalan
Chairperson COMSATS Coordinating Council,
Former President, National Research Centre (NRC), Egypt

19:40-20:10 **Keynote Speech: Bioengineering Beyond Cells to Enable a Fair and Sustainable 21st Bio-century**
Prof. Michael C. Jewett
Director of the Center for Synthetic Biology, Northwestern University, America

20:10-20:40 **Keynote Speech: Perspective of Fermentative H₂ Production Technology from Biomass for Commercialization**
Prof. REN Nanqi
Academician of the Chinese Academy of Engineering; Professor of Harbin Institute of Technology, China

20:40-20:50 **Production of Energy and Climate Friendly Bio-based Products & Ecosystem Restoration of Mountainous Region**
Prof. Habib Bokhari
Professor & Vice Chancellor of Kohsar University Murree, Pakistan

20:50-21:00 **Syngas Production from Biomass and Microbial C1 Gas Conversion Technologies**
Prof. Azize Ayol
Professor of Department of Environmental Engineering, Dokuz Eylul University, Türkiye

21:00-21:10 **Biorefinery Concept for Production of Biofuels**
Prof. Mehrdad Azin
Professor of Department of Biotechnology, Iranian Research Organization for Science and Technology, Iran

21:10-21:20 **Producing Ethanol and Protein from Carbon Containing Industrial off-gas Through Synthetic Biotechnology**
Mr. CHAO Wei
Deputy General Manager of Beijing Shougang LanzaTech Technology Co., Ltd, China

21:20-21:30 **Construction of Fungal CBP Technology for Lignocellulose Biorefinery**
Prof. TIAN Chaoguang
Professor of Tianjin Institute of Industrial Biotechnology, CAS, China

21:30-21:55 **Panel Discussion/ Q&A**
(Moderated by Prof. LI Demao, the Coordinator of the Joint R&D Group on Bioenergy, CCIB)

21:55-22:00 **Closing Remarks**