WORKSHOP

Indoor Air Quality and
VOC Clean Technology Work Shop

NOVEMBER 22, 2017

1F, Jaesung Civil Engineering Building,
Hanyang University

REGISTRATION FEE (KSEB)

> General: KRW 200,000 > Student: KRW 100,000

PROGRAM

TIME	DESCRIPTION
	Chair: Prof. Yong Sik Ok (Full Professor and Director, Korea Biochar Research Center, Division of Environmental Science and Ecological Engineering, Korea University, Korea)
15:00 - 15:30	Environmental Impact Assessment Quantification by Analysing VOCs, GHGs, and Smog/Haze Footprints Prof. Jiří Jaromír Klemeš Full Professor, DSc, Editor in Chief Journal of Cleaner Production, Elsevier (klemes@fme.vutbr.cz)
15:30 – 16:00	Emerging application of biochar-based catalysts for indoor air pollution control Prof. Daniel CW Tsang Associate Professor, Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, China (dan.tsang@polyu.edu.hk)
16:00 – 16:30	Active Adsorbents for Molecular Separation Prof. Jin Shang Assistant Professor, Department of Chemical and Biomolecular Engineering, The University of Melbourne, Melbourne, Victoria 3010, Australia (jinshang@cityu.edu.hk)
16:30 – 17:00	Coffee Break
	Chair: Ki-Hyun Kim (Full Professor, Atmospheric Environment & Air Quality Management Lab, Department of Civil & Environmental Engineering, Hanyang University, Korea)
17:00 – 17:30	Novel metal-encapsulated zeolite as a stable and effective catalyst for VOCs removal in Indoor Air Prof. Alex Yip Senior Lecturer, Energy and Environmental Catalysis Group, Department of Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand (alex.yip@canterbury.ac.nz)
17:30 – 18:00	The need for control on VOC in various urban sources and its solution Prof. Ki-Hyun Kim Full Professor, Atmospheric Environment & Air Quality Management Lab, Department of Civil & Environmental Engineering, Hanyang University, 222 Wangsimni-Ro, Seoul 04763, Korea (kkim61@hanyang.ac.kr)

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ORGANIZED AND HOSTED BY

> Hanyang University

Prof. Ki-Hyun Kim
World Class Department Program,
Department of Civil & Environmental Engineering, Hanyang University
Co-Chair, BEEM 2018 International Scientific Committee

> Korea University

Prof. Yong Sik Ok
Korea Biochar Research Center
Division of Environmental Science and Ecological Engineering
College of Life Science & Biotechnology, Korea University
Chair, BEEM 2018

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GWCVB Gangwon Convention & Visitors Bureau
KOREA TOURISM ORGANIZATION www.visitkorea.or.kr

SPEAKERS

Prof. Jiří Jaromír Klemeš, DSc

Head of "Sustainable Process Integration Laboratory – SPIL", NETME Centre, Faculty of Mechanical Engineering, Brno University of Technology – VUT Brno, Czech Republic and Emeritus Professor at "Centre for Process Systems Engineering and Sustainability", Pázmány Péter Catholic University, Budapest, Hungary. Previously the Project Director, Senior Project Officer and Hon Reader at Department of Process Integration at UMIST, The University of Manchester and University of Edinburgh, the UK. Founder and a long-term Head of the Centre for Process Integration and Intensification – CPI2, University of Pannonia, Veszprém, Hungary. Awarded by the EC with Marie Curies Chair of Excellence (EXC). Track record of managing and coordinating 91 major EC, NATO and UK Know-How projects. Research funding attracted over 21 M€.

Co-Editor-in-Chief of Journal of Cleaner Production. The founder and President for 21 y of PRES (Process Integration for Energy Saving and Pollution Reduction) conferences. Chairperson of CAPE Working Party of EFCE, a member of WP on Process Intensification and of the EFCE Sustainability platform. He authored and co-authored over 400 papers, h-index over 40. A number of books published by Elsevier, Woodhead, McGraw-Hill; Ashgate Publishing Cambridge; Springer; WILEY-VCH; Taylor & Francis).

Several times Distinguished Visiting Professor at Universiti Teknologi Malaysia and University Technology Petronas, Malayisa; Xi'an Jiaotong University; South China University of Technology, Guangzhou and Tianjin University in China; University of Maribor, Slovenia; Brno University of Technology, the Russian Mendeleev University of Chemical Technology, Moscow and King Mongkut's University of Technology Thonburi, Bangkok, Tailand. Doctor Honoris Causa of Kharkiv National University "Kharkiv Polytechnic Institute" in Ukraine, the University of Maribor in Slovenia, University POLITEHNICA Bucharest, Romania. "Honorary Doctor of Engineering Universiti Teknologi Malaysia". Awarded with "Honorary Membership of Czech Society of Chemical Engineering", "European Federation of Chemical Engineering (EFCE) Life-Time Achievements Award" and "Pro Universitaire Pannonica" Gold Medal.

Prof. Daniel CW Tsang

Dr. Daniel Tsang is currently an Associate Professor in the Department of Civil and Environmental Engineering at the Hong Kong Polytechnic University (HK PolyU). He was an IMETE Visiting Scholar at Ghent University in Belgium (2015), Visiting Scholar at Stanford University in the US (2011-2013), Senior Lecturer (2011-2012) and Lecturer (2008-2010) at the University of Canterbury in New Zealand, and Post-Doctoral Fellow at Imperial College London in the UK (2007-2008) and the Hong Kong University of Science and Technology (2006-2007). Dan holds BEng (2002) and PhD (2006) from the Hong Kong University of Science and Technology. Dan has been active at idea exchange through journal publications and professional service in both academia and industry. With a strong link to real-world environmental challenges, Dan's research group strives to develop cost-effective and low-impact solutions to ensure sustainable urban development, enhance the engineering infrastructure, and create new ways in which we manage contaminated soils/sediments, municipal solid waste, and urban waters. Dan has published over 100 SCI journal papers, and serves as Editorial Board Member of Chemosphere, Subject Editor of Journal of Soils and Sediments, and Coordinating Editor of Environmental Geochemistry and Health. He has also served as Guest Editor for Bioresource Technology, Chemosphere, Science of the Total Environment, and Environmental Geochemistry and Health. Dan is chair/co-chair and organizer of 2nd Biological Waste as Resource Conference (BWR2017, Hong Kong), 2nd International Conference on Bioresources, Energy, Environment, and Materials Technology (BEEM2018, Korea), and 4th Contaminated Land, Ecological Assessment and Remediation Conference (CLEAR2018, Hong Kong).

Prof. Jin Shang

Dr. Jin Shang obtained his Bachelor (2007) and Master (2009) degrees both in Environmental Engineering at Northeastern University in China. He completed his PhD in Chemical Engineering at the University of Melbourne in 2013. His PhD thesis was on the separation of carbon dioxide from flue gas and natural gas streams using porous adsorbent materials. After his PhD, he worked as research fellow on an Australian Research Council Discovery Project focusing on developing advanced adsorbents in Paul Webley Group at the University of Melbourne. Since 2015, as Co-chief Investigator of Australian Research Council Training Centre for Liquefied Natural Gas Futures, he has been actively participated in research along with major industry partners in oil and gas field. He then moved to Georgia Institute of Technology and worked as a postdoctoral fellow funded by Exxon-Mobil focusing on restricted gas diffusion in zeolites by advanced molecular simulation in David Sholl Group, prior to joining the City University of Hong Kong as an assistant professor in the School of Energy and Environment in September 2016.

Dr. Shang specializes in molecular adsorption, separation, and storage using porous materials such as zeolites and metal-organic frameworks. His research is focused on understanding the fundamental physical chemistry of molecular adsorption process via combined experimental and computational methods, in order to rationally develop high-performance adsorbents and catalysts. Particularly, he is interested in developing stimuli responsive porous materials capable of selective molecular admission. The target applications include carbon capture and utilization, methane purification from nature gas/biogas/landfill gas, nitrogen oxides removal and abatement, volatile organic compounds removal, energy gas storage, etc.

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Prof. Alex C.K.Yip

Dr. Alex Yip received his BE(Hon) in Chemical Engineering from the University of New South Wales in 2003. He obtained his MPhil in Environmental Engineering and PhD in Chemical Engineering from the Hong Kong University of Science and Technology in 2005 and 2009, respectively, studying energy and environmental catalysis. Dr. Yip was a postdoctoral fellow in Professor Enrique Iglesia's group at the University of California, Berkeley, working on methanol-to-triptane process via solid acids and zeolite chemistry. He is now a Senior Lecturer (Equivalent to Associate Professor in US University system) and the Principal Investigator of the Energy and Environmental Catalysis Group at the University of Canterbury in New Zealand. Dr. Yip is also an Adjunct Professor at the Guangdong University of Petrochemical Technology in China and is currently the Vice President of the Australasian Particle Technology Society (APTS). He is also an Editorial Board Member of Advanced Powder Technology and Carbon Resources Conversion, and a Review Editor of Nanoenergy Technologies and Materials (Frontiers).
Dr. Yip has extensive experience on synthesis and applications of microporous/mesoporous catalytic materials. His current research focusing on developing novel catalytic systems for biomass conversion to biofuel and high value products under mild reaction conditions. He has expertise in identifying the relationship between the catalyst structure, including morphology, pore shape, spatial constraints etc., and the selectivity of products produced from reactions relevant to energy and environmental applications. Results of his recent projects were published in high-calibre journals, e.g. Journal of the American Chemical Society (IF: 13.038), Green Chemistry (IF: 8.506), Journal of Materials Chemistry A (IF: 8.262), Journal of Power Sources (IF: 6.333) Chemical Engineering Journal (IF: 5.310), and ACS Sustainable Chemistry & Engineering (IF: 5.267) etc.

Prof. Ki-Hyun Kim

Prof. Ki-Hyun Kim was at Florida State University for an M.S. (1984–1986) and at University of South Florida for a Ph.D. (1988–1992). He was a Research Associate at ORNL, USA (1992–1994). Then, he moved to Korea and joined at Sangji (1995–1998) and Sejong University (1999-2013). In 2014, he moved to Hanyang University. His research focuses on environmental analysis, air quality management, and material engineering. He was awarded a National Star Faculty of Korea in 2006. He has published more than 490 articles in SCI journals (H-index 51) and is serving as an editorial board member of journals (e.g., Environmental Research, Air Pollution Research, Sensors, and Scientific World). Prof. Ki-Hyun Kim has been working on the following R & D areas:

- Development and establishment of sensing methods for environmental pollutants (VOCs and heavy metals) along with the establishment of basic QA for those pollutants.
- Development and performance evaluation of diverse sorbent materials for thermal desorption of organic compounds.
- Sorptive removal and regeneration cycle in the treatment of environmental pollutants with metal organic frameworks (MOFs), carbon nanotubes (CNTs), and metal oxides.