

Candidates for Asia

Kosuke Hayashi is an associate professor at the Graduate School of Engineering, Kobe University, Japan, since 2012. He received Doctor of Engineering from Kobe University in 2007. He was formerly an assistant professor (2007-2008), then lecturer (2008-2009) at the Kobe City College of Technology, and assistant professor at Kobe University (2009-2012). His research interests include experiments and numerical simulations of bubbles and drops, and effects of surface-active agents on the bubble and drop dynamics, especially the drag and lift forces. He has published 120 peer-reviewed journal papers and devoted two chapters in Encyclopedia of Two-Phase Heat Transfer and Flow III, Macro and Micro Flow Boiling and Numerical Modeling Fundamentals (2018).



Hyun Sun Park, research professor, Seoul National University: I received my Ph.D. in 1995 at the University of Wisconsin-Madison, in the USA in the area of nuclear safety especially experimental investigation on the steam explosion in a large scale. After the degree, I moved to JAERI, currently, JAEA in Japan as a JAERI research fellow and had worked on the steam explosion phenomena in various contact modes using the ALPHA facility for three years. After JAERI I moved to the KTH Royal Institute of Technology in Sweden working on the mechanistic steam explosion phenomena in a single drop with synchronized simultaneous visualization techniques using X-ray and photography. After the Fukushima accident, I moved back to Korea and worked at the Division of Advanced Nuclear Engineering (DANE) in POSTECH focusing on severe accident research specifically studying in-vessel retention and corium pool convection and ex-vessel coolability, steam explosion, MCCI, mitigation measures as well as developing various analytical tools and methodology for risk-significant severe accidents assessment. In parallel, I worked on boiling and condensation in various micro/nano-structured surfaces with chemical characteristics of hydrophobicity and hydrophilicity, supercritical CO₂ power cycles and heat exchanger design, and thermally enhanced accident tolerant fuel cladding, etc. At present I work at the Nuclear Research Institute of Future Technology and Policy under the Department of Nuclear Engineering in Seoul National University, continuing research and education on nuclear safety and fundamental multiphase heat transfer and fluid flow. Especially, I am currently focusing on developing a computational platform for severe accident analysis for nuclear power plants as well as comprehensive boiling models to evaluate boiling performance on the nuclear fuel cladding with various operation periods turing into high-burnup cladding. Over 100 journal papers on nuclear safety, fundamental multiphase heat transfer and fluid flow and energy technologies including severe accidents in nuclear power plants, boiling and condensation on engineered surfaces and porous media, Brayton cycles with Supercritical SCO₂ and fuel cell.



Kazuyasu Sugiyama is a Professor at Graduate School of Engineering Science, Osaka University, Japan. He received a doctor degree (Engineering) in 2000 from School of Engineering, the University of Tokyo, Japan. He was a Researcher at National Maritime Research Institute, Japan (2001-2005), a Postdoc in Physics of Fluids group, University of Twente, the Netherlands (2005-2007), a Research Associate Professor at School of Engineering, the University of Tokyo (2008-2012), and a Unit Leader in Advanced Center for Computing and Communication, RIKEN, Japan (2012-2014). Since 2014, he has been working at Osaka University. He served as a plenary/keynote speaker at ICMF 2016, Int. Symp. of Cavitation and Multiphase Flow 2014 and so on, and a member of organizing committee of ICMF 2023 (as Scientific Secretary), 29th IAHR Symp and so on. His expertise includes fundamental motions of a bubble/particle, multiscale phenomena in bubbly flows, development of numerical methods for fluid-structure/membrane interaction, biomedical applications, and high-performance computing of moving boundary problems. He has published more than 90 articles in refereed journals and more than 160 articles in international conferences.



Bing Wang graduated from Department of Engineering Mechanics Tsinghua University in 2000 and received the doctorate degree there in 2005. Before joining School of Aerospace Engineering Tsinghua University as a lecture, he was an Av Humboldt Visiting Scholar at the TUM from 2006 to 2008. He is now a full-tenured professor of aerospace engineering and fluid mechanics, serving as the vice-dean of the school. His research interests include multiphase and reaction flow modeling, detonation propulsion, and artificial intelligence in aerospace science. He leads the Spray Combustion and Propulsion Lab at Tsinghua University and is currently serving on editorial boards of several top academic journals including Associate Editor of *Aerospace Science and Technology*, and *Chinese Journal of Aeronautics*, and so on. In 2022, he initiated a dedicated journal *Detonation and Propulsion*. As the conference chair, he organized the IWDP in Xi'an China, and the ICTFDC in New Zealand and Singapore. He has published more than 150 papers in refereed archival journals and more than 70 conference papers and is a co-inventor of 17 Chinese and international patents. He currently holds several national prizes on science and technology progress, and four golden awards at world-class international invention exhibitions. He is an Associate Fellow of the AIAA and the TUM Ambassador.



Zhaosheng Yu is currently a professor in the department of Mechanics at Zhejiang University. He received the B.S. and M.S. degrees from Zhejiang University, China, in 1996 and 1999, respectively, and the Ph.D. degree from the University of Sydney, Australia, in 2004 (under supervision of Professors Nhan Phan-Thien and Roger Tanner). He was a Postdoctoral research fellow at the University of Twente, Netherlands (working with Professor John F. Brady), and then in IFP, France, from 2003 to 2006. He has been working at Zhejiang University since 2006, and was promoted to associate and full professor in 2006 and 2012, respectively. He currently serves as head of the Fluid Engineering Institute at Zhejiang University and head of the multiphase flow professional group in Chinese Society of Theoretical and Applied Mechanics. He developed fictitious domain methods for the direct numerical simulations of particle-laden flows for various situations including non-Newtonian fluids, heat transfer, Dielectrophoresis, and elastic body. His current research interests include the mechanisms and modeling of the multiphase flows based on fully-resolved direct numerical simulations. He is in the editorial boards of *Applied Sciences* and *Journal of Hydrodynamics*. He has published more than 90 peer-reviewed papers with over 2800 Google scholar citations.

