



# Annual Symposium of International Academy of Medical and Biological Engineering

September 30, 2021 (US Eastern Time)

<https://cmu.zoom.us/j/94040875175?pwd=aGlZRGhHMW8yRlVjMVd0RVdXOXpjQT09>

- 08:50-09:00 **Welcome Remarks**  
Bin He, PhD, IAMBE  
Trustee Professor of Biomedical Engineering, Carnegie Mellon University  
Symposium Chair; 2018-2021 Chair, International Academy of Medical and Biological Engineering
- 09:00-10:30 **Session I: Medical Imaging and Health Engineering**  
Moderator: Zhi-Pei Liang, PhD, IAMBE  
Franklin W. Woeltje Professor of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign  
Chair-Elect, International Academy of Medical and Biological Engineering
- 09:00-09:30 **Keynote Talk: Using MRI to Assess Neurovascular Health and Disease**  
Peter Jezzard, PhD, IAMBE  
Herbert Dunhill Professor of Neuroimaging, University of Oxford  
Editor-in-Chief, Magnetic Resonance in Medicine
- 09:30-10:00 **Keynote Talk: Cardiovascular Health Engineering: Wearable SUPER-MINDS for Combating CVD and COVID**  
Yuan-Ting Zhang, PhD, IAMBE  
Chair Professor of Biomedical Engineering, City University of Hong Kong  
Chairman & Director of Hong Kong Center for Cerebro-cardiovascular Health Engineering  
Editor-in-Chief, IEEE Reviews in Biomedical Engineering
- 10:00-10:30 **Keynote Talk: Artificial Intelligence and the Future of Radiology**  
Daniel Ruchert, PhD, IAMBE, FEng  
Alexander von Humboldt Professor for Artificial Intelligence, Technical University of Munich  
Professor of Visual Information Processing, Imperial College London
- 10:30-11:30 **IAMBE General Assembly and New Fellow Induction Ceremony**  
(IAMBE Fellows only by separate Zoom meeting)
- 11:30-12:30 Lunch Break
- 12:30-13:30 **Session II: Biomaterials and Tissue Engineering**  
Moderator: Tejal Desai, PhD, IAMBE  
Ernest L. Prien Professor and Chair Department of Bioengineering, University of California at San Francisco  
President, American Institute of Medical and Biological Engineering
- 12:30-13:00 **Keynote Talk: Addressing Key Biological Barriers for Delivering mRNA, siRNA and Antitumor Chemotherapeutic Agents in Health Disparities Populations**  
Nicholas Peppas, PhD, IAMBE, NAE, NAM  
Cockrell Family Regents Chair in Engineering, Professor of Biomedical Engineering and Chemical Engineering  
Director, Institute for Biomaterials, Drug Delivery and Regenerative Medicine  
University of Texas at Austin
- 13:00-13:30 **Keynote Talk: Cell-Material Interactions and Women's Health**  
Joyce Wong, PhD, IAMBE  
Professor of Biomedical Engineering, Boston University  
President-Elect, American Institute of Medical and Biological Engineering
- 13:30-14:30 **Session III: Neural Engineering**  
Moderator: Bin He, PhD, IAMBE  
Trustee Professor of Biomedical Engineering, Carnegie Mellon University  
2018-2021 Chair, International Academy of Medical and Biological Engineering
- 13:30-14:00 **Keynote Talk: Signal Processing Challenges in Inferring Brain States**  
Emery Brown, PhD, IAMBE, NAE, NAM, NAS  
Edward Hood Taplin Professor of Medical Engineering and of Computational Neuroscience, MIT

Warren M. Zapol Professor of Anaesthesia, Harvard Medical School  
Director, Harvard-MIT Health Sciences and Technology Program, MIT

- 14:00-14:30 ***Keynote Talk: Modeling Brain Dynamics: Where are we now?***  
Jose Principe, PhD, IAMBE  
Distinguished Professor of Electrical and Computer Engineering, University of Florida
- 14:30-15:30 ***Session IV: Emerging Frontiers in Biomedical Engineering***  
Moderator: Nitish Thakor, PhD, IAMBE  
Professor of Biomedical Engineering, Johns Hopkins University  
Vice President-Elect, IEEE Engineering in Medicine and Biology Society
- 14:30-15:00 ***Keynote Talk: Engineering the Artificial Pancreas***  
Frank Doyle, PhD, IAMBE, NAE, NAM  
John A. Paulson Dean of Engineering and Applied Sciences, Harvard University
- 15:00-15:30 ***Keynote Talk: Microbiomedical Implants for Blindness-causing Eye Diseases***  
Yu-Chong Tai, PhD, IAMBE, NAE  
Anna L. Rosen Professor of Electrical Engineering and Medical Engineering  
Executive Officer, Department of Medical Engineering  
California Institute of Technology
- 15:30-15:45 Coffee Break
- 15:45-16:45 ***Session V: AI and Biomedical Computation***  
Moderator: Metin Akay, PhD, IAMBE  
John S Dunn Endowed Chair Professor and Chair of Department of Biomedical Engineering, University of Houston  
2021-2024 Chair, International Academy of Medical and Biological Engineering  
President, IEEE Engineering in Medicine and Biology Society
- 15:45-16:15 ***Keynote Talk: AI-Enabled Personalized Computational Cardiology***  
Natalia Trayanova, PhD, IAMBE  
Murray B. Sachs Professor of Biomedical Engineering and Medicine  
Director, Alliance for Cardiovascular Diagnostic and Treatment innovation (ADVANCE)  
Johns Hopkins University
- 16:15-16:45 ***Keynote Talk: Integrating BHI and AI for Combating Pandemics***  
May Wang, PhD, IAMBE  
Professor of Biomedical Engineering and Georgia Cancer Coalition Distinguished Cancer Scholar  
Georgia Institute of Technology
- 16:45-17:00 ***Concluding Remarks***  
Metin Akay, PhD, IAMBE  
John S Dunn Endowed Chair Professor and Chair of Department of Biomedical Engineering, University of Houston  
2021-2024 Chair, International Academy of Medical and Biological Engineering  
President, IEEE Engineering in Medicine and Biology Society

Note: Program Update will be posted at <http://www.iambe-ifmbe.org/News.html>