

# **Gilbert W. Beebe Symposium on AI and ML Applications in Radiation Therapy, Medical Diagnostics, and Radiation Occupational Health and Safety**

## **Committee**

### **Leo Chiang**

#### **Co-Chair**

Leo Chiang (Co-Chair) is a Senior R&D Digital Fellow at Dow Core R&D. He has a broad research interest in emerging AI and data science approaches and his ambition is to guide the industry to achieve AI at scale. Chiang is a trustee of Computer Aids for Chemical Engineering (CACHE), the industry co-chair for the 2025 Dynamics and Control of Process Systems (DYCOPS) conference, and the program chair for the 2026 Foundations of Process/Product Analytics and Machine learning (FOPAM) meeting. He is a Fellow of the American Institute of Chemical Engineers (AIChE) and has received many recognitions including the 2016 Herbert Epstein Award, 2016 Computing Practice Award, and American Automatic Control Council 2020 Control Engineering Practice Award. He was elected to the National Academy of Engineering (NAE) in 2023. Chiang received a B.S. in chemical engineering from the University of Wisconsin-Madison and an M.S. and Ph.D. in chemical engineering from the University of Illinois Urbana-Champaign. He currently serves as a member of the National Academies' Board on Chemical Sciences and Technology (BCST).

## **Shaheen A. Dewji**

### **Co-Chair**

Shaheen A. Dewji (Co-Chair) is an Assistant Professor in the Nuclear and Radiological Engineering and Medical Physics Programs in the George W. Woodruff School of Mechanical Engineering at the Georgia Institute of Technology. Prior to her current position, she was a faculty member in the Department of Nuclear Engineering at Texas A&M University and a Faculty Fellow of the Center for Nuclear Security Science and Policy Initiatives. In her preceding role at Oak Ridge National Laboratory, Dewji was Radiological Scientist in the Center for Radiation Protection Knowledge. Her recent research has included assessment of patient release criteria for nuclear medicine patients, as well as development of dose coefficients associated with the external exposure and internal uptake of radionuclides due to environmental or nuclear security exposures. She was recently appointed to serve on the National Council on Radiation Protection and Measurements (NCRP) PAC-6 and the International Commission on Radiological Protection (ICRP) Task Group 127 and Working Party on AI and Radiation Protection, both under Committee 4. Dewji received a B.S. in physics from the University of British Columbia and an M.S. and Ph.D. in nuclear and radiological engineering from the Georgia Institute of Technology. She is an alumna of the Sam Nunn Security Program. She currently serves as a member of the National Academies' Nuclear and Radiation Studies Board (NRSB).

## **Caroline Chung**

### **Member**

Caroline Chung is vice president and Chief Data Officer and is an associate professor in Radiation Oncology and Diagnostic Imaging at the University of Texas MD Anderson Cancer Center. Her clinical practice is focused on central nervous system malignancies and her computational imaging lab has a research focus on quantitative imaging and computational modeling to detect and characterize tumors and toxicities of treatment to enable personalized cancer treatment. Chung is actively involved in multidisciplinary efforts to improve the generation and utilization of high quality, standardized imaging to facilitate quantitative imaging integration for clinical impact across multiple institutions, including Vice Chair of the Quantitative Imaging Biomarker Alliance (QIBA) and Co-Chair of the Quantitative Imaging for Assessment of Response in Oncology Committee of the International Commission on Radiation Units and Measurements (ICRU). She is also actively involved in efforts to ensure responsible implementation of technology, including AI, in healthcare with roles including Co-Chair of the American Society of Clinical Oncology (ASCO) AI Community of Practice as well as member of the new NIH Advisory Committee to the Director (ACD) Working Group (WG) on Artificial Intelligence (AI) and National Academies of Sciences, Engineering, and Medicine (NAEM)-appointed committee addressing Foundational Research Gaps and Future Directions for Digital Twins. Beyond her clinical, research, and administrative roles, Dr. Chung enjoys serving as an active educator and mentor with a passion to support the growth of diversity, equity and inclusion in STEM, including her role as Chair of Women in Cancer. Chung received an M.Sc. in medical science from the University of Toronto and an M.D. from the University of British Columbia. She is a Fellow of the Royal College of Physicians and Surgeons of Canada.

## Sylvain Costes

### Member

Sylvain V. Costes is the Data Officer for the Biological and Physical Sciences Division at NASA Headquarters, under the Science Mission Directorate. He previously served for nearly eight years as the Project Manager for NASA's Open Science Data Repository (OSDR.nasa.gov), overseeing the development and management of genetic, epigenetic, proteomic, and physiological data integration. Costes is an expert in radiation biology, co-leading the Radiation Biophysics Laboratory at NASA. He also co-leads the AI for Life in Space (AI4LS) group, leveraging AI and machine learning methodologies to interpret complex space biology datasets. He has received numerous honors, including the NASA Exceptional Scientific Achievement Medal and the NASA Human Research Program Significant Contributor Award. Costes received a Ph.D. in nuclear engineering, specializing in radiation biology and computational modeling, from the University of California, Berkeley.

## Anyi Li

### Member

Anyi Li is the Associate Attending Physicist and Chief of Computer Service at the Department of Medical Physics at Memorial Sloan Kettering Cancer Center where he leads a team comprising mathematicians, physicists, engineers, and data scientists. Together, they collaborate with the Division of Clinical Physics and the Department of Radiation Oncology to harness artificial intelligence, operational research algorithms, and big data. Their objective is to optimize radiation therapy plans, enhance the efficiency of the radiation treatment process from start to finish, develop a data platform for clinical decision support, and improve patient safety by managing accumulated radiation doses. They utilize the latest language models to analyze clinical event timelines and construct workflow knowledge graphs, which improve the radiation therapy workflow and provide valuable insights to the clinical team. With a background as a theoretical nuclear physicist and research scientist tackling NP-hard (nondeterministic polynomial time) problems, Li transitioned into big data engineering and AI, bringing experience from positions at Yahoo and IBM Watson Health. He received a Ph.D. in theoretical nuclear physics from the University of Kentucky.

## Ceferino Obcemea

### Member

Ceferino Obcemea is the Program Director in Medical Physics at the National Cancer Institute (NCI). He oversees a portfolio of grants that includes all aspects of clinical physics in radiation oncology, novel medical devices, new treatment modalities such as ion beam therapy, on-line imaging techniques, AI applications in radiotherapy, big data analytics, and machine learning. He also serves as the NCI medical physics liaison to various clinical trial groups comprising the National Clinical Trials Network, the trans-NCI AI/Machine Learning working group as well as a member of the National Institutes of Health Quantum Information science working group. Prior to NCI, he had many years of experience as chief physicist at Memorial Sloan Kettering Cancer Center, Beth Israel Medical Center, and Georgetown University. He received various research fellowships from the Swedish Institute (Stockholm), Niels Bohr Institute (Copenhagen), International Center for Theoretical Physics, ICTP (Trieste) and the Quantum Theory Project (QTP) at the University of Florida, Gainesville among others. Dr. Obcemea received a Ph.D. in physics from Uppsala University, Sweden and completed his clinical training at Harvard Medical School. He is board-certified by the American Board of Radiology.