**Wallace H. Coulter Award for Healthcare Innovation Award Winner**

**Dr. Jian Yang**

Chair Professor in Biomaterials and Regenerative Engineering

Westlake University

**Title**: Translational Citrate Biomaterials in Regenerative Engineering

**Abstract**: Citric acid, historically known as an intermediate in the Krebs cycle, is a multifunctional, nontoxic, readily available, and inexpensive cornerstone chemical used in the design of citrate-based biomaterials. Leveraging the multifunctional nature of citrates in chemistry and inspired by its important biological roles in human, a class of highly versatile and functional citrate-based biomaterials and small molecules has been developed. In this talk, I will discuss the emerging frontiers of citrate-based biomaterials including the citrate chemistry for new biomaterial design, citrate biology in regulating cell metabolism, immune response, and stem cell metabonegenic regulation and their applications in regenerative engineering applications. I will also introduce the technology translation of citrate biomaterials and outlook their future developments.

**Bio**: Dr. Jian Yang is currently a Chair Professor in Biomaterials and Regenerative Engineering, the chair of Biomedical Engineering Program, and an Associate Vice President at the Westlake University. Prior to Westlake, he was a Professor of Biomedical Engineering and Dorothy Foehr Huck and J. Lloyd Huck Chair in Regenerative Engineering at the Pennsylvania State University. Dr. Yang is known for his pioneering contribution on citrate chemistry and biology for the development and applications of citrate-based biomaterials. He was a recipient of NSF CAREER Award (2010), Outstanding Young Engineering Faculty Award at UTA (2011), and PSEAS Outstanding Research Award at Penn State (2018). Dr. Yang is an elected Fellow of American Institute of Medical and Biological Engineering (AIMBE, 2016), the National Academy of Inventors (NAI, 2018), the Biomedical Engineering Society (BMES, 2020), the American Association for the Advancement of Science (AAAS, 2021), and the International Academy of Medical and Biological Engineering (IAMBE, 2023). Dr. Yang is the Co-Editor-in-Chief of “Bioactive Materials”, and an Associate Editor of “Science Advances”. Dr. Yang is a co-founder and the Past-President of Chinese Association for Biomaterials (CAB) and the recipient of 2023 CAB Distinguished Leadership and Service Award. Dr. Yang co-founded a medical device company, Aleo BME, Inc. and is also serving on the Scientific Advisory Board of Acuitive Technologies, LLC.