

# International Conference on Future Breakthrough of Research at Biogem



## 26th February 2024

14:30 Welcome address: Ortensio Zecchino  
*President Biogem*

14:35 Introduction Giovambattista Capasso  
*Scientific Director Biogem*

14:40 **Targeting cholesterol efflux: from target identification to phase II trials**  
Introduction: Michele Caraglia  
Speaker: Alessia Fornoni  
*Director and Chair, The Peggy and Harold Katz Family Drug Discovery Institute, Miami, USA*

15:20 Micro- and long-noncoding RNAs in Diabetic Kidney Disease  
Introduction: Lucia Altucci  
Speaker: Farhad Danesh  
*Professor, Division of Internal Medicine, The University of Texas MD Anderson Cancer Center, Houston, TX, USA*

16:00 Single cell and spatial genomics to dissect mechanisms of kidney and cardiovascular diseases  
Introduction: Francesco Trepiccione  
Speaker: Rafael Kramann  
*Professor, RWTH Aachen University, Germany & Erasmus MC, Rotterdam, NL*

16:40 Concluding remarks Giovambattista Capasso  
*Scientific Director Biogem*

# Biography



**Alessia Fornoni**

**Director and Chair, Peggy and Harold Katz Drug Discovery Center, Miami, USA**

Dr. Fornoni is a Professor of Medicine, Molecular and Cellular Pharmacology, and Biochemistry at the University of Miami Miller School of Medicine. She is the Director and Chair of the Peggy and Harold Katz Drug Discovery Center. Dr. Fornoni gained experience in drug development at Hoffman-La Roche in Basel, and she is the funding scientist of several start-up companies. Her research is supported by grants from the NIH, industry, and private foundations. She has received prestigious awards; among them, she is a member of the American Society of Clinical Investigation (ASCI, 2017), the Association of American Physicians (AAP, 2021), and the Florida Academy of Science, Engineering, and Medicine (ASEMFL, 2023). She is the incoming Deputy Editor of the Journal of the American Society of Nephrology and the Scientific Chair of the 2024 World Congress of Nephrology. Recipient of multiple mentorship awards, her trainees occupy leadership roles in multiple academic institutions around the globe. Her role as Co-Director of the MDPHD MSTP program, the CTSI K12 program, and the Director of an NIH-funded summer school of Nephrology strongly reflects her interest and passion in mentoring students and junior faculty toward a successful academic career. Through her pioneering work on insulin signaling, cholesterol metabolism, and sphingolipid-related pathways, Dr. Fornoni uncovered novel pathogenetic mechanisms and therapeutic approaches for glomerular disorders that have successfully translated into ongoing clinical trials.



# Biography



**Farhad Danesh**

**Professor, Division of Internal Medicine, The University of Texas MD Anderson Cancer Center, Houston, USA**

Farhad Danesh is a Physician-Scientist and a Tenured Professor of Medicine at the University of Texas at MD Anderson Cancer Center (MDACC). He is the Chief of Nephrology Section at MDACC and serve as a member of the Department of Biochemistry and Molecular Pharmacology at Baylor College of Medicine (BCM). As a molecular nephrologist with training in clinical nephrology and cell biology, the primary interest of his research group is to delineate the molecular mechanisms through which diabetic nephropathy progresses, and to identify and characterize novel molecular targets that could potentially prevent progression of diabetic kidney disease. They utilize animal models of diabetes to accomplish these ambitious goals. Along these lines, they aim to examine the novel regulatory factors that lead to the development and/or progression of diabetic nephropathy. They are currently testing two broad objectives. The first is to gain insight into the pathobiology of mitochondria in the kidneys. Importantly, we want to understand the biological functions of mitochondrial dynamics and how disrupting the functions of mitochondria contribute to the pathogenesis of diabetic kidney disease. His group discovered that mitochondrial dynamics is a major molecular mechanism implicated in glucose-mediated microvascular organ damage (Wang W et al. *Cell Met.* 2012, 15:186-200, and J Clin Invest 2019, 129:2807-2823). This has created a paradigm shift in the field. The second is to understand the regulatory effects of non-coding RNAs in microvascular complications of diabetes. His laboratory has been on the forefront of identifying multiple miRNAs/lncRNAs and their downstream effectors in the kidney. They have recently published novel observations on the potential effects of miRNAs in diabetic nephropathy (Badal SS et al. *Nat Commun* 2016, 28:12076, and Long J. et al. *J Clin Invest* 2016, 126:4205). These collective efforts have significantly accelerated the process of assessing the role of miRNAs in the pathobiology of diabetic nephropathy. Collectively, his research paradigm uses a combined approach of molecular genetics, genomics and epigenomics to understand the underlying pathological and molecular basis of diabetic nephropathy.



# Biography



**Rafael Kramann**

**Professor, RWTH Aachen University, Germany & Erasmus MC, Rotterdam, NL**

Rafael Kramann is Professor of Medicine and Chairman of the Department of Medicine 2 (Nephrology, Rheumatology, Immunology and Hypertension) he is further founding Director of the Center of Phase Transition in Chronic Disease at RWTH Aachen, Germany. He further directs the Laboratory of Translational Kidney and Cardiovascular Research at the Erasmus Medical Center Rotterdam, NL. He received his MD in cardiology at RWTH Aachen University in 2007, a PhD in internal medicine at Erasmus MC, Rotterdam and postdoctoral training at Brigham and Women's Hospital, Harvard Medical School, Boston MA.

His basic and translational research focuses on understanding chronic kidney disease, cardiovascular diseases and organ fibrosis ([www.kramannlab.com](http://www.kramannlab.com)). He integrates state of the art genetic fate tracing, gene editing, single cell, multi-omics and systems biology technologies together with clinical datasets and advanced ex vivo disease modeling technologies to unravel mechanisms, identify novel therapeutic targets and develop targeted therapeutics for patients with chronic kidney disease, heart failure and organ fibrosis. To translate his research towards patient benefit Dr. Kramann has founded two biotech companies. MatriTarg laboratories founded in 2013 won the Harvard Innovation Lab Dean's Health and Lifescience Challenge in the same year. The technology behind the company was later licensed to Roche/Chugai/Genentech. Sequantrix GmbH ([www.sequantrix.bio](http://www.sequantrix.bio)) founded in 2023 is a seed stage company developing novel therapeutics for kidney and bone marrow fibrosis using artificial intelligence and large single cell and spatial genomic datasets as well as organoid screening platforms.

Dr. Kramann has authored more than 200 primary research articles, book chapters and review articles and is recipient of various prestigious awards. Dr. Kramann is coordinator of various national and international research consortia and PI at the British Heart Foundation Center of Excellence at the University of Edinburgh, UK where he holds an honorary Professorship.

