

# 2024 GU XIAOCHENG LECTURE

## 顾孝诚讲座

The 2024 GU XIAOCHENG LECTURE is awarded to Dr. Du Feng, Professor, School of Basic Medical Sciences, Guangzhou Medical University.

The Gu Xiaocheng Lecture Award was established by the Gu Xiaocheng Memorial Fund in 2012. This lectureship honors young investigators who show promise of becoming future leaders in life science research, particularly those based in China.



Dr. Du Feng received the bachelor's degree from Hunan Normal University in 2005 and the PhD degree from Tsinghua University in 2010. He completed his postdoctoral training in Professor Malcolm Whitman's lab at Harvard Medical School from 2015 to 2017. In 2017, Dr. Feng was appointed Professor by Guangzhou Medical University.

Dr. Feng's research achievements in mitochondrial biology were highly praised by all professors who supported him as the recipient of Gu Xiaocheng Lecture award, in the spirit of recognizing uprising scientists. His identification of the novel mitophagy receptor FUNDC1 and its regulatory mechanisms was a significant milestone that shed new light on the selective degradation of damaged mitochondria. This work laid the foundation for his later discoveries that have reshaped our understanding of mitochondrial DNA (mtDNA) dynamics in health and disease. In his recent tour de force, Dr. Du Feng and his team unveiled the intricate mechanisms governing mtDNA release and clearance during mitochondrial dysfunction. His discovery of the PHB1-mediated gatekeeper function in preventing mtDNA release under physiological conditions, and its degradation-induced mtDNA release during oxidative stress, is a testament to his scientific acumen and perseverance. More significantly, the most striking aspect of Dr. Feng's work is his identification of the TFAM-mediated mtDNA degradation pathway, which he aptly termed "nucleoid autophagy." This landmark discovery provides not only a new framework for understanding mtDNA quality control, but also opening of exciting avenues for exploring the role of mtDNA in inflammation and disease.

The implications of Dr. Du Feng's research work are far-reaching, both in academia and medicine. By elucidating the molecular mechanisms governing mtDNA release and clearance, his work paved the way for delineating the pathogenesis of inflammatory diseases, which could guide development of novel therapeutic interventions for a wide range of devastating diseases, from sepsis and autoimmune disorders to age-related diseases.

Dr. Du Feng is dubbed by a recommender as a rising star who will continue to shape the field of mitochondrial biology for years to come and inspire a new generation of scientists to push the boundaries of what we know about mitochondria and their role in health and disease.