

2025 GU XIAOCHENG LECTURE

顾孝诚讲座

The 2025 GU XIAOCHENG LECTURE is awarded to Dr. Huan Yan, Professor and Chair, Department of Virology, College of Life Sciences; Member, State Key Laboratory of Virology and Biosafety, and Principle Investigator, TaiKang Center for Life and Medical Sciences, Wuhan 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. Huan Yan received his bachelor's degree in Biological Sciences and Clinical Medicine from Wuhan University in 2008 and the PhD degree from Peking University/(National Institute of Biological Sciences) in 2013. He did postdoctoral training in National Institute of Biological Sciences from 2013 to 2016, and worked in another postdoctoral position in University of Southern California from 2016 to 2019. In 2019, Dr. Yan accepted a Professor position in Wuhan University. He is a Ray Wu Prize recipient in 2013.

As a PhD student, Dr. Yan's research journey began with a landmark discovery of the HBV receptor NTCP, which facilitated the establishment of infection models and development of therapeutics.

In recent years, Dr. Yan has made significant contributions to coronavirus research. His work on the interaction between SARS-related coronavirus and ACE2 orthologs across species uncovered three distinct evolutionary strategies for host adaptation, insights that are now central to cross-species transmission risk assessment and pandemic preparedness. Even more remarkably, Dr. Yan's group redefined our understanding of receptor usage in MERS-related coronaviruses by discovering multiple novel ACE2 recognition modes among bat merbecoviruses. These discoveries challenged the previous dogma that DPP4 was the exclusive receptor for these viruses, establishing ACE2 usage as a recurrent and convergently evolved trait. These studies provide a detailed molecular framework for viral surveillance and have broad translational implications as well. Additionally, Dr. Yan has pioneered the groundbreaking concept of "customized viral receptors". This novel approach enables design of functional receptors to establish infection models independent of native receptor constraints, creating a powerful new platform for studying virus entry mechanisms and therapeutic intervention, especially for viruses with unknown natural receptors.

Dr. Yan has emerged as one of the most innovative and impactful young scientists in his field. He exemplifies the scientific spirit shared by Professors Gu Xiaocheng and Ray Wu: innovation, independent thinking, and dedication. He has not only fulfilled this promise but is also poised to rise as a future leader in life science research.

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The 2025 GU XIAOCHENG LECTURE is awarded to Dr. Peilong Lu, Associate Professor, School of Life Sciences, Westlake University.

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Dr. Peilong Lu received his bachelor's degree in Biological Science, University of Science and Technology of China in 2009 and the PhD degree in Biochemistry & Structural Biology, Tsinghua University in 2014. He did postdoctoral research at University of Washington from 2015 to 2019: Focused on computational protein design, especially computational design of transmembrane proteins and small protein/peptide binders to proteins, with Prof. David Baker as mentor. He was recruited as an assistant professor by Westlake University in 2019.

As a rising star in the field of computational protein design and synthetic biology, Dr. Peilong Lu has made outstanding contributions to life science research through his innovative work, leadership in education and training, and active engagement in academic service.

His laboratory has produced several breakthroughs, including the design of transmembrane proteins capable of activating fluorescence and voltage-gated anion channels—advancements that have opened new avenues in membrane protein design, neuroscience, and synthetic biology. His team's development of mirror-image protein inhibitors also holds great promise for therapeutic applications, such as targeted drug development and disease diagnostics.

In addition to his scientific accomplishments, Dr. Lu has shown a strong commitment to education and academic service. His mentees, including PhD students and postdoctoral fellows, have received prestigious honors, such as the Postdoctoral Innovation Talent Support Program and the Youth Program for Graduates of the National Natural Science Foundation of China (NSFC), underscoring his dedication to nurturing the next-generation scientists. He currently serves as the vice secretary general of the Chinese Protein Society and has played a pivotal role in organizing its symposia in 2023 and 2025, which are among the leading international conferences in China.

Dr. Peilong Lu is a deserving recipient of the 2025 Gu Xiaocheng Lecture Award. His scientific achievements, leadership, and unwavering commitment to education and service make him an outstanding leader in the life science community.