

HEINRICH WIELAND PRIZE



SYMPOSIUM SPEAKER 2026 | PROFILE

Professor Hiroaki Suga, PhD
The University of Tokyo, Japan

Hiroaki Suga has pioneered the development of RNA-based catalysts and genetic code reprogramming technologies that have transformed the discovery of bioactive peptides. He invented the Flexizyme, an artificial ribozyme that enables the efficient aminoacylation of tRNAs with a wide range of non-proteinogenic amino acids, including N-methyl and D-amino acids. By combining Flexizyme-based genetic code reprogramming with reconstituted *in vitro* translation systems, he established a platform for the ribosomal synthesis of macrocyclic nonstandard peptides of exceptional chemical diversity. Building on these foundations, he developed the RaPID (Random nonstandard Peptide Integrated Discovery) system, which enables the rapid screening of libraries of over a trillion macrocyclic peptides against virtually any protein target, including many previously considered undruggable. RaPID is now a widely adopted tool in drug discovery worldwide.

Hiroaki Suga studied Engineering at Okayama University, Japan. He obtained his PhD in Chemistry from the Massachusetts Institute of Technology in Cambridge in 1994. After postdoctoral research at Massachusetts General Hospital and Harvard Medical School, he became assistant professor at the State University of New York at Buffalo in 1997. In 2003, he moved to the University of Tokyo where he has been Full Professor in the Department of Chemistry since 2010. He has received numerous honours, including the Wolf Prize in Chemistry, the Japan Academy Award, and the Research Award of the Alexander von Humboldt Foundation. Hiroaki Suga is co-founder of PeptiDream to advance and apply the RaPID system, one of Japan's most successful startup companies.