

## 2026 HEINRICH WIELAND LAUREATE | PROFILE

### Professor Jason W. Chin, PhD

*Generative Biology Institute, Ellison Institute of Technology  
Oxford, United Kingdom*



### JASON W. CHIN: ENGINEERING BIOLOGY BEYOND NATURE'S BLUEPRINT

At the intersection of chemistry and biology, Jason W. Chin has spent his career pursuing a radical idea: that the genetic code — the near-universal set of rules by which all known life translates DNA into protein — can be deliberately and systematically rewritten. The result is a new platform for creating proteins, polymers, and molecular architectures that neither chemistry nor nature alone can produce.

Jason Chin read Chemistry at the University of Oxford before moving to Yale University as a Fulbright awardee, where he completed his PhD in 2001. He then joined The Scripps Research Institute in La Jolla as a Damon Runyon Fellow before becoming Programme Leader at the MRC Laboratory of Molecular Biology (LMB) in Cambridge in 2003. He was appointed Head of the Centre for Chemical and Synthetic Biology at MRC-LMB in 2010, and Professor of Chemistry and Chemical Biology at the University of Cambridge in 2012. In 2025, he became the Founding Director of the Generative Biology Institute at the Ellison Institute of Technology Oxford, and Professor of Chemistry and Chemical Biology at the University of Oxford, where he is also a Fellow of Magdalen College.

His most recognised achievement is the development of a comprehensive strategy for genetic code expansion. It is now the most widely used approach worldwide for biosynthesising non-natural proteins and polymers. By creating synthetic bacterial genomes with compressed genetic codes and engineering orthogonal translation machinery to read the freed-up codons, he enabled cells to incorporate non-canonical amino acids and build entirely new classes of molecules. He extended these methods to mammalian cells in culture and living organisms, and applied them to control protein activity with light, image proteins in living cells, and probe the consequences of post-translational modifications.

In 2022, he founded Constructive Bio, a company focused on the scalable discovery and manufacture of therapeutics and materials using his approaches.

His work has been recognised with numerous honours, including the Francis Crick Prize from the Royal Society, the EMBO Gold Medal, the inaugural Louis-Jeantet Young Investigator Career Award, and the Sackler International Prize in the Physical Sciences. He holds an honorary doctorate from ETH Zurich, has been inducted into the European Patent Office Inventor Hall of Fame, and is a Fellow of the Royal Society and the Academy of Medical Sciences, as well as a Member of EMBO.

"There is something deeply exciting about asking whether the rules we thought were fixed can actually be changed," he has said of his work. "The genetic code looked universal and immutable — and yet it turns out to be a starting point, not a ceiling."