

Dr. Huimin Zhao is the Steven L. Miller Chair of chemical and biomolecular engineering, and professor of chemistry, biochemistry, biophysics, and bioengineering at the University of Illinois at Urbana-Champaign (UIUC). He received his B.S. degree in Biology from the University of Science and Technology of China in 1992 and his Ph.D. degree in Chemistry from the California Institute of Technology in 1998 under the guidance of Nobel Laureate Frances Arnold. Prior to joining UIUC in 2000, he was a project leader at the Industrial Biotechnology Laboratory of the Dow Chemical Company. He was promoted to full professor in 2008. Dr. Zhao has authored and co-authored over 300 research articles and over 25 issued and pending patent applications with several being licensed by industry. In addition, he has given plenary, keynote or invited lectures in over 370 international meetings, universities, industries, and research institutes. Twenty-six (26) of his former graduate students and postdocs became professors or principal investigators in the United States (10), China (11), Korea (2), Singapore (2), and Egypt (1).



Dr. Zhao has made profound contributions to enzyme engineering. He pioneered the development of many directed evolution methods for engineering enzymes for industrial applications. For example, he invented the staggered extension process (StEP) *in vitro* recombination method which was licensed by Maxygen and used by many academic laboratories around the world. He also invented the targeted site saturation mutagenesis method which has been widely used for engineering enzyme specificity and selectivity (enantio-, regio-, and chemo-). Moreover, the *in vitro* co-evolution method he invented was adopted by Merck and Codexis to create a transaminase mutant with novel substrate specificity for commercial synthesis of the blockbuster anti-diabetes drug sitagliptin. By using directed evolution, he developed a novel phosphite dehydrogenase based enzymatic system to regenerate cofactors NAD(P)H, which made many oxidoreductases useful for preparative synthetic applications. Notably, five of his publications (he was the first author on four of them) were cited in the scientific background document prepared by the Nobel Prize committee for the 2018 Nobel Prize in Chemistry. In recent years, Dr. Zhao pioneered the development of directed evolution methods for engineering biochemical pathways and whole genomes, and has made foundational contributions to multiple research areas including synthetic biology, metabolic engineering, and natural product discovery.

Dr. Zhao received numerous awards such as Marvin Johnson Award (2018), Biotechnology Progress Award for Excellence in Biological Engineering Publication (2017), Charles Thom Award (2016), Elmer Gaden Award (2014), Guggenheim Fellowship (2012), the American Chemical Society (ACS) Division of Biochemical Technology Young Investigator Award (2008), DuPont Young Professor Award (2005), and National Science Foundation CAREER Award (2004). He is an elected Fellow of the Association for the Advancement of Science and the American Institute of Medical and Biological Engineers. He served as a consultant for over 10 companies and a Scientific Advisory Board member of Gevo, Myriant Technologies, Toulouse White Biotechnology, and AgriMetis.