



Rama Ranganathan, MD, PhD

University of Chicago

Department of Biochemistry and Molecular Biology,
Pritzker School of Molecular Engineering, Center for Physics of Evolving Systems

AREA(S) OF FOCUS:

Investigating the principles of evolution to better understand protein function

The Ranganathan lab focuses on elucidating the constraint patterns and underlying physics that govern protein synthesis to discover ways to enhance function.

KEY RESEARCH AREAS:

Statistics and protein evolution

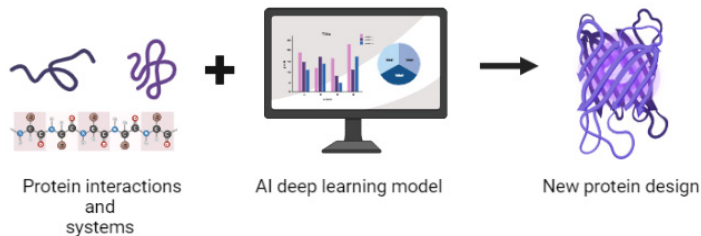
Use data and statistics to determine amino acid patterns and impact on protein folding, function, and evolution.

Physical Mechanism of proteins

Use atomic resolution techniques to observe protein dynamics and understand biological properties.

Evolution of proteins

Probe the impact of environmental fluctuations on the evolution of protein design and function.



ENTREPRENEURIAL SUCCESS:



Evozyne is a molecular engineering company using an evolution-based approach to design novel proteins for therapeutics and ecologic applications.

By utilizing principles of evolution, Evozyne produces adaptive proteins that closely follow natural environments and principles.

Products in development include:

- Optimized transgenes for gene therapies
- Redesigned gene editing tools, such as nucleases
- Antibodies that outpace evolutionary resistance
- Enzymes to capture CO2
- Ultra-high -density batteries

Raised over \$54M in venture funding (2021).