



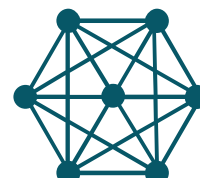
# Rosetta Commons



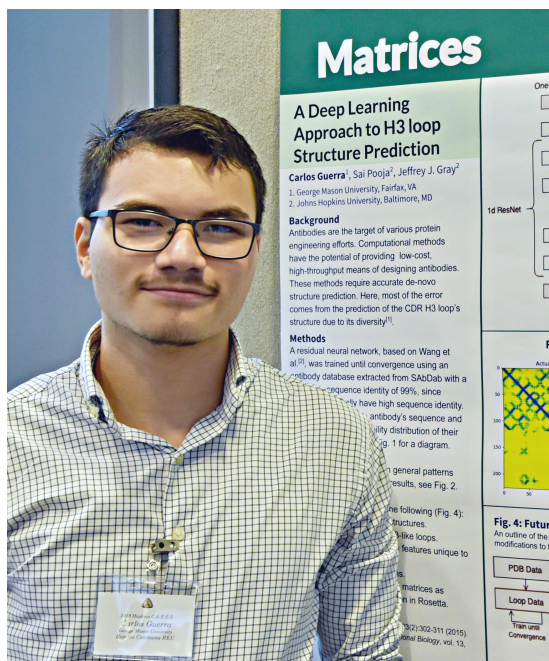
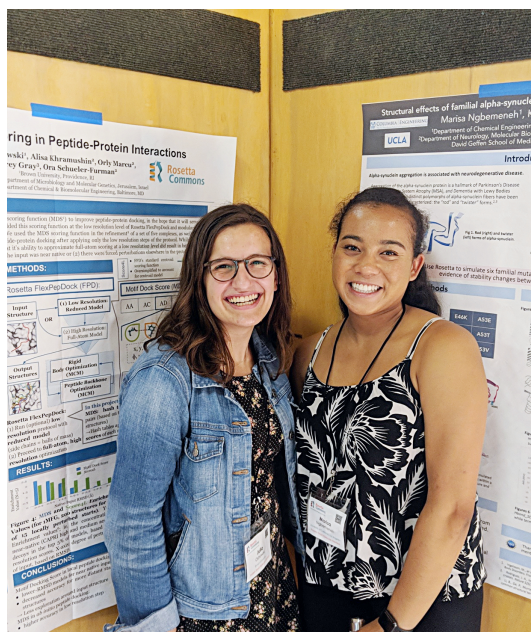
## RESEARCH EXPERIENCE FOR UNDERGRADUATES

**A Cyberlinked Program in Computational Biomolecular Structure & Design**

Interns in this geographically-distributed REU program participate in research using the Rosetta Commons software. The Rosetta Commons software suite includes algorithms for computational modeling and analysis of protein structures. It has enabled notable scientific advances in computational biology.



- + Learn the inner details of PyRosetta and the community coding environment
- + Perform research in a molecular modeling and design laboratory, developing new algorithms and discovering new science
- + Receive mentoring from faculty and graduate students



**The Program:**

- \* One week of Rosetta Code School
- \* Eight weeks of hands-on research
- \* One week at the Rosetta Conference to close the summer.
- \* NSF covers housing, travel expenses, and a stipend.

Apply at [rosettacommons.org/about/intern](http://rosettacommons.org/about/intern)  
Questions? Email Camille Mathis at [cmathis@jhu.edu](mailto:cmathis@jhu.edu)

\* The program will be offered virtually in the event of a resurgence of COVID-19

# ROSETTA COMMONS SUMMER 2021 INTERNSHIPS

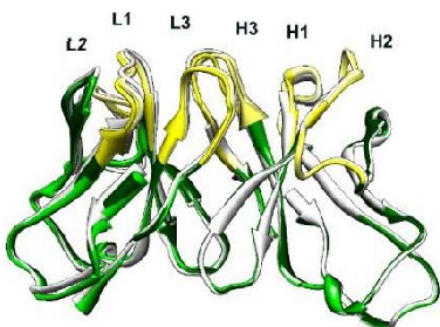


The Rosetta software has made scientific advances in computational biology, including:

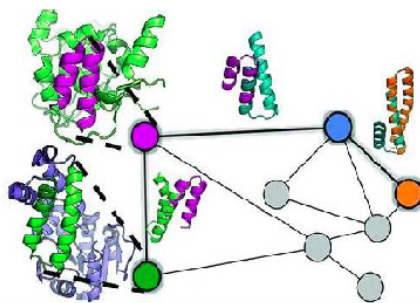
- de novo protein design
- drug design
- materials design
- structure prediction of biological macromolecules and macromolecular complexes

The Rosetta Community Goals:

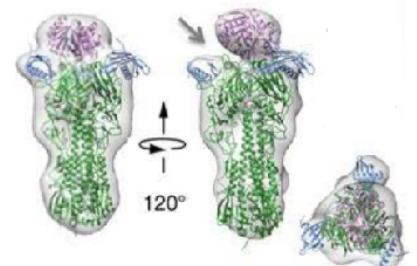
- understand macromolecular interactions
- design custom molecules
- develop efficient ways to search conformation and sequence space
- find broadly useful energy functions for various biomolecular representations
- treat diseases and create new molecular technologies



Antibody structures predicted de novo with sub-angstrom loop conformations.



Design of proteins by "sewing" to recombine substructures.



Design of a hemagglutinin-binding trimer that protects against the flu.