Postdoctoral positions in structural immunology

We are looking for highly motivated and intellectually driven postdoctoral fellows to join the structural immunology laboratory of Dr. Brian Baker in the Department of Chemistry & Biochemistry and Harper Cancer Research Institute at the University of Notre Dame (see www.bmblab.org). The laboratory focuses on the intersection of protein structural biology, molecular biophysics, and molecular recognition and signaling in cellular immunity. Research in the laboratory blends molecular immunology with X-ray crystallography, biochemistry and biophysics, and computational modeling, design, and simulation.

Big picture questions address fundamental mechanisms of immune recognition as well as cancer immunology and immunotherapy, autoimmunity and transplantation immunology, and T cell-based vaccine design and optimization. The laboratory is highly collaborative, working with experts in immunology and biophysics across the world, offering a tremendous opportunity for cross-disciplinary training.

Applicants with strong backgrounds and accomplishments in structural biology, structural modeling, and/or protein biophysics are welcome. Experience in mammalian cell culture is a strong plus. Familiarity with immunology is strongly preferred; in its absence, unbridled enthusiasm for learning how structure and biophysics impact immunology can substitute. **Strong applicants with backgrounds in T cell immunology interested in developing as structural biologists are also welcome.**

Currently available projects center around:

- Understanding, predicting, and manipulating T cell receptor specificity and cross-reactivity using combined experimental and *in silico* approaches. See https://pubmed.ncbi.nlm.nih.gov/30224695/, https://pubmed.ncbi.nlm.nih.gov/30617019/
- Understanding the structural and physical rules that distinguish normal from abnormal immune recognition, such as autoimmunity and transplant rejection. See https://pubmed.ncbi.nlm.nih.gov/28572406/
- Identifying the structural and physical features that promote T cell recognition of cancer neoantigens in order to improve the design T cell-based vaccines. See https://pubmed.ncbi.nlm.nih.gov/32807968/, https://pubmed.ncbi.nlm.nih.gov/31555277/

All laboratory members are expected to possess deep intellectual curiosity and independent motivation. Other requirements include the ability to contribute to a team-based environment, a commitment to be a supportive peer to other fellows and students, a commitment to respect the dignity and diversity of all persons, and in interest in building or repairing laboratory trebuchets for fun and profit. Mentoring opportunities with junior trainees, to include graduate students and undergraduates, are available.

The laboratory is superbly well equipped, with dedicated access to biophysical instrumentation, crystallization robotics, high end computational resources, flow cytometry/cell sorting, and cell culture facilities.

Contact Brian Baker at brian-baker@nd.edu or via Twitter at @ND_BakerLab. Visit the lab website at www.bmblab.org. See all laboratory publications at http://bit.ly/3nuVVDq.