

**Postdoctoral Associate**  
**Systems Biomedicine & Pharmaceuticals Lab**  
**Department of Chemical and Biological Engineering**  
**University at Buffalo**

**Job Description:** The Systems Biomedicine & Pharmaceuticals Lab in the Department of Chemical and Biological Engineering at the University at Buffalo, The State University of New York is seeking applications for a Postdoctoral Associate to (a) develop methods to accelerate and facilitate the construction and reuse of multiscale computational models and (b) create new multiscale models to improve physiological understanding of how local and systemic immune stimulants affect tissue damage with applications to inflammation and immunotherapies. Other duties include conducting computational modeling studies, preparing manuscripts and presentations, and writing codes and documentation for models to be disseminated as open source software projects.

The Systems Biomedicine & Pharmaceuticals Lab at the University at Buffalo is directed by Dr. Ashlee N. Ford Versypt in the Department of Chemical and Biological Engineering. Chemical, physical, and biological processes interact across multiple length and time scales and lead to consequences for human physiology, disease progression, and medical therapeutics. Multiscale systems engineering approaches allow for quantitative descriptions of interconnected processes, which aid understanding of the mechanisms for the links between the processes that cannot be decoupled easily in experiments. The Systems Biomedicine & Pharmaceuticals Lab develops multiscale computational models and methods for building and solving those models to enhance understanding of the mechanisms governing tissue remodeling and damage as a result of diseases and infections and to simulate the treatment of those conditions to improve human health. The research is at the intersection of chemical engineering, computational science and engineering, applied mathematics, biomedical engineering, physiology, and pharmaceutical science. Current projects are supported by NIH R35 MIRA and NSF CAREER grants. See [tinyurl.com/ashleefv](https://tinyurl.com/ashleefv) for lab website.

**Qualifications:** Ph.D. degree (or equivalent) in engineering or mathematics or a closely related field with significant experience in computer programming (e.g., MATLAB, COMSOL, Python) and equation-based modeling. Experience in one or more of the following areas is preferred: multiscale modeling, biomechanics, differential equations, heat and/or mass transport, agent-based modeling, pharmacokinetics, immunology. The applicant should have strong verbal and written communication skills and the ability to work in an interdisciplinary team.

The Postdoctoral Associate is a full-time, benefits-eligible position appointed on a 12-month service basis. The initial appointment is for one year with the possibility of extension based on performance and funding. Salary will be \$50,000 per year. Formal applications must be submitted online at <https://www.ubjobs.buffalo.edu/postings/29739>. Submit the following – (i) a one-page cover letter, (ii) a curriculum vita, (iii) a statement of research interests and goals, and (iv) contact information of three references. Screening of applicants will begin as complete applications arrive and continue until the position is filled, contingent on available funding.

Questions may be addressed to:

Dr. Ashlee N. Ford Versypt  
Email: [ashleefv@buffalo.edu](mailto:ashleefv@buffalo.edu)

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The University at Buffalo is SUNY's most comprehensive public research university, and an outstanding place to work. UB amplifies ambition for faculty and staff by offering endless possibilities to achieve more. Here, people from all backgrounds and cultures challenge and inspire each other to discover, learn and succeed. Dedicated staff and engaged faculty collaborate to further knowledge and understanding and develop tenacious graduates who are valued for their talents and their impact on global society. Visit our website to learn more about the University at Buffalo.