

“Post-doc in biological puncture mechanics at the University of Illinois, Urbana-Champaign”

A Postdoctoral researcher position is available in the Anderson lab in the Department of Evolution, Ecology and Behavior at the University of Illinois, Urbana-Champaign. The Anderson lab seeks a post-doctoral scholar with strong experience in some combination of the following: experimental fracture mechanics, Impact dynamics, dynamic fracture modeling, energetics and/or biomechanics. The applicant will work alongside the PI and lab members to assess how physical principles underlying functional performance influence evolutionary processes in the context of energy flow through biological puncture systems (e.g. teeth, spines and stingers).

The research goals are to 1) execute a comprehensive series of controlled puncture experiments at variable dynamic scales, 2) establish a set of energy balance equations that model how shape, material and kinematic variables influence the energetics of puncture, and 3) use these models to examine the evolution of puncture systems across several lineages.

The expectations of the position include the quasi-independent execution of puncture experiments and energetics modeling, willingness to apply engineering knowledge to evolutionary biology problems (including learning basic comparative evolutionary techniques), and active engagement in mentoring students and disseminating scientific results.

The ideal candidate will have experience in fracture mechanics/impact dynamics, a strong publication record, and a PhD in either a relevant Engineering field or Biology-related discipline. Preference will be given to individuals with experience in dynamic fracture/impact analyses and modeling.

The Anderson lab is an evolutionary biomechanics lab focused on examining questions of how physical and mechanical principles influence evolution. The lab is equipped with an Instron materials testing device, table-top gas gun for impact experiments, a high-speed video camera capable of filming 24000 fps at full resolution (2 million fps maximum), and other resources. The lab also has active collaborations with several engineers in the UIUC College of Engineering, offering lab members access to further resources.

The University of Illinois at Urbana-Champaign, located 120 miles south of Chicago, offers a variety of cultural opportunities that showcase the area's diverse ethnic population, superb public and private schools, quality public transportation, and a rapidly expanding community of high-tech businesses.

The UIUC College of Liberal Arts and Sciences is a world leader in research, teaching, and public engagement. Faculty in the College create knowledge, address critical societal needs through the transfer and application of knowledge, and prepare students for lives of impact in the state, nation, and globally. To meet these objectives, the College embraces and values diversity and difference through hiring faculty candidates who can contribute through their research, teaching, and/or service to the diversity and excellence of the Illinois community.

The start date for this position is negotiable. Evaluation of applications will begin immediately and priority will be given to applications that are complete by May 15th. The position will remain open until a suitable candidate is found. Initial support is for two years with additional time contingent upon performance. The University of Illinois conducts criminal background checks on all job candidates upon acceptance of a contingent offer. As a qualifying federal contractor, the University of Illinois System uses E-Verify to verify employment eligibility.

Applications must include a CV, a cover letter describing research interests and career goals (2 pages max), and the names and emails of 3 references. Application materials should be emailed to Dr. Phil Anderson (andersps@illinois.edu) with the subject line "Puncture Postdoc."

The University of Illinois is an Equal Opportunity, Affirmative Action employer. Minorities, women, veterans and individuals with disabilities are encouraged to apply. For more information, visit <http://go.illinois.edu/EEO>.