The Multiscale Computational Physics Lab in University at Buffalo (UB) has one Postdoctoral Research Associate opening, available immediately. The recruited Research Associate is expected to be a key player in developing an Integrated Computational Materials Engineering (ICME) model and a predictive framework/toolkit for customized ceramics matrix composite-type materials for hypersonic vehicles. The developed ICME model will also be used for additive manufacturing and involve an analysis on uncertainty quantification and a machine-learning algorithm for material design. The Research Associate will have the opportunity to mentor undergraduate and graduate students, and interact with a number of on-campus centers, such as the recently established Center for Hybrid Rocket Exascale Simulation Technology (CHREST) and the Center of Excellence in Materials Informatics. The initial position duration is 18-months, with renewal upon a satisfactory review. Interested applicants should send the package, including a cover letter, CV, sample publications, and names of at least three professional references. All applications should be submitted, as a single PDF document, to the Lab Director, Dr. James Chen at chenjm@buffalo.edu and Dr. David Salac at davidsal@buffalo.edu. Review of candidates will begin immediately and continue until the position is filled.

Required Qualifications:

- A PhD degree in mechanical engineering, aerospace engineering, materials science, engineering science or a closely related field.
- A proven track record of publications in leading journals.
- US citizenship or US Permanent Residency (Green Card) is required at the time of hiring.
- Experience in phase field simulation, damage mechanics, and/or visco-elasto-plasticity are required.

Desired Qualifications:

- Candidates with experience in MOOSE.
- Prior use of modern software development techniques.