The Computations for Advanced Materials and Manufacturing Laboratory (CAMML) in the College of Engineering and Physical Science at the University of Wyoming has an immediate opening for a Postdoctoral Researcher, in the area of multiscale reduced order modeling and design of heterogeneous materials under volumetric and interfacial damage. The project will build on our existing work in Refs. [1-3], and further advance it for modeling of lithium-ion battery system. Note that the developed method is rather general and also applicable for composites, metals and alloy [4-8]. The initial contract will be for one year, with renewal opportunity contingent on funding availability and performance.

At CAMML, our efforts focus on developing sophisticated multiscale/multiphysics methods in conjunction with data-driven methods for the modeling, design, and manufacturing of high- performance martials and advanced-manufacturing processes. The group has extensive experiences in modeling of deformation, failure, and state evolution in complex material systems and multiphysics processes. Past and current work includes crystal plasticity finite element modeling of plastic deformation and damage initiation and propagation in various advanced alloys used in aerospace, nuclear and automobile industries; multiscale reduced-order modeling of heterogeneous materials that efficiently bridges microscale and structural scale modeling; modeling and design of composites under volumetric and interfacial damage; multiphysics modeling of composite manducating process including 3D printing. The group currently has multiple Ph.D. ad M.S. students and undergraduate students, with collaborators from other universities, national labs and research centers.

The applicant is expected to be a highly self-motivated individual with interests and experience in computational modeling, numerical methods, multiscale modeling, finite element modeling, high-performance computing, and code development experience in Fortran and/or C++. The development is expected to be conducted in our in-house package ParIGEFM [9-11, 1-3], or through user subroutines in Abaqus. Applicant with related interest and background in computational modeling is encouraged to contact Dr. Zhang by email: xiang.zhang@uwyo.edu, with email subject "Application for Multiscale Reduced Order Modeling Postdoc Position". Please note, while I will try my best to respond to every email, I may only be able to respond to selected candidates due to time constraints.

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