

## Postdoctoral Associate

The University of Notre Dame, Center for Shock Wave-processing of Advanced Reactive Materials (C-SWARM), is seeking a highly qualified candidate for the postdoctoral associate position in the area of computational mechanics/physics with emphasis on chemically reactive solids. C-SWARM is center of excellence established by National Nuclear Security Administration (NNSA) whose primary focus is on the emerging field of predictive science. The main mission of C-SWARM is to predict shock conditions under which new materials can be synthesized using predictive computational models that are verified and validated with quantified uncertainty on future high-performance Exascale computer platforms.

The successful candidates will be a key part of a team that is developing and implementing adaptive, multiscale, high-performance (parallel) computational algorithms for numerical solutions of chemo-thermo-mechanical PDE's with emphasis on complex heterogeneous materials, such as heterogeneous reactive composites, etc.

### **Qualifications:**

- Ph.D. in Mechanical Engineering, Theoretical and Applied Mechanics, Applied Mathematics, Physics or related engineering or science discipline
- Knowledge of computational nonlinear solid/fluid mechanics and/or chemical kinetics and solid-solid phase transformations
- Knowledge of numerical methods for solution of nonlinear PDEs
- Knowledge of C/C++ and UNIX operating system is required
- Experience in parallel programming

### **Close Date:**

Review of applications will begin immediately and continue until the position is filled.

### **Salary:**

Salary will commensurate with qualifications and experience.

### **Contact:**

Interested applicants should send a CV with a cover letter, names of at least three references, and a summary of recent work. All applications should be submitted electronically (paperless process) as a **single PDF document** to:

C-SWARM Program Manager  
Department of Aerospace and Mechanical Engineering  
University of Notre Dame  
117M Cushing Hall  
Notre Dame, IN 46556  
574-631-3957  
[cswarm@nd.edu](mailto:cswarm@nd.edu)  
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The University of Notre Dame is an Affirmative Action, Equal Opportunity Employer. Women and minorities are encouraged to apply.