Job Title
Post-Doctoral Fellow

Description
The Department of Mechanical Engineering at Northwestern University is seeking candidates for a post-doctoral position to conduct research in the computational simulation of multiphase flows and flows with moving boundaries. The post-doctoral researcher will be working with Prof. Greg Wagner and his collaborators to develop new numerical formulations for the simulation of complex flows, implement them in a high-performance computing environment, and apply them to the modeling of engineering, environmental, and biological systems. Applications for which active collaborations are underway include transport in porous media, additive manufacturing processes, and fluid-structure interaction in the human heart. The successful candidate will have the opportunity to learn about these applications while working in an established software code base developed for large-scale parallel computing platforms.

Qualifications
Required:
- Ph.D. in Mechanical Engineering or a closely related field, with a strong background in numerical simulation and fluid flow.
- Experience coding in C++ for distributed-memory parallel simulations
- Strong oral and written communication skills

Desired:
- Knowledge of unstructured-mesh CFD formulations such as FEM, FVM, or CVFEM
- Familiarity with multi-phase flow simulation techniques such as level-set methods, volume of fluid, phase-field models, or Lagrangian particle tracking
- Experience with Python
- A demonstrated ability to work in cross-disciplinary teams that include both modelers and experimentalists

Application Procedure
Interested applicants should send a copy of their current CV, along with a cover letter or email, and names and contact info of at least three references. All applications should be submitted via email in a single PDF document to:

Prof. Greg Wagner
Associate Professor, Department of Mechanical Engineering
Northwestern University
Email: gregory.wagner@northwestern.edu

Northwestern University is an Equal Opportunity, Affirmative Action Employer of all protected classes including veterans and individuals with disabilities. Women and minorities are encouraged to apply. Hiring is contingent upon eligibility to work in the United States.