

Position Description for Power and Energy Postdoctoral Position

The Expeditionary and Developmental Power and Energy Branch (Code 635) at the Naval Surface Warfare Center, Carderock Division (NSWCCD) is seeking a recent Ph.D. recipient to fill a Naval Postdoctoral Fellow research position in the area of multi-physics modeling of electrochemical energy storage devices. The candidate is expected to have a doctorate in electrochemistry, engineering, physics or related field, and a proven capability of developing and validating computer models of electrochemical systems. The candidate will support a growing modeling and simulation effort focused on multi-physics modeling of lithium-ion cells, battery packs, and host systems. The purpose of this work is to aid in the development and validation of models utilizing experimental data collected from lithium-ion battery safety tests conducted at NSWCCD. The candidate must have experience with electrochemical systems and the use of commercial finite element and volume software (STAR-CCM+/Battery Design Studio and/or ANSYS/Fluent). Experience with developing custom battery models in Matlab, Python, or other scripting language is desirable but not required. Position awards are expected to advance the development of power and energy technologies in any of the following areas:

- Electrochemical performance modeling
- Electrochemical, thermal, and mechanical abuse and fire modeling

Postdoctoral fellows are expected to dedicate 80 percent of their time on a core research project and 20 percent of their time as part of a larger team supporting Navy and Marine Corps program office technical needs. Candidates are required to have strong command of the English language both orally and writing. Benefits include a yearly stipend, research allowance, health insurance and travel. To apply to the Naval Postdoctoral Fellow program, and find more information about the process, visit the website (http://nrewc.asee.org/current_opportunities) and review the following information:

Awards

Awards are for one year, and are renewable for a second and third year, given satisfactory performance and availability of funds.

Obligation to the Government

A Naval Postdoctoral Fellow does not incur any formal obligation to the government of the United States. However, the objectives of this program will be best served if the Fellow pursues research or teaching in disciplines meeting the continuing needs of naval technology. Fellows must devote their time to the approved research program and must be in-residence at the sponsoring laboratory during the entire period of the award. No additional monetary aid or other remuneration may be accepted from another appointment, fellowship, or similar grant during the period of the award.

Publication

Naval Postdoctoral Fellows are encouraged to publish in open literature. Credit should be given to the naval lab in which they did their research for publications resulting from research conducted at Navy facilities.

Eligibility

- **Citizenship:** Opportunities at the labs are only open to citizens of the United States.
- **Security Clearance:** It is anticipated that the basic research undertaken by the participants will usually be unclassified, in which case the participants will only need to be processed for a Facility Access Determination (FAD) if their sponsor verifies their need to work outside normal duty hours. For some laboratories, a DoD security clearance at "Secret" level may be required to gain access to research facilities, in which case participation in the program is contingent upon the participants obtaining the proper clearance. Security clearance and access requirements vary from laboratory to laboratory. Please check with the laboratory program coordinator.
- **Education and Experience:** Before appointment, participants must present evidence of having received the Ph.D., Sc.D., or other earned research doctoral degree recognized in U.S. academic circles as equivalent to the Ph.D. within seven years of the date of application, or must present acceptable evidence of having completed all formal academic requirements for one of these degrees.
- **Prior Fellowships:** A person who has received a prior postdoctoral fellowship at a navy laboratory under any program may not be eligible to participate in the Naval Postdoctoral Fellowship Program at the same laboratory.

Equal Opportunity: In accordance with Federal statutes and regulations and Navy policies, no person on the grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, denied the benefits of, or be subject to discrimination under, any program or activity receiving financial assistance from the U.S. Navy.

All correspondence should be directed to:

Mr. Robert Skelding
Head, Code 635 Expeditionary and Developmental Power and Energy Branch
Naval Surface Warfare Center, Carderock
9500 MacArthur Blvd Bethesda, MD 20817
Desk: 301-227-5394
Email: robert.skelding@navy.mil