

**Working Title** Postdoctoral Research Associate

**Advertised Employing Department** Ames Laboratory

**Appointment Type** Postdoctoral Research Associate

**Base of Employment** D - Postdoctoral

**Full or Part Time** Full Time

**Proposed Start Date:** July/2021

### **Summary of Duties and Responsibilities**

The Division of Chemical & Biological Sciences at Ames Laboratory, a Department of Energy National Laboratory affiliated with Iowa State University, is seeking a postdoctoral associate with a strong background in solid-state NMR spectroscopy. The chosen candidate will become a part of a multidisciplinary team, consisting of Ames Laboratory as well as other U.S. DOE labs and universities, working towards the development, and understanding, of next generation supercapacitors. The work will mainly focus on the measurement of charge carrier dynamics and the characterization of electrode materials by both conventional as well as dynamic nuclear polarization (DNP) enhanced solid-state NMR. Studies of electrolyte-ion transport will use pulsed field gradient (PFG) NMR. The candidate will also be encouraged to work in the fundamental development of NMR methods and instrumentation.

Ames Laboratory is equipped with 9.4 and 14.1 T Agilent solid-state NMR spectrometers, as well as a 9.4 T Bruker solid-state DNP NMR spectrometer. Additional instrumentation is also available through both the lab and Iowa State University's shared facilities, as well as through collaboration.

The successful candidate must be able to communicate effectively with a variety of audiences and collaborate in a team. The position also requires the candidate to find and develop own research subjects within the projects, in addition to the experiments requested by the collaborators.

### **Percentage of Duties and Responsibilities**

- 50% Conducting solid-state NMR/DNP and PFG NMR experiments
- 15% Performing additional research activities
- 35% Writing activities including drafting research articles and aiding proposal writing

### **Required Qualifications:**

- Ph.D. must be completed prior to start date.
- Ph.D. in chemistry, physics, materials science or a related discipline.

### **Preferred Qualifications:**

- Experience in theoretical and experimental aspects of modern solid stat NMR, including method development.
- Experience in and/or knowledge of electrochemistry and associated instrumentation.