

## POSTDOCTORAL POSITION IN SOLID-STATE CHEMISTRY AND MACHINE-LEARNING FOR MATERIALS SCIENCE

Department of Chemistry, Laboratory of Prof. Arthur Mar

One or more postdoctoral positions are available immediately to support the research of Prof. Arthur Mar (PI, Department of Chemistry, University of Alberta) within the Future Energy Systems (FES) program funded by the Canada First Research Excellence Fund (CFREF). The positions are available for one to two years with possibility for renewal.

### Responsibilities include:

- Design and implement projects related to the accelerated discovery and development of new materials using high-throughput machine-learning methods, in consultation with the PI and other research collaborators; liaise with collaborators to identify common objectives and implement research protocols
- Collect reliable data, develop chemical descriptors, and apply appropriate algorithms to make predictions of new materials with targeted structures and properties (including improved photovoltaics and catalysts)
- Synthesize inorganic solids; determine crystal structure of inorganic solids through X-ray diffraction; measure electrical, magnetic, and optical properties; perform calculations of electronic band structures
- Assist in oversight of research projects of graduate and undergraduate students, and other personnel to achieve targeted research objectives within timelines, in consultation with the PI
- Manage day-to-day operation of research laboratory, including maintaining equipment and supplies, overseeing troubleshooting of problems, and ensuring adherence to safety protocols
- Analyze, interpret, and report research results; assist in preparation of publications and grant applications; present results in meetings, seminars, and conferences

### The candidate possesses:

- Ph.D. degree in Chemistry or related fields in Materials Science, Physics, or Engineering
- Experience in solid state chemistry of extended inorganic solids, including synthesis and characterization
- Familiarity with machine-learning techniques, including computing and programming skills
- Strong publication and presentation track record in solid state chemistry and machine learning
- Experience in mentoring and training students as part of a research team
- Ability to work independently and within a team, including demonstrated leadership qualities and interaction with collaborators
- Excellent verbal and written communication skills, with ability to present to a wide range of audiences

### To Apply:

Forward your CV, a brief statement of research interests, and contact information for three references to:

Arthur Mar (amar@ualberta.ca)

Department of Chemistry, University of Alberta, Edmonton, AB Canada T6G 2G2

### Closing date:

Position open until filled

**We thank all applicants for their interest; however, only those individuals selected for an interview will be contacted.**

*The University of Alberta is committed to an equitable, diverse, and inclusive workforce. We welcome applications from all qualified persons. We encourage women; First Nations, Métis and Inuit; members of visible minority groups; persons with disabilities; persons of any sexual orientation or gender identity and expression; and all those who may contribute to the further diversification of ideas and the University to apply.*