Position Opening

POSITION: Computational Materials Science Researcher
STATUS: Full-Time / Benefited / Non-exempt
COMPENSATION: $28.00 - $30.00 per hour
DEPARTMENT: Department of Chemistry and Biochemistry
LOCATION: CSU, Chico Campus; Hybrid
RECRUITMENT ID: 030
RESIDENCY: Before starting job, candidate must be a California resident. Chico State Enterprises is not a sponsoring agency for staff and management positions (i.e. H-1B Visas).

ESSENTIAL JOB FUNCTIONS: Sponsored by the U.S. Department of Energy (DOE) and working closely with Lawrence Livermore National Laboratory (LLNL) scientists, the researcher will be conducting research on lithium-sulfur batteries, which theoretically have significantly higher energy densities compared to current battery chemistries for up to 18 months. Specifically, the selected researcher will focus on atomistic simulations and modeling of structure, reactivity and transport properties of lithium-containing molecular species in heterogeneous interfaces with metal-organic frameworks for advanced energy storage. The researcher will work closely with an interdisciplinary team with scientists and engineers at LLNL, CSU, Chico, and San Jose State University (SJSU); most of your time will be interacting with staff researchers at LLNL. This work is expected to result in publications in nationally and internationally recognized journals as well as applications in projects with renewable energy missions. The researcher will also be expected to work with and mentor undergraduate research students from underrepresented groups, first-generation college backgrounds, and women subpopulations.

The major duty of the researcher is to conduct theoretical research, under the supervision of Drs. Wan and Kim at LLNL and Dr. So at CSU, Chico. More specifically, the job duties **tentatively** include the following:

- Perform density functional theory-based electronic structure calculations and/or classical molecular dynamic simulations on high-performance computing environment.
- Develop structure-composition-property relationships for optimizing transport and reactivity using statistical, analytical, and machine learning methodologies.
- Collect, prepare, and analyze research data; discuss results in group meetings.
- Contribute to and actively participate in the conception, design and execution of research to address defined problems.
- Collaborate with computational and experimental scientists at LLNL and SJSU to accomplish research goals.
- Document research, publish papers in peer-reviewed journals, and present results within the DOE community and at conferences/technical meetings.
- Supervise student personnel and coordinate research efforts for increased efficiency; participate in training of students and volunteer workers as needed

EMPLOYMENT STANDARDS:
Required:
• Education: Applicant must have a graduate degree in materials science and engineering, chemical engineering, mechanical engineering, chemistry, physics, or related field, specifically:
  o PhD, earned within 5 years prior to employment, OR
  o MSc, and 3 years of relevant research/work experience
• Experience in the application of density functional theory or molecular dynamics to simulations of chemical reactions and/or transport phenomena in materials.
• Experience with performing simulations on high-performance computing environments.
• Ability to work independently on technical tasks, influence technical objectives, to provide in depth analysis, and develop unique technical solutions.
• Ability to develop independent research directions and describe results effectively in published peer-reviewed literature.
• Proficient verbal and written communication skills to collaborate effectively in a team environment, prepare written reports and present and explain technical information.
• Interpersonal skills necessary to interact with a diverse set of scientists, engineers, undergraduate and graduate students, and other technical and administrative staff in a collaborative, multidisciplinary team environment.

Preferred:
• Strong academic background
• Experience in performing classical molecular dynamics and developing post processing tools.
• Experience with the application of statistical, analytical, or machine learning methods for analyzing the results.
• Technical experience and a proven publication record in the areas of simulation and modeling of chemical reactions and transport properties, ideally related to metal organic framework or lithium-sulfur batteries.
• Familiarity with collaboration and integration of modeling with experimental characterization techniques.

COMPLIANCE REQUIREMENTS:
• Candidate must be in possession of valid driver's license and automobile liability insurance. Participation in the DMV Employer Pull Notice Program (driving record) is required. The candidate will be required to update their insurance with Chico State Enterprises Human Resources when necessary.
• Satisfactory completion of a background check (including a criminal records check) is required for employment. Chico State Enterprises will make a conditional offer of employment, which may be rescinded if the background check reveals disqualifying information, and/or it is discovered that the candidate knowingly withheld or falsified information. Failure to satisfactorily complete the background check may affect the continued employment of a current Chico State Enterprises employee who was conditionally offered the position.

BENEFITS:
Benefits for employees working 30 hours or more per week include employer paid life insurance ($50,000) and long-term disability; options for health, dental, and vision insurance; FSA; 14 paid holidays including 1 personal holiday; vacation accrual (initially 10 days/year); sick leave (up to 12 days/year); employer contributions to your 403(b) retirement plan (up to 8%).
HOW TO APPLY:
To be considered, submit the following documents by **January 16th, 2024**. Documents submitted after this date may not be considered.

- Resume
- Chico State Enterprises Application
- Cover Letter
- Contact information for three professional references

**BY DROP BOX:** [https://csuchico.app.box.com/f/d91c6af1d6a74ff19a30d92a418f8b67](https://csuchico.app.box.com/f/d91c6af1d6a74ff19a30d92a418f8b67)

**BY EMAIL:** [csejobs@csuchico.edu](mailto:csejobs@csuchico.edu)

Paper applications will not be accepted; however, Chico State Enterprises is an Equal Opportunity Employer and is happy to provide reasonable accommodations to applicants at any step of the application process. If you need assistance in this regard, or are having technical difficulties, please contact the Human Resources office at 530-898-6811 or [csejobs@csuchico.edu](mailto:csejobs@csuchico.edu) prior to 5:00 pm on the document deadline date. The employer is Chico State Enterprises, a non-profit corporation serving as an auxiliary organization of California State University, Chico. Employment is considered to be at-will.

**AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER:**
Chico State Enterprises is an Equal Opportunity Employer and does not discriminate against persons on the basis of race, religion, color ancestry, age, disability, genetic information, gender, gender identity, gender expression, marital status, medical condition, National origin, sex, sexual orientation, covered veteran status, or any other protected status. It is the Enterprises’ policy to hire only United States citizens and aliens lawfully authorized to work in the United States. All new employees must provide proof of identity and authorization to work.