Position Opening

POSITION: 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: 031

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) for up to 24 months and working closely with the Department of Chemistry and Biochemistry at the California State University, Chico (CSU, Chico), the researcher will develop materials chemistry solutions for lithium-sulfur (Li-S) batteries which theoretically have significantly higher energy densities compared to current battery chemistries. Specifically, the researcher will focus on synthesis and characterization of metal-organic frameworks (MOFs), as well as fabrication of thin MOF films, for applications in Li-S batteries. Characterization of MOFs by techniques including XRD and BET will be required. The researcher will work closely with a multidisciplinary team with most of the time at CSU, Chico, and partial time expected to be spent at San Jose State University (SJSU) and Lawrence Livermore National Laboratory (LLNL). This work will lead to the potential for publications in nationally and internationally recognized materials science/chemistry 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 experimental research in the laboratory, under the supervision of Dr. So at CSU, Chico. More specifically, the job duties tentatively include the following:

- Perform synthesis, post-synthetic modification, and characterization of conductive MOFs, as well as fabrication and characterization of thin MOF films.
- Develop understanding of structure-property relationships for optimizing polysulfide adsorption energies, MOF reactivity, and Li-S redox kinetics.
- Design and implement research protocols; adapt new procedures, methods or instrumentation relative to research procedures.
- Collect, prepare, and analyze research data; discuss results in group meetings; keep a detailed record summarizing experiments and recording research data.
- Collaborate with computational and experimental scientists at LLNL and SJSU to accomplish research goals.
- Oversee laboratory safety and equipment maintenance relevant to project.
- Supervise other personnel in the laboratory and coordinate research efforts for increased efficiency; participate in training of students and volunteer workers as needed.
- Assist with ordering and procurement of supplies and equipment and with general maintenance of laboratory.
- Document research, publish papers in peer-reviewed journals, and present results within the DOE community and at conferences/technical meetings.
EMPLOYMENT STANDARDS:

Required:
- Education: Applicant must have a graduate degree in chemistry, physics, materials science and engineering, chemical engineering, or related field with a strong emphasis on in/organic materials synthesis and characterization and surface chemistry, specifically:
  - PhD, earned within 5 years prior to employment, OR
  - MSc, and 3 years of relevant research/work experience
- Experienced in materials characterization techniques including XRD and BET
- 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
- Laboratory experience in fundamental studies of surface chemistry and electrochemical reactions
- Familiar with physical, optical, and electrical characterization techniques (e.g. SEM, AFM, Raman, FTIR, DRS, UV-vis, IV, CV, EIS, and two/four-point probe conductivity)
- Extensive laboratory experience working with a wide range of organic/inorganic synthesis and/or device physics
- Technical experience and a proven publication record in the areas of synthesis, characterization, and fabrication of materials, ideally related to metal organic framework or lithium-sulfur batteries.
- Familiarity with collaboration and integration of experimental characterization techniques with modeling

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 April 12th, 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/b3e9a32fd93e46a3a3bbb54d53bb4cda
BY EMAIL: 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 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.