**Description**

**POSITION OBJECTIVE**

Working with a high degree of independence and under general direction, provide leadership and scientific expertise in the planning implementation of major projects, services, and/or activities. Specific objectives and responsibilities include: (1) Providing expertise in molten salt electrochemistry, designing and operating such reactors, and gathering meaningful research results pertinent to project milestones and deliverables; (2) Independently writing reports and scientific articles (publications, presentations) and communicating research results to a variety of audiences; (3) As appropriate, collaborating with students and postdoctoral researchers on modeling, data analysis and interpretations, lab safety and upkeep, and research dissemination; (4) Helping the supervisor with grant proposal writing, and gradually developing independence to do the same.

**ESSENTIAL FUNCTIONS**

1. Provide leadership and scientific expertise in the planning and implementation of major projects, services, and/or activities utilizing virtual freedom of action within authorized results. Specifically, major projects will include molten salt electrochemistry research and development (20%).

2. Develop advanced technological ideas, and guide their development into a final product or new approaches to research. Carry out complex or unique assignments important to the advancement of the field. Specifically, design novel electrochemical reactors, conduct experiments and data analysis, and interpretations (20%).

3. Provide expert consultation and collaboration regarding technical requirements, capabilities, and advancement opportunities; make substantive contributions in diverse technical areas. Specifically, collaborate with students and postdoctoral researchers on electrochemical modeling, data analysis and interpretations, lab safety and upkeep, and research dissemination. Also, contribute to multiple projects related to electrochemical engineering. (20%)

4. Make independent decisions on theory, problems and method in an attempt to develop new or improved techniques, procedures or equipment. Specifically, develop improved materials and methods for electrodeposition of metals (10%)

5. Apply intensive and diversified knowledge of electrochemical engineering principles in specialty areas such as electrodeposition (10%)

6. Provide technical direction to students, facilitate workshops and demonstrations on research methods; educate and train users on research methodology, and the safe and effective tools and techniques. Contribute to or co-author published articles, presentations, or scientific papers; identify research and development funding opportunities. Supervise staff and resources to meet program objectives. Specifically, serve in an independent capacity to meet program objectives related to RES243683 (15%)

**NONESSENTIAL FUNCTIONS**

Perform other duties such as laboratory maintenance and materials/equipment procurement as assigned (5%).

**CONTACTS**

Department: Frequent (daily) contact with supervisor to discuss research and maintain workflow. The position will require discussing research approaches and results with faculty and staff on a continuous basis, require frequent contact with department staff regarding purchase orders and travel arrangements.

University: Occasional contact with other departments to share information, such as with purchasing, facilities and maintenance, and Safety Services.

External: Occasional contact with researchers at other universities to exchange results. Limited or no contact with vendors.

Students: Moderate contact with student and student employees to exchange information, collaborate with postdoctoral, graduate and undergraduate students on a continuous basis.

**SUPERVISORY RESPONSIBILITY**

This position has no direct supervision of staff employees.

**QUALIFICATIONS**

Experience: 6 or more years of professional engineering experience.
Experience: 6 or more years of professional engineering experience.

Education: Bachelor’s degree in engineering.

REQUIRED SKILLS

1. Basic understanding of chemical engineering.
2. The position requires basic laboratory skills and hands-on laboratory work.
3. Good communication and interpersonal skills will also be required.
4. Ability to think clearly about hypothesis, experimental data, and how to address technical questions through an appropriate design of experiments.
5. Familiarity with Labview programming for data acquisition and control of experiments is required.
6. Experience with electrochemistry and electrochemical engineering is essential.
7. Must be able to use spreadsheets and present results in understandable formats.
8. Must be able to work with others and be collaborative.
9. A basic understanding of inventory control is essential.
10. Ability to meet consistent attendance.
11. Ability to interact with colleagues, supervisors, and customers face to face.

WORKING CONDITIONS

Chemical engineering laboratory. May have exposure to hazards. Proper use of goggles and safety equipment will be required. May involve occasional travel (one short trip per year) to a meeting with sponsors, attendance at a conference, or other such travel.