Postdoctoral Scholar – CO Electrolysis and Electrolyzer Development (DARPA)

The Stanford Synchrotron Radiation Lightsource (SSRL) at SLAC National Accelerator Laboratory is seeking **immediately** a **Postdoctoral Scholar** to join a dynamic team working on a DARPA-funded project under the **Fuel Access Anywhere, Regardless of Means (FAARM)** initiative. This ambitious program aims to develop compact, efficient systems for synthesizing energy-dense fuels in diverse environments. The successful candidate will focus on advancing **CO electrolysis technologies** for high-rate ethylene production, contributing to a project with strict milestones and deliverables in a fast-paced, results-driven environment.

Position Overview
The selected candidate will:

- Develop and optimize **membrane electrode assemblies (MEAs)** for the selective and efficient conversion of CO to C_2H_4 in advanced electrolyzer systems.
- Engineer Cu-based catalysts to improve durability and selectivity, focusing on stabilizing Cu(100) facets and mitigating unwanted side reactions.
- Utilize **operando X-ray Absorption spectroscopy (XAS)** to monitor catalyst performance and degradation mechanisms during operation.
- Scale up electrolyzer devices to **25 cm^2 MEA platforms**, achieving key performance targets.
- Collaborate with a multidisciplinary team to deliver results under tight deadlines while adhering to project milestones.

Key Attributes of the Role
This DARPA project demands individuals who excel under pressure and are dedicated to delivering high-quality work within constrained timelines. Candidates must be:

- **Results-oriented**, with a proven ability to meet challenging research and development goals.
- **Collaborative**, capable of working effectively in a multidisciplinary, fast-paced team environment.
- **Innovative problem-solvers**, who can adapt to evolving project needs and technical challenges.

Qualifications

- **Required**:
  - Ph.D. in **Chemical Engineering, Materials Science, Chemistry**, or a related field.
  - Hands-on experience with **electrolyzer systems**, including MEA fabrication and performance testing.
  - Hands-on experience with **nanoparticles synthesis**
  - Expertise in **electrochemistry** and **electrocatalysis** with a focus on CO or CO_2 electrolysis.
  - Strong track record of **delivering results** in competitive, milestone-driven research environments.
- **Preferred**:

- Knowledge of advanced catalyst engineering for durability and selectivity improvement.
- Familiarity with operando X-ray techniques (e.g., XAS) for characterizing electrochemical systems.
- Experience in scaling electrolyzers from lab prototypes to larger formats.

Why Join Us?
This role offers:

- A unique opportunity to work on a **DARPA-funded project** with significant technological and real-world impact while being at the **Stanford University** ecosystem and in a highly visible **DOE National Laboratory**.
- Access to **world-class facilities** and a multidisciplinary team at SLAC, a national leader in X-ray science, Energy science and sustainability.
- A challenging yet rewarding research environment designed for individuals who thrive in fast-paced, high-stakes settings.

Appointment Terms

- This is a 1+1-year position, with the possibility of renewal based on performance and funding.
- The position is based at SLAC National Accelerator Laboratory, **Menlo Park, CA.**

How to Apply
Please submit:

1. A cover letter detailing your research experience and suitability for this role.
2. A curriculum vitae, including a list of publications.
3. Contact information for three professional references.

Applications will be reviewed on a rolling basis until the position is filled. For inquiries, contact **Dr. Dimosthenis Sokaras** at **dsokaras@slac.stanford.edu**

About SLAC
At SLAC National Accelerator Laboratory, our mission is guided by five core values:

- **Excellence**: Committing to the highest standards in safety, science, and operations.
- **Integrity**: Acting with honesty, accountability, and transparency.
- **Collaboration**: Fostering teamwork to achieve shared goals and maximize impact.
- **Respect**: Valuing the contributions of every individual and maintaining a welcoming culture.
- **Creativity**: Embracing new ideas and innovation with optimism and determination.

These values define who we are and drive our success in advancing scientific discovery and technological innovation.