

Senior Research Scientist, Membrane Technologies

Tetramer Technologies, LLC | Pendleton, SC

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Summary

Tetramer is seeking an accomplished researcher to serve as Principal Investigator and program lead for a U.S. Department of Energy (EERE) funded program developing high performance, non-PFSA proton exchange membranes for PEM electrolyzers (Award DE-EE-0011331). Tetramer is the prime awardee leading a team of world class industrial and academic partners.

Tetramer has developed custom ionomers, proton exchange membranes, and specialty membranes for roughly 15 years, and the program builds on our proprietary hybrid hydrocarbon ionomer technology. Reporting to the VP of R&D, the Senior Research Scientist will lead the technical effort through Years 2 and 3, taking the technology from optimization through scale-up and validation in commercial cells and stacks. The individual will direct a team of three to four researchers and manage Tetramer's relationships with external collaborators. This is an on-site position at our Pendleton, SC facility.

This role is built to grow. Tetramer has a long record of leadership in membrane and ionomer development and holds a unique technology position in the space. As the program moves from validation toward scale-up and commercial device testing, the Principal Investigator will help decide how the technology launches into the market. That includes engaging device manufacturers and prospective customers, defining the product offering, and building the team and business case around it. For a candidate with deep technical expertise and an appetite for commercialization, the role can develop into leadership of a business segment centered on this technology.

Experience and Qualifications Desired

The ideal candidate will have 8+ years of experience in PEM fuel cell and/or electrolyzer technology and hold a degree in materials science, chemistry, polymer science, chemical engineering, membrane science, or a closely related field. Applicants with M.S. and Ph.D. degrees are encouraged. Candidates should have:

- Deep understanding of electrolyzer and fuel cell technology, membrane design and characterization, and polymer science
- Experience with ionomers and ion exchange membranes, including how ionomer structure drives performance and durability, membrane casting, MEA fabrication, and cell or stack testing, including durability and accelerated stress testing expertise
- Experience leading multi-party R&D programs, including organization of work plans, technical reporting, and coordination of partners at national laboratories, universities, and industry
- Familiarity with materials scale up, regulations, process optimization, PFCB polymer chemistry is a plus
- Experience with DOE or other government-funded programs

Essential Duties and Responsibilities

- Serving as Principal Investigator, with responsibility for technical direction, schedule, budget, and deliverables of DOE-funded program, including milestones and Go/No-Go decision points
- Managing relationships with program collaborators and coordinating work across partner organizations
- Directing the optimization and down-selection of ionomer and membrane design
- Directing the development of scalable ionomer synthesis and membrane casting processes
- Planning and overseeing performance, durability, and accelerated stress testing of membranes in commercial cells and stacks, and interpreting the results
- Supporting techno-economic and environmental impact analyses
- Preparing technical reports and presentations for DOE, program partners

TETRAMER TECHNOLOGIES, LLC

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- Providing guidance, oversight, and mentoring for a team of three to four researchers
- Identifying commercialization opportunities and engaging customers and device manufacturers
- Other responsibilities may be assigned

Objectives of This Role

- Deliver the Year 2 and Year 3 technical milestones and Go/No-Go targets
- Down-select the ionomer and membrane design for commercial device testing
- Transition scalable synthesis and casting processes toward manufacturing
- Sustain productive, accountable relationships with all program collaborators
- Develop strategic plans for commercial launch of the ionomer membrane technology for electrolysis and new applications
- Lead the development of proposals and presentations for follow-on funding and new membrane programs
- Grow into leadership of a business segment as the technology matures

Individual Qualities Desired

- Technical credibility that earns the trust of collaborators
- Results-driven, and comfortable owning milestones and accountability to a federal sponsor
- Compulsively curious and rigorous, and willing to follow the data when it contradicts the plan
- Business-minded, with a genuine appetite for turning a technology into a product
- Comfortable challenging and being challenged by peers
- Excellent verbal and written communication skills

Compensation and Benefits

This is a full-time role that includes a competitive salary and a comprehensive benefits package, including health insurance with an employer contribution, dental insurance, employer-provided life insurance with the option to purchase additional coverage, a 401(k) plan with employer match, paid time off, and profit sharing.

In compliance with ITAR government regulations, this position requires proof of U.S. Citizenship or active green card status. Any applicant that is made an offer of employment will be subject to internal E-Verify processes in accordance with company policy.

Team Culture

At Tetramer, we foster a culture of innovation, collaboration, and excellence. Our team of ~20 is comprised of diverse individuals who are passionate about pushing the boundaries of advanced materials science and driving real-world impact. We value creativity, curiosity, and a willingness to tackle complex challenges head-on. With a focus on teamwork and mutual respect, we cultivate an environment where every voice is heard, ideas are encouraged, and individuals can make a difference. If you're driven by a desire to make meaningful contributions and flourish in a dynamic, fast-paced environment, you'll find Tetramer Technologies to be a great fit.

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