

Connecticut Innovations-Jobs for Engineers-October-23, 2009

JA 29 Fuel Cell Engineer

Job Location: North Haven

We are a small growing technology company developing, manufacturing, and marketing advanced catalytic devices and systems for Energy sector applications including fuel reforming, clean and efficient catalytic combustion, air cleaning and specialty applications. We operate with revenues from both government R&D contracts and major industrial partner support, and have built a world-leading expertise in catalytic combustion, catalytic reforming, and novel specialty applications of short contact time catalysts. Products under development include compact, high efficiency fuel processors for fuel cells and other applications, ultra-compact burners, trace contaminant control systems, ultra-low NOx catalytic combustors for gas turbines, a downhole catalytic combustor/steam generator for oil and gas production, and short contact time catalytic reactors for chemicals manufacture.

Our team of 33 includes highly educated members (9 with PhDs), strong fundamental skill and substantial experience, with a range of skills including catalysis, coatings, materials, modeling and combustor development. We are flexible, results-oriented, and work well together; smart, energetic people driven to succeed. You will find a very high quality staff, new products under development, an energized atmosphere, and an excellent opportunity to apply your skills in a technology company.

An opportunity has arisen within the team for a skillful Fuel Cell Engineer with excellent, hands-on R&D skills and a creative approach to problem-solving in a dynamic environment. Self-motivated candidates with strong writing and verbal communication skills are preferred. This is an excellent opportunity to work with a team of highly talented engineers on groundbreaking technology.

This role focuses on taking the existing reforming technology and working with the engineering team and collaborating partners to integrate this technology into a power generation system. The successful candidate will advance development of fuel cell components with specific focus on stack and system concepts. We seek someone that can support an integrated reforming and fuel cell system and has good understanding and knowledge of the reforming and the fuel cell system requirements, such as optimum operating conditions, system issues, load change issues, stacks thermal management, water management, etc., as well as what its limitations may be when it comes to the effects of sulfur, steam, load changes and reformat variability.

The successful candidate will be working with the team on the design, fabrication and optimization of power generation systems. Primary responsibilities will include the mechanical design and integration of PCI's fuel processor with a range of stacks, components and unit subsystems. He/She will also support other engineers to help coordinate the overall integration of the system and optimize the system components packaging within the unit to minimize product size and enhance product performance. Stack technologies of interest include Solid Oxide and High Temperature PEM.

Experience Required:

Hands-on experience in electrochemical systems and testing of Fuel Cells (SOFC, HT -PEM)

- Experience with high-temperature systems and combustible gases
- Experience with fuel cells or other chemical reactors (particularly flow reactors)
- Experience/familiarity with stack assembly, fabrication, and testing, and characterization techniques for SOFCs and other advanced electro-ceramic materials
- Systems knowledge, integration, and troubleshooting experience
- Ability to solve issues with trying to use ATR/reformer exhaust stream to feed fuel cell stacks
- Experience with material property characterization as well as an ability to assess stack performance metrics
- Experience with electrochemical measurement techniques and characterization skills
- PhD or MS degree in Materials/Electrochemistry or related fields with 5 yrs industry experience

Other experience desired, but not required:

- Background in power electronics/ceramics
- Experience with electrical systems or electronics
- Prior military experience
- Prior DOD, DOE Agency experience

U.S. citizenship or permanent residency is required.

[Email us and note the JA number](#)