SR. MECHANICAL ENGINEER, HEAT TRANSFER ENGINEERING

Woburn, MA

Giving everyone in the world access to clean, reliable, affordable energy will require substantial expansion of global electricity transmission networks. VEIR is developing a new generation of High Temperature Superconductor (HTS)-based transmission lines, enabling long distance, reliable, low loss, cost–effective power transfer in far smaller right–of–ways. VEIR's innovations overcome the main barriers to transmission expansion, enabling the world to access the very lowest cost renewable power.

The **Sr. Mechanical Engineer** will assist in the design, development, and testing of VEIR's cryogenic thermal management subsystems. This position will have lead responsibility over the development of one or more heat transfer subsystems.

DUTIES & RESPONSIBILITIES:

- Lead the development and utilization of engineering analysis, models, and simulation tools to improve the performance, reliability, lifetime, and cost of VEIR cryogenic thermal management subsystems and associated components
- Lead the iterative design, build, and experimental testing of VEIR cryogenic subsystem and component prototypes
- Lead the review, interpretation, and visualization of experimental data on cryogenic subsystems; use data to validate and improve thermal models and strategically plan subsequent prototype design iterations and experimental campaigns
- Mentor junior engineers; contribute to building high performance team culture and work processes
- Collaborate with broader VEIR team to integrate thermal system designs with broader VEIR engineering and product development efforts, including electrical system designs
- Identify, evaluate, negotiate, and liaise with subcomponent suppliers, academic collaborators, external consultants
- Participate in documenting innovations and filing patent applications for key VEIR technology

MINIMUM EDUCATION/EXPERIENCE:

- Bachelor's degree in mechanical engineering, applied physics, or related field with at least 3 years thermal engineering experience
- Demonstrated success contributing to heat transfer related product development and commercialization
- Strong experimental background with experience integrating high accuracy sensors and data collection systems
- Specialized technical experience applicable to the position includes:
    - Experience in heat transfer, thermodynamics, thermal sciences, thermal engineering, and two-phase thermophysics
    - Hands-on experience using interdisciplinary engineering analysis tools (eg. ANSYS, Fluent, MATLAB, etc.)
    - Experience conducting thermal model analysis and correlating experimental results to model predictions

PREFERRED EDUCATION/EXPERIENCE:

- MS or PhD in mechanical engineering, applied physics, or related field with emphasis in heat transfer or thermal sciences with at least 5 years thermal engineering experience
- Demonstrated creativity and experience in cryo-thermal engineering design and analysis
- Strong background in the disciplines of cryogenic heat transfer and thermal engineering

REQUIRED SKILLS:

- Ability to build and maintain detailed understanding of VEIR technology including design specifications and constraints
- Ability to specify, select, and/or design cryogenic hardware including vacuum jacketed pipes, thermal insulation materials, heat exchangers, pumps, temperature sensors, and/or pressure sensors
- Ability to create new system designs and/or improve existing system designs with a focus on achieving increased thermal performance, improved reliability, reduced cost, and/or improved manufacturability
- Strong verbal and written communication skills; Ability to clearly communicate goals, findings, and issues
- Ability to work in a fast-paced, team-oriented environment
- Ability to work with minimal supervision; self-motivated and directed

PREFERRED SKILLS:

- Ability to use CAD software tools for 3D Modeling (SolidWorks)
- Ability to use laboratory automation and data collection systems (e.g. LabView)