SR. ENGINEER & HEAD OF 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 **Head of Heat Transfer Engineering** will be responsible for building the team to research, design, develop and test VEIR's cryogenic thermal management subsystems (including all components responsible for heat exchange).

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
- Supervise a small team of engineers and technicians (2-3 direct reports initially); help build team
- 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 5 years thermal engineering experience
- Significant heat transfer hardware product development/research leadership experience
- Strong background in the disciplines of cryogenic heat transfer and thermal engineering
- Demonstrated success building and managing high performance technical teams
- Demonstrated creativity and experience in cryo-thermal engineering design and analysis
- 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 7 years thermal engineering experience
- Extensive experience designing and testing cryogenic thermal management systems
- Demonstrated success contributing to the commercialization of new cryogenic hardware products

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 build and manage high performance teams
- 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)