

JOB OPPORTUNITY EXPERIMENTAL ENGINEERING PHYSICIST

At General Fusion we are creating a world class research facility to develop the technological and physics base to enable a breakeven magnetized target fusion experiment at the end of four years' time. The new approach being pursued by General Fusion has the potential to yield the first economically viable fusion reactor, leading to commercialization and widespread use of fusion energy on a much more rapid timeline than any other route currently being considered. General Fusion is working in alliance with academic, industrial and governmental partners to implement a well-supported research and development pathway for this alternative approach to practical fusion energy. General Fusion is located in Burnaby, British Columbia, Canada, within the Vancouver area. General Fusion Inc is funded privately and from Canadian grants.

Salary and benefits are competitive, relocation to Vancouver is required. Please refer to our website www.generalfusion.com for more information on the projects underway at General Fusion.

Responsibilities

General Fusion invites applications for the position of Experimental Engineering Physicist. Progress is being made at General Fusion Inc to develop a new means of achieving Magnetized Target Fusion (MTF) energy. Experimentalists with relevant expertise will be part of the plasma injector team and will play a key role in the implementation of a new Compact Toroid (CT) demonstration facility. The facility will consist of a pair of CT accelerators (each 5 m long, 1.9 m diameter, with a 2.5 MJ accelerator bank), and will be capable of producing high density, strongly magnetized spheromak and FRC plasmas with properties suitable for use as an MTF fuel plasma. The mission of this facility is to develop and demonstrate the technological and physics base to enable a breakeven MTF experiment at the end of four years' time.

The work will focus on the implementation and experimental study of MTF relevant compact toroids, as well as finalizing the design of a prototype breakeven MTF device.

Each physicist will be responsible for the design, implementation and operation of a diagnostic system, analysis of its data, as well as comparison to relevant simulation work. Experimental campaigns will require a variety of optical, magnetic and particle diagnostics, and will investigate physics issues such as CT formation and acceleration, MHD stability, reconnection and relaxation processes, as well as transport and confinement. Physicists will work closely with other engineers and technical staff to make progress on this project at an accelerated pace.

Qualifications

Candidates for this position must have:

- B.A.Sc.. or equivalent degree in engineering physics or a closely related field.
- Hands-on experience building research and lab equipment and conducting experiments in an environment using leading edge technology and research.
- Expertise with a wide variety of diagnostic tools.
- Strong grasp of plasma theory and be able to apply relevant theory to develop models of the experimental system as well as to contribute to technological innovations.
- Diagnostics experience in at least one of the following:
 - Magnetic diagnostics and fluctuation analysis
 - Interferometry
 - Thompson scattering
 - Spectroscopy
- Experience with the design and operation of high voltage pulsed power is an asset

The work involved in this project combines a wide range of skill sets, and each team member will need to become familiar with the full scope of the injector project and understand how their subproject relates to the whole. General Fusion seeks individuals who are self-motivated, have good communication skills and are comfortable with creative problem solving independently and within a group.

Applications

Please send your resume to opportunities@generalfusion.com. Applications MUST reference PLEGF-TSL in the subject line. We thank all applicants for their interest, only those selected for an interview will be contacted.