

# Mechanical Design Engineer

## Job ref 28

### First Light Fusion

First Light Fusion Ltd is a lean, focused and agile corporation researching energy generation by inertial confinement fusion. The company was spun out from the University of Oxford in June 2011 and is based near Oxford. First Light continues to work closely with the academic community, both in the UK and internationally. The company is well-funded by both institutional investors and private individuals.

Inertial confinement fusion for energy generation is a well-established research field and is being pursued in many laboratories worldwide, perhaps most notably in the US at the National Ignition Facility. First Light is exploring a number of alternative research directions that harness the same fundamental physics, with the prime focus being power generation. First Light's work to-date has included theoretical analysis, detailed numerical simulation and experimental validation. This has allowed description of the accessible parameter space and has led to a clear vision of the pathway to fusion.

First Light has also considered the costs and engineering practicalities of a reactor implementing its technology and can articulate a number of advantages over other approaches. Additionally, the energy focusing processes being pursued form the foundations of a new technological platform where secondary opportunities exist in a number of alternative applications, for example material processing and chemical manufacture.

### Vacancy Specification

As an engineer in First Light Fusion the successful candidate will be designing and building state of the art technology. The opportunity is for a Mechanical Design Engineer who will be responsible for the mechanical design of the machines required to develop our experimental campaign and ultimately achieve fusion.

Projects will range from developing pulsed power machines to achieve electromagnetic launch of projectiles exceeding 20km/s, to complex target design and development. All will require novel approaches in design, construction and use of materials.

#### *Further responsibilities will include:*

- Using 3D CAD and other software packages
- Providing expert engineering input into multidisciplinary teams
- Producing analysis and calculations of design work

#### *Essential*

- 2:1 or above degree in Mechanical Engineering or equivalent, with significant design experience.
- Varied engineering design background with experience using a mainstream CAD system, including the ability to generate complex 3D CAD assemblies and drawings.

- Experience of leading project work, along with sound knowledge of mechanical engineering, manufacturing techniques and materials and knowledge of pressure systems and vacuum technology.
- Ability to perform calculations and analysis associated with mechanical engineering.
- Passion for fusion and for taking a bold approach to a high-risk transformational technology.
- Fast and effective problem solving skills.
- Ability to work under pressure to tight deadlines.
- Demonstrated self-motivation, enthusiasm to work in a dynamic team environment and evidence of taking the initiative.
- Strong communication and interpersonal skills.

#### *Desirable*

- High voltage systems.
- Precision manufacturing techniques.
- Cryogenic systems.

## **Benefits**

A competitive package and entry into a company option's scheme. Relocation packages will be considered.

## **How to apply**

Please send a covering letter / supporting statement and CV to [careers@firstlightfusion.com](mailto:careers@firstlightfusion.com) quoting the job title in the subject. Two referees should be available on request.

Informal enquiries may also be addressed to [careers@firstlightfusion.com](mailto:careers@firstlightfusion.com).

CVs sent by recruitment agencies will not be read, and in the event that the company receives a CV from both the direct applicant and a recruitment agency the CV will be treated as a direct application by the individual only. Unsolicited contact from recruitment agencies will be disregarded.

