Senior Experimental Physicist
Job Ref 76

Job Description

We are currently looking for an exceptional Experimental Physicist with theoretical knowledge in high energy density related physics. You will design, build, carry out and analyse experiments towards the goal of inertial fusion power production. This will focus on the development of temporally and spatially resolved temperature and density diagnostics. As part of the experimental team, you will also work closely with the numerical physics and pulsed power teams, and with collaborators in academia.

You will perform hypervelocity impact studies using our extensive instrumentation based around very high-speed photography, x-ray imaging, neutron detection and spectroscopy. This work is continually evolving with the purchase and custom design of new equipment and diagnostics.

Responsibilities will include:

- Consistently improving the capability and quality of our experimental diagnostics
- Comparing experimental results to simulations you have run using our in-house codes which you will be trained on
- Applying a theoretical understanding of shock hydrodynamics and plasma physics to interpret our data
- Working as a subject expert within the experimental team to bring new experience and expertise to First Light Fusion

Essential

- A PhD in physics or a related subject, or an equivalent industrial experience
- At least 3 further years of experience working in an experimental research team
- Knowledge of plasma related diagnostics such as optical or particle probing
- Ability to work under pressure to tight deadlines
- Fast and effective problem solving skills
- Passion for fusion and for taking a bold approach to a high-risk transformational technology
- Strong communication and interpersonal skills

Desirable

- Experience with shock physics, warm dense matter or inertial fusion research
- Computational simulation skills
- Experience with plasma spectroscopy or fusion physics.
- Experience with gas guns, lasers or pulsed power devices

Benefits

- Very competitive salary
- 25 days annual leave (increasing to 28 with time in service) + bank holidays
- 8% employer pension contribution without matching requirements
- Relocation support
- Flexible working
- Generous share options scheme
- Free lunch and soft drinks
- Enhanced maternal / paternal leave
- Enhanced sick leave

Additional information

How to apply

Please send your application and CV to careers@firstlightfusion.com quoting the job title in the subject. If you don't hear back from us within four weeks, it means that unfortunately your application was unsuccessful at this time.

Informal enquiries may also be addressed to careers@firstlightfusion.com.

The interview process

We typically carry out two separate interviews, each one about sixty to ninety minutes long. The first one aims to understand how your skills match what is required for the job and the discussion will be focused on your areas of expertise. If successful, you will be invited to the second interview, which is more focused on your personal skills, and how your objectives align with the company mission and values. We try to understand the value you will add to First Light, and how you can thrive and be happy with us. There will be opportunity to ask us as many questions as you like.

If you are invited to the second interview, it's probably time to warm up two of your referees, as we may ask you to put us in touch with them. If you are the successful candidate, we will send you an offer letter and, once agreed, a contract.

If you are invited to an interview, we will certainly get back to you to let you know the outcome.

To help with logistics issues, we can arrange so that the two interviews are organised on the same day. We will also reimburse reasonable expenses you incur to come to talk to us.

We don't have a dress code at First Light and regardless of seniority there is a good mix of t-shirts, trainers, shirts and blazers. For your interview, please dress in whatever makes you feel most confident and comfortable.

Our commitment to equality, diversity and inclusion

We are a small company with a huge mission. The only important aspect for the team, and for each individual, is the contribution they can make. Our selection process and requirements for career progression disregard gender, gender identity, race, disability, colour, religion, and all other aspects of diversity that make us all humans. Diverse teams have

been proven to be better and we strongly believe it. We're not perfect but we strive to be.

Information for recruiters

We work with a trusted network of recruiters, therefore CVs sent by other recruitment agencies will not be considered. 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.

First Light Fusion

We are a lean, focused and agile company researching energy generation by inertial confinement fusion. We spun out from the University of Oxford in June 2011 and are 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. We are exploring a number of alternative research directions that harness the same fundamental physics, with the prime focus being power generation. Our work to-date has included theoretical analysis, detailed numerical simulation, and experimental validation. We have an increasingly clear vision of the pathway to a power plant.

We really believe fusion will be solved in the 2020s. If it's solved by us, fantastic, if it's solved by someone else, still great.