

Scientist (Numerical Physics)

Job ref 43

Vacancy Specification

The successful candidate(s) will bring their experience of physics, simulations and computational methods to the numerical tools underpinning First Light's approach. We are looking for someone with a strong foundational understanding of numerical physics approaches, to build on and apply that knowledge to solve previously unseen challenges.

Our primary numerical physics capability is an adaptive front-tracking hydro-code, with coupled conduction, radiation and microphysics models. The code is core to the business plan and a very important company asset. The successful candidate(s) will contribute to the development of this code, as well as adding further physics such as MHD. It is also expected that you will work closely with the in-house experimental team to provide simulation support and perform code validation.

The team takes an agile approach using the Atlassian toolset.

Essential

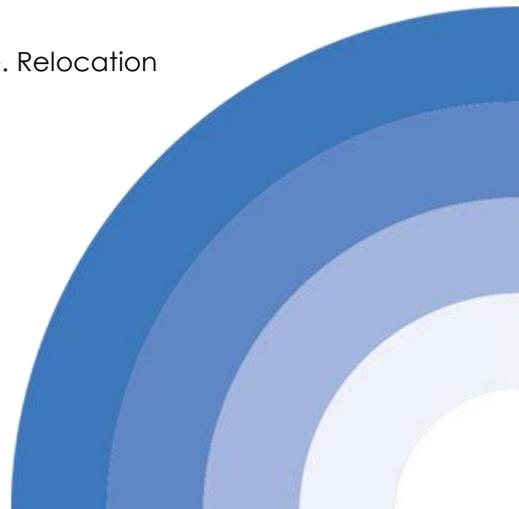
- Degree in physics or related field
- Comprehensive knowledge of physics
- Experience in computational modelling of complex systems, particularly simulations solving plasma physics equations or hydrodynamic equations
- Passion for fusion and for taking a bold approach to a high-risk transformational technology
- Demonstrated self-motivation, enthusiasm to work in a dynamic team environment and evidence of taking the initiative
- Strong communication and interpersonal skills

Desirable

- Working knowledge of numerical methods for solving hyperbolic and parabolic PDEs
- Experience with interface tracking methods and multiphase-flows
- Knowledge of shock physics or hydrodynamics
- Experience with C++, Python and object-oriented programming
- PhD or equivalent experience in a relevant field

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 quoting the job title in the subject. Two referees should be available on request.

Informal enquiries may also be addressed to 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.

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.

