

Senior Numerical Physics Scientist

Job Ref 84

Job Description

The successful candidate will bring their experience and expertise of algorithms and computational methods to the numerical tools underpinning First Light's approach. We are looking for someone with a deep understanding of numerical methods and multi-physics approaches, who will be able to use that knowledge to solve previously unseen challenges.

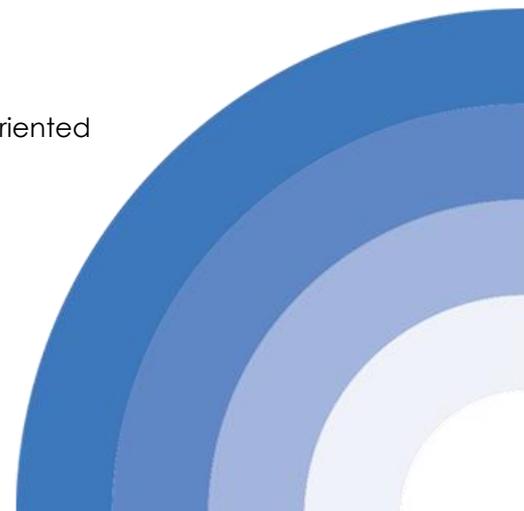
Our primary numerical physics capabilities are an adaptive front-tracking hydro-code, and a resistive-MHD code, both with thermal conduction, radiation, and microphysics models. The codes are core to the business plan and a very important company asset.

Essential

- PhD (or equivalent experience) in physics, engineering, maths, or a related field
- Good physics knowledge
- Experience in computational modelling of complex physical systems
- Demonstrated experience of numerical model selection and implementation
- Strong grasp of software engineering best practise
- Demonstrated self-motivation, enthusiasm to work in a dynamic team environment and evidence of taking the initiative
- Strong communication and interpersonal skills

Desirable

- We would be particularly interested to hear from candidates with knowledge and computational experience in any one or more of the following:
 - Interface tracking methods and multiphase flows
 - Numerical methods for solving hyperbolic and parabolic PDEs
 - Shock physics and compressible flow
 - High energy hydrodynamics or plasma physics
 - Multiscale physics modelling
 - Radiation transport models
 - Diffusive transport models
- Experience with C++, Python, Fortran, and object-oriented programming



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.

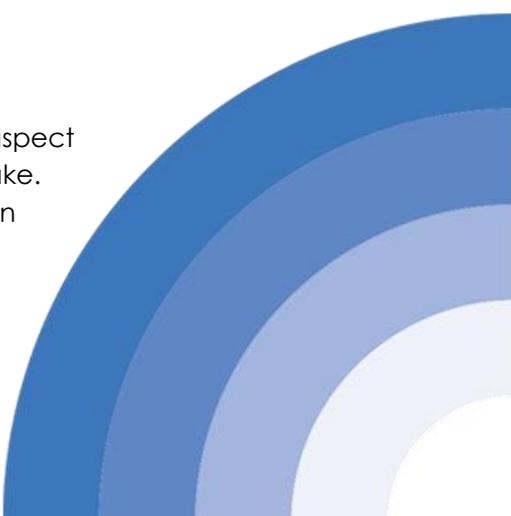
If you are invited to an interview, we will certainly get back to you to let you know the outcome.

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.

