

Job Description



Job Title: Senior Physicist / Magnet Engineer Reports to: Technical Director

Dept: Engineering Date: 15th February 2021

Duties:

- Design and development of cryogenic and cryogen-free superconducting magnet systems.
- Modelling of magnetic (mainly superconducting) systems using industry standard tools including OPERA, COMSOL Multiphysics and other analytical tools.
- In depth understanding of the mathematics and formulae which underpin the superconducting magnet industry, including areas such as thermodynamics, shimming and mechanical stresses. Ability to act as a point of reference to other members of staff for such technical matters.
- Project management of projects and parts of major projects, development of plans and budgets.
- Fostering relationships and links with existing customers and suppliers, and with potential new customers in academia and industry.
- Dealing with enquiries from customers and collaborators, supplying information in the relevant format in a concise and timely manner.
- Keeping up to date with relevant technology and disseminating information within the Company.
- Generation of line-up information for the drawing office; checking and approving of detailed drawings.
- Generation of working instructions and procedures in accordance with the Company's ISO9001 Quality Assurance policy.
- Generation of technical reports for internal use and external publication.
- Specifying and conducting tests in the workshop; recording and interpreting results in accordance with quality and health & safety policies.
- Liaison with partners and suppliers in all parts of the world as required.



Scientific Magnetics is a trading name of Space Cryomagnetics Ltd.

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VAT Registered No 749 9266 70

Qualifications / Experience:

- Degree qualified (possibly to PhD level) in a physical science or relevant engineering discipline.
- Multiple years' experience and knowledge of a subset of the following:
 - Superconducting magnet design
 - OPERA 2D / 3D - Static magnetic and transient analysis
 - COMSOL Multiphysics simulation software package
 - Cryogenic vessel heat load calculations
 - Mechanical design of superconducting magnets.
 - Superconducting joint design
 - Quench protection design
 - Persistent switch design
 - Impregnation techniques for magnet designs
 - Labview programming
 - Project management including MS Project

Further Requirements

The post requires the following skills:

- Ability to work independently and efficiently as part of a fast-paced team
- Effective problem solver
- Good interpersonal communicator.
- High standard of spoken and written English

Interfaces

- Line manager is the Technical Director, who will be generally responsible for technical supervision and allocating work.
- You will be expected to aid the sales team in responding to customer enquiries
- Provide support to the workshop during build and test of systems

Applications

Please send your CV and covering letter to jobs@scientificmagnetics.co.uk