

Group Leader for ESS Spallation Physics

The Machine Directorate at the European Spallation Source (ESS) in Lund, Sweden, invites applications for a Group Leader for ESS Spallation Physics position in the Target Division.

Description of division

The ESS Target Division is part of the ESS Machine Directorate with responsibility to design, develop, procure, install, commission and test the systems needed to convert the energetic proton beam coming from the accelerator to neutron beams that are utilized for experiments. The first step in this process is production of high energy neutrons through a spallation process involving the proton beam interaction with a tungsten target. The fast, high energy neutrons that are released in the spallation process are slowed down to the energies that are suitable for different types of experiments at ESS, and then delivered to the instruments through beam ports. Key features of the target station are the target itself, the neutron moderator and reflector system, and the neutron beam-extraction system.

The new central group for Spallation Physics will have duties across all ESS site including:

- Neutronics – Monte Carlo transport calculations and activation calculations.
- Computer tools and cross-section development.
- Experimental verifications & developments
- Spallation materials properties and fluid dynamics of interest for the operation and upgrade of the facility.
- Interface to the neutron scattering instrument teams
- Shielding calculations (and waste characterization & classification)

Description of main responsibilities

The Group Leader for ESS Spallation Physics will have the following responsibilities:

- Line management responsibilities; lead, plan and coordinate the work within the group, recruit and retain competent and motivated personnel with target physics expertise, promote a well-functioning work environment etc
- The full spectrum of physical processes and their interconnections for spallation source target station design, construction and operation, with particular emphasis on the holistic analysis of target configuration for optimal performance, safety, availability, maintainability, environmental friendliness and cost efficiency
- Data collection, research and development of research on the physical processes and interactions in spallation target stations: target, structural parts, reflector, containers, vacuum vessels, pipes, utilities
- The full spectrum of materials issues for spallation source target station design
- Data collection, research and development of research on engineering design aspects of materials for various functions in the target station: target, structural parts, reflector, containers, vacuum vessels, pipes, utilities
- Safety and aging of materials in the radiation conditions of spallation, review and application of standards and qualified materials data, extension of qualification of materials of special interest for spallation, when applicable
- Conceptual, functional and detailed engineering design of an irradiation plug for material testing at the ESS target station
- Leading participation in the conceptual, functional and engineering design for the holistic optimization of the ESS target station configuration
- Interface with other areas of activities in the Target Division and other ESS divisions

- Organizational, management and reporting responsibilities for special and general tasks assigned within the Target Division in the framework of various ESS projects
- Compilation, documentation and dissemination of the results of in technical reports, scientific publications and at professional meetings
- Interaction with experts in other similar facilities, academic institutions and industry in order to maintain a world class expertise in target physics at ESS
- Guiding and supervising the work of collaborators in the Target Physics Group, responsibility for safety, quality, compliance, internal and external coordination
- Training young group members in physics research, development and engineering
- Budget planning

The responsibilities in all these areas concern all phases of the ESS project: conceptual design, engineering design, research and development in preparation to build, construction, commissioning, operation and maintenance.

Qualifications

To be successful in this role, we expect the candidate to have the following skill set and experiences;

- Proven leadership skills: As a line manager and coordinator of the work it is crucial that you have excellent leadership skills and extensive expertise in people management and team building management.
- Mentoring/professional development: ability to foster the professional development of the group members through mentoring, conference attendance and publication in conference proceedings and, where appropriate, peer-reviewed journals
- Cross-group communication and collaboration skills: ability to establish and facilitate good cooperation and communication between the group members and other ESS groups and staff
- Team building skills: ability to build confidence and communion to get the group to perform as a team, capability to bring out the unique qualities of the individuals in the group and motivate them to contribute to the success of the team
- Projecting credibility: lead the technical design of the target monolith and remote handling operations and defend the design at internal and external project reviews, both orally and in writing, in a manner that projects credibility
- Master degree in physics or nuclear engineering, Phd preferred
- Extensive expertise in research, design, development and operation in spallation research or similar
- Expertise in materials science and engineering
- Recognized expertise and track record in spallation source research
- Experience of working in an international environment is essential
- Excellent oral and written English skills are a prerequisite; knowledge of other European languages would be an advantage

Our work environment is characterised by fast growth, fast pace of work, and an international atmosphere with highly skilled personnel. You must therefore enjoy the diversity of such an environment and have a personality suited for the challenges it presents. Our work environment is exciting and forward thinking and relies heavily on personal initiative.

What ESS can offer

ESS can offer you a variety of things, such as passionate colleagues, a vibrant melting pot of diversity, and a challenging and high paced work environment where our employees take great pride in designing and building a world leading facility for materials research.

If you were to join ESS, you would become an important piece of the puzzle, since all our skilled staff are needed in order to fulfill the overall mission. We value and need expertise, innovative minds, great ways of leading and interacting with others, and the ability to work with people regardless of culture and background.

Duration & Location

The position is permanent with six months initial probationary period. Your work place will be situated in Lund, Sweden. The position is to be filled as soon as possible.

Application & Contact

Please provide your curriculum vitae and cover letter in English by clicking on "apply" and following the instructions. *Please note we only accept applications via the ESS website or ESS intranet. Internal candidates are encouraged to apply through the intranet.*

The deadline for applications is **2019-02-24**.

For more information regarding the ESS recruitment process in general, please follow this link <https://europeanspallationsource.se/ess-recruitment-process>.

For further information regarding the position, please contact the recruiting manager, Head of Target Division, Mark Anthony, mark.anthony[at]esss.se.

For further information regarding the recruitment process, please contact:

HR Officer, Tina Nilsson, tina.nilsson[at]esss.se

For trade union information please contact Unionen / Mikael Johansson at +46 46 888 32 51 or SACO / Swedish Association of Graduate Engineers/ Riccardo Bevilacqua at +46 46 888 32 28.

We look forward to receiving your application!