

The Foundation for Fundamental Research on Matter (FOM) promotes, coordinates and finances fundamental and applied physics research in the Netherlands. It is an autonomous foundation responsible to the physics division of the national research council NWO. FOM employs about 950 people, of whom about 325 are PhD students and 100 are post-docs, who work at FOM research institutes and in university laboratories. Additional funding is obtained via the Technology Foundation (STW), the European Union, and industry.

The FOM-Institute for Plasma Physics Rijnhuizen is the Dutch national home base for research on the physics of nuclear fusion. This research is carried out as part of the European fusion research program, with a strong focus on the international fusion reactor ITER, and with tight links with a number of Dutch university groups.

**The FOM Institute for Plasma Physics Rijnhuizen is offering
a post-doc position in Fusion Physics**

"Numerical modelling of nonlinear MHD modes"

Research

The Fusion Physics Department of the FOM Institute for Plasma Physics Rijnhuizen is currently carrying out a research programme on "Active control of MHD modes in burning plasmas". In particular, the research is focused on the control of the main MHD instabilities, namely, neoclassical tearing modes, sawteeth, and edge localized modes. The programme covers the whole spectrum from fundamental plasma theory, numerical modelling, and experiments, to control theory and engineering. In the context of this programme we are looking for a post-doc to strengthen the team working on three dimensional, nonlinear MHD modelling of neoclassical tearing mode and sawtooth control.

The post-doc will be part of the Computational Plasma Physics – High Temperature Group of the Fusion Physics Department. One of the main contributions of this group to the overall research programme is the development of an integrated modelling capability of the control of MHD modes by electron cyclotron resonance heating (ECRH) and current drive (ECCD). This entails the integration of three dimensional nonlinear MHD modelling of relevant instabilities with the kinetic, quasi-linear Fokker-Planck modelling of ECRH and ECCD used for their control. A team of two post-docs and two PhD students is being set-up to achieve these aims. For the current position we are looking for a post-doc who will assume the responsibility for the code development from the MHD point of view focusing, in particular, on the modelling of neoclassical tearing modes

Job description

The post-doc will be responsible for the further extension of the nonlinear MHD code JOREK as required to meet the aims of the research programme as well as for the execution of nonlinear MHD simulations. He will also play an active role in the supervision of PhD student(s).

Location

The location of work will be the FOM Institute for Plasma Physics Rijnhuizen in Nieuwegein, The Netherlands. The opportunity is provided to visit other fusion physics research institutes abroad with which active collaborations exists (for example, CEA Cadarache in France, and Max-Planck IPP Garching in Germany).

Requirements for this position

Applicants should have (or should expect to soon have) a PhD degree in Plasma Physics or Nuclear Fusion, and should preferably have ample experience with nonlinear MHD modelling and high performance computing. The capability to work effectively in a team is essential.

Conditions of employment

We offer a fulltime temporary employment for the duration of two years. The gross monthly salary is dependent on qualifications and experience and ranges from € 2.979,- to € 3.766. The salary is supplemented with a holiday allowance of 8% and an end-of year bonus of 8.33%. The envisaged starting date of the appointment is between 1st November 2010 and 1st January 2011.

Information

The employment conditions are laid down in the Collective Labour Agreement for Research Centres (CAO-Onderzoekinstellingen), which can be found, together with general information about working at FOM, at www.fom.nl under Personneelsinformatie (in Dutch) or under Personnel (in English). Information on the research at FOM Rijnhuizen can be found at www.rijnhuizen.nl. For further information on the post-doc position please contact dr. Egbert Westerhof (E.Westerhof@rijnhuizen.nl).

Applications

Please send your letter of application and resume **before August 15, 2010**, to drs. Karijn Heling, FOM-Institute for Plasma Physics, P.O. Box 1207, 3430 BE Nieuwegein, The Netherlands, or by e-mail to vacancies@rijnhuizen.nl. Please note 'vac. nr. 10-005' in your application letter.