PhD: Infinite Dimensional Lie Groups

Faculty / department Electrical Engineering, Mathematics and Computer Science
Level Master degree
Maximum employment Maximum of 38 hours per week (1 FTE)
Duration of contract 4 years
Salary scale €2222 to €2840 per month gross

Electrical Engineering, Mathematics and Computer Science

The Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS) is known worldwide for its high academic quality and the social relevance of its research programmes. The faculty's excellent facilities accentuate its international position in teaching and research. Within this interdisciplinary and international setting the faculty employs more than 1100 employees, including about 400 graduate students and about 2100 students. Together they work on a broad range of technical innovations in the fields of sustainable energy, telecommunications, microelectronics, embedded systems, computer and software engineering, interactive multimedia and applied mathematics. https://youtu.be/PsbUgi9A_cA

Research at the Delft Institute of Applied Mathematics (DIAM) centres around the analysis of mathematical models arising in science and engineering. This research is both fundamental and applied in nature. The department maintains intensive contacts with other TU Delft departments, the major technological institutes and the research laboratories of major companies. Within its own subject field, the department provides teaching for the Applied Mathematics BSc and MSc programmes and also contributes to the teaching of mathematics courses within other academic programmes at the TU Delft as well as within national programmes such as "MasterMath".

The Analysis group is one of the key research groups at DIAM. Internationally, the group has a longstanding tradition of excellence in the areas of functional analysis, partial differential equations, and stochastic analysis. The current project is part of a new line of research in the direction of differential geometry and functional analysis.

Job description

We are offering a PhD position in Mathematics, in connection with the NWO Vidi-grant "Cohomology and representation theory of infinite dimensional Lie groups". The daily supervisor will be B. Janssens. Possible directions of research are:
• Unitary representations of infinite dimensional Lie groups of a geometric origin.
• Lie algebra cohomology for infinite dimensional Lie algebras of a geometric origin.

Requirements

You are an excellent student, who recently obtained (or is about to obtain) a Master's degree in Mathematics or a related field. It will be considered an advantage if you have experience in one or more of the following subjects: differential geometry, homological

algebra, representation theory of Lie groups and Lie algebras, functional analysis (unbounded operators).

Conditions of employment

The TU Delft offers a customisable compensation package, a discount for health insurance and sport memberships, and a monthly work costs contribution. Flexible work schedules can be arranged. An International Children's Centre offers childcare and an international primary school. Dual Career Services offers support to accompanying partners. Salary and benefits are in accordance with the Collective Labour Agreement for Dutch Universities.
As a PhD candidate you will be enrolled in the TU Delft Graduate School. The TU Delft Graduate School provides an inspiring research environment; an excellent team of supervisors, academic staff and a mentor; and a Doctoral Education Programme aimed at developing your transferable, discipline-related and research skills. Please visit http://graduateschool.tudelft.nl/ for more information.

Information and application

For more information about this position, please contact Bas Janssens, phone: +31 (0)15-2785808, e-mail: B.Janssens@tudelft.nl. To apply, please e-mail your application by 1 November 2017 to Mrs. Drs. P.T.M. van den Bergh, Hr-eemcs@tudelft.nl. In your application, we will need a motivation letter, a CV, your Master's thesis, a list of grades for the courses you took, and the name and address of at least one person whom we may ask for a recommendation letter. Later applications will be considered until the position is filled.
When applying for this position, please refer to vacancy number EWI2017-33.