

New Research Training Group in Asymptotic Geometry

DFG, the German National Science Foundation, Funds Common Research Training Group of KIT and Heidelberg University with EUR 4 Million

A new Research Training Group involving mathematicians from Karlsruhe Institute of Technology (KIT) and Heidelberg University will investigate specific areas of research in geometry. Based on a successful assessment made on an international level, the DFG, the German National Science Foundation, will fund the training group investigating “Asymptotic Invariants and Limits of Groups and Spaces” with roughly EUR 4 million for a period of four and a half years. The new facility for the promotion of junior scientists will start its research activities in October 2016, staffed with ten PhD students and two post-doctoral researchers as permanent staff. Ten more PhD students and five more post-doctoral researchers will become associate members of the training group. The speakers of the research group are Professor Roman Sauer (Karlsruhe) and Professor Anna Wienhard (Heidelberg).

The central subject to be investigated by the Research Training Group is so-called asymptotic geometry. This discipline examines macroscopic properties of geometric spaces. By viewing them from a virtually remote position, the distinction between a continuous space and its discrete approximation becomes blurred. “Many people will know this phenomenon from optical illusions: For example, if you look at a fine-mesh grid from a distance, you will perceive nothing but a black surface. The discrete, separating grid structure between the lines disappears. We also take this macroscopic perspective when viewing geometric spaces,” explains Roman Sauer of KIT, speaker of the Research Training Group. Thus, asymptotic geometry enables a consistent examination of continuous and discrete geometric structures. In doing so, considerable importance is attached on the interplay of different mathematical methods. According to Professor Anna Wienhard, central research problems can often only be resolved by exploring paths that go beyond the bounds of the classical areas of mathematics. For this purpose, the expertise in geometric group theory and differential geometry from Karlsruhe will be combined with the knowledge in the field of so-called Lie groups and higher Teichmüller theory from Heidelberg. The Research Training Group is intended to

Monika Landgraf
Chief Press Officer

Kaiserstraße 12
76131 Karlsruhe, Germany
Phone: +49 721 608-47414
Fax: +49 721 608-43658
E-mail: presse@kit.edu

**For further information,
please contact:**

Margarete Lehné
Press Officer
Phone: +49 721 608-48121
Fax: +49 721 608-43658
margarete.lehne@kit.edu

establish the first systematic and institutionalized PhD education in the field of asymptotic geometry on the national and international levels, as the two speakers emphasize.

The qualification program of the Research Training Group provides the PhD students with a broad education in geometry, where they will be faced to tackle aspects of dynamics, analytics, group theory, topology, and differential geometry. Moreover, they are supposed to acquire skills in communication, presentation, and networking that are crucial for their later careers as managers in research and business. As Professor Wienhard and Professor Sauer stress, the junior scientists will also benefit from the cooperation and the interrelations of the Research Training Group with centers of mathematics in France, Israel, and the USA.

For more information on the Research Training Group, see:
www.groups-and-spaces.kit.edu

Karlsruhe Institute of Technology (KIT) pools its three core tasks of research, higher education, and innovation in a mission. With about 9,300 employees and 25,000 students, KIT is one of the big institutions of research and higher education in natural sciences and engineering in Europe.

KIT – The Research University in the Helmholtz Association

Since 2010, the KIT has been certified as a family-friendly university.

This press release is available on the internet at www.kit.edu