

Erna Scheffler Sponsorship Award for KIT Researchers

Karlsruhe Soroptimist Club Grants Awards to Computer Scientist Dr. Anja Exler and Physicist Marie Weiel-Potyagaylo – Ceremony on October 18, 2019, at the Federal Constitutional Court



The award winners Dr. Anja Exler (left) and Marie Weiel-Potyagaylo. (Photos: Andrea Fabry; Anastasiya Sultanova, KIT)

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The 2019 Erna Scheffler Sponsorship Award goes to computer scientist Dr. Anja Exler and physicist Marie Weiel-Potyagaylo of Karlsruhe Institute of Technology (KIT). For the twelfth time, the Karlsruhe Soroptimist Club confers this award for extraordinary scientific achievements to young female scientists of KIT.

The award that is granted every two years is endowed with EUR 5000 and split up into a prize for a doctoral thesis and a prize for a master's thesis.

This year's **prize for the doctoral thesis goes to Dr. Anja Exler** for her work entitled "Investigating the Perceptibility of Smartphone Notifications and Methods for Context-Aware Data Assessment in Experience Sampling Studies" written at the Institute of Telematics of KIT. Meanwhile, smartphones have become daily, personal companions. "However, they are blessing and curse at the same time. On the one

hand, they represent portable sensor systems that supply us with relevant information and can be used to communicate," Anja Exler says. "This is very useful in research, such as for the "experience sampling" survey method, for instance. Here, test persons in studies are asked questions about their everyday life." On the other hand, a smartphone may flood users with information and generate stress due to permanent availability. Hence, measures are required to filter out unnecessary information and to forward important information only, Exler points out.

In "experience sampling," researchers want to collect as many high-quality data as possible from voluntary test persons. To achieve this, a large amount of thoughtfully answered questions are required. As a rule, however, test persons want to receive as few questions as possible. A compromise is needed between the frequency of questions and the satisfaction of the test persons. In her doctoral thesis, Anja Exler studies a smart system that uses messages to collect data, but reduces the flood of information in the test person's everyday life.

This year's **Erna Scheffler Sponsorship Award for a Master's Thesis goes to Marie Weiel-Potyagaylo** for her work entitled "Integration of SAXS Data into Biomolecular Simulations" written at the Steinbuch Centre for Computing (SCC) of KIT. Small-angle X-ray scattering (SAXS) can be applied to analyze dynamic structures of macromolecules, e.g. proteins. In the body, these biomolecules act as molecular tools and depending on their individual structure, they execute various tasks. They enable cell movements or influence cell metabolism. "In the SAXS experiment, proteins dissolved in water are exposed to X-radiation. A detector records scatter radiation. The measured intensity distribution provides information on the average size and shape of the molecules contained," Marie Weiel-Potyagaylo says. "With the help of computer simulations, we can then derive a three-dimensional molecule model. Such simulations are a type of virtual microscope and provide insight into atomic details of molecular systems."

In her master's thesis, Marie Weiel-Potyagaylo integrated experimental data from SAXS measurements into simulations. This enables structural interpretation of SAXS data in the simulations and provides a detailed picture of the dynamics and, hence, function of the biomolecules studied.

About the Karlsruhe Soroptimist Club

Soroptimist International (SI) is the largest service organization of working women worldwide. SI was founded in Oakland, California/USA, in 1921 and today has more than 75,000 members in 133

countries and territories in the world. In Germany, 214 clubs with more than 6,500 members exist. The Karlsruhe Soroptimist Club was founded in 1963 by its founding president Dr. Erna Scheffler. She was the first female judge at the Federal Constitutional Court in Germany and achieved decisive progress in improving the standing of women. The award is named after her. The Karlsruhe club has about 30 members representing various professions and activities. Soroptimists are committed to improving the legal, social, and professional status of women as well as to high ethical values, human rights for all, equality, development, and peace. In a number of projects on the international, national, and local levels, SI provides financial, ideational, and personal help and grants scholarships. The name comes from the Latin “sorores ad optimum” and means “sisters wishing the best.”

Being “The Research University in the Helmholtz Association,” KIT creates and imparts knowledge for the society and the environment. It is the objective to make significant contributions to the global challenges in the fields of energy, mobility and information. For this, about 9,300 employees cooperate in a broad range of disciplines in natural sciences, engineering sciences, economics, and the humanities and social sciences. KIT prepares its 25,100 students for responsible tasks in society, industry, and science by offering research-based study programs. Innovation efforts at KIT build a bridge between important scientific findings and their application for the benefit of society, economic prosperity, and the preservation of our natural basis of life.

This press release is available on the internet at http://www.sek.kit.edu/english/press_office.php.

The photos in the best quality available to us may be downloaded under www.kit.edu or requested by mail to presse@kit.edu or phone +49 721 608-21105. The photos may be used in the context given above exclusively.

This year’s **anniversary logo** recalls the milestones reached by KIT and its long tradition in research, teaching, and innovation. On October 1, 2009, KIT was established by the merger of its two predecessor institutions: the Polytechnic School and later University of Karlsruhe was founded in 1825, the Nuclear Reactor Construction and Operation Company and later Karlsruhe Research Center in 1956.