"DESIGNING CYBERSECURITY"

Prof. Dr. Eric Bodden – joined us from the Department of Computer Science of the Technische Universität Darmstadt.

In 2013, Prof. Bodden joined Fraunhofer SIT as an Attract group leader with the goal of developing methods for Secure Software Engineering. The following year Bodden won the Heinz-Maier-Leibnitz-Prize for his excellent scientific research in this field. In 2016, he obtained a tenured professorship for Software Engineering at Paderborn University, and moved up within Fraunhofer to become Director for Software Engineering at Fraunhofer IEM. At this new institute, which has a focus on engineering mechatronic systems, the Attract group continues its research and development, but with a readjusted scope.

Today, his research group is working towards securing not only pure software systems but also smart cyberphysical systems, which rely more and more on software components. The group had already developed in the past several key technologies that are used worldwide, mostly for detecting security vulnerabilities in mobile applications. More recently, one of the market leaders in the Android ecosystems has adopted this technology. "For me, Fraunhofer opened the door to those companies," says Bodden.

CONTACT

You may get in contact directly with the management of your preferred Fraunhofer Institute. Moreover, you are welcome to contact the Fraunhofer Attract program management:

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Please visit our website for further information:
http://s.fhg.de/attract-en

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Fraunhofer

FROM IDEAS TO INNOVATIONS

ATTRACT

"DRIVING BIG IDEAS FOR HEALTH CARE INNOVATIONS"

Prof. Dr. Katja Schenke-Layland – joined us from the Cardiovascular Research Laboratories at the David Geffen School of Medicine, University of California L.A. (UCLA), USA.

In 2010, Prof. Schenke-Layland joined Fraunhofer IGB in Stuttgart as Attract group leader with the goal to design novel regenerative cardiovascular therapies by studying the interaction between stem cells and extracellular matrix (ECM) proteins during early human development.

She is currently the executive, acting Director of Fraunhofer IGB. Her research groups at Fraunhofer IGB, the Women's Hospital Tübingen and the University of California Los Angeles (UCLA) translate their findings from human cell, ECM and developmental biology into clinically relevant bioinspired materials and medical products. They develop human-based three-dimensional (3D) in vitro test systems as alternatives for animal experiments and successfully design diagnostic tools to discover and validate therapeutic candidates and diagnose diseases. "No other funding program offered me the unique opportunity to perform cutting-edge research while turning my own research data into a clinical reality. And all this within a clearly defined period of time," says Schenke-Layland.

ABOUT FRAUNHOFER

- The Fraunhofer-Gesellschaft is the leading organization for applied research in Europe.
- At present, the Fraunhofer-Gesellschaft maintains 68 institutes and research units.
- The majority of its 24,000 staff are qualified scientists and engineers.
- The annual research budget totals more than 2.1 billion euros. Of this sum, more than 1.8 billion euros is generated through contract research.
- More than 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects. Almost 30 percent is contributed by the German federal and Länder governments in the form of base funding.
- Affiliated international research centers and representative offices provide contact with the regions of greatest importance to present and future.

FRAUNHOFER ATTRACT

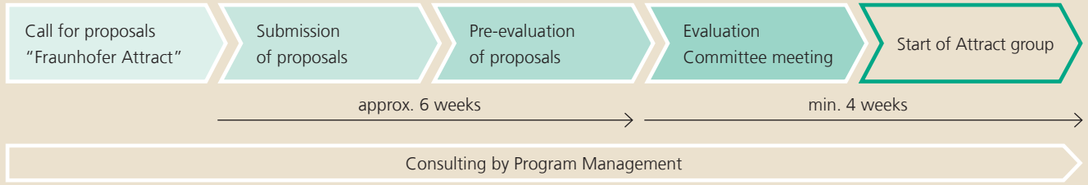
Fraunhofer Attract offers outstanding scientists the opportunity to develop their innovative ideas towards an actual application within their own research group in close cooperation with industry. The grant provides scientists with an attractive package of both funding and management responsibility.

Fraunhofer Attract in brief

- € 2.5 million research budget over five years
- Budget and recruiting responsibility – management of a new research group with several co-workers at a Fraunhofer Institute
- Outstanding working conditions in optimally equipped Fraunhofer Labs
- Perspective to establish a new R&D segment within the Fraunhofer Institute and take over executive functions
- Two calls for applications per year

Application criteria

- External candidate with extraordinary reputation and scientific achievements, minimum completed PhD or equivalent experiences
- Creative research idea with realistic potential for application-oriented development
- Compatibility of research idea and candidate's expertise with the R&D portfolio of the Fraunhofer Institute at which the group shall be embedded
- Joint application by scientist and Institute Director



For further information, please visit: http://s.fhg.de/attract-en

"SHAPING THE FUTURE OF OPTICAL DEVICES"

Dr. Adriana Szeghalmi – joined us from the Institute of Applied Physics at the Friedrich Schiller Universität in Jena.

Dr. Adriana Szeghalmi has nearly a decade's experience in ALD (Atomic Layer Deposition) of thin film coatings with a focus on optical applications. Szeghalmi started her Attract group at Fraunhofer IOF in October 2015, basing it on the results of her Emmy Noether group. "At Fraunhofer IOF, we are in an excellent position to transfer our fundamental understanding of ALD optical materials to application-oriented research," says Szeghalmi.

The ALDO group (Atomic Layer Deposition for Optics) at Fraunhofer IOF aims to establish this technology in the optical industry by extending the optical components product portfolio. To do so, the group will continue fundamental research on process development to fulfill stringent requirements on the materials. Not only are their optical properties essential for high-performance optics but also their mechanical, chemical and electrical properties. "We will offer services from one source for ALD coatings, material characterization and optical design, including testing and scale-up in mini batch production," says Szeghalmi. "Together with our partners we will shape the future of optical components and devices."