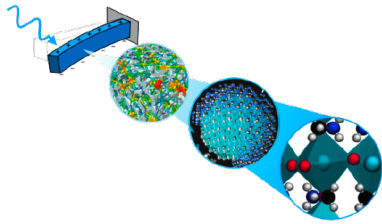


Qualification Program

A variety of interdisciplinary, theoretical, and practical training with integrated soft skills training is offered to the Doctoral Researchers. They get direct access to a wealth of collaboration opportunities, new scientific concepts, practical experience, cutting-edge experimental equipment and simulation methods, and international experts and industrial partners.



Completion in three years

Year 1

- Kick-off Meeting
- Ring Lectures
- Introductory Lecture Series
- Collaborative Project
- Invited Colloquia
- Soft Skill Workshops

Year 2

- 1st IRTG Yearly School
- Tutorials and Hands-on Workshops
- Focused Lecture Series
- Collaborative Project
- Invited Colloquia
- Japanese Cultural Program
- Soft Skill Workshops

Year 3

- 2nd IRTG Yearly School
- Tutorials and Hands-on Workshops
- Advanced Lecture Series
- Invited Colloquia
- International Meeting on Coupled Energy Systems
- Soft Skill Workshops

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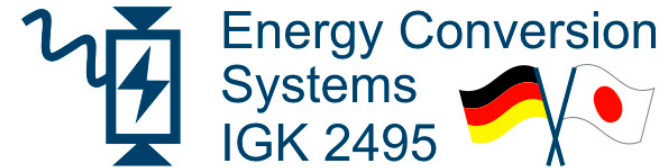
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International Research Training Group
GRK 2495:

ENERGY CONVERSION SYSTEMS From Materials to Devices



Herausgeber: Stabsstelle Presse und Kommunikation/ FAU, verantwortlich für den Inhalt: Julia Berger, Grafiken: Prof. Webber; Foto Titel: Julia Berger

Research Program

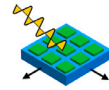
We aim to create an international learning lab to train the next generation of scientists and engineers to work on sustainable energy solutions. Perovskite materials show significant promise for energy applications including energy conversion and storage for cutting edge applications.

Project L



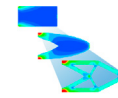
Modeling of Defect and Surface Chemistry of Perovskites

Project A



Electronic Circuits for Piezoelectric Energy Harvesting and Sensor Array Systems

Project B



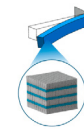
Excitation-Conforming, Shape-Adaptive Mechano-Electrical Energy Conversion

Project K



Multi-Scale Modeling of Electromechanical Coupling in Perovskite-Based Ferroelectric Materials and Composites

Project C



Macroscale Continuum Modeling and FE Simulation of Electromechanical Coupling in Perovskite-Based Materials

Project J



Solution Processed Ferroelectrics in Photovoltaic Devices

Project D



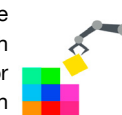
Additive Manufacturing of Cellular Lead-Free Ceramics

Project I



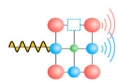
Growth of Single Crystal Transition Metal Perovskite Chalcogenides

Project E



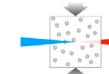
Lead-Free Perovskite Semiconductors with Tunable Bandgap for Energy Conversion

Project H



Stress Modulated Electromechanical Coupling of Lead-Free Ferroelectrics

Project G



Formulation and Crystallization of Perovskite Bearing Glass-Ceramics for Light Management

Project F



Room Temperature Aerosol Deposition of Lead-Free Ferroelectric Films for Energy Conversion Systems

Nagoya Institute of Technology

The IRTG is specifically designed to bring together scientists and research groups from Germany and Japan with complementary expertise to facilitate internal and international collaboration.

NI Tech and FAU are departmental partners since 2009, and University level partners since 2011. The GRK 2495 will strengthen this partnership.



Our partner institute NI Tech is located in Nagoya, in the Aichi prefecture. Aichi is located in the center of Japan, and is known as the center of Japanese technology. You can find a wide range from traditional industries like ceramics to cutting edge industries like automobiles.



JAPAN SOCIETY FOR THE PROMOTION OF SCIENCE

日本学術振興会