Energy Conversion Systems IGK 2495

The international doctoral program IGK 2495 was established in 2019 with our partner institute, the Nagoya Institute of Technology, Japan.

Alternative energy sources are becoming increasingly critical, not only as a source of renewable energy but also for high-tech applications, such as powering unattended wireless sensors. IGK 2495 is focused on a challenging and internationally critical research field of understanding and engineering the photo-electro-mechanical coupling in lead-free perovskites, which is inherently interdisciplinary and multi-length scale in nature.

The IGK 2495 research programme is specifically designed to foster innovation and collaborative interactions on this multi-length scale interdisciplinary project by bringing together internationally recognized scientists that represent complementary research fields in simulations, material synthesis, 2D and 3D structure development, multimodal device engineering, and characterization methods from the macroscopic down to the atomic scale.

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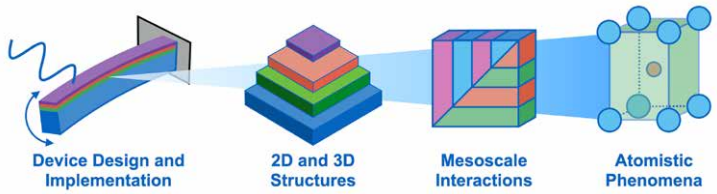
FAU
Friedrich-Alexander-Universität
Erlangen-Nürnberg

International Research Training Group
GRK 2495

Energy Conversion Systems – From Materials to Devices



3rd Yearly School

January, 19th – 20th 2024
Hotel Rheingold, Bayreuth

and

January, 25th – 26th 2024
Friedrich-Alexander-Universität
Erlangen-Nürnberg

igk2495.fau.de

Day 1

January 19th (in Bayreuth)

08:15

Joint Bus Ride from Erlangen Station / Großparkplatz

10:30 – 11:00 *Room Isolde*

Opening & Welcome

11:00 – 12:00 *Room Isolde*

Invited Talk
Prof. Dr. Marin Alexe (University of Warwick):
Induced Functionalities by Symmetry Breaking

12:00 – 13:30 *Dining Area*

Lunch Break

13:30 – 16:00 *Room Tristan*

Poster Presentations

A		Duan, Xianyi Kaffah, Silmi Dr. Dr. Kirchner, Jens	G		Deng, Hongyi Otsuka, Takahito
B		Sommer, Andre Watanabe, Yuya Dev, Chaitanya	H		Kraft, Viktoria Dr. Kimura, Koji
C		Schwarz, Michael Yamamoto, Ryota Dr. Martin, Alexander	I		Jamshaid, Sumbal Rho, Kongshik
D		Hoffmann, Patrizia Simon, Swantje Weichelt, Michelle	K		Durdiev, Dilshod Wang, Xuejian Tshikwand, Georgino
E		Günthert, Marina Lobo, Ntumba Dr. Osvet, Andres Zhang, Endong	L		Gan, Rongguang Goßler, Mattis Ziegler, Andreas
F		Dr. Khansur, Neamul Kuhfuß, Michel Nozaki, Takumi Dr. Shi, Xi	Start-up		Dr. Eckstein, Udo

16:00 *Room Tristan or Isolde*

Individual Project Meetings with Snacks

Please check in into your room before 19:00.

19:00 *Dining Area*

Joint Dinner

Day 2

January 20th (in Bayreuth)

Please check out of your room before 9:00.

9:00 – 10:15 *Room Isolde*

Collaborative Project Presentations

Team 1: Investigations on Opto-electro-mechanical Sensing Applications Based on Bismuth Ferrite - Simulation and Manufacturing

Team 2: Piezophotonic and Photostrictive Effect in Rare-earth Metal Doped Glass-ceramics

Team 3: Co-Deposition of Photo-rerroelectric Heterostructures

10:15 – 10:30 *Room Isolde*

Final Remarks

11:00 – 16:00

Cultural Activities
Catacombs Tour
Joint Lunch at Manns-Bräu
Visit to the Ur-Museum

16:45

Joint Bus Ride to Erlangen Station

Day 3

January 25th (at FAU)

09:00 - 16:00

Tutorials

Prof. Webber **Functional Thick Films with Aerosol Deposition**	Dr. Khansur **Structure-Property Relationships of Perovskites**	Dr. Wendler **Phase Field Modeling**

Hands-on Workshops

M. Kuhfuß & S. Kaffah **Depositing Thick Films with Aerosol Deposition**	M. Weichelt & H. Deng **X-Ray Diffraction of Perovskites**	X. Wang & M. Gossler **Phase Field Modeling Using COMSOL**

17:00 – 19:00 *SR TM 00.044*

Young Researcher Forum

Day 4

January 26th (at FAU)

10:00 - 17:00

Tutorials

Prof. Wellmann **Semiconductor Wafer Characterization**	Prof. Brabec **Lead-Free Photovoltaics**	Prof. Steinmann **Finite Element Approaches to Coupled Problems**

Hands-on Workshops

S. Jamshaid & V. Kraft **Application of Optical Absorption Mapping to Determine Charge Carrier Concentration in Inorganic Semiconductors**	M. Günthert **Characterizing Photovoltaic Cells**	A. Sommer & M. Schwarz **Finite Element Approaches to Coupled Problems**

18:30 *K3*

Final Get-together and Award Ceremony