GRK 2948 Symposium on "Mixed Ionic-Electronic Transport"

19th – 21st October 2026

Marsilius-Kolleg, Im Neuenheimer Feld 130.1, 69120 Heidelberg, Germany

Monday 19th October	Tuesday 20th October	Wednesday 21st October
9:00 **Reception & Hanging Posters**	9:00 (Invited) **Igor Zozoulenko** (Linköping University, Sweden)	9:00 (Invited) **Minghao Yu** (Dresden University of Technology, Germany)
	9:40 (Contributed) **Tobias Krebs** (Heidelberg University, Germany)	9:40 (Contributed) **Philipp Kollenz** (Heidelberg University, Germany)
10:00 **Welcome**	10:05 **Coffee Break**	10:05 **Coffee Break**
10:10 (Invited) **Colin P. Nuckolls** (Columbia University, USA)	10:40 (Invited) **Alessandro Troisi** (University of Liverpool, UK)	10:40 (Contributed) **Christian Delavier** (Heidelberg University, Germany)
10:50 (Invited) **Birgit Esser** (Ulm University, Germany)	11:20 (Contributed) **Richard Schömig** (Hamburg University of Technology, Germany)	11:05 (Contributed) **Mona M. Hämmerle** (Heidelberg University, Germany)
11:30 (Contributed) **Fabio Quarti** (Heidelberg University, Germany)		
12:00 **Lunch**	12:00 **Lunch**	11:30 **Poster Awards & Farewell**
13:30 (Invited) **Natalie Banerji** (University of Bern, Switzerland)	13:30 (Invited) **Nicola H. Perry** (University of Illinois Urbana-Champaign, USA)	12:30 **Internal Meeting** Cleaning Up Feedback & Debriefing *(GRK 2948 Doctoral Researchers Only)*
14:10 (Contributed) **Xiuming Sun** (University of Stuttgart, Germany)	14:10 (Invited) **Sahika Inal** (King Abdullah University of Science and Technology, Saudi-Arabia)	
14:35 (Contributed) **Florian Stammer** (Heidelberg University, Germany)	14:50 **Poster Session 2 & Coffee**	
15:00 **Coffee Break**		
15:40 (Invited) **Alexander Giovannitti** (Chalmers University of Technology, Sweden)	16:30 (Invited) **Giuseppe Ciccone** (Free University of Bozen-Bolzano, Italy)	
16:20 (Contributed) **Yanzhe Huang** (University of Stuttgart, Germany)	17:10 (Contributed) **Luca Bischof** (Heidelberg University, Germany)	16:30 **Goodbye**
17:00 **Poster Session 1 & Dinner**	Poster Removal	
	17:35 **IAB Meeting**	
	19:00 **Invited Speakers & Organizers Dinner**	

New Materials & Material Modification
Modelling & Simulation
Transport & Spectroscopy
GRK 2948 Internal

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Full Schedule

Monday 19th October

9:00 – 10:00 h
Reception & Hanging Posters

10:00 – 10:10
Welcome
Prof. Jana Zaumseil & Prof. Sabine Ludwigs

10:10 – 10:50 h Invited Talk

Colin P. Nuckolls
Columbia University, USA
"Designing Ion and Electron Transport in Twisted Graphene Nanoribbons"

10:50 – 11:30 h Invited Talk

Birgit Esser
Ulm University, Germany
"Organic Electrode Materials in Next-Generation Batteries"

11:30 – 11:55 h Contributed Talk

Fabio Quarti
Heidelberg University, Germany
"Decorating Carbon-based Nanomaterials with Organic Cages for the Detection of Nitrates"

12:00 – 13:30
Lunch

13:30 – 14:10 h Invited Talk

Natalie Banerji
University of Bern, Switzerland
"Visible, Raman and Terahertz Spectro-Electrochemistry to Probe Charge Carriers in Organic Transistors (OECTs)"

14:10 – 14:35 h Contributed Talk

Xiuming Sun
University of Stuttgart, Germany
"Electrochemical Doping of Naphthalenediimide-Bithiazole-Copolymer Films: from Fundamentals to Devices"

14:35 – 15:00 h Contributed Talk

Florian Stammer
Heidelberg University, Germany
"In Situ Raman Microscopy of Water-gated Single-Wall Carbon Nanotube Transistors"

15:00 – 15:40
Coffee Break

15:40 – 16:20 h Invited Talk

Alexander Giovannitti
Chalmers University of Technology, Sweden
"Purification of Conjugated Polymers by High-Performance Liquid Chromatography"

16:20 – 16:45 h Contributed Talk

Yanzhe Huang
University of Stuttgart, Germany
"A Self-Stratified PEDOT:PSS / TPU Blend Smart Actuator"

17:00 – 19:00 h
Poster Session 1 & Dinner

Tuesday 20th October

9:00 – 9:40 h Invited Talk

Igor Zozoulenko
Linköping University, Sweden
"Density of States in Conducting Polymer Films"

9:40 – 10:05 h Contributed Talk

Tobias Krebs
Heidelberg University, Germany
"Ion Density of States in Conducting Polymer Films"

10:05 – 10:40 h
Coffee Break

10:40 – 11:20 h Invited Talk

Alessandro Troisi
University of Liverpool, UK
"Modelling Materials with Mixed Ionic-Electronic Transport: From Brute Force to Reduced Models"

11:20 – 11:45 h Contributed Talk

Richard Schömig
Hamburg University of Technology, Germany
"From Ion Hydration to Differential Capacitance: Charge Storage at Aqueous Electrified Interfaces"

12:00 – 13:30 h
Lunch

13:30 – 14:10 h Invited Talk

Nicola H. Perry
University of Illinois Urbana-Champaign, USA
"Coupled Behavior in Mixed Conducting Perovskite Oxides"

14:10 – 14:50 h Invited Talk

Sahika Inal
King Abdullah University of Science and Technology, Saudi-Arabia
"Effect of Electrolyte Uptake on the Performance of Polymeric Electrodes and Transistors"

14:50 – 16:30 h
Poster Session 2 & Coffee Break

16:30 – 17:10 h Invited Talk

Giuseppe Ciccone
Free University of Bozen-Bolzano, Italy
"Electrochemically-Assembled Polymeric Architectures for Adaptive Mixed Ionic–Electronic Biointerfaces"

17:10 – 17:35 h Contributed Talk

Luca Bischof
Heidelberg University, Germany
"Critical Discussion of Light-Enhancing the Li-Ion Battery Cathode $LiMn_2O_4$: Separating Light and Heat"

17:35 h
Poster Removal

17:35 – 18:30 h
International Advisory Board (IAB) Meeting for GRK 2948 PIs and IAB Members

19:00 h
Invited Speakers & Organizers Dinner

Wednesday 21st October

9:00 – 9:40 h Invited Talk

Minghao Yu
Dresden University of Technology, Germany
"Emerging Two-Dimensional Materials: Charge and Ion Transport Properties and Applications"

9:40 – 10:05 h Contributed Talk

Philipp Kollenz
Heidelberg University, Germany
"Defect-Mediated Opto-Ionic Transport in Hybrid Perovskites for Edge-Compatible Reservoir Computing"

10:05 – 10:40 h
Coffee Break

10:40 – 11:05 h Contributed Talk

Christian Delavier
Heidelberg University, Germany
"3D Digital Light Processing of Redox-Active Carbazole-Polymers for Electrochemical Applications"

11:05 – 11:30 h Contributed Talk

Mona M. Hämmerle
Heidelberg University, Germany
"Towards PEDOT-Incorporated Hydrogel Scaffolds on the Micro-Scale"

11:30 h
Poster Awards & Farewell

12:30 – 16:30 h

GRK 2948 Internal Session
GRK 2948 Doctoral Researchers Only

Cleaning Up
Feedback & Debriefing

GRK 2948

Poster Session 1

New Materials & Material Modification	Transport & Spectroscopy	Modelling & Simulation
Pooja Jangra (#1) *"Functionalization of an Ion-Selective Organic Cage for Mixed Ionic-Electronic Semiconductors"*	**Yachen Li (#7)** *"Time-Resolved Photoluminescence Imaging of Carrier Density in (6,5) SWCNT Electrochemical Transistors"*	**Matteo Tosi (#13)** *"Ion Movement as a Key Parameter to Understand Charge Carrier Mobility in Doped Organic Semiconductors"*
Silas Eiden (#3) *"3D DLP Fabrication of Electrically Conductive Polypyrrole Nanocomposites"*	**Garrett May (#9)** *"Quantifying Anisotropic Charge Carrier Diffusion"*	**Felix Rinke (#15)** *"Modeling and Characterization of Coupled Behavior in Conductive Polymers"*
Mario Feinauer (#5) *"Silver Nanowire Hybrid Microgels with Tunable Electrical and Mechanical Properties"*	**Tom Wickenhäuser (#11)** *"Redox-Active Organic Materials for Lithium-Ion Batteries"*	**Léo Legrand (#17)** *"Scale-Bridging Simulation to Transport and Swelling Properties of (Semi-)Conducting Polymers"*

Poster Session 2

New Materials & Material Modification	Transport & Spectroscopy	Modelling & Simulation
Jana Lohmann (#2) *"3D DLP Printing of Responsive Cellulose Derivatives"*	**Elisabeth Weber (#6)** *"Engineering Conductive Hydrogel Microcapsules for the Restoration of the Electrical Function in Cardiac Tissue"*	**Kira Fischer (#14)** *"Coupled Electronic Tight-Binding and Ion Dynamics for Mixed Ionic–Electronic Charge Transport"*
Silvia Cucinella (#4) *"TriBenzoTriQuinacene(TBTQ)-based Cage as Host for Hyperpolarized Xenon-129 for Magnetic Resonance Imaging"*	**Jieyuan Zheng (#8)** *"On Spin and Charge in Perovskite and Antiperovskite Materials: Battery, Magnetic and Thermodynamic Studies"*	**Gönç Berk Günes (#16)** *"Rheology of 3D-Printed PEDOT:PSS/PVA Hydrogels at Varying Temperature and Relative Humidity"*
	Tobias Gehlhaar (#10) *"Universal Current Transients in Two-Terminal Electrochemical Memristive Devices"*	**Alireza Karimpour (#18)** *"Pulse-Controlled Conductance Modulation in 2-Terminal LEC-Based Memristive Devices"*
	Palak Mehra (#12) *"Uncovering Ion Trapping in Amorphous Electrochromic Polymer Films"*	