

Joint Symposium on Nanomaterials for Energy Applications

November 4-5, 2019

Venue: University of Duisburg-Essen (UDE), NETZ, Room 2.42
Carl-Benz-Str. 199, 47057 Duisburg, Germany

November 4, 2019 (Monday)

- | | |
|-------|--|
| 09:30 | Registration |
| 10:15 | Malte Behrens (Deputy Scientific Director CENIDE, Speaker
CRC/TRR 247, UDE)
Takaki Kanbara (Director TREMS, Tsukuba)
Tobias Teckentrup (Managing Director CENIDE, UDE)
Opening Remarks |

Chairman: Malte Behrens (CENIDE, UDE)

- | | |
|---------------|---|
| 10:30 – 11:00 | Takaki Kanbara (TREMS, Tsukuba)
Direct arylation polycondensation: Facile access to
semiconducting polymers |
| 11:00 - 11:30 | Yohei Yamamoto (TREMS, Tsukuba)
Organic/Polymeric Semiconductor Microlasers |
| 11:30 – 12:00 | Tilmar Kümmell (CENIDE, UDE)
Scalable optoelectronic devices based on 2D semiconductors |
| 12:00 – 12:15 | <i>Group photo</i> |
| 12:15 – 13:30 | <i>Lunch and poster session</i> |
| 13:30 – 14:30 | Lab tour NanoEnergieTechnikZentrum (NETZ) and
Interdisciplinary Center for Analytics on the Nanoscale (ICAN) |

Chairman: Takaki Kanbara (TREMS, Tsukuba)

- 14:30 – 15:00 Nicolas Wöhrl (CENIDE, UDE)
Single-source, One-step Plasma Synthesis of Carbon Nanowall Hybrid Materials
- 15:00 – 15:30 Oleg Prymak (UDE)
Temperature-induced transformation in CuO/MgO and CuO/ZnO pre-catalysts studied by *in situ* XRD and TEM
- 15:30 – 16:00 *Coffee Break*

Chairman: Yohei Yamamoto (TREMS, Tsukuba)

- 16:00 – 16:30 Niels Benson (CENIDE, UDE)
Trap Evaluation in MAPI thin films for photovoltaic applications
- 16:30 – 17:00 Yutaka Moritomo (TREMS, Tsukuba)
Tertiary battery as energy-harvesting device
- 17:00 – 17:30 Roland Schmechel (CENIDE, UDE)
Thermoelectrics with bipolar charge carriers: A proof of concept with pn-junctions
- 17:30 – 18:00 Masahiro Sasaki (TREMS, Tsukuba)
Unusual Features of Field Electron Emission from Carbon Nanomaterials
- 19:00 *Joint Dinner*

November 5, 2019 (Tuesday)

Chairman: Junji Nakamura (TREMS, Tsukuba)

- 09:00 – 09:30 Takahiro Kondo (TREMS, Tsukuba)
Hydrogenated Borophene Sheets: Synthesis, Characterization,
and Application
- 09:30 – 10:00 Sven Reichenberger (CENIDE, UDE)
Pulsed laser post processing of transition metal oxides for
catalysis research applications
- 10:00 – 10:30 Kotaro Takeyasu (TREMS, Tsukuba)
Catalysts for CO₂ conversion to ethanol and its mechanistic
aspects
- 10:30 – 11:00 *Coffee break*

Chairman: Heiko Wende (CENIDE, UDE)

- 11:00 – 11:30 Malte Behrens (CENIDE, UDE)
Cobalt-iron catalysts for oxidation reactions
- 11:30 – 12:00 Sven Anke (Ruhr-University Bochum)
Unsupported Cobalt-based Spinel Nanoparticles Applied in 2-
Propanol Gas-Phase Oxidation
- 12:00 – 12:30 Soma Salamon (CENIDE, UDE)
Element-specific measurements on mixed-oxide catalysts
- 12:30 – 12:45 *Group photo*
- 12:45 – 13:30 *Lunch and poster session*

Chairman: Tatsuya Nabeshima (TREMS, Tsukuba)

- 13:30 – 14:00 Junji Nakamura (TREMS, Tsukuba)
Mechanism of oxygen reduction reaction on N-doped carbon
catalysts

- 14:00 – 14:30 Baris Alkan (CENIDE, UDE)
Synthesis parameters, material characterization details of spray-flame made $\text{LaCo}_{1-x}\text{Fe}_x\text{O}_3$ perovskites
- 14:30 – 15:00 Eiji Nishibori (TREMS, Tsukuba)
In-situ SR diffraction study of hydrothermal nano-particle synthesis
- 15:00 – 15:30 *Coffee break*

Chairman: Nicolas Wöhrle (CENIDE, UDE)

- 15:30 – 16:00 Tatsuya Nabeshima (TREMS, Tsukuba)
Creation of Unique Structures and Functions by Utilizing Coordination Bonds
- 16:00 – 16:30 Masaki Hada (TREMS, Tsukuba)
Ultrafast structural dynamics for energy materials
- 16:30 – 17:00 Frank Meyer zu Heringdorf (CENIDE, UDE)
Nonlinear Electron Emission from Strong Surface Plasmon Polaritons
- 17:00 – 17:30 Malte Behrens (Deputy Scientific Director CENIDE, Speaker CRC/TRR 247, UDE)
Takaki Kanbara (Director TREMS, Tsukuba)
Closing remarks