



Joint Yamagata University/Justus-Liebig University Workshop on Functional Materials

The 14th ECS Yamagata University Student Chapter
Symposium

28.09.2022, 13:00 (s.t.)

Physics Lecture Hall Building, Lecture Hall 3
Justus-Liebig University Gießen

**All ZfM members– students, researchers, professors – are welcome to join!
No prior registration needed.**

Organizers:

Center for Materials Research (ZfM/LaMa)

ECSYU

**Joint Yamagata University/Justus-Liebig University Workshop on Functional Materials
(by ECSYU and ZfM/LaMa)**

Date: 2022/09/28

Location: Physics Lecture Hall Building, Lecture Hall 3 (Talks) & Lobby (Posters)

Since the start of the Covid19-Pandemic, international exchange with Japan has been on a halt – until Japan started reopening its borders in April 2022! To promote international exchange, the Justus-Liebig University Center for Materials Research (ZfM/LaMa) and the Electrochemical Society Yamagata University Student Chapter (ECSYU) host this joint workshop on functional materials on 28th September 2022.

The event's first part (starting 13:00) consists of welcoming talks and introductions of working groups of both universities. Specifically, the groups of Prof. Schlettwein and Prof. Chatterjee (JLU FB07), Prof. Janek and Prof. Smarsly (JLU FB08) and Prof. Tsukasa Yoshida (YU) will be introduced.

The second part (starting 14:45) begins with four scientific 15-minute talks, followed by two 1-hour poster sessions.

Part 1 (13:00 – 14:30)

Introduction by Tensho Nakamura & Daniel Holzacker

Welcoming talk & working group introductions:

- Prof. Derck Schlettwein: Molecular Materials
- Prof. Jürgen Janek: Physical Chemistry of Solids - Solid State Ionics and Electrochemistry
- Prof. Sangam Chatterjee: Spectroscopy and Optics
- Prof. Bernd Smarsly: Advanced Functional Nanomaterials

Prof. Tsukasa Yoshida: Global Challenges of Yamagata University Carbon Neutral Research Center (YUCaN) and Yoshida Group

Part 2 (14:45 – 17:45)

Solution processing of functional thin films – Dr. Lina Sun (Yamagata University Innovation Center for Organic Electronics)

Electrocatalytic reduction of CO₂ – Dr. He Sun (Johannes Kepler University Linz)

In Situ and In Operando KPFM Studies on OFET Based on Hexadecafluoro-Copper-Phthalocyanine (F₁₆PcCu) to Access Energy Level Alignment and Electrical Contact Resistance – M.Sc. Pascal Schweitzer (JLU Schlettwein group)

Harnessing the Potential of Porous ZnO Photoanodes by Atomic Layer Deposition of Mg-doped ZnO – M.Sc. Andreas Ringleb (JLU Schlettwein group)

Poster session 1: Yoshida Laboratory (Bachelor and Master Students)

Poster session 2: Schlettwein Laboratory + Yoshida Laboratory (Doctoral Students)

Poster sessions details

Session 1:

Hana Kudo	Effect of Substrate Electrode on ZnO Electrodeposition
Junya Kimura	Crystal Structure and Exciton Behavior of EosinY and Methylene Blue Organic Dye Pair Exhibiting Photo-Induced Charge Separation
Atsuhiko Ueno	Electrodeposition of CuSCN / Neutral Red Thin Film as Hybrid Electrocatalyst for CO ₂ Reduction Reaction
Ayumu Nagaoka	Photochemical Gel Conversion of Polytitanoxane Precursor Layers to Dense and Void Free Titanium Oxide Thin Films
Daiki Kono	Electropolymerization of Neutral Red
Midori Suzuki	Hybridization of CuSCN and ZnO / MB-EY Thin Film
Shunpei Shimizu	Synthesis of Copper Zinc Tin Oxide (CZTO) by Coprecipitation Method
Mao Goto	Electrodeposition of CuSCN/TCNIH, MV Hybrid Thin Films for Charge Transfer Organic Solar Cells

Session 2:

Kyota Uda	Tuning of Morphological, Crystallographic and Optoelectronic Properties in Electrodeposition of CuSCN for Device Applications
Tensho Nakamura	Electrocatalysis of Oxygen Reduction Reaction for Electrodeposition of ZnO Thin Films
Satoshi Chubachi	Development of Redox active Zn-based Metal-Organic Frameworks
Tim Schneider	Charge Carrier Properties of Cs ₂ AgBiBr ₆ in Thin Films for Perovskite Solar Cells
Sophie Göbel	Influence of Water in the Electrolyte on the Electrochromic Characteristics of WO ₃
Hai Quyen Nguyen	Increase of the Spectroelectrochemical Performance of WO ₃ Films by Using Additives During Film Growth
Daniel Holzacker	Analysis of Electron-Transfer in Water-Based Dye-Sensitized Solar Cells
Sara Domenici	Improvement of the Architecture of Water-Based Dye-Sensitized Solar Cells