

Lecture program

October 29 Opening, oral scientific session

13:30-15:05 Opening & Spintronics and Computational Materials Science **Chair: M. Fujita**

Welcome Address

K. Takanashi

- I1 Bose-Einstein Condensation of Magnons by Instant Cooling
B. Hillebrands, TU Kaiserslautern 11
- C2 Spintronics and Spin-Caloritronics in Ordered-Alloy Systems
K. Takanashi, IMR 12
- C3 Theoretical Spintronics at the IMR
G. E. W. Bauer, IMR 13
- C4 Multi-Physics Simulation on Fracture and Wear Processes with Chemical Reactions
M. Kubo, IMR..... 14

15:25-17:05 Materials for Energy

Chair: G. E. W. Bauer

- I5 Storage of Renewable Energy by Hydrogen and Reduction of CO₂
A. Züttel, EPFL SB ISIC LMER 15
- I6 Defects in Kyropoulos Ti-Doped Sapphire for Laser Applications
T. Duffar, Grenoble INP 16
- C7 Complex Hydrides for Energy Device Research
S. Orimo, IMR 18
- C8 Design, Crystal Growth, Scintillation Properties and Social Implementation of Ce Doped
Gd₃(Ga,Al)₅O₁₂ Single Crystal
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October 30 Oral & poster scientific sessions

9:00-10:30 Materials for Infrastructure and Analytical Science **Chair: H. Kato**

I9	Effect of B2 Morphology on the Mechanical Properties of Dispersion Strengthened Lightweight Steels N.-J. Kim, POSTECH	21
C10	Recent Research Activities in Deformation Processing A. Chiba, IMR.....	22
C11	Light Element Strategy in Advanced High-Strength Low-Alloy Steels T. Furuhashi, IMR	23
C12	TEM and STEM: How We Can Make Most of Them? - Some Application to Metallic Systems for Infrastructure- T. J. Konno, IMR.....	24

10:50-12:20 Materials Physics, Chemistry and Electronics **Chair: D. Aoki**

I13	When Spin-Orbit Coupling Meets with Electron Correlations H. Takagi, MPI for Solid State Research	25
C14	Emergent Phenomena at Thin Film Heterostructures A. Tsukazaki, IMR	26
C15	π -Electron Physics in Organic Molecular Materials T. Sasaki, IMR	27
C16	Porous Magnets for Gas Sensing H. Miyasaka, IMR	28

13:40-15:10 Collaborating Research Facilities

(Nuclear Engineering/High Magnetic field/Quantum Beam/Industry) **Chair: S. Awaji**

I17	Reinforcing Safety of Nuclear Installations through Collaborative Research in Science and Technology E. van Walle, SCK·CEN/KU Leuven	29
C18	Research Activity on Irradiation Effects in Nuclear Materials and Actinide Science at International Research Center for Nuclear Materials Science Y. Nagai, IMR	30
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C20	Industry-Academia-Government Collaboration Activities in Trans-Regional Corporation Center N. Masahashi, IMR	32

15:30-17:00 Poster Session

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The proceedings will be given out at the SMS2018