



The 4th International Symposium for
The Core Research Cluster for Spintronics



JST

【DAY 1】 February 24 (Wednesday)

as of February 12, 2021

12:50 – 13:00	Opening Address: Hideo Ohno, President of Tohoku University
13:00 – 13:40	Plenary Session I Chair: Eiji Saitoh Mutsuko Hatano (Tokyo Institute of Technology) “Potential of diamond: Solid-state quantum sensors”
	Session 1 – Spin-based Sensing Chair: Satoshi Okamoto
13:40 – 14:10	Yasuo Ando (Tohoku University) “High-sensitivity magnetic field sensor using ferromagnetic tunnel junction”
14:10 – 14:40	Yuta Masuyama (National Institutes for Quantum and Radiological Science and Technology) “Highly sensitive diamond quantum magnetometer with robustness against environmental noise”
14:40 – 14:50	Break (10 min.)
	Session 2 – Neuromorphic Spintronics Chair: Shunsuke Fukami
14:50 – 15:20	S. N. Piramanayagam (Nanyang Technological University) “Domain Wall Devices with Ultra-low energy consumption as Synapses for Neuromorphic Computing”
15:20 – 15:50	Weichao Yu (Tohoku University) “Intelligent magnetic textures”
15:50 – 16:20	Himanshu Fulara (University of Gothenburg) “Voltage-Controlled Spin Hall Nano-Oscillators For Neuromorphic Computing”
16:20 – 16:30	Break (10 min.)
16:30 – 17:10	Plenary Session II Chair: Yoshiro Hirayama Klaus von Klitzing (Max Planck Institute) “40 Years Quantum Hall Effect -Metrology and Spin Physics- ”
	Session 3 – Nuclear-spin Physics in Semiconductor Quantum Systems Chair: Junsaku Nitta
17:10 – 17:45	Yoshiro Hirayama (Tohoku University) “Resistively-detected NMR in semiconductor quantum structures”
17:45 – 18:10	Hongwu Liu (Jilin University) “InSb-based RDNMR measurement: Recent developments”
18:10 – 18:35	Katsushi Hashimoto (Tohoku University) “Nuclear Electric Resonance Microscopy of Quantum Hall Systems”
18:35 – 19:00	Break (25 min.)
19:00 – 20:30	Poster Session



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【DAY 2】 February 25 (Thursday)

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	Session 4 – Spintronics Related Theory Chair: Gerrit E. W. Bauer
13:00 – 13:30	Zhe Yuan (Beijing Normal University) “Electronic structure theory of anisotropic magnetoresistance and its experimental confirmation”
13:30 – 14:00	Michael Kammermeier (Victoria University of Wellington) “Spin Helix in Quantum Wells with General Crystal Orientation”
	Session 5 – Photo Spintronics Chair: Shigemi Mizukami
14:00 – 14:30	Satoshi Iihama (Tohoku University) “Optical control of magnetization in metallic heterostructure”
14:30 – 15:00	Anjan Barman (S. N. Bose National Centre) “Ultrafast spin dynamics in graphene/ferromagnet thin film heterostructures”
15:00 – 15:15	Break (15 min.)
	Session 6 – GP-Spin Session Chair: Fumihiro Matsukura
15:15 – 15:45	Justin Llandro (Tohoku University) “Intricate Magnetic Configuration of 3D Nanoscale Gyroid Networks”
15:45 – 16:00	Daisuke Iizasa (Tohoku University) “Control of spin relaxation anisotropy by spin-orbit-coupled diffusive spin motion”
16:00 – 16:15	Yao Chen (Tohoku University) “Triplon spin current in a spin Peierls system CuGeO_3 ”
16:15 – 16:30	Junta Igarashi (Tohoku University) “Ultra-small shape-anisotropy magnetic tunnel junctions: Physics and device engineering”
16:30 – 16:45	Hui Shen (Tohoku University) “A High Accuracy Cluster Validation Index Processor using Novel Global Separation and Local Dispersion based Architecture for Low-Power MTJ/CMOS Hybrid Machine Learning System”
16:45 – 17:00	Break (15 min.)
17:00 – 17:40	Plenary Session III Chair: Tetsuo Endoh John Robertson (University of Cambridge) “Magnetic Tunnel Junctions of h-BN Co compared to MgO FeCo, how would they operate?”
17:40 – 17:50	Break (10 min.)
	Session 7 – Collaborating Session with EPSRC Chair: Koki Takanashi
17:50 – 18:20	Atsufumi Hirohata (University of York) “Magnetic junctions for memory applications”
18:20 – 18:50	Mathias Weiler (Technische Universität Kaiserslautern) “Non-reciprocal Magneto-Acoustic Waves”
18:50 – 19:20	Makoto Kohda (Tohoku University) “Full spin-orbit coefficient in III-V semiconductor nanowires based on weak localization anisotropy”
19:20 – 19:50	Vincent Baltz (SPINTEC) “Spin And Charge Transport In Antiferromagnets”
19:50 – 20:20	Takeshi Seki (Tohoku University) “Development of Cu-based spin Hall materials”
20:20 – 20:30	Closing Remarks: Yoshiro Hirayama (Tohoku University)