1st Workshop on the Chicago-Tohoku Quantum Alliance

Thursday, October 5 - Friday, October 6, 2023
Aoba Science Hall, Graduate School of Science, Tohoku University

Speakers

David D. Awschalom
Pritzker School of Molecular Engineering, Vice Dean for Research and Infrastructure, University of Chicago

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Tomoki Ozawa
Advanced Institute for Materials Research, Tohoku University

Takafumi Sato
Advanced Institute for Materials Research, Tohoku University

Masaki Takata
International Center for Synchrotron Radiation Innovation Smart, Tohoku University

Kentaro Totsu
Micro System Integration Center, Tohoku University

Taro Yamashita
Graduate School of Engineering, Tohoku University

Shuolong Yang
Pritzker School of Molecular Engineering, University of Chicago

Poster Session

Poster session will be held on October 5 at 18:00-19:00

Registration: The workshop is free of charge, but registration is required.
Please register via the link below or the QR code.
https://forms.gle/BrqSzTf3XPNs5Zku9

Sponsor: National Institutes for Quantum Science and Technology (QST)

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Global Engagement Coordination Team, Tohoku University

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Aoba Science Hall (Science Complex C (H04) 2nd floor), Graduate School of Science, Tohoku University

October 5th, 2023 (***** *marks events for invited guests only. Thank you for your cooperation.*)

Opening		
9:00-9:10	**Prof. H. Ohno**	
Plenary		
9:10-9:50	**Prof. D. Awschalom**	Opportunities for Collaboration: Quantum Engineering with Semiconductors and Molecules
Molecule quantum physics		
10:00-10:30	**Prof. G. Galli**	Quantum simulations for quantum technologies
10:30-10:45	**Prof. T. Komeda**	Single-molecule magnet combined with superconductor and RF wave for quantum process
Solid-state quantum theory & transport		
11:00-11:15	**Prof. T. Koretsune**	Ab-initio effective Hamiltonian approach and its applications for material design
11:15-11:30	**Prof. T. Ozawa**	Quantum engineering of topological phases with atoms and photons
11:30-11:45	**Prof. M. Kohda**	Helical spin states in semiconductor quantum structures
11:45-13:00	Lunch Session in the Multipurpose Room, Graduate School of Science	
Superconductor & mechanical quantum systems		
13:00-13:30	**Prof. A. Cleland**	Recent progress in quantum acoustics
13:30-13:45	**Prof. T. Yamashita**	Scalable superconducting flux qubits
13:45-14:00	**Prof. J. Lustikova**	Spin injection into high temperature superconductors
14:00-14:15	**Prof. K. Totsu**	Open access fabrication facility for MEMS and other nano/micro devices
Quantum spin defect & atomic impurity		
14:25-14:55	**Prof. S. Guha**	Heterogeneous integration of materials for quantum application
14:55-15:25	**Prof. J. Heremans**	Designing optically addressable spin defects in the solid-state
15:25-15:40	**Prof. S. Kanai**	Solid-state spin defect with oxides
15:40-15:55	**Prof. H. Morishita**	Electrical detection of NV spins in diamond
Atomic layer quantum systems & ARPES		
16:10-16:40	**Prof. S. Yang**	Quantum stethoscope for layered topological materials
16:40-16:55	**Prof. T. Sato**	Micro-ARPES study of exotic 2D materials
Various computing		
17:05-17:20	**Prof. H. Kobayashi**	QA-HPC Hybrid-computing for simulation & data-analysis hybrid applications
17:20-17:35	**Prof. S. Fukami**	Stochastic magnetic tunnel junction for probabilistic computing
17:35-17:50	**Prof. J. Åkerman**	Spin wave based time-multiplexed Ising machines
18:00-19:00	Poster session in the Multipurpose Room, Graduate School of Science	
	***** Meeting of invited guests in the Seminar Room, Graduate School of Science	
19:30-21:00	***** Reception at Westin Sendai (*For invited guests only.)	

October 6th, 2023 (***** *marks events for invited guests only. Thank you for your cooperation.*)

9:00-9:30	**Prof. T. Endoh**	* Lab Tour: CIES (Center for Innovative Integrated Electronic Systems)
Art, science, and NanoTerasu		
9:45-10:15	**Prof. N. Kawalek**	Cultivating Public Interest in Quantum Science through the Arts
10:15-10:40	**Prof. M. Takata**	The NanoTerasu doctrine -Building a new range of innovation ecosystem-
11:00-11:40	* Lab Tour: Synchrotron radiation facility: NanoTerasu	
12:00-13:20	Lunch time at Aobayama Campus	
14:00-14:40	* Lab Tour: μSIC (Micro System Integrated Center)	
15:10-15:50	* Lab Tour: AIMR (The Advanced Institute for Materials Research)	