

# The 7th QST International Symposium

## “Quantum Technologies towards Harmonious Future”

Dates: 24th-25th July, 2024      Venue: G MESSE GUNMA

### Program

#### Day 1 (Wednesday, 24 July)

9:00 ~ 10:00	REGISTRATION
<b>Opening</b>	
10:00 ~ 10:03	Opening Remarks      KAWACHI Tetsuya      Chair of Organizing Committee
10:03 ~ 10:10	Opening Remarks      KOYASU Shigeo      President of QST
10:10 ~ 10:14	Greetings      MATSUURA Shigekazu      Deputy Director-General, Research Promotion Bureau (MEXT)
10:14 ~ 10:18	Greetings      YAMAMOTO Ichita      Governor of Gunma Prefecture
10:18 ~ 10:22	Greetings      TOMIOKA Kenji      Mayor of Takasaki City
<b>Plenary Session</b> Chair: OHSHIMA Takeshi (QST, Japan)	
10:30 ~ 11:15 Plenary	"Diamond Probes for Emergent Phases of Matter and SnV Based Spin Quantum Work" Jörg WRACHTRUP (University of Stuttgart, Germany)
11:15 ~ 12:00 Plenary	"Creating Quantum Technologies with Silicon Carbide and Emerging Platforms" David AWSCHALOM (The University of Chicago, USA)
12:00 ~ 12:15	Photo-Session
12:15 ~ 13:45	LUNCH
<b>Session 1 : Quantum Sensing</b> Chair: SATO Shin-ichiro (QST, Japan)	
13:45 ~ 14:15 Invited	"Optically Pumped Solid State Quantum Magnetometers for Space Application" Andreas GOTTSCHOLL (NASA Jet Propulsion Laboratory, USA)
14:15 ~ 14:45 Invited	"Electrically Detected NV Quantum Sensors" MORISHITA Hiroki (Tohoku University, Japan)
14:45 ~ 15:15 Invited	"Improvement in Sensitivity in Diamond-based Magnetometry for Biomagnetic Sensing" SEKIGUCHI Naota (Tokyo Institute of Technology, Japan)
15:15 ~ 15:35	"Quantum Sensing Technology for SiC Device Diagnostics" YAMAZAKI Yuichi (QST, Japan)
15:35 ~ 16:00	BREAK
<b>Session 2 : Quantum Computer &amp; ICT</b> Chair: NARUMI Kazumasa (QST, Japan)	
16:00 ~ 16:30 Invited	"Interaction of Silicon Vacancy Centers in 4H-SiC within Electronic Devices" Roland NAGY (Friedrich-Alexander-University Erlangen-Nuremberg, Germany)
16:30 ~ 17:00 Invited	"Diamond-Interfaced Quantum Computing Networks" KOSAKA Hideo (Yokohama National University, Japan)
17:00 ~ 17:30 Invited	"Towards Photonic Interconnects between Ion Trap Quantum Computers" TAKAHASHI Hiroki (Okinawa Institute of Science and Technology Graduate University, Japan)
17:30 ~ 17:50	"Quantum Circuit Search using Deep Reinforcement Learning" DAIMON Shunsuke (QST, Japan)
<b>Poster Session with "Dinner Reception"</b>	
18:00 ~ 20:00	Poster Presentations Light snacks & drinks are available.

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#### Day 2 (Thursday, 25 July)

<b>Session 3 : Quantum Material</b>		Chair: SAKAI Seiji (QST, Japan)	
10:00 ~ 10:30 Invited	"Quantum Photonics with Emitters in Silicon Carbide: Mesoscopic Cavity Quantum Electrodynamics"	Daniil LUKIN (Stanford University, USA)	
10:30 ~ 11:00 Invited	"Diamond for Quantum Sensing and Imaging"	MIZUOCHI Norikazu (Kyoto University, Japan)	
11:00 ~ 11:30 Invited	"Room Temperature Operation of Opto-Spintronic Devices based on III-V Semiconductor Nanostructures"	HIURA Satoshi (Hokkaido University, Japan)	
11:30 ~ 11:50	"SALMON and its Applications: First-Principles Computation for Real-Time Electron Dynamics in Quantum Materials"	YAMADA Shunsuke (QST, Japan)	
11:50 ~ 13:05 LUNCH			
<b>Session 4 : Quantum Life Science</b>		Chair: KONO Hidetoshi (QST, Japan)	
13:05 ~ 13:50 Plenary	"Hybrid Diamond Quantum Sensing Platforms"	Brant GIBSON (RMIT University, Australia)	
13:50 ~ 14:20 Invited	"Quantum Biology Phenomena from the Spin-Anisotropic Effect"	KOBORI Yasuhiro (Kobe University, Japan)	
14:20 ~ 14:50 Invited	"Quantum Sensing of Biomolecules for Liquid Biopsy"	YASUI Takao (Tokyo Institute of Technology, Japan)	
14:50 ~ 15:10	"Femtosecond Exciton Dynamics in Light-Harvesting Chromoproteins of Cyanobacteria: Energy Transfer and Quantum Coherence"	TSUBOUCHI Masaaki (QST, Japan)	
15:10 ~ 15:30 BREAK			
<b>Session 5 : Panel Discussion about "Quantum Technologies for Future"</b>			
15:30 ~ 16:10	Facilitator: OHSHIMA Takeshi (QST) Panelists: SUZUI Nobuo (CRDS / JST) UMETANI Yusuke (Q-STAR / Toyota Motor Corporation) TAKEO Masahito (Japan representative of Deutsche Messe) Simon GOORNEY (DigiQ)		
<b>Best Poster Presentation Award Ceremony</b>			
16:15 ~ 16:30	Presenter	KAWACHI Tetsuya	Chair of Organizing Committee
<b>Closing</b>			
16:30 ~ 16:35	Closing Remarks	ITOH Hisayoshi	Executive Director of QST