



## Prize (Hall 1)

<b>Aug. 18 (Thu) Fritz London Memorial Prize and Simon Memorial Prize</b>			<b>chairs: William Halperin Yoshiteru Maeno</b>	
<b>Award Ceremony for Fritz London Memorial Prize</b> Recipients: Frank Steglich, Valerii Vinokur, Qi-Kun Xue			<b>presenter: Yuichi Okuda</b>	15:00-15:15
<b>18P-PR-01</b>	<b>Fritz London Memorial Prize</b> CeCu <sub>2</sub> Si <sub>2</sub> and YbRh <sub>2</sub> Si <sub>2</sub> : Strange cases of heavy-fermion superconductivity	<b>Frank Steglich</b>	Remote	15:15-16:00
<b>Award Ceremony for Simon Memorial Prize</b> presenter: Richard Haley				16:00-16:05
<b>18P-PR-02</b>	<b>Simon Memorial Prize</b> Quantum thermodynamics in action – nanoscale electronic device approach	<b>Jukka Pekola</b>	Onsite	16:05-16:50
<b>Aug. 23 (Tue) Fritz London Memorial Prize</b>			<b>chairs: William Halperin Naoto Nagaosa</b>	
<b>23A-PR-01</b>	Topological Interplay of Superconductivity and Disorder	<b>Valerii Vinokur</b>	Onsite	9:00-9:45
<b>23A-PR-02</b>	Quantum Anomalous Hall Effect	<b>Qi-Kun Xue</b>	Remote	9:45-10:30
<b>Aug. 24 (Tue) 2020 IUPAP Young Scientist Prize in Low Temperature Physics and 2022 Early Career Scientist Prize in Low Temperature Physics</b>			<b>chairs: Richard Haley Makoto Tsubota</b>	
<b>Award Ceremony</b>			<b>presenter: Naoto Nagaosa</b>	9:00-9:10
<b>24A-PR-01</b>	<b>2020 IUPAP Young Scientist Prize</b> Pushing the boundaries of quantum vacuum in superfluid <sup>3</sup> He	<b>Samuli Autti</b>	Onsite	9:10-9:40
<b>24A-PR-02</b>	<b>2020 IUPAP Young Scientist Prize</b> Charge Confinement and Manipulation in van der Waals Nanostructures	<b>Ke Wang</b>	Remote	9:40-10:10
<b>24A-PR-03</b>	<b>2022 IUPAP Early Career Scientist Prize</b> Quantum materials under the nonlinear electromagnetic spotlight	<b>Qiong Ma</b>	Onsite	10:10-10:40
<b>24A-PR-04</b>	<b>2022 IUPAP Early Career Scientist Prize</b> Visualization of Electron-Pair Fluids and Crystals at the Atomic Scale	<b>Xiaolong Liu</b>	Remote	11:10-11:40
<b>24A-PR-05</b>	<b>2022 IUPAP Early Career Scientist Prize</b> Correlated and topological states in moiré graphene multilayers	<b>Matthew Yankowitz</b>	Remote	11:40-12:10
<b>24A-PR-06</b>	<b>2022 IUPAP Early Career Scientist Prize</b> Iron pnictides feeling the strain	<b>Matthias S. Ikeda</b>	Onsite	12:10-12:40

## Special Symposium : The 50th Anniversary of Superfluid Helium 3 (Hall 1)

<b>Aug. 19 (Fri) (Hall 1) Physics of Superfluid Helium 3 - Past, Present, and Future</b> Sponsored by IMR Tohoku U.			<b>chairs: William Halperin Keiya Shirahama</b>	
<b>19A-S-01</b>	The Discovery of Superfluid Helium-3 (video message)	<b>David M. Lee</b>	Remote	9:00-9:20
<b>19A-S-02</b>	What makes superfluid 3-He special?	<b>Anthony J. Leggett</b>	Remote	9:20-9:50
<b>19A-S-03</b>	Superfluid <sup>3</sup> He – <i>Nature's Gift to Physics</i>	<b>James A. Sauls</b>	Remote	9:50-10:20
<b>19A-S-04</b>	Superfluid <sup>3</sup> He; a perspective on future prospects from materials science to fundamental physics.	<b>John Saunders</b>	Onsite	10:20-10:50

## Plenary (Hall 1)

<b>Aug. 19 (Fri)</b>		Sponsored by JST-CREST	<b>chairs: Qimiao Si Hiroshi Fukuyama</b>		
19A-P-01	The Magic of Moiré Quantum Matter	Supported by JST-CREST	<b>Pablo Jarillo-Herrero</b>	Remote	11:20-12:05
19A-P-02	The Magic of Atomically Thin Crystals	Supported by JST-CREST	<b>Eva Andrei</b>	Remote	12:05-12:50
<b>Aug. 24 (Tue)</b>		Sponsored by JST-CREST	<b>chairs: John Saunders Masashi Takigawa</b>		
24P-P1-01	Error correction of a logical quantum bit beyond the break-even point Supported by JST-CREST		<b>Michel H. Devoret</b>	Remote	14:00-14:45
24P-P1-02	Topological properties of Kitaev quantum spin liquid candidate $\alpha$ -RuCl <sub>3</sub>		<b>Yuji Matsuda</b>	Onsite	14:45-15:30
<b>Aug. 24 (Tue)</b>			<b>chairs: Silke Paschen Kensuke Kobayashi</b>		
24P-P2-01	“Super” neuromorphic computing with low temperature devices		<b>Sae Woo Nam</b>	Onsite	16:00-16:45
24P-P2-02	Quantum magnonics: manipulating and detecting single quanta of collective spin excitations in a ferromagnetic crystal		<b>Yasunobu Nakamura</b>	Onsite	16:45-17:30

## Half Plenary

<b>Aug. 18 (Thu) (Hall 1)</b>			<b>chairs: Atsushi Tsukazaki Youichi Yanase</b>		
18P-HPA-01	Fractional statistics in anyon collisions		<b>Gwendal Fève</b>	Remote	17:20-18:00
18P-HPA-02	SQUID-on-tip nanoscale thermal imaging: Glimpse into dissipation in quantum systems down to atomic scale		<b>Eli Zeldov</b>	Remote	18:00-18:40
<b>Aug. 18 (Thu) (Hall 2)</b>			<b>chairs: Vladimir Eltsov Yuki Kawaguchi</b>		
18P-HPB-01	Quantum Turbulence in Helium Superfluids		<b>Ladislav Skrbek</b>	Onsite	17:20-18:00
18P-HPB-02	Quantum Crystallizations of <sup>4</sup> He Far from Equilibrium		<b>Ryuji Nomura</b>	Onsite	18:00-18:40
<b>Aug. 20 (Sat) (Hall 1)</b>		Sponsored by RIKEN-CEMS	<b>chairs: Henrik Ronnow Yuji Matsuda</b>		
20A-HPA-01	Theoretical studies of frustrated Kitaev magnetic systems		<b>Hae-Young Kee</b>	Remote	9:00-9:40
20A-HPA-02	Emergent electromagnetic phenomena in topological magnets		<b>Yoshinori Tokura</b>	Onsite	9:40-10:20
<b>Aug. 20 (Sat) (Hall 2)</b>			<b>chairs: Denis Konstantinov Shintaro Takada</b>		
20A-HPB-01	Building qubits with electrons levitated above helium and neon		<b>David Schuster</b>	Remote	9:00-9:40
20A-HPB-02	Spin, heat and Hall transport in strongly interacting quantum gases		<b>Martin W. Zwierlein</b>	Remote	9:40-10:20
<b>Aug. 21 (Sun) (Hall 1)</b>			<b>chairs: Daniel F. Agterberg Masatoshi Sato</b>		
21A-HPA-01	Conjunction of Superconductivity, Magnetism, and Correlations in UTe <sub>2</sub>		<b>Nicholas Butch</b>	Remote	9:00-9:40
21A-HPA-02	Iron-based superconductors as a new Majorana playground		<b>Hong Ding</b>	Remote	9:40-10:20
<b>Aug. 21 (Sun) (Hall 2)</b>			<b>chairs: Yasunobu Nakamura Michael D. Fraser</b>		



21A-HPB-01	Recent Progress in Quantum Electromechanical Systems	John Teufel	Onsite	9:00-9:40
21A-HPB-02	Cryogenics in Gravitational Wave Telescope	Takayuki Tomaru	Onsite	9:40-10:20
<b>Aug. 22 (Mon) (Hall 1)</b>		Sponsored by RIKEN-CEMS	<b>chairs: Dmitri Efetov Kensuke Kobayashi</b>	
22A-HPA-01	Superconductivity in infinite-layer nickelates	Harold Hwang	Onsite	9:00-9:40
22A-HPA-02	Observation and Control of the Kondo Screening Cloud	Michihisa Yamamoto	Onsite	9:40-10:20
<b>Aug. 22 (Mon) (Hall 2)</b>			<b>chairs: Andrew Mackenzie Dai Aoki</b>	
22A-HPB-01	Axion insulator and helical Chern insulator phases in MnBi <sub>2</sub> Te <sub>4</sub> antiferromagnetic topological insulator	Yayu Wang	Remote	9:00-9:40
22A-HPB-02	Majorana Fermions and Pairing Symmetries in Topological Superconductors	Masatoshi Sato	Onsite	9:40-12:20
<b>Aug. 22 (Mon) (Hall 1)</b>			<b>chairs: Stuart Brown Tetsuo Hanaguri</b>	
22P-HPA-01	The superconductivity of Sr <sub>2</sub> RuO <sub>4</sub>	Andrew Mackenzie	Onsite	16:30-17:10
22P-HPA-02	Correlation-driven metallic topology	Silke Paschen	Onsite	17:10-17:50
<b>Aug. 22 (Mon) (Hall 2)</b>			<b>chairs: Jukka P. Pekola Michihisa Yamamoto</b>	
22P-HPB-01	Engineering qubits in silicon with atomic precision	Michelle Simmons	Onsite	16:30-17:10
22P-HPB-02	Spin detection by microwave photon counting	Patrice Bertet	Remote	17:10-17:50

## Invited & Contributed

### Sub Field 1 : Quantum Gases, Fluids and Solids

<b>Aug. 19 (Fri) (Hall 2) Cold atom, BEC</b>			<b>chairs: Ipppei Danshita Yasumasa Tsutsumi</b>	
19P-SF1-01	Superfluids under External Driving (invited)	Yuki Kawaguchi	Onsite	16:30-17:00
19P-SF1-02	Quantum magnonics at room temperature (invited)	Yury Bunkov	Remote	17:00-17:30
19P-SF1-03	Dynamical optical lattices and driven transport of exciton-polariton condensates by microwave modulation	Michael D. Fraser	Onsite	17:30-17:50
19P-SF1-04	Universal properties of dissipative Tomonaga-Luttinger liquids: A case study of a non-Hermitian XXZ spin chain	Kazuki Yamamoto	Onsite	17:50-18:10
<b>Aug. 20 (Sat) (Hall 5) <sup>4</sup>He: other topics I</b>			<b>chairs: Richard Haley Yoshiyuki Shibayama</b>	
20A-SF1-01	Watching the decay of quantized vortex rings in superfluid helium-4 (invited)	Wei Guo	Onsite	10:50-11:20
20A-SF1-02	Rotating quantum wave turbulence and onset of the Kelvin wave cascade (invited)	Jere Makinen	Onsite	11:20-11:50
20A-SF1-03	Friction-enhanced lifetime of bundled quantum vortices	Luca Galantucci	Remote	11:50-12:10
20A-SF1-04	Superfluid Suction Vortex	Ken Obara	Onsite	12:10-12:30
<b>Aug. 20 (Sat) (Hall 5) Superfluid <sup>3</sup>He</b>			<b>chairs: Takafumi Kita Lev V. Levitin</b>	

20P-SF1-01	Superfluid Helium-3 Electromechanics (invited)	<b>John Davis</b>	Remote	16:30-17:00
20P-SF1-02	Chiral superfluidity of helium-3 in quasi-two-dimensional limit (invited)	<b>Petri J. Heikkinen</b>	Onsite	17:00-17:30
20P-SF1-03	Effect of Flow on the Spatial Arrangement of Chiral Domains in Superfluid $^3\text{He-A}$	<b>Yuto Ikegai</b>	Onsite	17:30-17:50
20P-SF1-04	Supercooling of the A Phase of $^3\text{He}$	<b>Jeevak Parpia</b>	Recorded Lecture	17:50-18:10
<b>Aug. 21 (Sun) (Hall 5) <math>^4\text{He}</math>: other topics II</b>			<b>chairs: Johannes Pollanen Taku Matsushita</b>	
21A-SF1-01	Angular momentum in rotating superfluid droplets (invited)	<b>Andrey Vilesov</b>	Remote	10:50-11:20
21A-SF1-02	X-ray Structural Analysis of Adsorbed Helium Films on Graphite	<b>Akira Yamaguchi</b>	Onsite	11:20-11:40
21A-SF1-03	Experimental study of thermally driven spherically symmetric counterflow	<b>David Schmoranzer</b>	Onsite	11:40-12:00
21A-SF1-04	New Results and Analyses for Superfluid Liquid Crystal State in $^4\text{He}$ Monolayer	<b>Hiroshi Fukuyama</b>	Onsite	12:00-12:20
<b>Aug. 22 (Mon) (Hall 5) Nanoconfined systems, etc.</b>			<b>chairs: Tomoki Minoguchi Dafei Jin</b>	
22A-SF1-01	Realization of spin qubits with electrons on superfluid helium (invited)	<b>Denis Konstantinov</b>	Onsite	10:50-11:20
22A-SF1-02	Surface-dominated finite size effects in nanoconfined superfluid helium (invited)	<b>Emil Varga</b>	Remote	11:20-11:50
22A-SF1-03	Ultrasound induced parametric instability of charged superfluid $\text{He}^4$ forms nanometer-sized bubbles containing eight electrons	<b>Ambarish Ghosh</b>	Remote	11:50-12:10
22A-SF1-04	Spatial Diffusion of Hydrogen Atoms in Solid Molecular Hydrogen Films	<b>Vladimir Khmelenko</b>	Remote	12:10-12:30
<b>Aug. 23 (Tue) (Hall 2) Optomechanics, nanomechanics</b>			<b>chairs: Mark W. Meisel Satoshi Murakawa</b>	
23A-SF1-01	Measurements of superfluid helium drops levitated in high vacuum (invited)	<b>Jack Harris</b>	Remote	11:00-11:30
23A-SF1-02	Real-Time Interaction of NEMS with Quantum Vortices in Superfluid-4	<b>Viktor Tsepelin</b>	Remote	11:30-11:50
23A-SF1-03	Topologically protected mobile solid $^3\text{He}$ on carbon nanotube	<b>Igor Todoshchenko</b>	Remote	11:50-12:10
23A-SF1-04	Superfluid $^3\text{He-B}$ Surface States in a Confined Geometry Probed by a Microelectromechanical Oscillator	<b>Wenguang Jiang</b>	Remote	12:10-12:30
<b>Aug. 23 (Tue) (Hall 1) SYMPOSIUM : Topological superfluid <math>^3\text{He}</math></b>			<b>chairs: Yutaka Sasaki Anton Vorontsov</b>	
23P-SF1A-01	Flow in the nodal-line superfluid in confined $^3\text{He}$ (invited)	<b>Vladimir Eltsov</b>	Onsite	16:30-17:00
23P-SF1A-02	Superfluid $^3\text{He}$ in Nematic Aerogel in High Magnetic Field (invited)	<b>Vladimir Dmitriev</b>	Remote	17:00-17:30
23P-SF1A-03	Pair Density Waves in Confined Superfluid $^3\text{He}$ (invited)	<b>Takeshi Mizushima</b>	Onsite	17:30-18:00
<b>Aug. 23 (Tue) (Hall 5) Phase transitions</b>			<b>chairs: Junko Taniguchi Ryuji Nomura</b>	
23P-SF1B-01	4D XY Quantum Criticality in $^4\text{He}$ Confined in Nanoporous Media (invited)	<b>Keiya Shirahama</b>	Onsite	18:30-19:00
23P-SF1B-02	Cosmology and the AB transition in superfluid $^3\text{He}$	<b>Mark Hindmarsh</b>	Onsite	19:00-19:20
23P-SF1B-03	NMR evidence for density wave order in the two dimensional $^4\text{He}$ supersolid doped by $^3\text{He}$	<b>Jan Nyeki</b>	Remote	19:20-19:40
23P-SF1B-04	Disorder Induced Anomalous Thermal Hall Effect in Chiral Phases of Superfluid $^3\text{He}$	<b>Priya Sharma</b>	Remote	19:40-20:00



## Sub Field 2 : Superconductivity

<b>Aug. 19 (Fri) (Hall 4) Superconductivity Theory</b>				<b>chairs: Yasuhiro Asano Dirk Manske</b>	
19P-SF2A-01	A solvable 3D Kondo lattice model exhibiting odd-frequency pairing and fractionalization. (invited)	Alexei Tsvelik	Remote	16:30-17:00	
19P-SF2A-02	Beyond BCS: An Exact Model for Superconductivity and Mottness (invited)	Philip Phillips	Onsite	17:00-17:30	
19P-SF2A-03	Bogoliubov Fermi surfaces from pairing of $j = 3/2$ fermions on the pyrochlore lattice	Shingo Kobayashi	Onsite	17:30-17:50	
19P-SF2A-04	Theory of proximity effect in unconventional superconductor junctions -extension to parity mixing superconductors-	Yukio Tanaka	Onsite	17:50-18:10	
<b>Aug. 19 (Fri) (Hall 5) <math>AV_3Sb_5</math></b>				<b>chairs: Elena Hassinger Yoshihiro Iwasa</b>	
19P-SF2B-01	Unconventional charge density wave order and superconductivity in the new class of topological kagome metals $AV_3Sb_5$ ( $A=K, Rb, Cs$ ) (invited)	Stephen Wilson	Remote	16:30-17:00	
19P-SF2B-02	Topology and correlation driven exotic electronic phases in a kagome superconductor $CsV_3Sb_5$ (invited)	Xianhui Chen	Remote	17:00-17:30	
19P-SF2B-03	Field-angle-resolved calorimetry of the Kagome superconductor $CsV_3Sb_5$	Shingo Yonezawa	Onsite	17:30-17:50	
19P-SF2B-04	Origin of superconductivity and CDW with/without time-reversal-symmetry breaking in kagome metals $AV_3Sb_5$ ( $A=K,Rb,CS$ )	Rina Tazai	Onsite	17:50-18:10	
<b>Aug. 20 (Sat) (Hall 1) Non-centrosymmetric superconductors</b>				<b>chairs: Rina Tazai Shunichiro Kittaka</b>	
20A-SF2A-01	The Two-Phase Superconductor $CeRh_2As_2$ (invited)	Elena Hassinger	Onsite	10:50-11:20	
20A-SF2A-02	Parity transition and topological superconductivity in a locally noncentrosymmetric superconductor $CeRh_2As_2$ (invited)	Youichi Yanase	Onsite	11:20-11:50	
20A-SF2A-03	Parity Transition of Spin-Singlet Superconductivity in Locally Noncentrosymmetric Superconductor $CeRh_2As_2$	Shunsaku Kitagawa	Onsite	11:50-12:10	
20A-SF2A-04	$YbRh_2Si_2$ / <sup>174</sup> $YbRh_2Si_2$ : Unconventional Superconductivity and Strange Metal Behavior	Ha Duy Nguyen	Onsite	12:10-12:30	
<b>Aug. 20 (Sat) (Hall 4) Interface-2D superconductivity</b>				<b>chairs: Atsutoshi Ikeda Akito Daido</b>	
20A-SF2B-01	Tunnel Spectroscopy of Hybrid Superconducting Systems (invited)	Elke Scheer	Onsite	10:50-11:20	
20A-SF2B-02	Spin-triplet superconductivity in nonmagnetic $CoSi_2/TiSi_2$ heterostructures (invited)	Juhn-Jong Lin	Remote	11:20-11:50	
20A-SF2B-03	Signatures of unconventional 2D superconductivity in a bulk van der Waals superlattice	Aravind Devarakonda	Onsite	11:50-12:10	
20A-SF2B-04	<sup>17</sup> O-NMR measurements on $Sr_2RuO_4$ near upper critical field	Katsuki Kinjo	Onsite	12:10-12:30	
<b>Aug. 20 (Sat) (Hall 2) Higgs, superconducting diode</b>				<b>chairs: Elke Scheer Ken Shiozaki</b>	
20P-SF2-01	Higgs spectroscopy of unconventional superconductors in non-equilibrium (invited)	Dirk Manske	Onsite	16:30-17:00	
20P-SF2-02	Superconducting Diode Effect in Rashba Superlattice (invited)	Teruo Ono	Onsite	17:00-17:30	
20P-SF2-03	Theory of intrinsic superconducting diode effect	Akito Daido	Onsite	17:30-17:50	
20P-SF2-04	Supercurrent diode and magnetochiral effects in symmetric Josephson junctions	Simon Reinhardt	Onsite	17:50-18:10	
<b>Aug. 21 (Sun) (Hall 2) SYMPOSIUM : Graphene</b>				<b>chairs: Takasada Shibauchi Hiro Ishizuka</b>	
21A-SF2-01	Plethora of Many-Body Ground States in Magic Angle Twisted Bilayer Graphene (invited)	Dmitri Efetov	Onsite	10:50-11:20	Supported by JST-CREST

21A-SF2-02	Superconductivity and magnetism in crystalline graphite allotropes (invited)	<b>Andrea Young</b>	Remote	11:20-11:50
21A-SF2-03	Density controlled BCS-BEC crossover in 2D superconductor (invited)	<b>Yoshihiro Iwasa</b>	Onsite	11:50-12:20
<b>Aug. 22 (Mon) (Hall 1) UTe<sub>2</sub></b>			<b>chairs: Youichi Yanase Nicholas P. Butch</b>	
22A-SF2A-01	Multiple superconducting phases and field induced phenomena in novel spin-triplet superconductor UTe <sub>2</sub> (invited)	<b>Dai Aoki</b>	Onsite	10:50-11:20
22A-SF2A-02	Pseudospin-Triplet Pairing in UTe <sub>2</sub> (invited)	<b>Daniel Agterberg</b>	Onsite	11:20-11:50
22A-SF2A-03	Imaging edge fields on chiral superconductor candidate UTe <sub>2</sub>	<b>Yusuke Iguchi</b>	Onsite	11:50-12:10
22A-SF2A-04	Quantum-geometry-induced anapole superconductivity in UTe <sub>2</sub>	<b>Taisei Kitamura</b>	Onsite	12:10-12:30
<b>Aug. 22 (Mon) (Hall 4) Low-T<sub>c</sub> superconductors</b>			<b>chairs: Kaori Tanaka Giordano Mattoni</b>	
22A-SF2B-01	Superconductivity at interfaces of KTaO <sub>3</sub> and its origin (invited)	<b>Anand Bhattacharya</b>	Remote	10:50-11:20
22A-SF2B-02	Superconductivity in quasicrystal (invited)	<b>Noriaki Sato</b>	Onsite	11:20-11:50
22A-SF2B-03	Spin-triplet topological superconductivity in electron-correlated and spin-orbital coupled systems	<b>Guo-qing Zheng</b>	Onsite	11:50-12:10
22A-SF2B-04	Superconductivity in CaSb <sub>2</sub> , line-nodal metal with a nonsymmorphic structure	<b>Atsutoshi Ikeda</b>	Onsite	12:10-12:30
<b>Aug. 23 (Tue) (Hall 1) SYMPOSIUM : Sr<sub>2</sub>RuO<sub>4</sub></b>			<b>chairs: Clifford Hicks Shingo Yonezawa</b>	
23A-SF2-01	On the Nature of Superconductivity in Sr <sub>2</sub> RuO <sub>4</sub> (invited)	<b>Stuart Brown</b>	Onsite	11:00-11:30
23A-SF2-02	Searching for Multi-Component Superconductors with Resonant Ultrasound Spectroscopy (invited)	<b>Brad Ramshaw</b>	Remote	11:30-12:00
23A-SF2-03	Deconstructing Sr <sub>2</sub> RuO <sub>4</sub> : Insights from a microscopic perspective (invited)	<b>Aline Ramires</b>	Remote	12:00-12:30
<b>Aug. 23 (Tue) (Hall 2) Fe-based superconductors</b>			<b>chairs: Hermann Suderow Hong Ding</b>	
23P-SF2A-01	Possible Majorana Zero Mode in the Vortex Cores of Fe(Se,Te) (invited)	<b>Tetsuo Hanaguri</b>	Onsite	16:30-17:00
23P-SF2A-02	Quadrupolar charge dynamics in the nonmagnetic FeSe <sub>1-x</sub> S <sub>x</sub> superconductors	<b>Weilu Zhang</b>	Onsite	17:00-17:20
23P-SF2A-03	Unique interplay between local moments and vortices in the high-T <sub>c</sub> magnetic superconductor EuRbFe <sub>4</sub> As <sub>4</sub>	<b>Shigeyuki Ishida</b>	Onsite	17:20-17:40
23P-SF2A-04	Order Parameter Fluctuations and Thermodynamics in the 2D t-J Model	<b>William Putikka</b>	Remote	17:40-18:00
<b>Aug. 23 (Tue) (Hall 2) Cuprates and nickelates</b>			<b>chairs: Yusuke Iguchi Hiroshi Kontani</b>	
23P-SF2B-01	New findings in pressurized superconducting cuprate and non-superconducting heavy fermion compound (invited)	<b>Liling Sun</b>	Remote	18:30-19:00
23P-SF2B-02	Compartmentalizing the cuprate strange metal (invited)	<b>Nigel Hussey</b>	Remote	19:00-19:30
23P-SF2B-03	Superconductivity in La-based infinite-layer nickelates	<b>Motoki Osada</b>	Onsite	19:30-19:50
23P-SF2B-04	Calculation of the Phase Diagram of Nickelate Superconductors	<b>Motoharu Kitatani</b>	Onsite	19:50-20:10
<b>Aug. 23 (Tue) (Hall 4) Topological superconductors</b>			<b>chairs: Tadashi Machida Shingo Kobayashi</b>	
23P-SF2C-01	Spin and Coulomb interaction effects on Andreev states in hybrid weak links (invited)	<b>Cristián Urbina</b>	Remote	18:30-19:00



23P-SF2C-02	Superconducting single-photon detectors and qubits based on two-dimensional materials	<b>Kin Chung Fong</b>	Remote	19:00-19:20
23P-SF2C-03	1D Majorana Goldstinos and partial supersymmetry breaking in quantum wires	<b>Pasquale Marra</b>	Onsite	19:20-19:40
23P-SF2C-04	Self-consistent study of non-Abelian topological superconductivity in quasicrystals	<b>Kaori Tanaka</b>	Onsite	19:40-20:00

### Sub Field 3 : Magnetism and Quantum Phases

<b>Aug. 19 (Fri) (Hall 1) Quantum critical phenomena</b>				<b>chairs: Nigel Hussey Kazumasa Miyake</b>
19P-SF3-01	Quantum Critical Metals: From Loss of Quasiparticles to High-Tc Superconductivity (invited)	<b>Qimiao Si</b>	Onsite	16:30-17:00
19P-SF3-02	Ferromagnetic quantum criticality (invited)	<b>Huiqiu Yuan</b>	Remote	17:00-17:30
19P-SF3-03	Electro-nuclear transition in YbRh <sub>2</sub> Si <sub>2</sub> ; evidence for a spin density wave	<b>Jan Knapp</b>	Remote	17:30-17:50
19P-SF3-04	A mechanism for the strange metal phase in rare-earth intermetallic compounds	<b>Chung-Hou Chung</b>	Remote	17:50-18:10
<b>Aug. 20 (Sat) (Hall 2) Frustrated magnets</b>				<b>chairs: Yuichi Kasahara Hae-Young Kee</b>
20A-SF3-01	SrCu <sub>2</sub> (BO <sub>3</sub> ) <sub>2</sub> – a Deep Purple crystal (invited)	<b>Henrik Ronnow</b>	Onsite	10:50-11:20
20A-SF3-02	Kagome Quantum Spin Liquids: the case of Herbertsmithite (invited)	<b>Philippe Mendels</b>	Remote	11:20-11:50
20A-SF3-03	Spin liquid and nematic states in the spin-1 honeycomb Kitaev model with bilinear-biquadratic interactions	<b>Rico Pohle</b>	Onsite	11:50-12:10
20A-SF3-04	NMR evidence for Majorana gap in the Kitaev magnet	<b>Yasuhiro Shimizu</b>	Onsite	12:10-12:30
<b>Aug. 20 (Sat) (Hall 1) Exotic magnetism I</b>				<b>chairs: Philippe Mendels Guo-qing Zheng</b>
20P-SF3-01	Possible spin-orbit entangled <i>J</i> -physics in Co compounds (invited)	<b>Je-Geun Park</b>	Recorded Lecture	16:30-17:00
20P-SF3-02	Dynamic transition of current-driven single-skyrmion motion in a chiral-lattice magnet (invited)	<b>Licong Peng</b>	Remote	17:00-17:30
20P-SF3-03	Tunable spin-valley coupling and nonreciprocal transport in polar Dirac metal BaMnX <sub>2</sub> (X=Sb, Bi)	<b>Hideaki Sakai</b>	Onsite	17:30-17:50
20P-SF3-04	Multi-modal NMR spectroscopy of phase transitions in quantum materials	<b>Vesan F Mitrovic</b>	Remote	17:50-18:10
<b>Aug. 21 (Sun) (Hall 1) Heavy fermion</b>				<b>chairs: Gertrud Zwicky Dai Aoki</b>
21A-SF3-01	Topology and Correlations in <i>f</i> -electron Materials (invited)	<b>Filip Ronning</b>	Onsite	10:50-11:20
21A-SF3-02	CeRh <sub>2</sub> As <sub>2</sub> : The case for a quadrupolar density wave in a superconducting Kondo-lattice	<b>Daniel Hafner</b>	Onsite	11:20-11:40
21A-SF3-03	Origin of the low-temperature field-induced transition in CeRhIn <sub>5</sub>	<b>Ilya Sheikin</b>	Onsite	11:40-12:00
21A-SF3-04	Magnetic Order in Honeycomb Layered U <sub>2</sub> Pt <sub>6</sub> Ga <sub>15</sub> Studied by Resonant X-ray Scattering	<b>Chihiro Tabata</b>	Onsite	12:00-12:20
<b>Aug. 22 (Mon) (Hall 2) Graphene and others</b>				<b>chairs: Wei-Li Lee Ryotaro Arita</b>
Supported by ISSP				
22A-SF3-01	Spin triplet exciton condensations in LaCoO <sub>3</sub> at ultrahigh magnetic fields up to 600 T (invited)	<b>Akihiko Ikeda</b>	Onsite	10:50-11:20
22A-SF3-02	Itinerant Electron Ferromagnetism in Twisted Bilayer Graphene (invited)	<b>Allan MacDonald</b>	Remote	11:20-11:50
22A-SF3-03	Mechanical detection of de Haas—van Alphen effect in graphene	<b>Juuso Manninen</b>	Remote	11:50-12:10

22A-SF3-04	Theoretical studies of photoinduced topological phase transitions in organic salt $\alpha$ -(BEDT-TTF) <sub>2</sub> I <sub>3</sub>	<b>Keisuke Kitayama</b>	Onsite	12:10-12:30
<b>Aug. 23 (Tue) (Hall 5) Exotic magnetism II</b>				<b>chairs: Silke Paschen Shin Miyahara</b>
23A-SF3-01	Charge-neutral fermions and magnetic field-driven instability in insulating YbIr <sub>3</sub> Si <sub>7</sub> (invited)	<b>Yuki Sato</b>	Onsite	11:00-11:30
23A-SF3-02	Restriction on hidden order parameter from local symmetry at Ru site under uni-axial stress in URu <sub>2</sub> Si <sub>2</sub>	<b>Shinsaku Kambe</b>	Onsite	11:30-11:50
23A-SF3-03	Detailed magnetic phase diagram for hidden order in CeCoSi without local space inversion symmetry	<b>Shun Yanagiya</b>	Onsite	11:50-12:10
23A-SF3-04	NMR study of $\alpha$ -Mn exhibiting anomalous Hall effect under high pressure	<b>Hideto Fukazawa</b>	Onsite	12:10-12:30
<b>Aug. 23 (Tue) (Hall 5) Correlation and topology</b>				<b>chairs: Filip Ronning Tomoya Asaba</b>
23P-SF3A-01	Topological phases in correlated systems from first principles (invited)	<b>Roser Valenti</b>	Remote	16:30-17:00
23P-SF3A-02	Weyl-orbit quantum oscillation in untwinned thin films of ferromagnetic Weyl semimetal SrRuO <sub>3</sub>	<b>Wei-Li Lee</b>	Onsite	17:00-17:20
23P-SF3A-03	Investigation of spin-orbital dynamics on the non-Kramers pyrochlore lattice	<b>Nan Tang</b>	Onsite	17:20-17:40
23P-SF3A-04	Electric current control of spin helicity and memory effect in an itinerant helimagnet	<b>Nan Jiang</b>	Recorded Lecture	17:40-18:00
<b>Aug. 23 (Tue) (Hall 1) SYMPOSIUM : Quantum spin liquid</b>				<b>chairs: Yukitoshi Motome Tai Kai Ng</b>
23P-SF3B-01	Disorder in the Kitaev spin liquid (invited)	<b>Natalia Perkins</b>	Remote	18:30-19:00
23P-SF3B-02	Magnetothermal Transport in the Field-induced Quantum Spin Liquid State of a Honeycomb $J_{\text{eff}}=1/2$ Magnet (invited)	<b>Hidenori Takagi</b>	Onsite	19:00-19:30
23P-SF3B-03	Thermal Hall conductivity $\kappa_{xy}$ and $\kappa_{xx}$ in the Kitaev magnet $\alpha$ -RuCl <sub>3</sub> (invited)	<b>Phuan Ong</b>	Remote	19:30-20:00
<b>Sub Field 4 : Nanophysics and Quantum Information</b>				
<b>Aug.19 (Fri) (Hall 3) Graphene and emerging materials</b>				<b>chairs: Taro Wakamura Toshihito Osada</b>
19P-SF4-01	Tunable quantum Hall broken-symmetry orders in graphene (invited)	<b>Benjamin Sacepe</b>	Remote	16:30-17:00
19P-SF4-02	Quantum devices in graphene (invited)	<b>Klaus Ensslin</b>	Remote	17:00-17:30
19P-SF4-03	Directional Ballistics in Ultra-Pure Delafossite Metals	<b>Michal Moravec</b>	Onsite	17:30-17:50
19P-SF4-04	Theory and observation of topological Hall torque emerging from band topology	<b>Yasufumi Araki</b>	Onsite	17:50-18:10
<b>Aug. 20 (Sat) (Hall 3) Non-equilibrium</b>				<b>chairs: Andreas K. Huettel Hiroshi Akera</b>
20A-SF4-01	Three-body correlation in nonequilibrium quantum liquid (invited)	<b>Kensuke Kobayashi</b>	Onsite	10:50-11:20
20A-SF4-02	A single-electron toolbox for quantum applications assisted by sound waves (invited)	<b>Shintaro Takada</b>	Onsite	11:20-11:50
20A-SF4-03	Antibunching of an electron pair surfing on sound	<b>Junliang Wang</b>	Onsite	11:50-12:10
20A-SF4-04	Beating Carnot efficiency with periodically driven chiral conductors	<b>Sungguen Ryu</b>	Remote	12:10-12:30
<b>Aug. 20 (Sat) (Hall 3) Superconducting quantum computing</b>				<b>chairs: Hiroshi Shimada Mika Sillanpää</b>
20P-SF4-01	Realizing Quantum Error Correction with Superconducting Circuits (invited)	<b>Andreas Wallraff</b>	Remote	16:30-17:00





20P-SF4-02	Quantum Computational Advantage Using a Superconducting Quantum Processor (invited) Supported by JST-CREST	<b>Xiaobo Zhu</b>	Remote	17:00-17:30
20P-SF4-03	Generating families of three-qubit gates from simultaneous two-qubit gates	<b>Anton Frisk Kockum</b>	Onsite	17:30-17:50
20P-SF4-04	Tunability and High Coherence in Laser Annealed Superconducting Quantum Processors	<b>Hyunseong Kim</b>	Remote	17:50-18:10
<b>Aug. 21 (Sun) (Hall 3) Fractional quantum Hall effect &amp; anyon</b>			<b>chairs: Tohru Kawarabayashi Masayuki Hashisaka</b>	
21A-SF4-01	Interferometry in the Fractional Quantum Hall Regime (invited)	<b>Michael J. Manfra</b>	Remote	10:50-11:20
21A-SF4-02	Non-Abelian Anyon Collider	<b>June-Young M. Lee</b>	Onsite	11:20-11:40
21A-SF4-03	Signatures of Andreev scattering and anyon statistics in the $\nu = 1/3$ fractional quantum Hall regime	<b>Olivier Maillet</b>	Onsite	11:40-12:00
21A-SF4-04	Observation of Ballistic Upstream Modes at Fractional Quantum Hall Edges of Graphene	<b>Christian Spanslatt</b>	Onsite	12:00-12:20
<b>Aug. 22 (Mon) (Hall 3) Nano-mechanics</b>			<b>chairs: Anton F. Kockum Wataru Izumida</b>	
22A-SF4-01	A macroscopic object passively cooled into its quantum ground state of motion (invited)	<b>Eddy Collin</b>	Remote	10:50-11:20
22A-SF4-02	Quantum backaction and entanglement with mechanical oscillators (invited)	<b>Mika Sillanpää</b>	Remote	11:20-11:50
22A-SF4-03	Quantum capacitance enhanced nanotube optomechanics	<b>Andreas K. Huettel</b>	Onsite	11:50-12:10
22A-SF4-04	Hybrid Qubit	<b>Jacob William Dunstan</b>	Remote	12:10-12:30
<b>Aug. 23 (Tue) (Hall 3) Semiconductor quantum computing</b>			<b>chairs: Michelle Simmons Ryo Ito</b>	
23A-SF4-01	High-fidelity quantum gates and quantum error correction with silicon spin qubits (invited)	<b>Kenta Takeda</b>	Onsite	11:00-11:30
23A-SF4-02	Quantum dot Fermi-Hubbard simulator: Heisenberg spin chain and Coulomb drag	<b>Tzu-Kan Hsiao</b>	Onsite	11:30-11:50
23A-SF4-03	Derivation of Single and Multiple Qubit Dynamics from Spin-Boson Model	<b>Hiroaki Matsueda</b>	Remote	11:50-12:10
23A-SF4-04	Universal quantum computation based on nanoscale skyrmion helicity qubits in frustrated magnets	<b>Motohiko Ezawa</b>	Remote	12:10-12:30
<b>Aug. 23 (Tue) (Hall 3) Quantum transport I</b>			<b>chairs: Christopher Bauerle Anne Anthore</b>	
23P-SF4A-01	Real-time detection of two-electron tunneling processes in a Cooper pair splitter (invited)	<b>Antti Ranni</b>	Remote	16:30-17:00
23P-SF4A-02	Excitonic nature of magnons in a quantum Hall ferromagnet	<b>Pređen Roulleau</b>	Onsite	17:00-17:20
23P-SF4A-03	Exciton condensation and valley splitting in Si/SiGe bilayers	<b>Dominique Laroche</b>	Remote	17:20-17:40
23P-SF4A-04	Collision integral and generalized Ward identity for nonlinear Kondo effect in the low-energy Fermi-liquid regime	<b>Akira Oguri</b>	Onsite	17:40-18:00
<b>Aug. 23 (Tue) (Hall 3) Quantum transport II</b>			<b>chairs: Christoph Strunk Akira Oguri</b>	
23P-SF4B-01	Transmission of quantum state of electrons across a metallic island with Coulomb interaction (invited)	<b>Anne Anthore</b>	Remote	18:30-19:00
23P-SF4B-02	Phase interference for probing topological fractional charge in a TI-based Josephson junction array	<b>Daan Wielens</b>	Remote	19:00-19:20
23P-SF4B-03	A hallmark of disordered reconstructed-edge transport at a fractional-integer quantum Hall junction	<b>Masayuki Hashisaka</b>	Onsite	19:20-19:40
23P-SF4B-04	Universal Hydrodynamic Flow in a Two-Dimensional Electron Fluid	<b>Alex Hamilton</b>	Onsite	19:40-20:00

### Sub Field 5 : Cryogenic Techniques and Device Applications

<b>Aug. 20 (Sat) (Hall 4) Electronic devices at low temperatures</b>				<b>chairs: Maciej Zgirski Erika Kawakami</b>	
20P-SF5-01	Resolving and mitigating correlated errors in superconducting qubits (invited)	<b>Rami Barends</b>	Remote	16:30-17:00	
20P-SF5-02	500 microkelvin nanoelectronics (invited)	<b>Attila Geresdi</b>	Remote	17:00-17:30	
20P-SF5-03	Integration of a cryogenic LC circuit to image-charge detection for surface electrons on helium	<b>Ivan Grytsenko</b>	Onsite	17:30-17:50	
20P-SF5-04	An electron turnstile for frequency-to-power conversion	<b>Marco Marin Suarez</b>	Onsite	17:50-18:10	
<b>Aug. 21 (Sun) (Hall 4) Cryogenic techniques</b>				<b>chairs: Pertti Hakonen Takayuki Tomaru</b>	
21A-SF5-01	Cryogenics for the Axion Dark Matter eXperiment (invited)	<b>Tatsumi Nitta</b>	Onsite	10:50-11:20	
21A-SF5-02	The CUORE cryostat: performance and operation of a world-leading millikelvin refrigerator	<b>Antonio D'Addabbo</b>	Onsite	11:20-11:40	
21A-SF5-03	Scalable millikelvin link for quantum microwave communication	<b>Harriet van der Vliet</b>	Onsite	11:40-12:00	
21A-SF5-04	Neutron Imaging of an Operational Dilution Refrigerator	<b>Christopher Lawson</b>	Onsite	12:00-12:20	
<b>Aug. 23 (Tue) (Hall 4) Low-temperature detectors</b>				<b>chairs: Antonio D'Addabbo Tatsumi Nitta</b>	
23A-SF5-01	Microwave Kinetic Inductance Detectors for Astrophysics, Biophysics, and Dark Matter Detection (invited)	<b>Benjamin Mazin</b>	Remote	11:00-11:30	
23A-SF5-02	Ultrasensitive bolometer with sub-microsecond response time using graphene Josephson junction	<b>Pertti Hakonen</b>	Onsite	11:30-11:50	
23A-SF5-03	Towards ultrasensitive calorimetric detection of single photons in superconducting quantum circuits	<b>Bayan Karimi</b>	Onsite	11:50-12:10	
23A-SF5-04	Metallic magnetic calorimeters: Novel detectors for high-resolution X-ray spectroscopy	<b>Daniel Hengstler</b>	Remote	12:10-12:30	
<b>Aug. 23 (Tue) (Hall 4) Thermometry</b>				<b>chairs: Hiroki Ikegami Christian Enss</b>	
23P-SF5-01	Switching thermometry for dynamical investigations of thermal processes at nanoscale (invited)	<b>Maciej Zgirski</b>	Onsite	16:30-17:00	
23P-SF5-02	Liquid <sup>3</sup> He based thermometers for calorimetric measurements of small solid samples at ultra-low temperatures and high magnetic fields.	<b>Lucia Steinke</b>	Remote	17:00-17:20	
23P-SF5-03	Comparison of different Johnson noise thermometers from millikelvin down to microkelvin temperatures	<b>Alexander Kirste</b>	Remote	17:20-17:40	
23P-SF5-04	Development of Magnetic-Field-Insensitive Thermometer and Its Applications Used in Pulsed-Magnetic Field	<b>Atsushi Miyake</b>	Onsite	17:40-18:00	