

Young Scientist Award of the Physical Society of Japan

Every year, the Physical Society of Japan presents Young Scientist Awards to young researchers who have made outstanding achievements in their early research careers. This year's winners were recently decided by the board of directors of the JPS according to the recommendations from the selection committees established in 19 divisions of the JPS. The maximum number of winners from each division has been determined based on the number of talks given at the Annual Meetings in the past three years. All the winners are to give an award lecture at the next Annual Meeting of the JPS scheduled for March 2019. Here is the list of winners and their research topics.

Theoretical Particle Physics:

Tomonori Ugajin (Okinawa Institute of Science and Technology Graduate University)

“Studies on the relative entropy and modular Hamiltonian of excited states in conformal field theories”

Keita Nii (Albert Einstein Center for Fundamental Physics, Institute for Theoretical Physics, University of Bern)

“Studies on the Seiberg duality in 3-dimensional N=2 supersymmetric gauge theories”

Hiroaki Matsunaga (Institute of Physics of the Czech Academy of Sciences)

“A proposal for superstring field theory of the NS-NS sector in type II superstring theory”

Experimental Particle Physics:

Sharankova, Ralitsa (Department of Physics, Tokyo Institute of Technology)

“Measurement of θ_{13} in reactor neutrino oscillation with the Double Chooz near and far detectors”

Shunsuke Honda (Graduate School of Pure and Applied Science, University of Tsukuba)

“Search for the Higgs Boson Produced in Association with Top Quarks and Decaying into Bottom Quarks with the ATLAS Detector”

Shion Chen (Department of Physics, The University of Tokyo)

“Search for Gluinos using Final States with One Isolated Lepton in the LHC-ATLAS Experiment”

Theoretical Nuclear Physics:

Yasuki Tachibana (Department of Physics and Astronomy, Wayne State University)

“Broadening of full jet in quark-gluon plasma with hydrodynamic medium response”

Masaru Hongo (RIKEN, iTHEMS)

“Relativistic hydrodynamics from quantum field theory in the local Gibbs ensemble”

Experimental Nuclear Physics:

Noritsugu Nakatsuka (Technical University Darmstadt)

“Observation of isoscalar and isovector dipole excitations in neutron-rich ^{20}O ”

Takahiro Nishi (RIKEN Nishina Center for Accelerator-Based Science)

“Spectroscopy of Pionic Atoms in ^{122}Sn (d, ^3He) Reaction and Angular Dependence of the Formation Cross Sections”

Ryotaro Honda (School of Science, Tohoku University)

“Search for ${}^6\Lambda\text{H}$ nucleus via ${}^6\text{Li}(\pi^-, \text{K}^+)\text{X}$ reaction and study of Σ^- Nucleus interaction”

Cosmic Ray and Astrophysics:

Qidong Zhou (Institute for Space–Earth Environmental Research, Nagoya University)

“Study of forward neutral particle production from diffractive processes in 13 TeV p-p collisions with the ATLAS-LHCf detector”

Yoshiaki Nakamura (Institute for Cosmic Ray Research, University of Tokyo)

“Study of solar magnetic field using the Sun's shadow observed in high-energy cosmic ray intensity”

Kenta Hotokezaka (Department of Astrophysical Sciences, Princeton University)

“Theory of electromagnetic counterparts to neutron star mergers”

Beam Physics:

Shunya Matsuba (Hiroshima University)

“Generation of vector beam with tandem helical undulators”

Division 1 (Atomic and Molecular physics, Quantum Electronics, Radiation):

Yuto Ashida (Department of Physics, The University of Tokyo)

“Theoretical studies on super-resolution imaging and open many-body systems in ultracold atomic gases”

Rikizo Ikuta (Division of Materials Physics, Osaka University)

“Study of single photon frequency conversion with quantum state preservation”

Shintaro Taie (Department of Physics, Kyoto University)

“Realization of an optical-lattice quantum simulator with exotic spin and orbital degrees of freedom”

Division 2 (Plasma):

Natsumi Iwata (Institute of Laser Engineering, Osaka University)

“Theoretical study of picosecond relativistic laser-produced non-thermal plasmas”

Yasuhiro Nariyuki (Faculty of Human Development, University of Toyama)

“Theoretical study on modulational instability of nonlinear magnetohydrodynamic waves”

Division 3 (Magnetism):

Atsuhiko Miyata (Laboratoire National des Champs Magnétiques Intenses)

“Studies on physical properties of materials using ultrahigh magnetic fields up to the megagauss range”

Hiroyasu Nakayama (Research Center for Magnetic and Spintronic Materials, National Institute for Materials Science)

“Studies on spin-charge interconversion and magnetoresistance in metal/magnet heterostructures”

Yusuke Nambu (Institute for Materials Research, Tohoku University)

“Quantum beam study on temporal and spatial spin correlations”

Division 4 (Semiconductors, Mesoscopic Systems and Quantum Transport):

Hiroshi Kamata (Laboratoire Pierre Aigrain, École Normale Supérieure)

“Quantum transport in one-dimensional systems by high-frequency measurements”

Motoaki Hirayama (RIKEN Center for Emergent Matter Science)

“Theory and material proposal of topological and strongly correlated electron systems by first principles method”

Division 5 (Optical Properties of Condensed Matter):

Tetsuhiro Kudo (Department of Applied Chemistry, National Chiao Tung University)

“Resonant interaction between light and particle assembly under laser trapping”

Tomohiro Tamaya (The institute for solid state physics, The University of Tokyo)

“Elucidation of mechanisms of high-harmonic generations in solids”

Division 6 (Metal Physics (Liquid Metals, Quasicrystals), Low Temperature Physics (Ultralow Temperatures, Superconductivity, Density Waves)):

Yu Saito (RIKEN Center for Advanced Intelligence Project)

“Study on Electric-Field-Induced 2D Superconductivity”

Division 7 (Molecular Solids):

Kenichiro Hashimoto (Institute for Materials Research, Tohoku University)

“Charge fluctuations induced by long-range Coulomb interactions in molecular materials with strongly correlated electrons

Shun Watanabe (Department of Advanced Materials Science, Graduate School of Frontier Sciences, The University of Tokyo)

“Charge and spin transport in crystalline organic semiconductors”

Division 8 (Strongly Correlated Electron Systems):

Satoru Hayami (Department of Physics, Faculty of Science, Hokkaido University)

“Microscopic theoretical study on toroidal moment and cross-correlated electronic properties”

Akito Sakai (The Institute for Solid State Physics, The University of Tokyo)

“Exploration of novel physical properties in the vicinity of QCP in strongly correlated electron systems”

Division 9 (Surfaces & Interfaces, Crystal Growth):

Satoru Ichinokura (Department of Physics, Tokyo Institute of Technology)

“Development of a Two Dimensional Superconductor Using Molecular Beam Epitaxy and In Situ Electron Transport Measurement”

Hiroshi Imada (Riken Cluster for Pioneering Research (CPR))

“Development of Light Emission/Absorption Spectroscopy Using Scanning Tunneling Microscope”

Division 10 (Dielectrics, Ferroelectricity, Lattice Defects and Nanostructures, Phononic Properties, and X-ray and Particle Beams):

Terumasa Tadano (International Center for Young Scientists, National Institute for Materials Science)

“First-principles theoretical study of anharmonic phonon properties in solids”

Tatsuya Mori (Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba)

“Terahertz spectroscopic study on lattice systems exhibiting glassy thermal properties”

Division 11 (Fundamental Theory of Condensed Matter Physics, Statistical Mechanics, Fluid Dynamics, Applied Mathematics, Socio- and Econophysics):

Hiroyuki Ebata (Institute for Materials Chemistry and Engineering, Kyushu University)

“Analysis of spontaneous motions of both biological and non-biological systems in terms of experiments and phenomenological theories”

Takashi Okada (RIKEN Interdisciplinary Theoretical and Mathematical Sciences Program)

“Discovery of the buffer structures of chemical-reaction networks based on their topology and applications to biological networks”

Tomohiko G. Sano (Department of Physical Sciences, Ritsumeikan University)

“Theoretical and experimental studies on liveness of a structure -friction, buckling and snap-through buckling”

Division 12 (Soft Matter Physics • Chemical Physics • Biophysics):

Ryuhei Harada (Center for Computational Sciences, University of Tsukuba)

“Studies of molecular crowding by simulations and development of parallel cascade selection molecular dynamics”

Rei Kurita (Department of Physics, Tokyo Metropolitan University)

“Nonequilibrium dynamics of soft matter”

Misaki Ozawa (Charles Coulomb Laboratory, UMR 5221 CNRS, Montpellier University)

“Glass physics by advanced computer simulations”

Division 13 (Physics Education, History of Physics, Environmental Physics):