

July 1st

13:20- 13:30 Opening

Nobuhiko Nishida (Toyota Riken, Japan)

Session 1 Chair: Masaru Kato (Osaka Prefecture University, Japan)

13:30-14:00 **Yusuke Kato (The University of Tokyo)**

Nature of driving force on quantum vortex in superconductors

14:00-14:30 **Atsutaka Maeda (The University of Tokyo)**

Flux Flow of Iron-based Superconductors

-Novel Gap Spectroscopy and Universal large Dissipation-

14:30-15:00 **Takafumi Kita (Hokkaido University)**

Physics of Lorentz Force on Supercurrent

15:00-15:30 Coffee break

Session 2 Chair: Charles Reichhardt (Los Alamos National laboratory, U.S.A.)

15:30-16:00 **Masaru Kato (Osaka Prefecture University, Japan)**

Molecular Dynamics Simulation on Melting Transition of Vortex Matters

16:00-16:30 **Jun-ichi Fukuda (AIST, Japan)**

Exotic structures of a chiral liquid crystal under spatial confinement

16:30-17:00 **Tetsuo Yamaguchi (Kyushu University, Japan)**

Slip avalanche in gel friction

18:00- **Get-together party "Museum Restaurant"**

July 2nd

Session 3 Chair: Yusuke Kato (The University of Tokyo)

9:30-10:00 **Satoshi Okuma (Tokyo Institute of Technology, Japan)**

Non-equilibrium Phenomenon and Transitions of Driven Vortex Matter in Amorphous Superconducting Films

10:00-10:30 **Charles Reichhardt (Los Alamos National laboratory, U.S.A.)**

Dynamic Phases of Skyrmions and Vortices on Pinning Landscapes

10:30-10:50 Coffee Break

Session 4 Chair: Atsutaka Maeda (The University of Tokyo)

10:50-11:20 **Nobuhiko Nishida (Toyota RIKEN, Japan)**

Vortex Dynamics and H-T Phase Diagram Probed by STM in Type-II Superconductor YNi_2B_2C

11:20-11:50 **Hermann Suderow (Universidad Autonoma de Madrid, Spain)**

Vortex core size from very low temperature scanning tunneling microscopy in one and in two gap superconductors

11:50-12:20 **Shunsuke Yoshizawa (National Institute of Materials Science, Japan)**

Scanning tunneling microscopy study of Josephson vortices in superconducting atomic-layer indium

12:20-13:40 Photograph and Lunch (Museum Restaurant)

Session 5 Chair: Takafumi Kita (Hokkaido University)

13:40-14:10 **Naoto Nagaosa (CEMS and University of Tokyo, Japan)**

Skyrmion – emergent particle in magnets

14:10-14:40 **Jun-ichiro Kishine (The open University of Japan, Japan)**

Chirality and vortex in magnetism and optics

14:40-15:10 **Yasujiro Taguchi (RIKEN-CEMS, Japan)**

Formation of skyrmion crystal above room temperature in $CoZnMn$ alloys

15:10-15:40 Coffee Break

Session 6 Chair: Katsuya Inoue (Hiroshima University)

15:40-16:10 Naoya Shibata (The University of Tokyo, Japan)

Real-space visualization of electromagnetic fields inside materials by scanning transmission electron microscopy

16:10-16:40 Yoshie Murooka (Ecole Polytechnique Federale de Lausanne, Swiss)

Filming the formation and fluctuation of skyrmion domains by cryo-Lorentz transmission electron microscopy

16:40-17:10 Yoshihiko Togawa (Osaka Prefecture University, Japan)

Structure and Functionality of Chiral Soliton Lattice in a Monoaxial Crystal of Chiral Magnet

18:00-20:00

Banquet

Noritake Garden “Kiln Restaurant”

July 3rd

Session 7 Chair: Jun-ichiro Kishine (The open University of Japan, Japan)

9:30-10:00 **Muneto Nitta (Keio university, Japan)**

Dynamics of Vortices and Skyrmions in Field Theory

10:00-10:30 **Xiao Hu (National Institute of Materials Science, Japan)**

Exploring Majorana Quasiparticle in Vortex of Topological Superconductor

10:30-11:00 Coffee Break

Session 8 Chair: Satoshi Okuma (Tokyo Institute of Technology, Japan)

11:00-11:30 **Hiroshi Matsukawa (Aoyama Gakuin University, Japan)**

Friction and Avalanches of Sheared Absorbed Atoms and Granular Particles

11:30-12:00 **Makoto Tsubota (Osaka City University, Japan)**

Inhomogeneous quantum turbulence and the dynamics of quantized vortices

12:00-12:10 **Closing (Nobuhiko Nishida)**

12:10- 13:50 Lunch

14:00-16:00 Guided Tour of the Toyota Commemorative Museum of Industry and Technology (all the participants are invited)