Joint Annual Meeting of SPS and ÖPG 2019

Monday 26 August 2019 - Friday 30 August 2019

Universität Zürich

Scientific Programme

Abstracts can be submitted for all sessions listed below. The choice between an oral or a poster presentation of your contribution is possible. Further instructions are available in the abstract submission form.

Info on talk lengths
The standard length for a contributed talk is 15 min (12+3), for an invited talk 30 min (25+5). The session organisers might extend or shorten talks where necessary. Refer to the schedule once it will be available.

Theoretical Physics
Theoretical contributions are highly encouraged and will be included directly in a corresponding topical session. This way, the sessions will profit from a broad range of experimental, phenomenological, and theoretical advancements that are relevant in the specific topical field and thus can engage in broader and deeper discussions.
Please submit your abstract to the session which best matches your topic. You can optionally mark your contribution as "theoretical" in the submission interface.
Contact: Philippe Jetzer (jetzer@physik.uzh.ch)

Applied Physics and Plasma Physics

Atomic Physics and Quantum Optics

Biophysics, Medical Physics and Soft Matter

Condensed Matter Physics (KOND)

The condensed matter program welcomes contributions from all topics within Condensed Matter Physics, including magnetism, superconductivity, semiconductors and more.
Where relevant, we encourage participants to submit their abstracts to the relevant focus sessions described below.

Contact: Henrik M. Rønnow (henrik.ronnow@epfl.ch), Alberta Bonanni (alberta.bonanni@jku.at)

Earth, Atmosphere and Environmental Physics

History and Philosophy of Physics

MaNEP Session: Correlations and topology in quantum matter

The session is dedicated to recent developments in the study of materials with novel electronic phenomena that arise from electronic correlations or topological properties. This encompasses the physics of low-dimensional materials including van der Waals materials and surface or interface physics, quantum magnetism, superconductivity, the physics of oxide materials, topological phases of matter, novel probes and more. Abstract submissions are welcome from all researchers working in the field, you don't have to belong to a MaNEP member group.

Contact: Marta Gibert (gibert@physik.uzh.ch), Titus Neupert (titus.neupert@uzh.ch)

Nuclear, Particle- and Astrophysics (TASK)

Quantum and Artificial Intelligence: New Jobs for Physicists in Emergent Industries

In recent years, quantum technologies and artificial intelligence have started to impact an amazingly wide range of fields, from research instrumentation to financial modelling. Beyond the research domain, more and more products are being made with or for these new technologies. In this session, opportunities for physicists in these emergent industries will be presented. If you have an interesting story to tell on this subject, please submit your contribution before the abstract submission deadline.

Contact: Thilo Stöferle (tof@zurich.ibm.com)

Quantum Beam Science: bio, materials and fundamental physics with neutrons and X-rays

The Swiss Neutron Science Society, the PSI division for photon science and their Austrian counterparts invite abstracts from the growing user-base of neutron, synchrotron and free electron laser facilities to share their research. Abstract submissions are welcome from all topics where neutron or X-ray experiments have contributed. Contributions do not have to be centered on the technique and we specifically encourage contributions where quantum beam experiments were one among several techniques involved.

Contact: Neutrons: Markus Strobl (markus.strobl@psi.ch), X-rays: Luc Patthey (luc.patthey@psi.ch), General: Henrik M. Rønnow (henrik.ronnow@epfl.ch)

Quantum Science and Technology

The quantum science and technology session will combine presentations on recent scientific advances in the fields of quantum computing, communication, simulation and sensing. Both Austria

and Switzerland are important players in the quantum technology landscape in Europe with many groups contributing to the European Quantum Flagship and other important international research programs. The session is organized by the Swiss National Center of Competence in Research on Quantum Science and Technology and wishes to bring together the two quantum communities from Austria and Switzerland. We welcome oral and poster contributions from both senior and junior researchers. Please submit your contribution before the abstract submission deadline.

Contact: Andreas Fuhrer (afu@zurich.ibm.com)

(This session is organised by the NCCR QSIT)

Skyrmions in magnetic materials

Over the last decade, there has been a huge research effort into skyrmions stabilized in magnetic materials. Due to their nanometric size, topological protection and easy manipulation by external stimuli, skyrmions offer new perspectives for spintronics and cutting-edge device technologies. Within the framework of a running Swiss National Science Foundation (SNSF) funded Sinergia project 171003 ‘NanoSkyrmionics’, in this focus session we bring together experimentalists and theoreticians from both Switzerland and abroad, to highlight recent advances in materials discovery, measurement and control of skyrmions. Xiuzhen Yu (RIKEN CEMS, Japan), Peter Hatton (Durham University, UK), and Stefan Blügel (FZ Jülich, Germany) will give invited talks. Abstract submissions are welcome from all researchers working in the field, you don't have to belong to a MaNEP member group. Financial support from both MaNEP and the SNSF is gratefully acknowledged.

Contact: Jonathan White (jonathan.white@psi.ch)

(organised in collaboration with Association MaNEP and Sinergia projekt 171003 "NanoSkyrmionics")

Surfaces, Interfaces and Thin Films