



# Physics of fundamental Symmetries and Interactions - PSI2019

## Monday, October 21, 2019

### Session: Mo - 1 - WHGA/001 - Auditorium (9:00 AM - 10:35 AM)

-Conveners: Convener: Geoffrey Greene

time	[id] title	presenter
9:00 AM	[M57] Welcome	Prof. KIRCH, Klaus
9:05 AM	[M12] Overview of worldwide efforts in the search for charged lepton flavour violation	PAPA, Angela
9:35 AM	[M] BASE: High-Precision Comparisons of the Fundamental Properties of Antiprotons and Protons	ULMER, Stefan
10:05 AM	[M] Ultracold but cool – Pioneering experiments with ultracold neutrons	GELTENBORT, Peter

### Session: Mo - 2 - WHGA/001 - Auditorium (11:05 AM - 12:45 PM)

-Conveners: Convener: Stephanie Rocca

time	[id] title	presenter
11:05 AM	[M] Searching for New Particles and Forces with Polyatomic Molecules	HUTZLER, Nicholas
11:35 AM	[M] Measurement of the Permanent Electric Dipole Moment of the $^{129}\text{Xe}$ Atom	ALLMENDINGER, Fabian
11:55 AM	[M] A new measurement of the permanent electric dipole moment of $^{129}\text{Xe}$ using $^3\text{He}$ comagnetometry and SQUID detection	ROLFS, Katharina
12:15 PM	[P] PHYSICS BEYOND SM WITH KAONS FROM NA62	LAZZERONI, Cristina

### Session: Mo - 3 - WHGA/001 - Auditorium (2:30 PM - 4:10 PM)

-Conveners: Convener: Georg Bison

time	[id] title	presenter
2:30 PM	[M] Gravity tests at short distances using ultracold neutrons: A review of the qBounce experiment	JENKE, Tobias
3:00 PM	[M] Status of lattice results on contributions of CP violating operators to nEDM	GUPTA, Rajan
3:20 PM	[M] Searching for the electric dipole moment of the neutron - a landscape overview	FRANKE, Beatrice
3:50 PM	[M] The search for a neutron edm at ORNL using dilute solution of $^3\text{He}$ as a co-magnetometer	Prof. GOLUB, Robert

### Session: Mo - 4 - WHGA/001 - Auditorium (4:40 PM - 6:00 PM)

-Conveners: Convener: Niklaus Berger

time	[id] title	presenter
4:40 PM	[M] Stringent tests of bound-state QED using highly charged ions	STURM, Sven
5:10 PM	[M] Nuclear structure corrections in muonic atoms	BACCA, Sonia

5:40 P	[18] Status of the muX project at PSI
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WAUTERS, Frederik
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## Tuesday, October 22, 2019

### Session: Tu - 1 - WHGA/001 - Auditorium (9:00 AM - 10:30 AM)

-Conveners: Convener: Dieter Ries

time	[id] title	presenter
9:00 AM	[M37] Measurement of the nucleon axial coupling in neutron beta decay	MÄRKISCH, Bastian
9:30 AM	[M0] Improved determination of the $\beta$ -v angular correlation coefficient a in free neutron decay with the aSPECT spectrometer	Prof. HEIL, Werner
9:50 AM	[M8] Pendellosung Interferometry as a Probe for New Interactions	Dr HEACOCK, Benjamin
10:10 AM	[M2] The n3He experiment---a new era in Hadronic Parity Violation	CRAWFORD, Christopher

### Session: Tu - 2 - WHGA/001 - Auditorium (11:00 AM - 12:40 PM)

-Conveners: Convener: Angela Papa

time	[id] title	presenter
11:00 AM	[M0] The proton radius puzzle	ANTOGNINI, Aldo
11:45 AM	[M9] Hydrogen Lambshift	HESELS, Eric
12:15 PM	[M1] Status of MUSE at PSI	GOLOSSANOV, Alexander

### Session: Tu - 3 - WHGA/001 - Auditorium (2:30 PM - 4:30 PM)

-Conveners: Convener: Sonia Bacca

time	[id] title	presenter
2:30 PM	[M08] Fundamental symmetries and exotics physics in atoms	SAFRONOVA, Marianna
3:00 PM	[M07] Optical lattice clocks and their applications	Prof. KATORI, Hidetoshi
3:30 PM	[M2] $g$ -factor of Boronlike Argon 40 Ar <sup>13+</sup> at ALPHATRAP	ARAPOGLOU, Ioanna
3:50 PM	[M3] High-Precision Mass Measurements on Light Nuclei with the LIONTRAP experiment	HEISSE, Fabian

## Wednesday, October 23, 2019

### Session: Wd - 1 - WHGA/001 - Auditorium (9:00 AM - 10:40 AM)

-Conveners: Convener: Peter Kammel

time	[id] title	presenter
9:00 AM	[M30] Rare pion decay studies in the PEN experiment	POCANIC, Dinko
9:30 AM	[M20] Testing lepton flavor universality with pion decays	Prof. BRYMAN, Douglas
10:00 AM	[M1] The Mu2e experiment	Dr DI FALCO, Stefano
10:20 AM	[M43] AICap: Measurements of the particle emission spectra following nuclear muon capture for muon-to-electron conversion experiments	QUIRK, John

### Session: Wd - 2 - WHGA/001 - Auditorium (11:10 AM - 12:50 PM)

-Conveners: Convener: Gilberto Colangelo

time	[id] title	presenter
11:10 AM	[M4] Measurement of the fine-structure constant as test of the standard model	MUELLER, Holger
11:40 AM	[M7] $\tau \rightarrow \mu \nu \mu$ at a rate of one out of $10^{14}$ $\tau$ decays?	FAEL, Matteo
12:00 PM	[M9] High-precision QED prediction for low-energy lepton experiments	ULRICH, Yannick
12:20 PM	[M4] Dyssymetry: Unleashing Extra Yukawa Couplings	Prof. HOU, George W.S.

### Session: Wd - 3 - WHGA/001 - Auditorium (2:30 PM - 4:10 PM)

-Conveners: Convener: Klaus Jungmann

time	[id] title	presenter
2:30 PM	[M45] MuSun: Analysis of the First Production Dataset	Dr RYAN, Rachel
3:00 PM	[M02] The Muon g-2 experiment at Fermilab: Overview and status update	WINTER, Peter
3:30 PM	[M29] Explaining $(g-2)_e$ and $(g-2)_\mu$ together naturally	HORMIGOS-FELIU, Clara
3:50 PM	[M10] Pseudoscalar contribution to the muon g-2	HAGELSTEIN, Franziska

### Session: Wd - 4 - WHGA/001 - Auditorium (4:40 PM - 5:50 PM)

-Conveners: Convener: Beatrice Franke

time	[id] title	presenter
4:40 PM	[M9] Flavour Anomalies: status and prospects	Prof. SERRA, Nicola
5:10 PM	[M13] Combined explanations of $(g-2)_\mu$ , $(g-2)_e$ and implications for a large muon EDM	CRIVELLIN, Andreas

# Thursday, October 24, 2019

## Session: Th - 1 - WHGA/001 - Auditorium (9:00 AM - 10:30 AM)

-Conveners: Convener: Philipp Schmidt-Wellenburg

time	[id] title	presenter
9:00 AM	[M25] Overview of recent efforts and results of the neutron lifetime measurements	SAUNDERS, Alexander
9:30 AM	[M42] Neutron lifetime measuring experiments with UCN magnetic storage	Mr EZHOV, Victor
9:50 AM	[M14] Testing the weak equivalence principle using Gravitationally bound quantum states of ultracold neutrons	KAMIYA, Yoshio
10:10 AM	[S9] Frequency shift at interaction of waves with accelerating object	FRANK, Alexander

## Session: Th - 2 - WHGA/001 - Auditorium (11:10 AM - 12:50 PM)

-Conveners: Convener: Eberhard Widmann

time	[id] title	presenter
11:10 AM	[M4] Fundamental Physics with Cold Antihydrogen: 20 years of AD and a new era with ELENA	FUJIWARA, Makoto
11:40 AM	[S1] Neutron-antineutron oscillations with ultracold and cold neutrons	FOMIN, Alexey
12:00 PM	[P6] Test of the crystal-diffraction ultra-precise neutron spectrometry.	Prof. VORONIN, Vladimir
12:20 PM	[P8] In search for BSM Physics in the beta decay of $^{45}\text{Ca}$	Mr BIRGE, Noah

## Session: Th - 3 - WHGA/001 - Auditorium (2:30 PM - 4:00 PM)

-Conveners: Convener: Anna Soter

time	[id] title	presenter
2:30 PM	[P9] Cyclotron Radiation Emission Spectroscopy for measuring neutrino mass and searching for chirality-flipping interactions	Dr NOVITSKI, Elise
3:00 PM	[P7] Test of lepton universality and search for light neutral bosons with TREK/E36 at J-PARC	Prof. KOHL, Michael
3:20 PM	[M03] The BL2 Experiment: An In-Beam Measurement of the Neutron Lifetime	CAYLOR, Jimmy
3:40 PM	[M3] UCNTau status and plans	MORRIS, Christopher

## Session: Th - 4 - WHGA/001 - Auditorium (4:30 PM - 6:00 PM)

-Conveners: Convener: Michael Jentschel

time	[id] title	presenter
4:30 PM	[M5] The CKM unitarity problem: A trace of new physics at the TeV scale?	Prof. BEREZHIANI, Zurab
5:00 PM	[M1] Some recent approaches to ultralight bosonic dark matter searches	BUDKER, DMITRY
5:30 PM	[M63] Winner of Poster prizes	

# Friday, October 25, 2019

## Session: Fr - 1 - WHGA/001 - Auditorium (9:00 AM - 10:40 AM)

-Conveners: Convener: Satoshi Mihara

time	[id] title	presenter
9:00 AM	<del>A16</del> Exploring the Dark Matter ALPs	JAECKEL, Joerg
9:30 AM	<del>M148</del> Searches for the neutrinoless double beta decay - status and prospects	Prof. BAUDIS, Laura
10:00 AM	<del>A30</del> Present status and future prospect of Neutrino-4 experiment search for sterile neutrino	SEREBROV, Anatolii
10:20 AM	<del>A127</del> muCool: A novel low-energy muon beam for future precision experiments	Ms BELOSEVIC, Ivana

## Session: Fr - 2 - WHGA/001 - Auditorium (11:10 AM - 12:50 PM)

-Conveners: Convener: Sacha Davidson

time	[id] title	presenter
11:10 AM	<del>A11</del> Precision measurements in molecular hydrogen	MERKT, Frédéric
11:40 AM	<del>A17</del> 25 years of ultimate-resolution exotic atom X-ray spectroscopy	Prof. GOTTA, Detlev
12:10 PM	<del>P50</del> Precise spectroscopy of muonium hyperfine structure using Kr-He mixture gas	Mr SEO, Shun
12:30 PM	<del>P113</del> Positronium and Muonium precision spectroscopy: Measurement of the 1S-2S and excited state hyperfine transitions	BURKLEY, Zakary