

## Jahrestagung in Fribourg 27. - 30. Juni 2022

Universität Fribourg, Campus Pérolles II  
Réunion annuelle à Fribourg  
27 - 30 juin 2022

## Programmübersicht Aperçu du programme



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in Zusammenarbeit mit - en collaboration avec

## Programmübersicht - Aperçu du programme

Das vollständige Programm wird allen Teilnehmern am Tagungssekretariat abgegeben sowie auf der Konferenzwebseite und der SPG Webseite ([www.sps.ch](http://www.sps.ch)) publiziert.

Hinweise:

- Je Beitrag ist nur der präsentierende Autor aufgeführt.
- Die Postersitzung findet am Dienstag von 19:00 - 20:30 (mit Apéro) sowie am Donnerstag von 12:45 - 14:30 (mit Lunch Buffet) statt.
- (p) = Plenarsprecher, (i) = eingeladene Sprecher

### Plenary Session & Special: Physics funding in Switzerland

Monday, 27.06.2022, Room JD 002

Time	ID	OFFICIAL CONFERENCE OPENING
10:50		Welcome note  Opening speech Martina Hirayama, State Secretariat for Education, Research and Innovation (SERI)
11:00		<b>General Assembly SPS</b>
12:00		<b>Lunch</b>
		<b>PLENARY SESSION I</b> Chair: <i>Ullrich Steiner, Université de Fribourg</i>
13:00	1	Frontiers in Nanophotonics: Enabling Technology for Optical Biosensing and Bioimaging Hatice Altug (p)  Chair: <i>Andreas Schopper, CERN</i>
13:45	2	The Cherenkov Telescope Array Observatory Teresa Montaruli (p)  <b>PHYSICS FUNDING IN SWITZERLAND</b> Chair: <i>Johan Chang, Universität Zürich</i>
14:30	21	Trends and developments in funding by the Swiss National Science Foundation Bernd Gotsmann (i)
14:45	22	Funding Swiss researchers in international large scale scientific projects Michele Weber (i)
15:00	23	Funding fundamental physics research, a researcher's perspective Thierry Giamarchi (i)
15:15		Discussion
16:00		<b>Coffee Break</b>
16:30		<b>Topical Sessions</b>
		<b>PUBLIC LECTURE</b> Chair: <i>Hans Peter Beck, Universität Bern</i>
19:30	3	Climate models: Early warning system of the climate crisis Thomas Stocker (p)
20:45		<b>END</b>

Tuesday, 28.06.2022, Room JD 002

Time	ID	PLENARY SESSION II
		Chair: <i>Christof Aegerter, Universität Zürich</i>
09:00	4	The physics of knots: from shoelaces to surgical sutures Pedro M. Reis (p)

Le programme final complet sera distribué aux participants au stand du secrétariat de la conférence et sera également publié sur le site de la conférence et de la SSP ([www.sps.ch](http://www.sps.ch)).

Indications:

- seul le nom de l'auteur présentant la contribution a été indiqué.
- la session poster a lieu le mardi de 19:00 à 20:30 (avec apéro) ainsi que le mercredi de 12:45 à 14:30 (avec buffet de midi).
- (p) = orateur de la session plénière, (i) = orateur invité

		Chair: <i>Antoine Pochelon</i>
09:45	5	Towards predicting plasma confinement in fusion devices Frank Jenko (p)
10:30		<b>Coffee Break</b>
11:00		<b>Award Ceremony</b>
		Chair: <i>NN</i>
11:45	6	Light-mediated strong coupling between a mechanical oscillator and atomic spins 1 meter apart Thomas Karg (i)  Chair: <i>Marc Janoschek, PSI Villigen</i>
12:15	7	Quantum Criticality and Dimensionality in Quasi-2D Spin-Dimer Systems Stephan Allenspach (i)
12:45		<b>Lunch</b>
14:00		<b>Topical Sessions</b>
19:00		<b>Postersession with Apéro</b>
20:30		<b>END</b>

Wednesday, 29.06.2022, Room JD 002

Time	ID	PLENARY SESSION III
		Chair: <i>Andreas Müller, Université de Genève</i>
09:00	8	Physics & Education – Perspectives from Condensed Matter and Biophysics Christof Aegerter (p)  Chair: <i>Leonid Rivkin, PSI Villigen</i>
09:45	9	Large Research Infrastructures in Switzerland; History, Results and Opportunities Hans Rudolf Ott (p)
10:30		<b>Coffee Break</b>
		Chair: <i>Thilo Stöferle, IBM Rüschlikon</i>
11:00	10	Are Language Models better than Physics based models for Chemical and Materials Industries ? Teodoro Laino (p)  Chair: <i>Sven Friedel, COMSOL</i>
11:45	11	Solving quantum chemistry problems with first generation digital quantum computers Pauline Ollitrault (i)  Chair: <i>Teresa Montaruli, Université de Genève</i>
12:15	12	Looking into the heart of darkness - two-phase xenon time projection chambers for direct dark matter detection Laura Baudis (i)
12:45		<b>Postersession with Lunchbuffet</b>
14:30		<b>Topical Sessions</b>
19:00		<b>Transfer to Dinner</b>
19:30		<b>Conference Dinner</b>

## Thursday, 30.06.2022, Room JD 002

Time	ID	PLENARY SESSION IV Chair: Dirk Hegemann, EMPA
09:00	13	Monitoring and tracking carbon dioxide emissions from satellites Dominik Brunner (p)
		Chair: Jean-Philippe Brantut, EPFL
09:45	14	Optical spectroscopy of strongly correlated electrons in two-dimensional materials Ataç Imamoglu (p)
10:30		Poster Award Session
10:45		Coffee Break
11:15		IUPAP 100
13:15		Lunch
14:15		Topical Sessions
18:45		CONFERENCE END

Special: 100<sup>th</sup> Anniversary of the International Union of Pure and Applied Physics (IUPAP)

## Thursday, 30.06.2022, Room JD 002

Time	ID	100 <sup>th</sup> ANNIVERSARY OF THE INTERNATIONAL UNION OF PURE AND APPLIED PHYSICS Chair: Hans Peter Beck, Universität Bern
11:15	31	IUPAP at 100 Jens Vigen (i)
11:30	32	IUPAP Women in physics Gillian Butcher (i)
11:40	33	IUPAP and enabling the next large scale physics projects! Michel Spiro (i)
12:00	34	IUPAP and the International Year of Basic Sciences for Sustainable Development (IYBSSD) Michel Spiro (i)
12:15	35	Substitution of Fossil Fuels with Renewable Energy Andreas Züttel (i)
12:45		Discussion
13:15		END; Lunch

## Physics at work in Industry

## Tuesday, 28.06.2022, Room E 140

Time	ID	PHYSICS AT WORK IN INDUSTRY Chair: Thilo Stöferle, IBM Rüschlikon
14:00	51	Introduction Thilo Stöferle
14:15	52	Solving complex problems as job profile Diego Casadei (i)
14:35	53	Commercializing enabling R&D tools for emerging display and photovoltaics technologies Beat Ruhstaller (i)
14:55	54	Reliability in SiC: from chip to module level reliability issues and the impact for the industrial application Elena Mengotti (i)

15:15	55	Intellectual property rights & career opportunities as a patent attorney Torben Müller (i)
15:35	56	Physics in Nano- and Microfabrication Felix Holzner (i)
15:55	57	From Physics to Management Buy In Tobias Vancura (i)
16:15		
16:30		Coffee Break
		Chair: Thilo Stöferle, IBM Rüschlikon
17:00	58	Water, Steam, and Financial Markets Christof Schmidhuber (i)
17:20	59	From electron tubes to AI – a physicist's life in the vacuum instrumentation industry Bernhard Andreas (i)
17:40	60	Niobium thin films in superconducting multilayer flex harnesses Samuel D'Hollosy (i)
18:00	61	Physics in the life-science industry - the value of collaboration with academia Christof Fattinger (i)
18:20	62	A physics journey through finance into quantum computing Daniel Egger (i)
18:40		END
19:00		Postersession with Apéro

## KOND

## Monday, 27.06.2022, Room JD 002

Time	ID	KOND I: CHARGE DENSITY WAVES AND STRONGLY CORRELATED SYSTEMS Chair: Henrik Rønnow, EPFL
16:30	101	Modified copper charge density wave (Cu-CDW) order in $\text{YBa}_2\text{Cu}_3\text{O}_7 / \text{Nd}_{1-x}(\text{Ca}_{1-y}\text{Sr}_y)_x\text{MnO}_3$ heterostructures Subhrangsu Sarkar
17:00	102	Stacking Order Induced Metallic State at the Surface of Untreated 1T-TaS <sub>2</sub> Björn Salzmann
17:15	103	Magnon excitations in the metallic kagome ferromagnet $\text{Fe}_3\text{Sn}_2$ Wenliang Zhang
17:30	104	Physics of the $\text{RENiO}_3$ single crystals (RE = Nd, Sm, Gd, Dy, Y, Ho, Er, Lu) below $T_{\text{Néel}}$ Dariusz Jakub Gawryluk
17:45	105	High-density Carrier Dynamics in Perovskite Wide-Bandgap Oxide Hui-Yuan Chen
18:00	106	Impact of growth conditions on the optoelectronics applications of $\text{CH}_3\text{NH}_3\text{PbI}_3$ , studied by low-energy muSR Xiaojie Ni
18:15	107	Spectroscopic investigation of charge density wave in $\text{TiSe}_2$ flakes Grazia Raciti
18:30		
19:30		Public Lecture

## Tuesday, 28.06.2022, Room JD 002

Time	ID	<b>KOND II: 2D SYSTEMS</b> <i>Chair: Johan Chang, Universität Zürich</i>
14:00	111	A strong and electrically tunable optical resonance in a two-dimensional semiconductor <i>Nadine Leisgang (i)</i>
14:30	112	Simultaneous Measurement of Quasiparticle Interference and Decay Length of 2D Quantum Materials with the Scanning Tunneling Microscope <i>Berk Zengin</i>
14:45	113	Quantitative Magnetometry on Nanostructured MBE Grown 2D In-Plane Ferromagnet <i>Patrick Reiser</i>
15:00	114	Cu <sub>3</sub> Au(111) - ordering / disordering & potential for cobalt island growth <i>Ales Cahlik</i>
15:15	115	Evolution of electronic configuration and spin-state in CrI <sub>3</sub> , CrBr <sub>3</sub> and CrCl <sub>3</sub> <i>Yuan Wei</i>
15:30	116	Mapping the excitation-specific electron, spin and lattice dynamics in spinel Co <sub>3</sub> O <sub>4</sub> thin films with fs-resolution <i>Oliviero Cannelli</i>
15:45	117	Characterization and analysis of a symmetry-breaking THz chiral metamaterial <i>Lorenzo Graziotto</i>
16:00	118	A sacrificial magnet system for field dependent surface science studies <i>Danyang Liu</i>
16:15	119	Modulation of Band and Electronic properties of Titanate Surface/Interface <i>Hang Li</i>
16:30		<b>Coffee Break</b>
19:00		<b>Postersession with Apéro</b>

## Wednesday, 29.06.2022, Room JD 002

Time	ID	<b>KOND III: SUPERCONDUCTIVITY</b> <i>Chair: Subhramgsu Sarkar, Université de Fribourg</i>
14:30	121	Actuation of a Superconducting Switch via Out-of-Equilibrium Electrons and Phonons <i>Markus Ritter (i)</i>
15:00	122	Time-reversal symmetry-breaking charge order in a kagome superconductor <i>Zurab Guguchia</i>
15:15	123	Boosting charge stripe order by uniaxial pressure <i>Julia Küspert</i>
15:30	124	Infrared response of the telephone number compound Sr <sub>2</sub> Ca <sub>12</sub> Cu <sub>24</sub> O <sub>41</sub> <i>Christian Bernhard</i>
15:45	125	Possible p-wave parity in newly found superconductor Pr <sub>3</sub> Cr <sub>10-x</sub> N <sub>11</sub> <i>Changsheng Chen</i>
16:00	126	Superconductivity in simple cubic phosphorus: The role of dynamical screening and electronic correlations <i>Viktor Christiansson</i>
16:15	127	Laser ARPES on Fe <sub>3</sub> Sn <sub>2</sub> : Untangling twin domains and discovery of unconventional quasiparticle <i>Sandy Adhitha Ekahana</i>
16:30		<b>Coffee Break</b>
19:00		<b>Transfer to Dinner</b>
19:30		<b>Conference Dinner</b>

## Thursday, 30.06.2022, Room JD 002

Time	ID	<b>KOND IV: THEORY</b> <i>Chair: Ilaria Zardo, Universität Basel</i>
14:15	131	Nonunitary Superconductivity in Complex Quantum Materials <i>Aline Ramires</i>
14:45	132	Recognizing the face of wave functions <i>Augustin Muster</i>
15:00	133	Vertex impurity solver based on strong-coupling diagrammatic expansion <i>Aaram J. Kim</i>
15:15	<del>134</del>	<del>Statistical Physics Through the Lens of Real Space Mutual Information</del> <del>Doruk Efe Gökmen</del>
15:30	135	A theory for the statistics of slip at a frictional interface: unifying rate-and-state and depinning approaches <i>Tom de Geus</i>
15:45	136	Critical Behaviour and Closing Gap Issue within Realistic Noisy Variational State Preparation <i>Nikita Astrakhantsev</i>
16:00	137	Hardware-Tailored Diagonalization Circuits <i>Daniel Miller</i>
16:15		<b>Coffee Break</b>
		<b>KOND V: CORRELATED STATES AND TRANSITIONS</b> <i>Chair: Ilaria Zardo, Universität Basel</i>
16:45	141	New perspective on unconventional superconductivity, strange metallicity, and fractional quantum Hall effect from quantum geometry <i>Alexander Kruchkov</i>
17:15	142	Modifying the integer quantum Hall effect with cavity vacuum fields <i>Josefine Enkner</i>
17:30	143	Endofullerene Conformation from x-ray absorption <i>Wei Chuang Lee</i>
17:45	144	Doping asymmetry and layer-selective metal-insulator transition in trilayer K <sub>3+x</sub> C <sub>60</sub> <i>Changming Yue</i>
18:00	145	Metal-to-insulator transition in SCO thin film upon application of epitaxial strain <i>Simon Jöhr</i>
18:15	146	Using uniaxial stress to probe the relationship between competing superconducting states in a cuprate with spin-stripe order <i>Zurab Guguchia</i>
18:30	147	Thermal Ising transition in the spin-1/2 J1-J2 Heisenberg model <i>Olivier Clement Romain Gauthé</i>
18:45		<b>END</b>

ID	<b>KOND POSTER</b>
161	Far Infrared ellipsometry response of TbMnO <sub>3</sub> thin films <i>Laurent Bugnon</i>
162	Terahertz and infrared magneto-ellipsometer <i>Premysl Marsik</i>
163	Electronic Properties of SIO - YBCO Thin Film Heterostructures <i>Jonas Knobel</i>
164	Development of a resonant ultrasound setup to explore quantum materials <i>Xuan Dang Dang</i>
165	Uniaxial strain NMR probe <i>Jonas Philippe</i>
166	Infrared Ellipsometry study of K-doped pterphenyl bulk <i>Qi He</i>

<del>167</del>	<del>GPM functionalization for magnetic sensing</del> <del>Abu Cahlik</del> cancelled
168	Distinct electronic structure of novel intercalated series $2H-xTaS_2$ Wojciech Radoslaw Pudenko
169	Microspectroscopy of Magnetic Nanostructures with Soft X-Ray Ptychography Tim A. Butcher
170	Noise mitigation in silicon quantum devices Leonardo Massai
171	Adsorption of Argon on Graphite Rémi Marcel Léon Claude
172	Spatial modulations of the density of states due to atomic defects in bulk $ZrSe_2$ Andreas Ørsted
173	Schottky contacts for silicon spin qubits Lisa Sommer
174	Density of state oscillations in InAs/AlSb/GaSb bilayer systems Amina Solano Lopes Ribeiro

### Applied Physics & Plasma Physics

Monday, 27.06.2022, Room G 120

Time	ID	APPLIED PHYSICS & PLASMA PHYSICS: ACCELERATOR SCIENCE AND TECHNOLOGY / PLASMA Chair: Leonid Rivkin, PSI Villigen
16:30	201	The PSI Positron Production (P-cubed) Project Mattia Schaer
16:45	202	CHART MagDev Roadmap for $Nb_3Sn$ Magnets for FCC-hh Michael Daly
17:00	203	CHART MagDev No-Insulation ReBCO Solenoid Development Michal Duda
17:15	204	Collaborative project for the development of new simulation tools for the Future Circular Collider $e^+e^-$ Tatiana Pieloni
17:30	205	First Exploration of Spin Polarization Simulations in the Future Circular Collider $e^+e^-$ using Bmad Yi Wu
17:45	206	Modeling of beam-beam effects in future circular lepton colliders Peter Kicsiny
18:00	207	The Bern medical cyclotron as a facility for radiation hardness studies Isidro Mateu
18:15	208	High Intensity Muon Beam (HIMB): how to improve the most intense muon beam in the world Giovanni Dal Maso
18:30	209	Rapid radial profiles simulation and scenario optimization on tokamak discharges using the RAPTOR code Cassandra Ekta Contré
18:45	210	Energy Efficiency of Particle Accelerator driven Research Infrastructures Mike Seidel
19:15		END
19:30		Public Lecture

ID	APPLIED PHYSICS & PLASMA PHYSICS POSTER
221	Towards a hybrid kinetic-MHD spectral code to study instabilities of tokamak plasmas Fabien Jeanquartier
222	Long Wavelength Coherency in Well Connected Electric Power Networks Julian Fritzsche

### Nuclear, Particle and Astrophysics (TASK)

THIS SESSION HAS BEEN ORGANISED IN COLLABORATION WITH CHIPP.

Monday, 27.06.2022, Room G 140

Time	ID	CHIPP PLENARY MEETING Chair: Michele Weber, Universität Bern
16:15		Non-scientific Topics
		TASK I: ASTROPARTICLE PHYSICS Chair: Teresa Montaruli, Université de Genève
17:15	301	The future space-borne High Energy cosmic-Radiation Detection facility Jennifer Maria Frieden
17:30	302	Helium Flux Measurement with the DAMPE Detector using Machine Learning Techniques Arshia Ruina
17:45	303	Very-high-energy emission from gamma-ray bursts detected by MAGIC Satoshi Fukami
18:00	304	What can variability of quasar microlensing light curve tell us about its structure ? Eric Gérard Guy Paic
18:15	305	Dark Matter Effective Field Theory and an Application to Vector Dark Matter Jason Aebischer
18:30	306	Dark matter direct detection with the XENONnT experiment Giovanni Volta
18:45	307	The DARWIN observatory for dark matter and neutrino physics Michelle Galloway
19:00	308	Xenoscope - a full-scale vertical demonstrator for the DARWIN observatory Alexander Bismark
19:15		
19:30		Public Lecture

Tuesday, 28.06.2022, Room G 140

Time	ID	TASK II: FLAVOUR ANOMALIES Chair: Admir Greljo, Universität Bern
14:00	315	Search for the lepton flavour violating $B_s^0 \rightarrow e^+ \mu^-$ and $B^0 \rightarrow e^- \mu^+$ decays with LHCb Run 2 data Sebastian Schulte
14:15	312	QED corrections in $\bar{B}^0 \rightarrow \bar{K}^0 \ell \ell$ : comparing PHOTOS to a Monte Carlo based on a fully differential NLO computation. Davide Lancierini
14:30	313	Update on the angular analysis of $B^0 \rightarrow K^0 e^+ e^-$ decays at LHCb Zhenzi Wang

14:45	314	Machine Learning Techniques for selecting Forward Electrons ( $2.5 < \eta < 3.2$ ) with the ATLAS High Level Trigger <i>Meinrad Moritz Schefer</i>
15:00	311	Lepton Flavour universality test in $b \rightarrow s\ell\ell$ decays at LHCb <i>Sara Celani</i>
15:15	316	Mu3e looking for rare muon decays <i>Yannick Demets</i>
15:30	317	Precision timing in the Mu3e experiment towards the search for the muon decay to three electrons <i>Yannick Demets</i>
15:45	318	Studies of semileptonic charged-current decays of b-hadrons <i>Abhijit Mathad</i>
16:00	319	Searching for single third generation Leptoquarks with $bb + \tau\tau$ final state using the ATLAS detector <i>Roman Mueller</i>
16:15	320	The PIONEER precision pion decay experiment <i>Damian Goeldi</i>
16:30		<b>Coffee Break</b>
		<b>TASK III: NEUTRINOS: SM AND BSM</b> <i>Chair: Richard Diurba, Universität Bern</i>
17:00	321	The LEGEND experiment to search for neutrinoless double beta decay <i>Pin-Jung Chiu</i>
17:15	322	Search for long-lived heavy neutral leptons in leptonic final states with displaced vertices at the CMS experiment <i>Anna Mascellani</i>
17:30	323	Inclusive search for HNLs at LHCb with Run 2 data <i>Serhii Cholak</i>
17:45	324	Search for long-lived Heavy Neutral Leptons in B-meson decays <i>Anne-Mazarine Lyon</i>
18:00	325	Neutrino physics at the LHC <i>Elena Graverini</i>
18:15	326	The SND@LHC detector <i>Ettore Zaffaroni</i>
18:30	327	ArCLight: Development of a novel light detector for modular liquid Argon detectors <i>Anja Gauch</i>
18:45	328	First light detection with an Optical TPC <i>Robert Mihai Amarinei</i>
19:00		<b>Postersession with Apéro</b>

**Wednesday, 29.06.2022, Room G 140**

		<b>TASK IV: NEW PHYSICS SEARCHES</b> <i>Chair: Steven Schramm, Université de Genève</i>
14:30	331	Precision measurement of neutral charm meson mixing parameters at LHCb <i>Guillaume Max Pietrzyk (i)</i>
15:00	<del>332</del>	<del>What is the best way to quantize non-linear electrodynamics?</del> <del><i>Veronica Erasti-Diaz</i></del> <i>cancelled</i>
15:15	333	Search for Supersymmetry with tbMET final states using full ATLAS Run2 data <i>Meghranjana Chatterjee</i>
15:30	334	Searching for R-Parity Violating Supersymmetry with the ATLAS Detector <i>Lea Halser</i>
15:45	335	B-jet tagging with fast tracking at the ATLAS trigger <i>Stefano Franchellucci</i>
16:00	336	Search for CP violation in ttH and tH production in multilepton channels <i>Sascha Pascal Liechti</i>

16:15	337	First test run results at the NA64 $\mu$ experiment at CERN <i>Benjamin Banto Oberhauser</i>
16:30		<b>Coffee Break</b>
		<b>TASK V: PRECISION MEASUREMENTS</b> <i>Chair: Florian Piegsa, Universität Bern</i>
17:00	341	Positronium 1S-2S and 2S-2P precision spectroscopy <i>Lucas de Sousa Borges</i>
17:15	342	LEMING: A gravity experiment with muonium atoms <i>Jesse Zhang</i>
17:30	343	Muonic atom spectroscopy with radioactive targets <i>Stergiani Marina Vogiatzi</i>
17:45	344	Measurement of multiple scattering of positrons for the Muon Electric Dipole Moment Experiment <i>Timothy Hume</i>
18:00	345	The LHCb magnetic field map <i>Marie Bachmayer</i>
18:15	346	3D real-time monitoring of the LHCb SciFi tracker using BCAMs <i>Maria Veites Diaz</i>
18:30	347	Model-independent measurement of charm-mixing parameters in $D^0 \rightarrow K^0 \pi^+ \pi^-$ <i>Surapat Ek-In</i>
18:45	348	$\Lambda_c^+$ polarization measurement with the LHCb detector at the LHC <i>Elisabeth Maria Niel</i>
19:00		<b>Transfer to Dinner</b>
19:30		<b>Conference Dinner</b>

**Thursday, 30.06.2022, Room G 140**

		<b>TASK VI: DETECTORS AND PERFORMANCE</b> <i>Chair: Saba Parsa, Universität Bern</i>
14:15	351	Next generation silicon pixel sensors: towards picosecond timing <i>Magdalena Muenker</i>
14:45	352	The 100 $\mu$ PET project: Pioneering ultra-high-resolution molecular imaging <i>Jihad Saidi</i>
15:00	<del>353</del>	<del>FOC vertex detector requirements and performance simulation</del> <del><i>Annalyng</i></del> <i>cancelled</i>
15:15	354	The W-Si high precision pre-shower detector of the FASER experiment at the LHC <i>Theo Moretti</i>
15:30	355	Irradiation of ATLAS ITk Pixel Data Transmission Components at the Bern Cyclotron <i>Aaron Paul O'Neill</i>
15:45	356	The Optosystem: Performance of the electrical-to-optical data conversion system for the ATLAS ITk Pixel upgrade <i>Daniele dal Santo</i>
16:00		
16:15		<b>Coffee Break</b>
16:45	357	Event reconstruction at 30 MHz - the LHCb experience <i>Michel de Cian</i>
17:00	358	The PLUME luminosity monitor for LHCb <i>Maarten van Dijk</i>
17:15	359	Deep Learning Measurement of Non-Fiducial Electrons Cosmic Rays Using on the DAMPE Experiment. <i>Enzo Putti-Garcia</i>

17:30	360	Development of a Penetrating particle ANALyzer (PAN) demonstrator and the results from beam tests <i>Tomoya Iizawa</i>
17:45		<b>END</b>

ID	TASK POSTER
381	Interferometry setup for the LEMING experiment <i>Robert Waddy</i>
382	Non-perturbative decoupling of massive fermions <i>Tobias Rindlisbacher</i>
383	The double focalizing magnetic spectrometer at EPFL <i>Maarten van Dijk</i>

### Atomic Physics and Quantum Optics

Thursday, 30.06.2022, Room E 140

Time	ID	ATOMIC PHYSICS AND QUANTUM OPTICS I <i>Chair: Jean-Philippe Brantut, EPFL</i>
14:15	401	Control of isolated attosecond pulse generation multi-colour synthesized laser fields <i>Bruce Weaver</i>
14:30	402	Integrated THz emission and detection in thin-film lithium niobate <i>Alexa Marina Herter</i>
14:45	403	Transition from superfluorescence to amplified spontaneous emission in halide perovskite giant nanocrystals <i>Kobiyama Etsuki</i>
15:00	404	DNA origami assembled nanoantennas for manipulating single-molecule spectral emission <i>Maria Sanz-Paz</i>
15:15	405	An ultrastrongly coupled single Terahertz meta-atom <i>Elsa Jöchl</i>
15:30	406	Observing superfluid current through a dissipative quantum point contact <i>Meng-Zi Huang</i>
15:45	407	Towards scalable quantum operations on mixed-species ion chains <i>Francesco Lancellotti</i>
16:00		
16:15		<b>Coffee Break</b>
		ATOMIC PHYSICS AND QUANTUM OPTICS II <i>Chair: Maria Sanz-Paz, Université de Fribourg</i>
16:45	411	Progress on the Swiss frequency metrology fiber network <i>Dominik Husmann</i>
17:15	412	Towards tunable room-temperature condensation in a polariton Su-Schrieffer-Heeger (SSH) chain <i>Ioannis Georgakilas</i>
17:30	<del>413</del>	<del>Ramsey interrogation studies in a Rb microcell for improved miniature atomic clocks</del> <del><i>Christoph Affolderbach</i></del> <i>cancelled</i>
17:45	414	Dissipation-engineered family of nearly dark states in many-body cavity-atom systems <i>Rui Lin</i>
18:00	415	Cavity-QED Quantum Simulator of Random Spin Models <i>Nick Jacob Sauerwein</i>
18:15		<b>END</b>

### New prospects in ARPES for quantum materials

Tuesday, 28.06.2022, Room G 120

Time	ID	NEW PROSPECTS IN ARPES FOR QUANTUM MATERIALS I <i>Chair: Claude Monney, Université de Fribourg</i>
14:00	501	Mobile excitons revealed in quasi-1D system by ARPES <i>Ming Shi (i)</i>
14:30	502	Laser-ARPES measurements of Sr <sub>2</sub> RuO <sub>4</sub> under uniaxial strain <i>Andrew Hunter</i>
14:45	503	Rich Nature of Van Hove Singularities in Kagome Superconductor CsV <sub>3</sub> Sb <sub>5</sub> <i>Yong Hu</i>
15:00	504	Creating and Tuning Electronic states and Phases of NdNiO <sub>3</sub> <i>Milan Radovic</i>
15:15	505	Direct determination of the electron-phonon interaction in CaTiO <sub>3</sub> thin films <i>Hugo Dil</i>
15:30	506	Observation of flat bands in 57° twisted bilayer WSe <sub>2</sub> <i>Gianmarco Gatti</i>
15:45	507	Proximity-modulated spin-orbit interaction at the Pb/MoSe <sub>2</sub> interface <i>Fatima Alarab</i>
16:00	508	One-dimensional bands induced in a natural misfit structure. <i>Alla Chikina</i>
16:15	509	Revealing electronic correlations in YNi <sub>2</sub> B <sub>2</sub> C using photoemission spectroscopy <i>Aki Pulkkinen</i>
16:30		<b>Coffee Break</b>
		NEW PROSPECTS IN ARPES FOR QUANTUM MATERIALS II <i>Chair: Luc Patthey, PSI Villigen</i>
17:00	511	ARPES of multifold fermions in chiral topological semimetals <i>Niels B. M. Schröter (i)</i>
17:30	512	Surface spin-texture and bulk spin-momentum locking in chiral topological semimetals <i>Jonas Andreas Krieger</i>
17:45	513	Strain tuning the band structure in ARPES <i>Chun Lin</i>
18:00	514	From micro to femto: Towards combining spatial and temporal resolution for ARPES <i>Chris Nicholson (i)</i>
18:30	515	Observation of spin voltage and -accumulation by spin resolved femtosecond photoelectron spectroscopy <i>Yves Marc Acremann</i>
18:45	516	Cu <sub>2</sub> O: Electron Dynamics and Defect Trapping in a Potential Photocathode Material <i>Matthias Hengsberger</i>
19:00		<b>Postersession with Apéro</b>

ID	NEW PROSPECTS IN ARPES FOR QUANTUM MATERIALS POSTER
531	High-resolution, low-temperature ARPES at SIS-ULTRA <i>Nicholas C. Plumb</i>
532	k-resolved electronic structure of quantum heterostructure and impurity systems by soft X-Ray ARPES <i>Leonid L. Lev</i>
533	iMott – imaging spin detector based on Mott scattering for spin-resolved ARPES <i>Dmitry A. Usanov</i>

534	Bayesian optimisation of electron-boson interaction from ARPES self-energies <i>Tom van Waas</i>
<del>535</del>	<del>Electronic structure of ultra dense, two dimensional dipart 5 layers in silicon</del> <del>Procopio Christou Constantinea</del> <i>cancelled</i>

ID	NONEQUILIBRIUM PROPERTIES OF QUANTUM MATERIALS POSTER
631	Determining photoemission time scales in CuTe <i>Fei Guo</i>
632	Ultrafast structural dynamics of a strong electromagnon resonance in multiferroic hexaferrite <i>Gérard Perren</i>

## Nonequilibrium properties of quantum materials

Wednesday, 29.06.2022, Room G 120

Time	ID	NONEQUILIBRIUM PROPERTIES OF QUANTUM MATERIALS I <i>Chair: Francesco Petocchi, Université de Fribourg</i>
14:30	601	Ultrafast dynamics of Charge-Density Waves <i>Laurenz Rettig (i)</i>
15:00	602	Investigating the ultrafast dynamics of the charge-ordered states in IrTe <sub>2</sub> <i>Maxime Rumo</i>
15:15	603	Ultrafast nonthermal control of a magnetic skyrmion crystal <i>Benoit Truc</i>
15:30	604	Emergent quantum coherence in random magnets allows to probe slow quantum dynamics <i>Markus Müller (i)</i>
16:00	605	Twisted chiral superconductivity in photodoped frustrated Mott insulators <i>Jiajun Li</i>
16:15	606	Non-linear optical processes and collective excitations in spin orbit coupled systems <i>Markus Lysne</i>
16:30		<b>Coffee Break</b>
		NONEQUILIBRIUM PROPERTIES OF QUANTUM MATERIALS II <i>Chair: Claude Monney, Université de Fribourg</i>
17:00	611	Ultrafast electric Mott transition in GaTa <sub>4</sub> Se <sub>8</sub> following THz photoexcitation <i>Elsa Abreu (i)</i>
17:30	612	Ultrafast dynamics in quantum matter: capabilities of Furka endstation at SwissFEL <i>Elia Razzoli</i>
17:45	<del>613</del>	<del>Development of X-ray Transient Grating at X-ray Free-Electron Lasers</del> <del>Cristian Croitoru</del>
18:00	614	Stochastic resonance switching in a spin glass <i>Hugo Dil</i>
18:15	615	Resolving current-induced new magnetic state in Sr <sub>2</sub> IrO <sub>4</sub> using muon spin spectroscopy <i>Chennan Wang</i>
18:30	616	Non-equilibrium dynamics in layered 1T-TaS <sub>2</sub> <i>Francesco Petocchi (i)</i>
19:00	617	Nonequilibrium Two-Particle Self-Consistent Approach <i>Olivier Simard</i>
19:15		<b>END; Transfer to Dinner</b>
19:30		<b>Conference Dinner</b>

## Swiss Neutron Science on the European Scale

THIS SESSION HAS BEEN ORGANISED IN COLLABORATION WITH THE SWISS NEUTRON SCIENCE SOCIETY.

Thursday, 30.06.2022, Room G 120

Time	ID	SWISS NEUTRON SCIENCE ON THE EUROPEAN SCALE I <i>Chair: Daniel G. Mazzone, PSI Villigen</i>
14:15	701	Structural disorder and magnetic correlations in non-Kramers Tb <sub>2</sub> Hf <sub>2</sub> O <sub>7</sub> pyrochlore <i>Victor Alexis Poree</i>
14:30	702	Intriguing Magnetism of the Topological Kagome Magnet TbMn <sub>6</sub> Sn <sub>6</sub> <i>Charles Mielke III</i>
14:45	703	Single domain stripe order in a high-temperature superconductor La <sub>2-x</sub> Sr <sub>x</sub> CuO <sub>4</sub> <i>Gediminas Simutis</i>
15:00	704	Ferromagnetic structures and Kondo effects of CeAu <sub>1-x</sub> Cu <sub>x</sub> Ge semimetals <i>Soohyeon Shin</i>
15:15	705	Magnetism in the distorted Kagome-lattice intermetallic RAgGe family <i>Camilla Buhl Larsen</i>
15:30	706	Study of out-of-equilibrium phases in TmB <sub>4</sub> <i>Amirreza Hemmatzade</i>
15:45	707	Status Update of the Ultracold Neutron Source at the PSI <i>Cornelis Bernardus Doorenbos</i>
16:00	708	The n2EDM experiment – A new high-sensitivity search for the neutron electric dipole moment <i>Anastasio Fratangelo</i>
16:15		<b>Coffee Break</b>
		SWISS NEUTRON SCIENCE ON THE EUROPEAN SCALE II <i>Chair: Florian Piegsa, Universität Bern</i>
16:45	711	Development of a neutron grating interferometer for the measurement of the neutron electric charge <i>Marc Persoz</i>
17:00	712	Minimizing Magnetic Dipole Contamination in the n2EDM Experiment <i>Victoria Kletzl</i>
17:15	713	BeamEDM – A beam experiment to search for the neutron electric dipole moment <i>Anastasio Fratangelo</i>
17:30	714	The search for neutron to mirror-neutron oscillations at PSI <i>Nathalie Ziehl</i>
		<i>Chair: Efthymios Polatidis, PSI Villigen</i>
17:45	715	Advanced characterisation through Bragg edge imaging in material science <i>Florencia Malamud</i>
18:00	716	Dynamic Neutron Imaging of Paramagnetic Ions in Solution <i>Tim A. Butcher</i>

18:15	717	<b>Fast Neutron Imaging with Perovskite Nanocrystal Scintillators</b> <i>Kostiantyn Sakhatskyi</i>
18:30	718	<b>Microstructural Characterization Through Grain Orientation Mapping with Laue Three-Dimensional Neutron Diffraction Tomography</b> <i>Stavros Samothrakitis</i>
18:45		<b>END</b>

ID SWISS NEUTRON SCIENCE ON THE EUROPEAN SCALE POSTER		
731		<b>Neutron Scattering Study of Field-Induced Dynamics in the Quantum Spin Liquid Candidate YbBr<sub>3</sub></b> <i>Abraham Hernández</i>
732		<b>Nearly degenerated magnetic phases in Ce<sub>3</sub>TiSb<sub>5</sub></b> <i>Simon Flury</i>
733		<b>Semi-Automizing alignment of single crystal mosaics</b> <i>Jasmin Müller</i>
734		<b>Tunable critical correlations in kagome ice</b> <i>Alexandra Angeline Turrini</i>
735		<b>Inelastic precursor of chiral order in multiferroic Ni<sub>3</sub>TeO<sub>6</sub></b> <i>Daniel Mazzone</i>
736		<b>Quantum spin ice states in cerium pyrochlores</b> <i>Romain Franck Sibille</i>

### Biologically inspired assembly of ordered and disordered optical materials

THIS SESSION HAS BEEN ORGANISED IN COLLABORATION WITH THE **NCCR BIO-INSPIRED MATERIALS**.

Wednesday, 29.06.2022, Room E 140

Time	ID	BIOLOGICALLY INSPIRED ASSEMBLY OF ORDERED AND DISORDERED OPTICAL MATERIALS I <i>Chair: Ullrich Steiner, Université de Fribourg</i>
14:30	801	<b>3D Printing of Photonic Colloidal Glasses into Objects with Isotropic Structural Color</b> <i>Ahmet Faik Demirörs (i)</i>
15:00	802	<b>Light scattering of micron-sized self-assembled colloidal aggregates</b> <i>Pavel Yazhgur</i>
15:15	803	<b>Structurally Colored Micron-Sized Particle Assemblies</b> <i>Nicolas Muller</i>
15:30	804	<b>Varying Disorder in the Photonic Structures of Longhorn Beetles</b> <i>Viola Bauernfeind</i>
15:45	805	<b>Interplay between order and disorder in structural colored materials</b> <i>Lukas Schertel</i>
16:00	806	<b>Order and disorder in inverse Opals</b> <i>Jansie Smart</i>
16:15		
16:30		<b>Coffee Break</b>
		BIOLOGICALLY INSPIRED ASSEMBLY OF ORDERED AND DISORDERED OPTICAL MATERIALS II <i>Chair: Ahmet Faik Demirörs, ETH Zürich</i>
17:00	814	<del>Inspiration from nature: Photonic hands, legs, and skin</del> <del>Diederik Wiersma (i)</del>

17:30	812	<b>Transport properties of bioinspired diffusive photonic materials</b> <i>Geoffroy Aubry</i>
17:45	813	<b>Dielectric foam networks as photonic crystal materials</b> <i>Abraham de Jesús Aguilar Uribe</i>
18:00	814	<b>Disordered micro-pillars create enhanced absorption in Euprotaetia beetles</b> <i>Alessandro Parisotto</i>
18:15	815	<b>Orienting single molecules with DNA origami constructs</b> <i>Aleksandra Adamczyk</i>
18:30		<b>END; Transfer to Dinner</b>
19:30		<b>Conference Dinner</b>

### Biophysics, Medical Physics and Soft Matter

Monday, 27.06.2022, Room E 140

Time	ID	BIOPHYSICS, MEDICAL PHYSICS AND SOFT MATTER <i>Chair: Christof Aegerter, Uni Zürich</i>
16:30	901	<b>New developments for theranostic radioisotope production with solid targets at the Bern medical cyclotron</b> <i>Gaia Dellepiane</i>
16:45	902	<b>Directed Self-assembly of Triblock Terpolymers by Chemical Guiding Patterns</b> <i>Doha Abdelrahman</i>
17:00	903	<b>Block copolymers assemble into large-area bioinspired membranes</b> <i>Christian Sproncken</i>
17:15	904	<b>Simulating the agglomeration process of a polydisperse system of spherical particles</b> <i>Mathias Sebastian Weyland</i>
17:30	905	<b>Interrogating Single Molecule Kinetics of Citrate Synthase with Plasmonic Optical Tweezers</b> <i>Edona Karakaçi</i>
17:45	906	<b>Stabilization of glass nanopores by in situ polymer coating</b> <i>Marian Reincke</i>
18:00		<b>END</b>
19:30		<b>Public Lecture</b>

ID BIOPHYSICS, MEDICAL PHYSICS AND SOFT MATTER POSTER		
921		<b>Network analysis of an agglomeration of polydisperse spherical particles</b> <i>Mathias Sebastian Weyland</i>
922		<b>Characterising protein features through nanopore experiments using combination of machine learning analysis and bead-model simulations</b> <i>Anna Wald</i>

### Non-public Events

Time	ROOM	INTERNAL MEETINGS
Monday, 27.06., 09:00	G 140	CHIPP Board Meeting
Monday, 27.06., 09:00	JD 002	SPS Board Meeting

**Satellite Event:  
Women in Physics Career Symposium**

THIS EVENT IS SUPPORTED BY  
PSI VILLAGEN, UNIVERSITÄT ZÜRICH, SPS, SCNAT AND IUPAP.

Friday, 01.07.2022, Room G 120

Time	ID	WOMEN IN PHYSICS CAREER SYMPOSIUM <i>Chair: Nathalie Lerch-Pieper, PSI Villigen</i>
08:30	81	Keynote: <b>Jamie Gloor</b>
09:30	82	International Program: <b>Gillian Butcher</b>
10:00		<b>Coffee Break</b>
		<i>Chair: Christine Klauser, PSI Villigen</i>
10:30	83	Career Talk 1: <b>Claire Donnelly</b>
11:00	84	Career Talk 2: <b>Jennifer Schober</b>
11:30	85	Introduction of Mentors and Mentees
12:30		<b>Lunch (organised for Speakers, Mentors, Mentees)</b>
		<i>Chair: Ellen Fogh, EPFL</i>
14:00	86	Career Talk 3: <b>Chiara Mariotti</b>
14:30	87	Career Talk 4: <b>Ana Akrap</b>
15:00		<b>Coffee Break</b>
		<i>Chair / Moderation: Kirsten Moselund, PSI Villigen &amp; EPFL</i>
15:30	88	Podium Discussion
16:30	89	Mentors and Mentees Meeting
17:30		
18:30		<b>Dinner (for Speakers, Mentors, Mentees)</b>

**Aussteller - Exposants**

Die Ausstellung findet in der Halle im Erdgeschoss statt.

L'exposition se tiendra dans le hall (rez-de-chaussée).

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