



PHYSICS DAYS 2023 TAMPERE

Physics makes dreams come true

Conference Booklet

How to access the WiFi

The conference venue, Tampere Hall, has a guest network available for the whole duration of the conference.



SSID: TAMPEREHALL

Pwd: customernet

Registration

The registration desk will open on Wednesday, March 29th from 10:00 to 18:45 at the conference venue site. For the following days, the registration desk will be opened for late registrations and information every day with the following schedule: Thursday, March 30th, from 8:30 to 10:30, and Friday, March 31st from 08:30 to 16:00.

Conference Website and Social Media



<https://events.tuni.fi/physicsdays2023>



Official Hashtag: #PD2023

Locations & Social Events

Conference

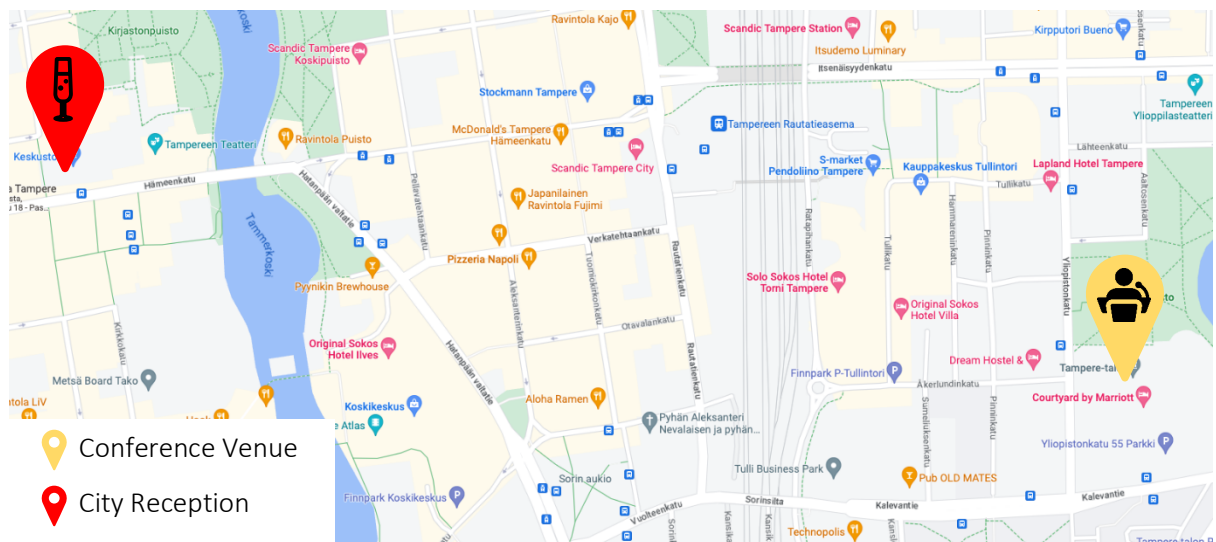


Venue:
Tampere Hall
[Yliopistonkatu 55](#)
33100 Tampere

Tampere City Reception



Venue:
[City Hall](#)
Keskustori 10
33210 Tampere



How to Reach Tampere City Reception Venue

By Tram:

Tram Number: 3

From: Tulli A (Itsenäisyydenkatu - see map below)

To: Keskustori A

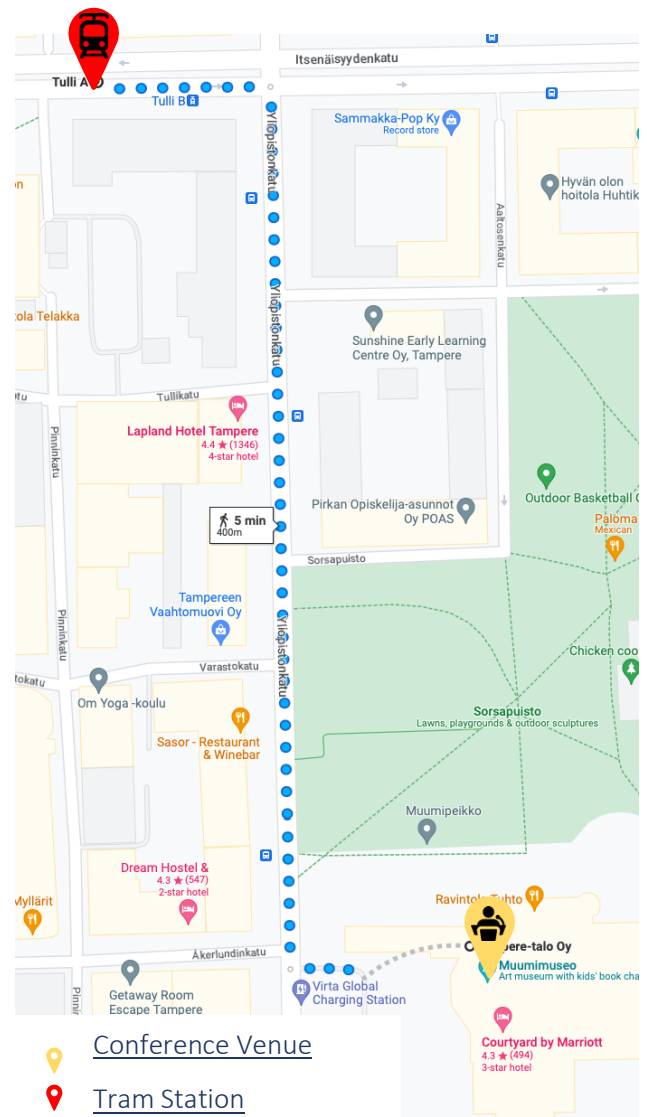
NUMBER OF STOPS: 3

Once off the tram, turn right, and the Tampere City hall will be just around the corner, on the left.

Departure times indicated in the table below

Hour	Minutes							
4	43*	58*						
5	05*	20*		35*		43**	50*	
6	05*	20*		28*	35*	43*	50*	58*
7 - 19	05*	13*	20*	28*	35*	43*	50*	58*

ATTENTION: Latest possible departure from conference venue, to arrive at the reception in time, would be at **18:43 from the bus stop** (circled in red on the timetable above)!



By Bus:

Bus Number: 2 (direction: Särkänniemi)

FROM: Tampere Talo (Yliopistonkatu 55 – see map)

TO: Keskustori D

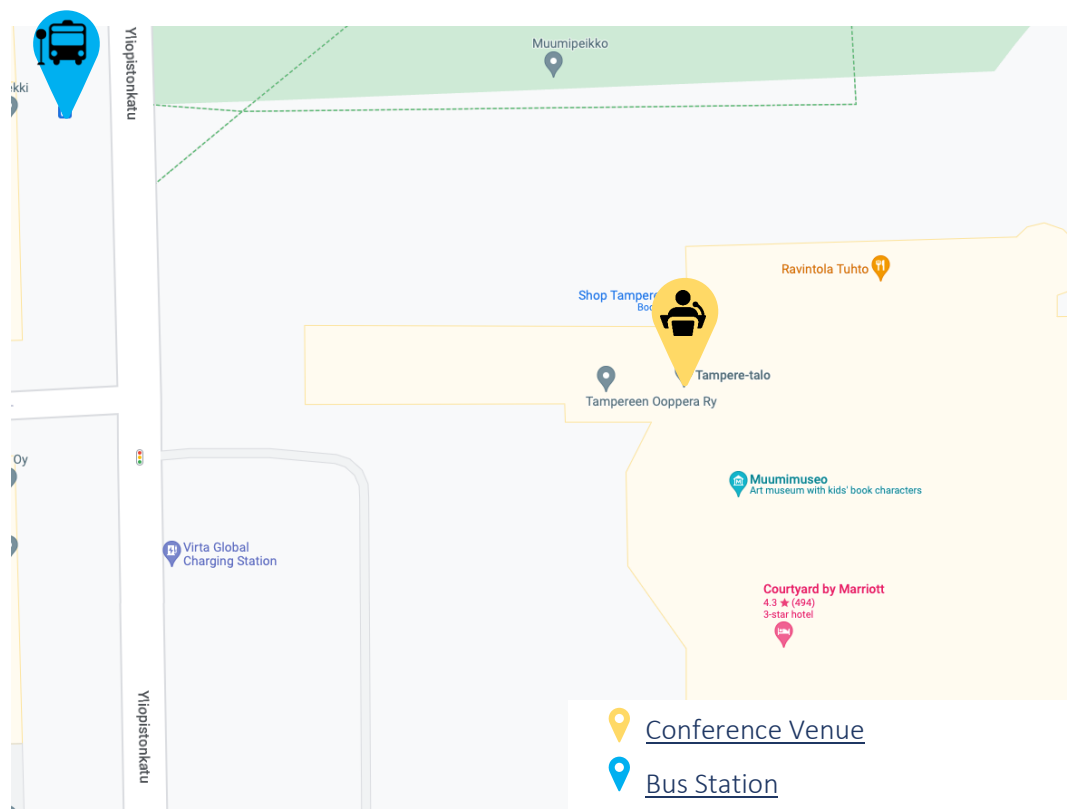
NUMBER OF STOPS: 4

Once off the bus, the Tampere City hall building is directly on your left.

Departure times are indicated in the table below

Hour	Minutes					
5	05	30				
6	01	24	34	44	54	
7 - 13	04	14	24	34	44	54
14	05	16	26	36	46	56
15 - 16	06	16	26	36	46	56
17	06	16	26	36	46	55
18	05	14	28	43	58	

ATTENTION: Latest possible departure from conference venue, to arrive at the reception in time, would be at **18:43 from the tram stop** (circled in red on the timetable above)!



Conference Program Overview

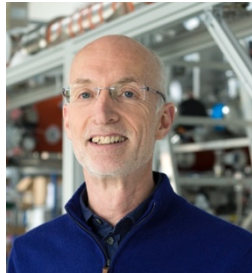
WEDNESDAY, MARCH 29TH		
Time	Activity	Place
9.00-11.30	Career planning workshop	
10.00-18.45	Registration desk open	
12.00-18.45	Exhibition open	2nd floor foyer
12.00-12.30	Opening	Small auditorium
	opening words by FPS	
	FPS Master's Thesis Prize	
12.30-13.30	Plenary session 1: Prof. Stuart Parkin	Small auditorium
13.30-14.00	Coffee break	TBC
14.00-16.00	Parallel sessions 1:	
	Physics of Materials and Condensed Matter Physics I	Small auditorium
	Particle and Nuclear Physics I	Duetto 1
	Scientific Computing, Machine Learning and Big Data	Duetto 2
	New Methods for Experimental Research and Synchrotron Radiation	Riffi
16.00-17:30	Poster session A	2nd floor foyer
16.00-17:30	Meetings of Divisions of FPS [*]	
	Workshop on uniting physics students across Finland organized by the Finnish Young Minds working group of the FPS	Duetto 1
	Astronomy and Space Physics Division	Riffi
	Division of Physics Education	Duetto 2
17.30-18.30	Studia Generalia lecture : prof. Teemu Ojanen : Todellisuus ei ole paikallisesti olemassa - 2022 fysikaan Nobelit	Small auditorium
19.00-21.00	Tampere City Reception	City Hall
THURSDAY, MARCH 30TH		
08.30-18.00	Registration desk open	
09.00-18.00	Exhibition open	2nd floor foyer
09.00-10.00	Plenary session 2: Prof. Alexander Szameit	Small auditorium
10.00-10.30	Coffee break	TBC
10.30-12.30	Parallel sessions 2:	
	Energy, Environment and Climate I	Small auditorium
	Applied and Industrial Physics (10:30 - 11:30) Astrophysics and Space Physics I (11:30 - 12:30)	Duetto 1
	Physics of Materials and Condensed Matter Physics II	Riffi
	Photonics and Optics	Duetto 2
12.30-13.30	Lunch	TBC

13.30-14.30	Plenary session 3: Prof. Roy Harrison	Small auditorium
14.30-16.00	Parallel sessions 3:	
	Particle and Nuclear Physics II (14:30 - 15:15) Energy, Environment and Climate II (15:15 - 16:00)	Duetto 1
	Bio and Medical Physics	Duetto 2
	Panel Discussion: the Future of university Physics Education	Riffi
	Physics of Materials and Condensed Matter Physics III	Small auditorium
16.00-16.30	Coffee break	TBC
16.30-17.30	Workshop on Teaching Physics in Practice	Duetto 1
16.30-17.30	ERC information session	Duetto 2
16.30-18.00	Poster session B	2nd floor foyer
18.00-19.00	Annual Meeting of the Finnish Physical Society [*]	Duetto 1
19.30-23.00	Conference dinner	Park Hall
FRIDAY, MARCH 31ST		
08.30-16.00	Registration desk open	
09.00-16.30	Exhibition open	
09.00-10.00	Plenary session "Network discussions on 'Improving diversity in Physics': Salla Kurhila	Small auditorium
10.00-10.30	Coffee break	TBC
10.30-12.30	Parallel sessions 4:	
	Diversity	Riffi
	Astrophysics and Space Physics II	Duetto 1
	Particle Physics and the Standard Model	Small auditorium
	Quantum Devices and Information	Duetto 2
12.30-13.30	Lunch	
13.30-14.30	Plenary sessions 4: Dr. Yvette Cendes	Small auditorium
14.30-15.00	Closing ceremony	Small auditorium
	Hannu Koskinen talk and poster prizes	

List of Plenary Speakers

PLENARY TALK - WEDNESDAY 29TH MARCH 12:30 – SMALL AUDITORIUM

Beyond Charge Currents: Spin and Ion Currents for Future Data Storage and Computing Technologies



SPEAKER:

PROF. STUART S. P. PARKIN

AFFILIATION:

Max Planck Institute for Microstructured Physics, Halle, Germany

ABSTRACT:

The era of computing technologies based on charge currents is coming to an end after more than forty years of exponential increases in computing power and data storage that have been largely based on shrinking devices in two dimensions. A new era of “Beyond charge!” will evolve over the next decade that will likely be based on several new concepts. Firstly, devices whose innate properties are derived not from the electron’s charge but from spin currents as well as from ion currents. In some cases new functionality will arise that can extend charge based devices but in other case fundamentally new computing and data storage paradigms will evolve. Secondly, devices will inevitably become three-dimensional: novel means of constructing devices, both from bottom-up and top-down, will become increasingly important. Thirdly, bio-inspired devices that may mimic the extremely energy efficient computation systems in the biological world are compelling. In this talk I will focus on spintronics, namely, spin current based phenomena and devices and discuss the past, present and future of spintronic technologies.

PLENARY TALK - THURSDAY 30TH MARCH 09:00 – SMALL AUDITORIUM

Topological Photonics



SPEAKER:

PROF. ALEXANDER SZAMEIT

AFFILIATION:

University of Rostock, Rostock, Germany

ABSTRACT:

In the context of photonics, topology has emerged as an abstract, yet surprisingly powerful, new paradigm for controlling the flow of light. As such, it holds great promise for a wide range of advanced applications, from scatter-free routing and switching of light along arbitrary three-dimensional trajectories to long-distance transmission of slow-light waves. Whereas topological effects in condensed matter originate typically from the fermionic Kramer’s degeneracy or the quantum Hall effect in the presence of strong magnetic fields, these mechanisms cannot be readily adapted due to the bosonic nature of photons and the notoriously weak magnetic interactions at optical frequencies. Recently, a number of approaches for the realization of photonic topological transport have been put forward. Among these, perhaps the most promising one follows the spirit of Floquet topological insulators, in which temporal variations of solid-state systems induce topological edge states. In the context of photonics, temporal modulations serve to break the time-reversal symmetry and thereby give rise to topologically protected one-way edge states.

In my talk, I will present an introduction to topology in photonics, with a particular focus on our work on the implementation of photonic Floquet topological insulators. The purpose is to review these and other recent developments, to discuss potential applications and to stimulate new conceptual ideas.

PLENARY TALK - THURSDAY 30TH MARCH 13:30 – SMALL AUDITORIUM

Sources and Properties of Nanoparticles in Urban Atmospheres



SPEAKER:

PROF. ROY M. HARRISON

AFFILIATION:

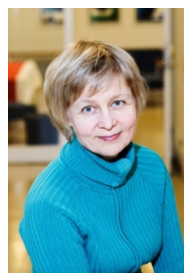
University of Birmingham, Birmingham, United Kingdom

ABSTRACT:

Nanoparticles are defined as those with one dimension less than 100nm. They typically contribute little to the mass of particles in the atmosphere, but are dominant in terms of number. Some of their physical and chemical properties differ from those of larger particles, and the World Health Organization has highlighted the possibility that they present a health risk distinct from that of larger particles, and has recommended enhanced surveillance. They also play a part in the regulation of climate, as at the larger end of their size spectrum they can act as cloud condensation nuclei which influence the formation and albedo of clouds. This talk will review the sources of nanoparticles, focussing particularly upon those emitted by diesel vehicles, and those formed within the atmosphere from gas to particle conversion processes. The formation mechanisms and atmospheric properties of nanoparticles from these sources will be described as well as some of the results from the measurement and modelling of nanoparticles in urban atmospheres. Some of the implications for pollution control will be described.

PLENARY TALK - FRIDAY 31ST MARCH 09:00 – SMALL AUDITORIUM

Interaction and Inclusion in Multilingual Workplaces



SPEAKER:

PROF. SALLA KUHRILA

AFFILIATION:

University of Helsinki, Helsinki, Finland

ABSTRACT:

In the globalizing world, an increasing number of work communities operate in more than one language. In many workplaces in Finland, both the local language (e.g., Finnish) and a lingua franca (usually English) are used, and many professionals conduct (at least a part of) their work through a language that is not their first or strongest language. Sufficient language skills are of primary importance not only in finding a job that corresponds to one's qualifications, but also in becoming a full member of the Finnish society.

In this talk, I will discuss multilingual practices that can support language learning in workplace interaction. The data come from one workplace – a multilingual, non-governmental organisation in Finland. About half of the employees in the organization have a Finnish and half a Russian background. The work of these professionals is highly verbal, consisting, for example, of planning and organising different events, and discussing with collaborators and stakeholders. Through selected extracts, I will show a few good practices

used by the organisation to harness the plurilingual potential of the employees for the benefit of the work community.

PLENARY TALK - FRIDAY 31ST MARCH 13:30 – SMALL AUDITORIUM

Late-Time Radio Emission in Tidal Disruptions Events (TDEs)



SPEAKER:

DR. YVETTE CENDES

AFFILIATION:

Harvard-Smithsonian Center for Astrophysics in Cambridge, MA, USA

ABSTRACT:

A tidal disruption event (TDE) occurs when a star wanders sufficiently close to a supermassive black hole (SMBH) to be torn apart by tidal forces. TDE observations in radio offer a unique laboratory to measure SMBH masses, to study super-Eddington accretion and associated outflows, and to probe the environment around previously-dormant SMBHs. Recently, it has become apparent that some TDEs can indeed exhibit delayed onset of radio emission, such as the case of AT2018hyz which appeared to launch a mildly relativistic outflow ~ 2 years post-disruption. In this talk, I will discuss results from a radio survey using the VLA and MeerKAT of ~ 25 TDEs > 2 years post-disruption, which did not exhibit radio emission at early times. I will discuss the rate of radio-bright TDEs at late times, implications for the density profile surrounding SMBHs, and possible scenarios for what is causing this phenomenon.

Parallel sessions

PARALLEL SESSION 1 (WEDNESDAY, MARCH 29TH - 14:00-16:00)				
SESSION NAME	TIME	PRESENTER	TITLE OF ORAL PRESENTATION	ROOM
Physics of Materials and Condensed Matter Physics I				Small Auditorium
	14:00-14:15	R. Tuovinen	Time-linear scaling nonequilibrium Green's function theory for quantum transport	
SESSION CHAIR	14:15-14:30	P. Virtanen	Nonlinear σ model for disordered systems with spin-orbit coupling	
Prof. Tapio Rantala	14:30-14:45	P. M. Vecsei	Lee-Yang theory of Quantum Phase Transitions with Quantum Network States	
	14:45-15:00	K. Swaminathan	Signatures of many-body localization of quasiparticles in a flat band superconductor	
	15:00-15:15	V. Pyykkönen	Suppression of non-equilibrium quasiparticle transport in flat band superconductors	
	15:15-15:30	R. Koch	Hamiltonian learning of quantum dots in a minimal Kitaev chain with conditional GANs	
	15:30-15:45	R. Rantanen	Transitions in vortex skyrmion structures in superfluid $^3\text{He-A}$	
	15:45-16:00	G. Chen	Topological spin excitations in non-Hermitian spin chains with a generalized kernel polynomial algorithm	
Particle, Atomic, and Nuclear Physics I				Duetto 1
	14:00-14:15	M. Hukkanen	Neutron-rich refractory nuclei studied via precision mass measurements at JYFLTRAP	
SESSION CHAIR	14:15-14:30	J.K.A. Ruotsalainen	Double-beta decay Q-value measurement of ^{104}Ru with the JYFLTRAP Penning trap	
Dr. Wladislaw Henryk Trzaska	14:30-14:45	M. C. House	Study of Fission Fragment Mass & Energy distribution in Pre-Actinide Region.	
	14:45-15:00	A. Hossain	Photo-assisted negative ion production in caesium sputter negative ion source	
	15:00-15:15	T. Enqvist	High-precision Solar pp neutrino Measurement with Dijet invariant mass in pp and p-Pb collisions at $\sqrt{s_{\text{NN}}} = 5.02$ TeV with the ALICE detector at the LHC at CERN	
	15:15-15:30	L. Huhta		
	15:30-15:45	P. Virtanen	ERO2.0 Modelling of medium-Z impurity sources in JET.	
	15:45-16:00	Andreas Molander	The new ALICE Fast Interaction Trigger in LHC Run 3	
	16:00-16:15	O. Hyvärinen	Fusion-born alpha particle power loads in ITER: sensitivity on the radial displacement of wall tiles and field coils.	
Scientific Computing, Machine Learning and Big Data				Duetto 2
	14:00-14:15	F. Aikebaier	Extracting real-space correlation entropy with machine learning in Kondo impurity problems	
SESSION CHAIR	14:15-14:30	V. Besel	Curation of big data for atmospheric science purposes	
Prof. Patrick Rinke	14:30-14:45	J. Heikonen	LUMI supercomputer update	
	14:45-15:00	L. Kotipalo	Adaptive mesh refinement in Vlasior	
	15:00-15:15	U. Saha	A study of neutron and ion irradiation induced atomic recoilspectra with newly developed tools RMINDD and pkaESSRIM for materials modelling	
	15:15-15:30	M. Sipilä	Materials discovery using natural language processing	
New Methods for Experimental research and Synchrotron Radiation				Riffi
	14:00-14:15	V.A. Virtanen	Multi-Reflection Time-of-Flight Mass Separator for radioactive nuclei at the IGISOL facility	
SESSION CHAIR	14:15-14:30	J. Louko	Spectroscopy of neutron deficient actinium isotopes	
Dr. Minna Patanen	14:30-14:45	X. An	Deuterium induced defects and embrittlement behavior of a Co-free high entropy alloy	
	14:45-15:00	--	--	
	15:00-15:15	A.-J. Kallio	New avenues for materials research opened by operando x-ray absorption spectroscopy	
	15:15-15:30	L. Palmolahti	Thermally induced simultaneous reduction and crystallization of amorphous TiO_2	
	15:30-15:45	M. Patanen	Surface composition of size-selected aerosol particles studied in situ using synchrotron radiation X-ray photoelectron spectroscopy	

PARALLEL SESSION 2 (THURSDAY, MARCH 30TH - 10:30-12:30)				
SESSION NAME	TIME	PRESENTER	TITLE OF ORAL PRESENTATION	ROOM
Energy, Environment, and Climate I				Small Auditorium
	10:30-10:45	M.I Asghar	Additive manufacturing of next generation ceramic fuel	
SESSION CHAIR	10:45-11:00	B. Bilbey	Review of solid oxide electrolysis cells for H2 production	
Dr. Prasenjit Seal	11:00-11:15	K. Kohonen	Physicochemical characterisation of particle emissions from a modern heavy-duty diesel engine and three different fuels	
	11:15-11:30	J. Kontkanen	Climate digital twin - a pre-exascale climate information system to support decision making	
	11:30-11:45	O. Krejčí	Creating a computational database for CO2 to methanol conversion	
	11:45-12:00	T. Lepistö	Estimating lung deposited surface area of ambient fine particles in different urban environments in Finland	
	12:00-12:15	H. Lintusaari	Sub-23 nm particles dominate non-volatile particle number concentrations in a busy street canyon	
	12:15-12:30	A. Mikkonen	Feasibility study of CO2 satellite retrievals over snow for supporting the upcoming Copernicus anthropogenic CO2 monitoring mission	
Applied and Industrial Physics				Duetto 1
	10:30-10:45	R.R. Garza	Magnetic quince rollers with tunable single-particle dynamics and collective states	
SESSION CHAIR	10:45-11:00	M. Kivekäs	Quantitative thin film depth profiling using low energy heavy ion ToF-ERDA	
Prof. Juha Toivonen	11:00-11:15	F. Sohrabi	Controlling the collective behavior of non-magnetic microalgae using tunable magnetic traps	
	11:15-11:30	H. Vahid	Controlling polyelectrolyte interactions by ion size, shape and valency	
Astrophysics and Space Physics I (11:30 - 12:30)				Duetto 1
	11:30-11:45	J. Rautatien	Explorations to the auroral zone: All-sky-camera project in Lapland – "Revot"	
SESSION CHAIR	11:45-12:00	M. Grandin	Hybrid-Vlasov simulation of soft X-ray emissions at the Earth's dayside magnetospheric boundaries	
Dr. Mika Juvela	12:00-12:15	K. Mursula	Hale cycle in solar hemispheric radio flux and sunspots: evidence for a northward shifted relic field	
	12:15-12:30	D. E. Morosan	The escape and propagation electron beams following acceleration by solar shock waves	
Physics of Materials and Condensed Matter Physics II				Riffi
	10:30-10:45	K. Konstantinou	Engineered structural relaxation of amorphous phase-change memory materials via the application of electric	
SESSION CHAIR	10:45-11:00	A.O. Fumega	Designing a ferroelectric valley valve with a van der Waals heterostructure	
Dr. Sami Kaappa	11:00-11:15	K. Raza Abidi	Performance evaluation of DFT in the modelling of two-dimensional metals	
	11:15-11:30	A. Afzalifar	Free energy of small water clusters from nucleation experiments and quantum simulations	
	11:30-11:45	J. Kimari	Biased surface diffusion in Cu under electric field gradient captured in electrostatics-molecular dynamics	
	11:45-12:00	M. Minkowski	Predicting elastic and plastic properties of small iron polycrystals by machine learning	
	12:00-12:15	D. Kurunzi-Papp	Avalanches and rate effects in strain-controlled discrete dislocation plasticity of Al single crystals	
	12:15-12:30	E. Toivonen	Asymmetric roughness of elastic interfaces at the deepening threshold	
Optics and Photonics				Duetto 2
	10:30-10:45	R. Heilmann	Topological transitions of lasing states in a plasmonic hexamer array	
SESSION CHAIR	10:45-11:00	P. Hilden	Extended depth of field of an imaging system with annular aperture	
Prof. Tapio Niemi	11:00-11:15	O. Korichi	High efficiency interface between multi-mode and single-mode fibres	
	11:15-11:30	T. Koivisto	Live imaging alpha radiation sources via radioluminescence in nitrogen-flushed glovebox	
	11:30-11:45	M. Koivurova	Time-varying photonics, relativity, and the arrow of time	
	11:45-12:00	A.S. Kumar	Single-laser feedback cooling of optomechanical resonators	
	12:00-12:15	A. Pianelli	Two color fast switching in epsilon-near-zero hyperbolic metamaterials	
	12:15-12:30	T. Stolt	Engineering of high-Q lattice resonances in plasmonic bipartite arrays through nanoparticle geometry and orientation	

PARALLEL SESSION 3 (THURSDAY, MARCH 30TH - 14:30-16:00)				
SESSION NAME		PRESENTER	TITLE OF ORAL PRESENTATION	ROOM
Particle, Atomic and nuclear Physics II				Duetto 1
	14:30-14:45	T. Kurki-Suonio	Taming the cosmic mustang	
SESSION CHAIR	14:45-15:00	Anna Önnestad	Advances in flow harmonic analysis of LHC collisions: From large to small systems.	
Dr. Wladislaw Henryk Trzaska	15:00-15:15	S. Orlat	Unravelling the electronic structure of Uranium: the case of MUO3 (M=K, Na, Br)	
Energy, Environment, and Climate				Duetto 1
	15:15-15:30	L. Salo	Inherently charged particle (ICP) sensor: measuring particles	
SESSION CHAIR	15:30-15:45	H. Sandström	Characterising atmospheric molecules for machine learning	
Dr. Prasenjit Seal	15:45-16:00	V. Silvonon	Infiltration of outdoor particulate matter into indoor spaces	
	16:00-16:15	A. Leppänen	Detection of gamma glow from thunderclouds with a high	
Bio- and medical Physics				Duetto 2
	14:30-14:45	M. Hurskainen	Comparison of thin film surfaces to study salivary biomarkers of oral diseases by surface-enhanced Raman	
SESSION CHAIR	14:45-15:00	M. Viljanen	The combination of Langimur-Blodgett through and synchrotron X-ray techniques: unique tools to study tear film components	
Dr. Vivek Sharma	15:00-15:15	J. Halkoaho	Machine learning in localization of electrodes in the brain of epilepsy patients	
	15:15-15:30	V.-M. Sundell	Convolutional neural network-based phantom image scoring for mammography quality control	
	15:30-15:45	T. Pukkila	Dynamical detrended fluctuation analysis of heart rate variability	
	15:45-16:00	L. Laakkonen	Halcyon and Ethos radiotherapy beam Monte Carlo model with CAD geometry implementation	
Panel Discussion: the Future of University Physics Education				Riffi
	14:30-14:45	D. Anttila	Can a one-day event trigger interest in quantum physics at the university level?	
SESSION CHAIR	14:45-15:00	T. Hynninen	Students attituded before, during, and after the pandemic	
Dr. Inkeri Kontro	15:00-15:15	-	-	
	15:15-15:30	A. Lehtinen	Assessment and physics instructional laboratories: a literature review and a model to design assessment for lab	
Physics of Materials and Condensed Matter Physics III				Small Auditorium
	14:30-14:45	F.L. Nadjj Adjim	Defect generation in single-layer graphene upon sputter deposition of thin metal films	
SESSION CHAIR	14:45-15:00	M. Bezak	Time evolution of transient currents under the CdTe metal layer	
Prof. Tapio Rantala	15:00-15:15	S. Kaappa	Micromagnetic simulations of magnetic domain wall dynamics in steel thin films	
	15:15-15:30	K. Kohopää	Superconducting properties of ion-irradiated disordered thin films	
	15:30-15:45	X. Huang	Constructing two-dimensional heavy fermions in NbSe2 heterostructures	
	15:45-16:00	V. Jantunen	Interface effects on the elongation of embedded metal nanoparticles during swift heavy ion irradiation	

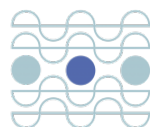
PARALLEL SESSION 4 (FRIDAY, MARCH 31ST - 10:30-12:30)				
SESSION NAME	TIME	PRESENTER	TITLE OF ORAL PRESENTATION	ROOM
Diversity in Physics				Riffi
	10:30-12:30	Self-moderated Panel Discussion		
Astrophysics and Space Physics II				Duetto 1
	10:30-10:45	V.-V. Linho	Determination of the magnetic twist in solar magnetic flux ropes	
SESSION CHAIR	10:45-11:00	D.J. Price	MAFIAT: Magnetic Field Analysis Tool	
Dr. Miika Juvela	11:00-11:15	C. Sishtla	Modelling the interaction of Alfvénic fluctuations with coronal mass ejections in the low solar corona	
	11:15-11:30	-	-	
	11:30-11:45	Zhang	Observing the Sun with the largest low-frequency radio telescope	
SESSION CHAIR	11:45-12:00	E. Mannfors	Interstellar filament morphology and fragmentation in Orion molecular cloud	
	12:00-12:15	M. Juvela	Analysis of observations of thermal dust emission: the complexity of the modified blackbody function	
	12:15-12:30	CD.C. Hopper	Lyman- α constraints on non-standard dark matter	
Particle physics and the Standard Model				Riffi
	10:30-10:45	T. Kallio	Towards an unbiased flow measurements in LHC pp	
SESSION CHAIR	10:45-11:00	J. Laulainen	Multi-jet merging in deep inelastic scattering with Pythia	
Prof. Aleksi Vuorinen	11:00-11:15	M. Virta	Improving Bayesian parameter estimation with the latest RHIC and LHC data including a new initial conditions model	
	11:15-11:30	T. Kärkkäinen	Flavour-universal NSI and light mediators	
	11:30-11:45	A. Kormu	Real scalar phase transitions: bubble nucleation, nonperturbatively	
	11:45-12:00	H. Parkkinen	Neutrino density matrix formalism dervied from Kadanoff-Baym equations	
Quantum Devices and Information				Duetto 2
	10:30-10:45	Y. Chaudhry	Superconductin quantum light-emitting diodes using two-dimensional material superlattices	
SESSION CHAIR	10:45-11:00	K. Kohopää	Ion Irradiation as a wafer-scale method for amorphizing superconducting thin films	
Dr. Matias Koivurova	11:00-11:15	M. Niedermeier	Tensor-network simulations of noisy quantum computers	
	11:15-11:30	M.Rasola	Optomechanical systems as quantum heat engines	
	11:30-11:45	A. Ruhtinas	Novel superconducting devices using high quality epitaxial niobium titanium nitride	
	11:45-12:00	Timm Mörstedt	Fast qubit reset with a quantum-circuit refrigerator	
	12:00-12:15	V. Vadimov	Non-Markovian quantum input-output theory based on hierarchical equation of motion	

Poster sessions

POSTER #	NAME	SURNAME	POSTER TITLE
Wednesday March 29th 2023			
1	Markus	Ahlskog	Capillary interaction driven ordering of multiwalled carbon nanotubes at the air-water interface
2			
3	Natalia	Vakula	Composite silica fiber with YbPO ₄ nanocrystals
4	Ivan	Kassamakov	3D Printed Micro-optics for Enhancing Lateral Resolution of Coherence Scanning Interferometry
5	Zhenyu	Xu	NA
6	Sanaz	Zarabi Golkhatmi	Development of CuFe ₂ O ₄ Ink for the First Time as a Promising Electrode Ink for Inkjet Printing of Low-Temperature Ceramic Fuel Cells
7	Rafael	Núñez	Sensitivity of rt-TDDFT electronic stopping calculations in semiconductor crystals with plane-wave pseudopotentials.
8	Hongyang	Zhou	NA
9	MD	Thasfiquzzaman	Formation of Hydrated Magnesium Carbonate Cement from the Carbonation of Magnesium Hydroxide/Brucite
10	Kristian	Arjas	Theoretical Analysis of Loss-driven Topological Transitions in Lasing
11	Juska	Soljento	Turbulence generated by large-scale velocity shears in the solar wind
12	Sami	Harni	Effects of emission sources on the particle number size distribution measured in the residential area
13	Satumaaria	Sukuvaara	Introducing fluctuations to simulations of early universe bubble collisions in O(N) scalar field theory
14	Yaraslau	Tamashevich	2D Weyl Materials in the Presence of Constant Magnetic Fields
15	Kirsi	Ikonen	Advancing photonics students' employability skills via company collaboration
16	Anna-Sofia	Jylhä	The low frequency breakpoint in magnetic field spectra from CMEs
17	Jani	Taskinen	Measurement of the Quantum Geometry Tensor in a Plasmonic Lattice
18	Zhehao	Chen	Study of Helium Bubble Immigration in Additively Manufactured Refractory High Entropy Alloy
19	Sana	Farhoudian	Do furans auto-oxidize? Flow reactor investigations with chemical ionization mass spectrometry detection
20	GHULAM UME	FARWA	Electron-to-proton ratios in solar energetic particle events
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22	Simon	Good	Balanced Alfvénic fluctuations inside interplanetary coronal mass ejections
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24	Ville	Härkönen	Many-Body Green's Function Theory Beyond the Born-Oppenheimer Approximation
25	Antti	Kanninen	Towards an optical interface for donor spin qubits in silicon
26	Jussi	Kelavuori	Generalized lattice-sum approach for predicting optical responses of hybrid metasurface-waveguide systems
27	Inkeri	Kontro	Who wants to be a physicist? Incoming student attitudes at the University of Helsinki
28	Mayank	kumar	NA
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30	Jouko	Nieminen	Atomistic modeling of a superconductor-transition-metal dichalcogenide-superconductor Josephson junction
31	Henri	Lyrra	Optomechanical Readout of Donor Spins in Silicon
32	Iuliia	Zhelezova	Point defects in beta-Ga ₂ O ₃
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34	Maryam	Khosravian	Highly tunable induced topological superconductivity in twisted bilayer graphene
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36	Mikko	Kivekäs	Quantitative thin film depth profiling using low energy heavy ion ToF-ERDA

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2	Joonas	Ojala	Optical emission spectroscopy of nanoparticle flame for active optical fiber fabrication
3	Elizabeth Lo	Pereira	Non-Hermitian topological modes from local loss engineering in photonic arrays
4	Prajwal Datt	Pisal	A data-driven approach toward designing efficient catalysts for CO2 to methanol conversion
5	Tapio	Rantala	Feynman Path Integral Approach to Quantum Dynamics and Eigenstates
6	Tom	Rindell	Exploring the optimality of approximate state preparation quantum circuits with a genetic algorithm
7	Julia	Ruohotie	Intermittency in interplanetary coronal mass ejections at 1 au and in the inner heliosphere
8	Mika	Sarvilahti	Bayesian optimization of discrete dislocation plasticity of two-dimensional precipitation-hardened crystals
9	Henri	Savolainen	NA
10	Riikka	Seppä	The scaling of 't Hooft-Polyakov monopoles in the early universe
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13	Panu	Hildén	Extended depth of field of an imaging system with an annular aperture
14	Miia	Hurskainen	Comparison of thin film surfaces to study salivary biomarkers of oral diseases by Surface-Enhanced Raman Spectroscopy
15	Matti	Kalliokoski	Analysis of Solid-State Nuclear Track Detectors With Optical Scanning System
16	Armi	Tiihonen	More trustworthy Bayesian optimization of perovskite materials by adding humans into the loop
17	Hilkka	Timonen	Proof-of-Concept project to develop a novel instrument based on cantilever-enhanced photoacoustics for global black carbon monitoring
18	Taneli	Tolppanen	Numerical Analysis of Measurement Induced Phase Transition in a Transmon Array
19	David	Trejo Garcia	Path Integral Monte Carlo approach to properties of Photonic Materials
20	Xudong	An	Deuterium induced defects and embrittlement behavior of a Co-free high entropy alloy
21	Nitik	Bhatia	Infra-red spectra of functionalized copper nanoparticles using ab initio molecular dynamics
22	Markus	Peil	Ultra-bright non-classical light source based on single InAs/GaAs quantum dot embedded in a hybrid metal-semiconductor nanopillar cavity
23	Elina	Kauppinen	Isovector and isoscalar spin-multipole giant resonances in the parent and daughter nuclei of double- β -decay triplets
24	Lassi	Lehtisyrjä	High transparency superconductor-insulator-semiconductor tunnel junctions for thermionic cooling of quantum devices
25	Aleksi	Leino	Molecular dynamics studies on swift heavy ion-induced nitrogen-vacancy center formation in diamond
26	Ari-Pekka	Leppänen	Voluntary radiation measurement team to enhance the radiation measurement preparedness in Finland
27	PENG	LIU	Towards the Synthesis of Semiconducting Single-Walled Carbon Nanotubes by Floating-Catalyst Chemical Vapor Deposition
28	Eryang	Lu	Vacancy diffusion in equi-atomic WMoTaVNb refractory high entropy alloy
29	Madona	Mekhael	Multiply-resonant Waveguide Gratings for Enhanced Second-harmonic Generation
30	Henrik	Mäkinen	Laboratory-based X-ray phase-contrast and dark-field imaging
31	Zixuan	Ning	Photoluminescence of 1T-TaS2 at different phases
32	Abdulmajid	Yusuf	Development of computational magnetic resonance fingerprinting methods based on NMR Bloch flow equations and artificial neural networks for differentiating intra-axial brain tumors.
33	Anna-Kaisa	Viitanen	Urban Physics - Using Physics to Design Sustainable Cities
34	Jan	Åström	NA
35	Tytti	Kärki	A Quasi-Two-Dimensional Analogy to Axisymmetric Three-Dimensional Liquid Drops

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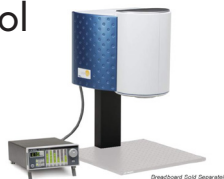
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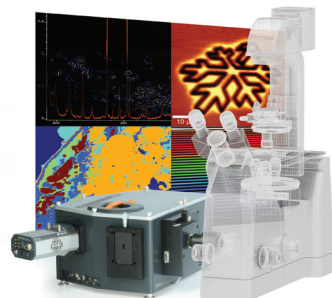


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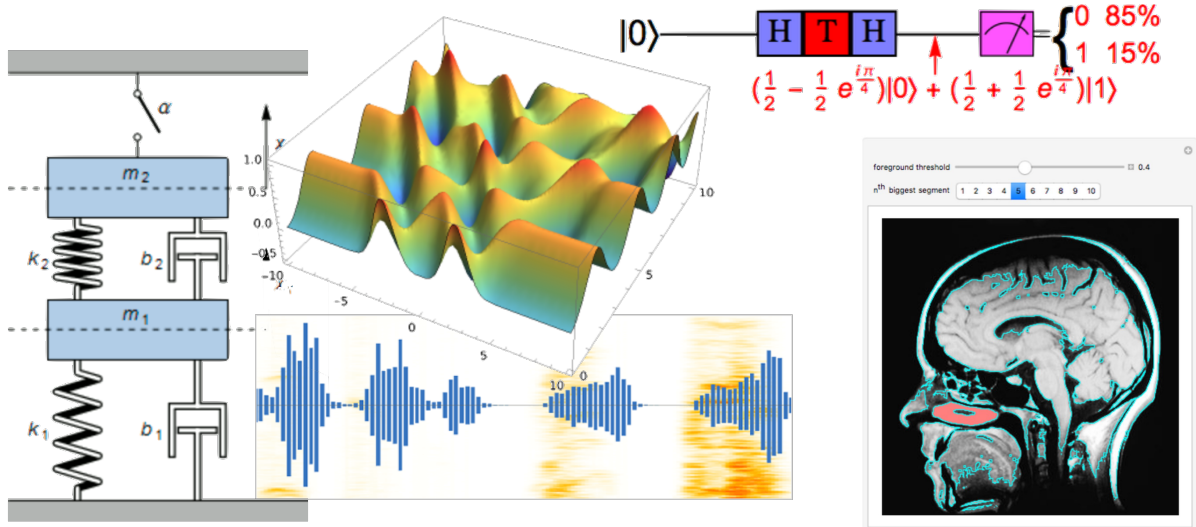
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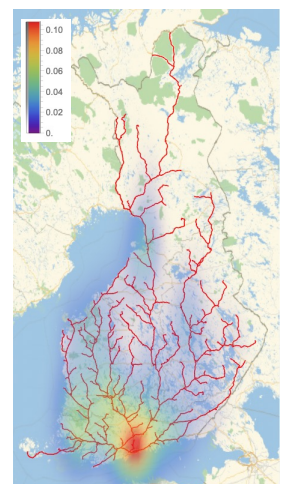
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