

PARALLEL SESSION 2 (THURSDAY, MARCH 30TH - 10:30-12:30)				
SESSION NAME	TIME	PRESENTER	TITLE OF OPRAL PRESENTATION	ROOM
Energy, Environment, and Climate I				Small Auditorium
	10:30-10:45	M.I Asghar	Additive manufacturing of next generation ceramic fuel cells	
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. Krejči	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 arion	
	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 quinke rollers with tunablesingle-particle dynamics and collective states	
SESSION CHAIR	10:45-11:00	F. Sohrabi	Controlling the collective behavior of non-magnetic microalgae using tunable magnetic traps	
Prof. Juha Tolonen	11:00-11:15	H. Vahid	Controlling polyelectrolyte interactions by ion size, shape and valency	
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Astrophysics and Space Physics I (11:30 - 12:30)				Duetto 1
	11:30-11:45	J. Rautiainen	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 fields	
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. Kurunczi-Papp	Avalanches and rate effects in strain-controlled discrete dislocation plasticity of Al single crystals	
	12:15-12:30	E. Tolonen	Asymmetric roughness of elastic interfaces at the depinning threshold	
Optics and Photonics				Duetto 2
	10:30-10:45	R. Hellmann	Topological transition 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. Kolvisto	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	TIME	PRESENTER	TITLE OF OPRAL 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	A. 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)	
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Energy, Environment, and Climate				Duetto 1
	15:15-15:30	L. Salo	Inherently charged particle (ICP) sensor: measuring particles based on their natural charge	
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 thunderclods with a high sensitivity gamma spectrometer	
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 spectroscopy	
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	
Physics education and outreach				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 attituted before, during, and after the pandemic	
Dr. Inkeri Kontro	15:00-15:15	A. Lehtinen	Assessment and physics instructional laboratories: a literature review and a model to design assessment for lab work.	
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Physics of Materials and Condensed Matter Physics III				Small Auditorium
	14:30-14:45	F.L. Nadjji 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	