PROGRAMME PHYSICS@VELDHOVEN

TUESDAY 25 JANUARY 2022

PARALLEL SESSIONS

10:00 - 10:10 **Welcome & opening** - Plenary session

10:10 - 11:00 **Bubbles at the interfaces - Lydia Bourouiba** (Massachusetts Institute of Technology) - Plenary session

parallel session 11:15 – 12:15	Parallel session PT01A **Nanoscale physics I**	Parallel session PT02A **Nanoscale physics III**	Parallel session PT03A **Atomic, molecular and optical physics III**	Parallel session PT04A **Quantum physics I**	Parallel session PT05A **Particle physics I**	Parallel session PT06A **Materials physics III**	Parallel session PT07A **Physics of fluids I**	Parallel session PT08A **Atomic, molecular and optical physics I**	Parallel session PT09A **Materials physics I**	Parallel session PT10A **Statistical physics & soft condensed matter I**
chair	Jagoda Sławińska (Groningen University)	Sven Askes (AMOLF)	Allard P. Mosk (Utrecht University)	Béatrice Bonga (Radboud University)	Clara Nellist (Radboud University)	Anna Isaeva (University of Amsterdam)	Yali Tang (Eindhoven University of Technology)	Lyubov Amitonova (ARCNL)	Diana Leitao (Eindhoven University of Technology)	Farshid Jafarpour (Utrecht University)
11:15 - 11:30	Magnonic frequency comb through nonlinear magnon-skyrmion scattering Huaiyang Yuan, Utrecht University	Length dependent symmetry in narrow chevron-like graphene nanoribbons Koen Houtsma, University of Groningen	Dynamics of photogenerated free charges and excitons in a thin film of ReS2 Deepika Poonia, Delft University of Technology	From quantum to classical thermodynamics in quenched systems Vladimir Ohanesjan, Leiden University	ATLAS Higgs production cross-section from ggF and VBF and subsequent decay H->WW*->e nu mu nu Federica Pasquali, Nikhef	Structural characterization of a novel two-dimensional material: cobalt sulfide sheets on Au(111) Dajo Boden, Leiden University	Self-healing behavior of ice Menno Demmenie, University of Amsterdam	Measuring objects with optimal precision by ptychography Jacob Seifert, Utrecht University	Ultrafast resonant control of low-dimensional magnetism Mattias Matthiesen, Delft University of Technology	The differential capacitance as a probe for the electric double layer structure and bulk composition Peter Cats, Utrecht University
11:30 – 11:45	Giant increase in magnon spin conductivity in ultrathin ferromagnetic insulators Xiangyang Wei, University of Groningen	Energy level alignment at interfaces between TMDC monolayers and metal electrodes studied with KPFM Pavel Markeev, University of Twente	Spectrally-multiplexed long-lived quantum memory in a thulium-doped crystal Antariksha Das, Delft University of Technology	Introducing relativistic reduced density matrix functional theory Mauricio Rodríguez-Mayorga, VU University Amsterdam	Deep inelastic scattering using differential equations at three loops Andrea Pelloni, Nikhef	Facet-dependent surface charge and hydration of semiconducting nanoparticles at variable pH Shaoqiang Su, University of Twente	Abrupt transition from slow- to fast-melting of ice Rui Yang, University of Twente	Sub-nanometer optical measurements on cell-sized objects Pegah Asgari, Utrecht University	2D THz spectroscopy for nonlinear phononics and magnonics in antiferromagnets Kirill Grishunin, Radboud University	Entropy driven segregation of polymers in various confinements Ramon Creyghton, AMOLF
11:45 – 12:00	Probing ultrafast spin-current generation in rare-earth ferromagnets using spin waves Tom Lichtenberg, Eindhoven University of Technology	eV-TEM: TEM operating at 0-100 eV for imaging and spectroscopy of 2D materials Peter Sebastian Neu, Leiden University	Minimizing efficiency loss processes in OLEDs based on thermally activated delayed fluorescence Christoph Hauenstein, Simbeyond B.V.	Quantum spacetime from mating of trees Alicia Castro, Radboud University	Higgs measurements in SMEFT with the ATLAS experiment Rahul Balasubramanian, Nikhef	Light-controlled nucleation and shaping of self-assembling nanocomposites Marloes Bistervels, AMOLF	Boundary layers in turbulent vertical convection at high Prandtl number Chris Howland, University of Twente	Coherent mechanical noise cancellation in optomechanical arrays Matthijs de Jong, Delft University of Technology	Universal size-dependent nonlinear charge transport in single crystals of the Mott insulator Ca2RuO4 Remko Fermin, Leiden University	Connectedness percolation of fractal liquids René de Bruijn, Eindhoven University of Technology
12:00 – 12:15	Using propagating spin wave spectroscopy to unravel electric field-controlled magnetization Adrien Petrillo, Eindhoven University of Technology	EELS-based spatially-resolved determination of the bandgap and dielectric function in nanomaterials Jaco ter Hoeve, Nikhef	Free carrier absorption for high-resolution mode mapping in photonic crystal resonators Karindra Perrier, Utrecht University	Does inflation squeeze cosmological perturbations? Patricia Ribes Metidieri, Radboud University	Lepton flavour universality to the test Aleksandra Snoch, Nikhef	Universal platform for scalable semiconductor-superconductor nanowire networks Jason Jung, Eindhoven University of Technology	Multiple heat transport maxima in confined-rotating Rayleigh-Bénard convection Robert Hartmann, University of Twente	Rapid photonics - rapid and affordable prototyping of photonic integrated circuits Hamed Nikbakht, B. Imran Avci, VU University Amsterdam	Enhanced resistive switching in complex oxide interfacial memristors by device downscaling Anouk Goossens, University of Groningen	Many-body interactions for ligand-stabilised nanoparticles using machine learning Giuliana Giunta, Utrecht University

12:25 - 13:25 **Career workshop: Is there a future for me outside the academic world? –** Session I **– Lisette Spoelder** (Herakles Pharma Staffing)

12:25 - 13:25 **Workshop: Large-scale research infrastructures for the physics community – Frank Linde** (Nikhef/NWO-i)**, Britta Redlich** (Radboud University)**, Gijs Nelemans** (Radboud University)**, Jom Luiten** (Eindhoven University of Technology)

12:25 - 13:25 **Workshop: Inclusive assessment – practical tips for a more inclusive physics community – Carolin Ossenkop** (Connectify, diversity coaching & consult)

PHYSICS CONNECTS

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PARALLEL SESSIONS

parallel session 13:35 - 14:35	Parallel session PT01B **Nanoscale physics II**	Parallel session PT02B **Nanoscale physics IV**	Parallel session PT03B **Atomic, molecular and optical physics IV**	Parallel session PT04B **Quantum physics II**	Parallel session PT05B **Particle physics II**	Parallel session PT06B **Materials physics IV**	Parallel session PT07B **Physics of fluids II**	Parallel session PT08B **Atomic, molecular and optical physics II**	Parallel session PT09B **Materials physics II**	Parallel session PT10B **Statistical physics & soft condensed matter II**
chair	Jagoda Sławińska (Groningen University)	Sven Askes (AMOLF)	Allard P. Mosk (Utrecht University)	Pieter de Visser (SRON)	Melissa van Beekveld (University of Oxford)	Anna Isaeva (University of Amsterdam)	Yali Tang (Eindhoven University of Technology)	Lyubov Amitonova (ARC for Nanolithography)	Diana Leitao (Eindhoven University of Technology)	Marc Serra (AMOLF)
13:35 - 13:50	Electrical switching of antiferromagnets in high magnetic fields Casper Schippers, Eindhoven University of Technology	Stacking orders, crystal symmetries and optical properties of 2D-layered ReS2 Marco van der Laan, University of Amsterdam	Observation of open channels in a random linear system Reinier van der Meer, University of Twente	Scalar-tensor theories within asymptotic safety Antonio Pereira, Radboud University	Search for the exclusive W boson hadronic decays Evelin Bakos, Radboud University	Measuring quantum solids at 500 microkelvin: Discovery of a novel ground state Femke Bangma, Radboud University	Transition in the growth mode of plasmonic bubbles in binary liquids Marvin Detert, University of Twente	Super-resolution fiber imaging Ksenia Abrashitova, ARCNL	Strategy to model stability, optical properties, and H mobility in disordered mixed-anion materials Giorgio Colombi, Delft University of Technology	Non-Abelian mechanical metamaterials Amitesh Singh, Leiden University
13:50 – 14:05	Spectroscopy of non-linear spin waves in a magnetic insulator designed for spin-wave optics Joris Jip Carmiggelt, Delft University of Technology	Deconfinement of Majorana vortex modes produces a superconducting Landau level Gal Lemut, Leiden University	Systematic classification of confined wave states in periodic media of any dimension Marek Kozon, University of Twente	Bound state formation in the 1d interacting Bose gas and its semi-classical limit Rebekka Koch, University of Amsterdam	Testing the Standard Model using hadronic beauty decays Jordy Butter, Nikhef	Evolution of type I to type II superconductivity in Pd1-xPtxTe2 Marc Salis, University of Amsterdam	Exploring laser induced thermocavitation for primary nucleation control Nagaraj Nagalingam, Delft University of Technology	Mirror surface nanostructuring for controlling the flow of light in optical microcavities Mario Vretenar, University of Twente	Interaction of oxygen with nm-thin transition metal and oxide films: kinetics at low temperatures Cristiane Stilhano Vilas Boas, ARCNL	Non-orientable mechanics in metamaterials Xiaofei Guo, University of Amsterdam
14:05 – 14:20	Entanglement of dark electron-nuclear spin defects in diamond Sjoerd Loenen, Delft University of Technology	Semiclassical theory for plasmons in spatially inhomogeneous media Koen Reijnders, Radboud University	Physics of real 3D photonic band gap crystal computed from ab initio Lars J. Corbijn van Willenswaard, University of Twente	Phase interference for probing topological fractional charge in a TI-based Josephson junction array Daan Wielens, University of Twente	Studies of generalized transverse momentum dependent gluon distributions at EIC and LHC Chalis Setyadi, University of Groningen	Optical signals of qubits in defected 2D TMDs Pedro Miguel Monteiro Campos de Melo, Utrecht University	On the Lagrangian statistics of inhomogeneous bubbly flows Xiaowei Zhu, Eindhoven University of Technology	Dynamic of levitated nanosphere in a modulated potential Mina Morshed Behbahani, University of Groningen	High reflectivity W/Si multilayers with ultra-short period Dennis IJpes, University of Twente	Failure behavior in catch bond networks Jose Ruiz-Franco, Wageningen University
14:20 – 14:35	Spin-orbit torques in transition metal dichalcogenides/permalloy heterostructures Jan Hidding, University of Groningen	Optimized detection of GHz acoustic waves with pulsed lasers Martin Robin, Delft University of Technology	The birth and death of phase singularities in an optical random wave field Thijs van Gogh, Delft University of Technology	Inducing supercurrents in an oxide ferromagnet Junxiang Yao, Leiden University	The beauty of the rare: Bs→μ+μ- at the LHCb Silvia Ferreres, Nikhef	From solution to surface: Molecular engineering for functional supramolecular assemblies Shiva Moradmand, University of Groningen	Pendant NaCl crystals Simon Lepinay, University of Amsterdam	Time-of-flight 3D imaging through multimode optical fibres Daan Stellinga, University of Glasgow	Suppression of hydrogen blistering in Mo/Si multilayers: the effect of deposition pressure Victor Vollema, ARCNL	Flippy: membrane simulations made easy and fast George Dadunashvili, Delft University of Technology

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FOCUS SESSIONS

14:35 - 14:50 **Break**

focus session 14:50 - 16:30	Focus session FT01 **Gravitational-wave science in the Netherlands**	Focus session FT02 **Soft matter physics of emulsions**	Focus session FT03 **Controlling atoms, molecules and their interactions**	Focus session FT04 **Anomaly! Unravelling the Next Standard Model from the bottom-up**	Focus session FT05 **Physics in the Netherlands**	Focus session FT06 **In-situ transmission electron microscopy opening up new avenues**	Focus session FT07 **Plasma in catalysis: synergy, symbiosis, or antagonism?**	Focus session FT08 **Functional responsive materials – ARC CBBC**	Focus session FT09 **Photonic quantum technologies**	Focus session FT10 **Topological mechanisms in physics: from stars to electrons**
chair(s)	Béatrice Bonga (Radboud University)	Mazi Jalaal (University of Amsterdam)	Daniel Horke (Radboud University), Jolijn Onvlee (Radboud University)	Juan Rojo (VU University Amsterdam), Jacco de Vries (Nikhef)	Johan Klootwijk (Philips), Peter Brussaard (AdValor)	Bart Kooi (University of Groningen), Marijn van Huis (Utrecht University)	Sander Nijdam, Adriana Creatore (Eindhoven University of Technology)	Ben Feringa (University of Groningen), Michael Lerch (University of Groningen)	Martin van Exter (Leiden University), Pepijn Pinkse (University of Twente)	Luca Giomi (Leiden University)
14:50 - 15:15	Observations of gravitational waves from black hole and neutron star mergers Stephen Fairhurst, Cardiff University	Tribology of soft surfaces at nanoscale Anwesha Sarkar, University of Leeds	Quantum control of atoms, molecules and their interaction Christiane Koch, Freie Universität Berlin	Hints of a new fundamental interaction from B-meson decays Gino Isidori, University of Zürich	Hundred years of Dutch physics and a thousand years of scholarship:what can we learn from the past? Jeroen van Dongen, University of Amsterdam	Liquid phase electron microscopy, fundamentals, and application to examine cancer cells Niels de Jonge, INM-Leibniz Institute for New Materials	Nonequilibrium kinetics in CO_2 plasmas Vasco Guerra, Instituto Superior Técnico	Functional supramolecular systems and materials Bert Meijer, Eindhoven University of Technology	Efficient photon sources for optical quantum computing Pascale Senellart, Université Paris-Saclay	Atom-by-atom engineering of topological states of matter Cristiane Morais Smith, Utrecht University
15:15 - 15:40	Probing dense matter in neutron stars with gravitational waves Tanja Hinderer, Utrecht University	Catastrophic phase inversion in high-reynolds-number turbulent Taylor-Couette flow Detlef Lohse, University of Twente	Precision tests on cold molecules Hendrick Bethlem, VU University Amsterdam	High-pT anomalies in ATLAS and CMS Pamela Ferrari, Nikhef	In the strain of opportunities, ambition and challenges Stefan Hild, Maastricht University	Studying the synthesis and stability of nickel catalysts with in-situ gas phase electron microscopy Nienke Visser, Utrecht University	Non-equilibrium plasma opportunities for catalysis Gerard van Rooij, Maastricht University	Nanoparticles as multivalent glue in waterborne coatings Nathalie Katsonis, University of Groningen	Ultrahigh performance single-photon detectors for quantum photonics, imaging, and spectroscopy Iman Esmaeil Zadeh, Delft University of Technology	Topology in contemporary particle physics Elisabetta Pallante, University of Groningen
15:40 - 16:05	Tests of general relativity with current and future gravitational wave observations Badri Krishnan, Radboud University	Build up of yield stress fluids via chaotic emulsification Federico Toschi, Eindhoven University of Technology	Shielding ultracold molecules with microwaves Tijs Karman, Radboud University	Flavour anomalies from the LHC and Belle Mara Senghi Soares, VU University Amsterdam	Science in partnerships Christa Hooijer, TNO	Understanding polarization switching in ultra-thin hafnia by operando experiments Beatriz Noheda, University of Groningen	Synergistic combination of plasma activation and electrocatalysis for nitrogen fixation by water Michail Tsampas, DIFFER	Naturally grown but non-living functional responsive materials Peter Fratzl, Max Planck Institute, MPI-CI	Integrated photonic quantum information processing Jelmer Renema, University of Twente	Topological waves in hydrodynamics Jácome Armas, University of Amsterdam
16:05 - 16:30	Science with the Laser Interferometer Space Antenna (LISA) Elena Maria Rossi, Leiden University	Coffee stains and phase inversion in evaporating emulsion drops Noushine Shahidzadeh, University of Amsterdam	The quantum physics of interacting atoms and ions Rene Gerritsma, University of Amsterdam	Anomalies from low-energy experiments Gerco Onderwater, University of Groningen	How to thrive in the Dutch physics landscape when you're not Dutch:Recognizing & rewarding diversity Jennifer Herek, University of Twente	Advanced in situ TEM: A powerful tool for material science, energy storage and life science applications Eva Bladt, DENSsolutions BV	Non-thermal plasmas in interaction with targets – electric fields and electron properties Ana Sobota, Eindhoven University of Technology		Between single photons and coherent light in quantum networks Wolfgang Löffler, Leiden University	The topological origin of the Peierls-Nabarro barrier Randall Kamien, University of Pennsylvania

16:30 - 16:45 **Break**

16:45 - 17:15 **Award ceremony** – Winners of the Team Science award, Stairway to Impact Award, Athena Award, Ehrenfest-Afanassjewa thesis award and the Minerva Prize

17:20 - 18:05 **Chocolate, clean air and running on water: a new frictional paradigm for suspension rheology – Wilson Poon** (University of Edinburgh) – Plenary session

18:20 - 18:50 **Physics Yoga Workshop**

18:20 - 19:20 **Music Connects DiscoBingo** – Bingo host Jip

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WEDNESDAY 26 JANUARY 2022

PARALLEL SESSIONS

08:30 - 09:00	**Physics Yoga Workshop**									
09:15 - 09:30	**Opening**									
parallel session 09:30 - 10:30	Parallel session PW01A **Astroparticle physics, gravitation, and cosmology I**	Parallel session PW02A **Nanoscale physics V**	Parallel session PW03A **Prize winning session**	Parallel session PW04A **Quantum physics III**	Parallel session PW05A **Physics of fluids III**	Parallel session PW06A **Materials physics V**	Parallel session PW07A **Statistical physics & soft condensed matter III**	Parallel session PW08A **Atomic, molecular and optical physics VII**	Parallel session PW09A **Atomic, molecular and optical physics V**	Parallel session PW10A **Plasma & fusion physics I**
chair	Tanja Hinderer (Utrecht University)	Laëtitia Farinacci (Delft University of Technology)	Jorik van de Groep (University of Amsterdam)	Menno Veldhorst (Delft University of Technology)	Bijoy Bera (Delft University of Technology)	Eline Hutter (Utrecht University)	Claas Willem Visser (University of Twente)	Michel Orrit (Leiden University)	Sandra Brünken (Radboud University)	Jannis Teunissen (CWI)
09:30 - 09:45	Searches for sub-solar mass primordial black holes in the third observation run of LIGO and Virgo Khun Sang Phukon, Nikhef	Spin-orbit interaction in InSb double quantum dots characterized via dispersive gate sensing Lin Han, Delft University of Technology	QuiX quantum case of Physics with Industry Ward Vleeshouwers, University of Amsterdam Chunwei Hsu, Delft University of Technology	Quantum oscillatory phenomena in LaIn3 Jasper Linnartz, Radboud University	Thermophoretic force on micron-sized particles in rarefied gas conditions Ralf Reinartz, Eindhoven University of Technology	Highly directional emission from mixed halide perovskite by self-aligned microlens-emitter systems Julia van der Burgt, AMOLF	Molecular modelling of stretch-induced crystallization in polypropylene layers Nikolaos Sigalas, Eindhoven University of Technology	Evolutionary optimization of nanophotonic design for optical and optoelectronic applications Ping Bai, Eindhoven University of Technology	Cryo-cooled sub-doppler frequency metrology in HD for tests of fundamental physics Meissa Diouf, VU University Amsterdam	A spectroscopic inference and SOLPS-ITER comparison of flux-resolved plasma edge parameters in TCV Artur Perek, DIFFER
09:45 - 10:00	Tidal response from scattering and the role of analytic continuation Gastón Creci, Utrecht University	Dopant network processing units as tuneable computational reservoirs Bram van de Ven, University of Twente	Minerva award (Dutch Physics Council) Natalia Chepiga, Delft University of Technology	Tensor network algorithms for 3D quantum systems with applications to the Shastry-Sutherland model Patrick Vlaar, University of Amsterdam	Massive reduction in buckling threshold due to hydrodynamic interactions between flexible sheets Hugo Perrin, Delft University of Technology	General framework for designing and assessing albedo materials for higher bifacial output Shweta Pal, University of Twente	Revealing phase transitions in colloidal cube superstructures with critical Casimir attractions Chris Kennedy, Eindhoven University of Technology	Parity-time symmetry in networks of squeezed nano-optomechanical resonators Jesse Slim, AMOLF	Towards magnetoassociation of the ultracold open-shell RbSr molecule Mateusz Borkowski, University of Amsterdam	Influence of surface impurities on deuterium uptake of Ru-capped Extreme Ultraviolet (EUV) mirrors Shih-Chi Wang, DIFFER
10:00 - 10:15	Nonlinear curvature effects in gravitational waveforms of inspiralling black hole binaries Banafsheh Shiralilou, University of Amsterdam	Low coverage decanethiol self-assembled monolayers on the Au(001) surface studied with STM Martina Tsvetanova, University of Twente	Minerva award (Dutch Physics Council) Wiebke Albrecht, AMOLF	Towards the quantum spin hall insulator regime in (Bi_xSb_{1-x})_2Te_3 ultra-thin films Daniel Rosenbach, University of Twente	Hydrodynamic stability of the boundary layer flow over a heated flat plate for supercritical fluids Benjamin Bugeat, Delft University of Technology	Observation of correlated triplet-pair excitons in TIPS-tetracene Koen van den Hoven, Radboud University	High-throughput fabrication of architected soft micromaterials via in-air photopolymerization Jieke Jiang, University of Twente	Sub-microsecond optoplasmonic detection of single particles and proteins Nasrin Asgari, Leiden University	Probing open- and closed-channel p-wave Feshbach resonances Denise Ahmed-Braun, Eindhoven University of Technology	The available energy of trapped electrons and its relation to turbulent transport Ralf Mackenbach, Eindhoven University of Technology
10:15 - 10:30	Dark energy emerging from quantum fluctuations in inflation and Hubble tension Enis Belgacem, Utrecht University	Free coherent evolution of a coupled atomic spin system initialized by electron scattering Lukas Veldman, Delft University of Technology	Ehrenfest-Afanassjewa thesis award (Dutch Physics Council) Anne Meeussen, AMOLF/LEI & Harvard	Transport measurements of underdoped YBa2Cu3O7-x under high pressure and magnetic field Sven Badoux, Radboud University	Large eddy simulations of wind farm wakes Anja Stieren, University of Twente	The first hexagonal SiGe laser Marvin Arnoud Jozef van Tilburg, Eindhoven University of Technology	High speed-laser speckle imaging to unravel pico-liter droplets substrate interactions Riccardo Antonelli, Wageningen University	Enhancing chiral sensing with nanophotonics Ershad Mohammadi, Eindhoven University of Technology	Quantum effects and test of QED with a degenerate Fermi gas of 3He Yuri van der Werf, VU University Amsterdam	Exact element conservation for advection-diffusion-reaction systems Chris Schoutrop, Eindhoven University of Technology
10:30 - 10:45	**Break**									

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parallel session 10:45 - 12:00	Parallel session PW01B **Astroparticle physics, gravitation, and cosmology II & Particle physics III**	Parallel session PW02B **Nanoscale physics VI**	Parallel session PW03B **Materials physics VII**	Parallel session PW04B **Quantum physics IV**	Parallel session PW05B **Physics of fluids IV**	Parallel session PW06B **Materials physics VI**	Parallel session PT07B **Statistical physics & soft condensed matter IV**	Parallel session PW08B **Physics for technology I**	Parallel session PW09B **Atomic, molecular and optical physics VI**	Parallel session PW10B **Plasma & fusion physics II**
chair	Tanja Hinderer (Utrecht University)	Marc Serra (AMOLF)	Jorik van de Groep (University of Amsterdam)	Menno Veldhorst (Delft University of Technology)	Bijoy Bera (Delft University of Technology)	Eline Hutter (Utrecht University)	Silke E. Henkes (Leiden University)	Esther Alarcón Lladó (AMOLF)	Sandra Brünken (Radboud University)	Jannis Teunissen (CWI)
10:45 - 11:00	First physics results from KM3NeT Brían Ó Fearraigh, University of Amsterdam	Direct investigation of Anderson localization in topological slow-light photonic crystals Sonakshi Arora, Delft University of Technology	Epitaxial PMN-PT thin films for microelectronic devices Shu Ni, University of Twente	Computing with spin qubits at the surface code error threshold Xiao Xue, Delft University of Technology	Action and reaction forces during drop impact on rigid substrates Vatsal Sanjay, University of Twente	Understanding the photophysics of layered metal halide perovskites Eelco Tekelenburg, University of Groningen	3D printed viscotactic microswimmers Samia Ouhajji, Leiden University	Fast and robust semiconductor metrology from visible to infrared using dark-field digital holography Christos Messinis, ARCNL	ROSAA: A high-resolution rotational action spectroscopic technique for molecular ions Aravindh Nivas Marimuthu, Radboud University	Tin fluid dynamics driven by laser-produced plasma relevant to extreme ultraviolet nanolithography Diko Hemminga, ARCNL
11:00 - 11:15	The role of bound states in dark matter decoupling Anastasiia Filimonova, Nikhef	Scaling, universality, and symmetry breaking in nonlinear optical systems Zhou Geng, AMOLF	3D printed PVDF-TrFE for the next generation of piezoelectric sensors Achidi Frick, VU University Amsterdam	Entanglement of spin-pair qubits with intrinsic dephasing times exceeding a minute Hans Bartling, Delft University of Technology	Leidenfrost effect as a directed percolation phase transition Pierre Chantelot, University of Twente	How color centers affect the opto-electronic properties in Cs2AgBiBr6 perovskite thin films Valentina Caselli, Delft University of Technology	Nonlinear mechanics of mitotic chromosomes Hannes Witt, VU University Amsterdam	2-dimensional MoS2 layers synthesized by ALD as diffusion barriers in interconnects Sanne Deijkers, Eindhoven University of Technology	Startling isotope effects in charge changing collisions of Sn_3+ ions on H_2 and D_2 Subam Rai, University of Groningen	The use of hypergravity to probe a low temperature low pressure plasma sheath with microparticles Patrick Meijaard, Eindhoven University of Technology
11:15 - 11:30	Supervised ML strategy for anomaly detection at colliders Zhongyi Zhang, Nikhef	Coupled nano-optomechanical cavities for enhanced nonlinear photon-phonon interactions Roel Burgwal, Eindhoven University of Technology	Drawbridge technique for fracture testing of freestanding ultrathin films Airat Shafikov, University of Twente	Trapped ions in optical tweezers Matteo Mazzanti, University of Amsterdam	Coalescence propagation in concentrated emulsions flowing through constrictions Emma Hinderink, Delft University of Technology	Unified theory for light-induced halide segregation in mixed halide perovskites Zehua Chen, Eindhoven University of Technology	Defect-mediated morphogenesis Ludwig A. Hoffmann, Leiden University	Multispectral ptychographic wavefront sensing at extreme ultraviolet (EUV) wavelengths Xiaomeng Liu, ARCNL	Formation of compact ion bunches for the NEXT project Xiangcheng Chen, University of Groningen	Nanosecond pulsed DBD plasma for ignition stabilized combustion Ravi Patel, Eindhoven University of Technology
11:30 - 11:45	Performance studies of the data readout for the PANDA experiment Viktor Rodin, University of Groningen	Spider-web nanomechanical resonators by Bayesian optimization with ultralow dissipation Andrea Cupertino, Delft University of Technology	Sign programmable Poynting and shear moduli in meta-structures Aref Ghorbani, Wageningen University	Quantum interference in telecom of down-converted photons from remote NV-centres Arian Stolk, Delft University of Technology	Destabilizing Marangoni flow in an evaporating binary liquid lens Carola Seyfert, University of Twente	Understanding the defect physics in halide perovskites from first principles Haibo Xue, Eindhoven University of Technology	Mechanical synergy in multicomponent biopolymer mixtures Iain Muntz, Delft University of Technology	Electrochemical filling of nano-trenches with silver for transparent conducting electrodes Yorick Bleiji, AMOLF	Merging two molecular beams with high dipole moments: ammonia-ammonia collisions Sven Herbers, Radboud University	3D PIC-MCC simulations of positive air-methane streamers for plasma-assisted combustion Dennis Bouwman, Centrum Wiskunde & Informatica
11:45 - 12:00	Combined SMEFT interpretation of Higgs, diboson, and top quark data from the LHC Giacomo Magni, Nikhef	Deterministic chaos and fractal entropy scaling in Floquet conformal field theories Askar Iliasov, Radboud University	Viscoelastic kirigami plates Shahram Janbaz, University of Amsterdam	Quantum computations for disambiguation and question answering Adriana Correia, Utrecht University	Selective evaporation at the nozzle exit of a piezoacoustic ink channel Maaike Rump, University of Twente	Stabilization of cubic perovskites: compositional and optoelectronic properties of MAxFA1-xPbI3 films Tatiana Soto, University of Twente	Aging in thermal active glasses Giulia Janzen, Eindhoven University of Technology	Full spectrum [ranging 5-265nm] of a tin microdroplet laser-produced plasma light source Zoi Bouza, ARCNL	Photofragment ion imaging in mass spectrometry for the structural analysis of biomacromolecules Anjusha Mathew, Maastricht University	Time-resolved optical emission spectroscopy in CO_2 nanosecond pulsed discharges Antoine Salden, Eindhoven University of Technology

12:00 - 13:20	**Lunch**
12:10 - 13:10	**Career workshop: Is there a future for me outside the academic world?** – Session II – **Lisette Spoelder** (Herakles Pharma Staffing)
13:20 - 14:20	**Poster session**
14:20 - 14:35	**Break**

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FOCUS SESSIONS

	Focus session FW01 **Getting a grip in soft robotics: Physics and control of grasping**	Focus session FW02 **Phenomenological aspects of string theory: from cosmology to particle physics and quantum matter**	Focus session FW03 **Advanced wavefront engineering for industrial optics**	Focus session FW04 **Stochastic thermodynamics: universalities of noisy systems processing energy and information**	Focus session FW05 **Understanding the physics of cosmic-ray pevatrons**	Focus session FW06 **Quantum internet: science, technology and applications**	Focus session FW07 **Crossing disciplines: physical property manipulation for (electro) chemical energy conversion**	Focus session FW08 **Quantum materials for quantum technologies: from design to characterisation**	Focus session FW09 **COVID-19, aerosols, and ventilation: Obligations for physics in a pandemic world**	Focus session FW10 **Strange metals**
focus session 14:35- 16:15										
chair(s)	Guillermo Amador (Wageningen University) Irene Kuling (Eindhoven University of Technology)	Alejandra Castro (University of Amsterdam) Jácome Armas (University of Amsterdam)	Willem L. Vos (University of Twente) Wilbert Ijzerman (Signify)	Said Rodriguez (AMOLF) Pieter Rein ten Wolde (AMOLF)	Manuela Vecchi (University of Groningen)	Ronald Hanson (Delft University of Technology)	Chris Baeumer (University of Twente) Marco Altomare (University of Twente)	Sonia Conesa-Boj (Delft University of Technology)	Lorenzo Botto (Delft University of Technology) Detlef Lohse (University of Twente)	Jan Zaanen (Leiden University)
14:35 - 15:00	Soft robotic gripping using controlled adhesion and shape-programming Metin Sitti, Max Planck Institute for Intelligent Systems	Cosmological observables and string theory Eva Silverstein, Stanford University	Wavefront shaping for wireless communications with reconfigurable intelligent surfaces Mathias Fink, Langevin Institute, ESPCI Paris	Stochastic thermodynamics, highlights and recent advances Christopher Jarzynski, University of Maryland, College Park	Cosmic particle accelerators Jacco Vink, University of Amsterdam	Remote entanglement of cavity-coupled trapped ions: a building block for the quantum internet Tracy Northup, University of Innsbruck	Advances and challenges in understanding the electrocatalytic conversion of carbon dioxide to fuels Marc Koper, Leiden University	Focus session - Ute Kaiser Ute Kaiser, Ulm University	Airborne transmission of SARS-CoV-2 and the need for new ways of proper ventilation Philomena Bluyssen, Delft University of Technology	Charge order and strange metals in cuprate superconductors Catherine Pepin, Insitut de Physique Théorique
15:00 - 15:25	Interfacial mechanics of bio-inspired adhesive patterns Preeti Sharma, Wageningen University	Do androids dream of Calabi-Yau? Progress in machine learning the string landscape Alex Cole, University of Amsterdam	The mathematics of designing freeform optical components Lotte Romijn, Signify Research	Thermodynamic description of topological insulators: the search for universal behaviour Cristiane Morais Smith, Utrecht University	The PeVatrons sky: observations and outlook Giuseppe Di Sciascio, INFN - Roma Tor Vergata	Three diamond quantum processors, two entangled links, one multi-node quantum network Sophie Hermans, Delft University of Technology	Hydrogenation catalysts - moving atoms does matter Petra de Jongh, Utrecht University	Quantum materials by design Zeila Zanolli, Utrecht University	Possible transmission of SARS-CoV-2 by small aerosol droplets Mariëtte Lokate, Alex Friedrich, University Medical Center Groningen	Non-mean-field breakdown of heterogenous superconductivity in overdoped cuprates Milan Allan, Leiden University
15:25 - 15:50	Grasping in an uncertain world VU University Amsterdam Michael Wiertlewski,	Hydrodynamics and holography for heavy ion collisions Umut Gursoy, Utrecht University	Observing unconventional light propagation in silicon nanostructures Manashee Adhikary, University of Twente	Squeezed thermal reservoirs for efficient heat engines and cooler computers Jan Klaers, University of Twente	Solving the mystery of PeVatrons with the cherenkov telescope array Sera Markoff, University of Amsterdam	Deploying a quantum secure communications testbed: A use-case led approach Chigo Okonkwo, Eindhoven University of Technology	Modelling of complex energy materials with machine learning Nongnuch Artrith, Utrecht University	Quantum materials: understanding structures to engineer properties for driving quantum applications Mazhar Ali, Delft University of Technology	Aerosols, corona virus transmission and superspreader events Daniel Bonn, University of Amsterdam	Momentum-dependent scaling exponents in strange metals: ARPES meets holography Steef Smit, University of Amsterdam
15:50 - 16:15	The mechanics of touch in humans and soft robots Michael Wiertlewski, Delft University of Technology	Explaining quantum matter with black holes Koenraad Schalm, Leiden University	Panel discussion Niels van der Veen, Lumileds Maarten Voncken, ASML Stefan Bäumer, TNO	Mechanical computing near the thermodynamic limit Marc Serra, AMOLF	The neutrino as cosmic messenger Dorothea Samtleben, Leiden University	Quantum internet at KPN Victoria Lipinska, KPN B.V.	Surface science and operando approaches to probe electrochemical reaction mechanisms Kelsey Stoerzinger, Oregon State University	Electronic transport as a probe of magnetic ordering in complex oxide thin films Tamalika Banerjee, University of Groningen	Beyond six feet: A guideline to limit indoor airborne transmission of COVID-19 Martin Bazant, MIT	Building a bridge across the strange metal divide Nigel Hussey, Radboud University
16:15 - 16:30	**Break**									
16:30 - 16:40	**Award ceremony – Physics@Veldhoven poster prizes**									
16:40 - 17:40	**Stacking van der Waals atomic layers: quest for new quantum materials** – Kim Philip, Harvard University – Plenary session									

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