

Scientific program

Wednesday, 29 Jun 2022

09:00	Foyer: 1	Registration	
11:30	Förde: 1	Welcome	
12:00	Förde: 1	Opening: Eckhard Quandt	
12:15	Förde: 1	INVITED LECTURES	
12:15	Foyer: 1	Felice Torrisi: Nanostructured films of two-dimensional materials: electronic transport, printed heterojunctions and wearable electronics	
12:45		Nian Sun: Ultra-compact Magnetolectric Mechanical Antennas from VLF to UHF	
13:15		Xinliang Feng: Advances in Organic 2D Crystals	
13:45	Foyer: 1	Break	
14:15	Foyer: 1	Ion Tiginyanu: Nature-inspired floating rafts and liquid marbles driven by electric/magnetic fields and surface-tension gradients	
14:45		Svetlana Mintova: Smart Nanosized Zeolites for Versatile Applications	
15:15		Jaana Vapaavuori: Plant-based carbon-negative functional materials for emerging and established applications	
15:45	Foyer: 1	Break	
16:15	Förde 2/3	LECTURES	
16:15	Förde 2/3	Session: A & D / Förde 2	Session: C / Förde 3
16:15	Förde 2/3	Moritz Paulsen: Towards light-stimulated growth of axonal connections for artificial neural networks	Helge Krüger: Alternate Pulse Galvano-static Cycling of Lithium Sulfur Batteries
16:30		Tobias Spratte: Microstructured Stimuli Responsive Hydrogel Actuators	Jakob Offermann: Surface Structuring of Aluminum Foils for Improved Coating Adhesion of Battery Electrodes
16:45	Förde 2/3	Martin Ziegler: Redox-based Memristive Devices for Neuromorphic Systems	Hamzeh Beiranvand: Closed-Form Solution of the Si-Anode Microwire Solid-Phase Diffusion in Silicon Batteries
17:00			

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16:15	Förde 2/3	LECTURES	
	Förde 2/3	Session: D / Förde 2	Session: G / Förde 3
17:00	Förde 2/3		Torge Hartig: Aero-hydrogel cell scaffolds via initiated Chemical Vapor Deposition
17:15		Wilfred G. van der Wiel: Material learning	Birte Hindenlang: Investigating functional implant materials using in situ micro computed tomography
17:30			Muqsit Pirzada: NN
17:45		Maximiliane Noll: Synchrony of relaxation-type oscillators coupled during nano-particle network growth	Shin, Su Ryon: Engineering nano-biomaterials for tissue fabrication and regenerative medicine
18:00		Franz Faupel: Dynamic Resistive Switching Phenomena in Nano-particle Assemblies	
18:15	END of the Session		
18:40	Boat Tour with evening reception		
22:00	End of the first day		

Scientific program

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08:00	Förde: 1	INVITED LECTURES	
08:00	Förde: 1	Thomas Rades: Amorphous drugs and formulations	
08:30		Nicola Pugno: Mechanics of tetrapods and related networks	
09:00		Berit Zeller-Plumhoff: Non-destructive, multiscale in situ characterization and modeling of functional biomaterials	
09:30		Zeynep Altintas: Functional polymers as synthetic affinity materials for biosensing applications	
10:00		Martin Salinga: Brain-inspired computing based on phase-change materials	
10:30		Foyer: 1	Break
11:00	Förde 2/3	LECTURES	
11:00	Förde: 2/3	Session: E / Förde 2	Session: B / Förde 3
11:00		Denys Makarov: Skin conformal and printable magnetoelectronics for human machine interfaces and soft robotics	Andrea Heinz: Polymer-based biomaterials for wound healing
11:30		Patrick Hayes: Converse Magnetolectric Thin Film Sensors Towards Biomagnetic Measurements	Jalil Nourisa: A numerical approach in investigating the osteogenic activities of mesenchymal stem cells in response to Mg ²⁺ ions
11:45		Lars Thormählen: DC and RF sputter deposited thin films for magnetic field sensor	Yu Sun: Pre-clinical rodent models in translational research of intelligent biomaterials for treating musculoskeletal diseases: Literature review and 3D methods to improve experimental planning.
12:00		Patrick Wiegand: Delta-E Effect Magnetic Field Sensors for Sensor Arrays	Ole Behrmann: A micromanufactured porous solid phase for nucleic acid adsorption

Scientific program

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12:15		Förde 2/3		LECTURES	
12:15	Förde: 2/3	Session: H / Förde 2		Session: D / Förde 3	
12:15		Sven Schultzke: Photomechanical bending of polymeric liquid crystalline elastomers (LCEs) with visible light		Mady Elbahri: The Bioshell concept emerging meso-ensemble nanocrystalloids "Melloids" with Polarizonic response	
12:30		Johannes Abel: Development of 3D Printing for NiTi-components by Fused Filament Fabrication (FFF) and Addition of Filigree Structures by Laser Powder Bed Fusion (LPBF)			
12:45		Dahnan Spurling: Aerosol-Jet Printed 3D Ti3C2Tx MXene Microsupercapacitors			
13:00	Foyer: 1	Lunch			
13:45	Förde 2/3	Session: H / Förde 2		Session: D / Förde 3	
13:45		Wolfram Pernice: Photonic non-von Neumann computing		Roshani Madurawala: Dynamically reconfigurable liquid electronics for integrated memristive neuromorphic computing	
14:15		Richard Marquard: Sputter deposition of a ferroelectric MIM-Capacitor based on NbN and HfO ₂		Jan Trieschmann: Toward simulation and data-driven directives for processing of memristive devices	
14:30		Rouven Lamprecht: Analogue switching in SiO _x /Cu/SiO _x memristive devices		Alena Nierhauve: In Operando Soft X-Ray Photoemission Spectroscopy of 2D Material Devices	
14:45		Philipp Schadte: Additive Manufacturing of Silica Glass and Zirconia via Laser Assisted Direct Ink Writing		Benjamin Spetzler: Numerical Modeling of Memristive Devices and Crossbar Arrays	
15:00				Sreetosh Goswami: Molecular building blocks for the next generation of computing	
15:15					
15:30	Foyer: 1	Poster Session & Break			

15:30	Förde 1	POSTER SESSION & BREAK
		Felix Harden: Precise non-assembly mechanisms by 4D-printing
		Sebastian Meyer: Electrical resistance testing for biodegradable magnesium implants
		Lasse Wegner: New electrically conductive composite materials for reversible water adsorption
		Jannick Jacobsen: Battery Research at Kiel University from fundamentals to industry
		Felix Steinke: A new photochromic metal-organic framework: Turn-on luminescence through a variety of physical stimuli
		Tammo Zimmermann: In Operando Soft X-Ray Photoemission Spectroscopy of TaS ₂ and HfS ₂ based memristive devices
		Dana Hellmold: An AT101-loaded drug-releasing mesh for localized Glioblastoma treatment
		Jana Meyer: SAW Magnetic Field Sensors based on thin film AlScN
		Sven Malte Krümpelmann: Digital Light Processing Technologies of Osteoinductive Scaffolds of a Spongiosa-like Structure
		Fatemeh Chahshouri: Charting excitons-photon interactions in WSe ₂ beyond the non-recoil approximation
		Florian Diekmann: In operando soft X-ray spectroscopy of the plasma-solid interface with PISA
		Nils Wind: Multispectral time-resolved energy-momentum microscopy using high-harmonic extreme ultraviolet radiation
16:45	Förde 2 & 3	INVITED LECTURES
16:45	Förde 2 & 3	Eckhard Quandt: THE ROLE OF COMPATIBILITY IN SHAPE-MEMORY OXIDE CERMANICS *combined talk given by Eckhard Quandt and Richard D. James
17:15		Richard D. James: THE ROLE OF COMPATIBILITY IN SHAPE-MEMORY OXIDE CERMANICS
17:45		Break
18:30		Poster Honor
		Diels Planck Lecture & KiNSIS Awards Ceremony
20:00	Förde 1	Evening Reception
22:00	End of the second day	

Special Events

08:00	Förde 1 & Foyer 1	Women in Science and Engineering Breakfast	
09:00			Material Exchange Bazaar & Meet the Locals
10:00	Förde 2 & 3	INVITED LECTURE	
10:00	Förde 2 & 3	Carsten Ronning: Hybridized semiconductor nanowire lasers	
10:30		Joshua A. Robinson: 2D Polar Metals and Heterostructures	
11:00	Break		
11:15	Förde 2/3	LECTURES	
11:15	Förde 2/3	Session: B / Förde 2	Session F / Förde 3
11:15		Norbert Stock: Tunable Metal-organic Framework Materials for Versatile Applications	Simon Marotzke: Investigation of the magnetic and electronic properties of topological insulator/ferromagnet hetero-structures
11:30			Fatemeh Davoodi: Plasmon-Exciton Interactions in Nanometer-Thick Gold_WSe ₂ MultiLayer Structures
11:45		Fabian Schütt: Functional Network Materials by Effective Assembly of 1D and 2D Nanomaterials	Masoud Taleb: Investigating strong exciton-plasmon interactions in a hybrid WSe ₂ -Au lattice using cathodoluminescence spectroscopy
12:00			Markus Scholz: One-stop imaging of electronic and structural dynamics at the molecule-2D quantum material interface
12:15		Jan Schardt: Fabrication and characterization of nanostructured photocatalytic Titanium Dioxide towards local gold growth on a nanoscale	
12:30		Yogendra Kumar Mishra: Tetrapods based Smart Materials for Advanced Technologies	Chithra H. Sharma: Electron-Spin-Resonance in a proximity-coupled MoS ₂ /Graphene van-der-Waals heterostructure
13:00		Foyer 1	Lunch
13:45	Förde 2/3	LECTURES	
13:45	Förde 2/3	Session: E / Förde 2	Session B / Förde 3
13:45		Viktor Schell: Exchange Biasing of Surface Acoustic Waves Magnetic Field Sensors	Margarethe Hauck: Reservoir-based drug delivery system for localized treatment of brain tumors
14:00		Elizaveta Golubeva: Multi-level model for intrinsic thermal-magnetic noise and magnetic sensitivity of magnetoelastic sensors	Jan Dittmann: Thermodynamically consistent single crystal plasticity modeling of magnesium including slip and twinning
14:15		Dirk Meyners: Magnetolectric magnetic field sensors	Gerrit Andresen: Antiviral and antibacterial activity of zinc oxide tetrapods
14:30			Bavya Mavila Chathoth: Investigation on the degradation and cellular effects of Mg microparticles (beads) as potential therapeutics for Osteoarthritis
14:45		Greg Carman: Progress on Magnetolectric Devices from Microelectronics to Antennas	Regina Scherließ: Particle engineering for pulmonary delivery
15:15		Samim Ansari: An Efficient Search for Secure Cloud Storage using Block-chain	Rafael Ashkrizade: Piezoelectric thin films of AlN and AlScN for tactile sensors
15:30		CAU	Laboratory tour; Meetingpoint: Hotel main entrance at 15:30
16:30		End of the Conference	