PROGRAM

Prague
May 7, 2026

Co-funded by the European Union
Ministry of Education, Youth and Sports of the Czech Republic
AMULET

PROGRAM – morning session

All lectures are invited

8:30		**REGISTRATION**
9:00		**OPENING REMARKS**
		WP1 ADVANCED MULTISCALE MATERIALS ENGINEERING
		chairman: Rahul Kesarwani
		1.1 Materials Reservoir
9:05	Štefan Hricov	M-Oxides – The scaffold for nanomagnetism and beyond
		1.2 Tailoring FBBs with Atomic Precision
9:20	Eva Štěpanovská	Ion Beam Engineering of 2D Materials and Polymers for Advanced Energy Application
		1.3 Integration of FBBs
9:35	Vladislav Buravets	Self-Optimizing Interfaces in 2D TaS2 through Operando Electrochemical Activation
		1.4 Understanding Functionalities via Model Systems and Theoretical Research
9:50	Pavlo Golub	Quantum Chemical Density Matrix Renormalization Group Method for Organics Boosted by Machine Learning
		1.5 Tracking functionalities via advanced multiscale techniques
10:05	Jan Kožíšek	Investigation of Plasmon-Driven Reactions of 4-Mercaptophenylboronic Acid on Silver Nanoparticles: A SERS Study
		1.6 Mapping and critical reflection of the social context …
10:20	Michal Trčka	Negotiating Open Science: Sociological Perspectives from the AMULET Project
10:35		**Cofee Break**
		WP2 MULTID BIONTERFACING
		chairman: Vojtěch Hrdlička
		2.2 SuperR Bioimaging will develop liquid cells for correlative ONEM/GIET super-resolution imaging
11:05	Kateřina Paldusová	Unravelling the Ultrastructure of Neutrophil Extracellular Traps (NETs)
		2.2 SuperR Bioimaging will develop liquid cells for correlative ONEM/GIET super-resolution imaging
11:20	Jan Šimek	Lipid Nanoparticle Endosomal Escape: Insights from Vesicle-Based Model Systems
		2.3 Hybrid Antimicrobial Platforms
11:35	Viktorie Neubertová	Development of Hybrid Antimicrobial Platforms via Coordination Chemistry
11:50		**Lunch**

PROGRAM – afternoon session

All lectures are invited

		WP3 MULTISENSING
		chairman: Martin Lamač
		3.1 Biosensors
13:00	Jana Rosenkranzová	EC-SERS for Selective Detection of Organic Contaminants in Water
		3.2 Chemical sensors
13:15	Vojtěch Hrdlička	Interfacing electrochemical sensors with liquid phase microextraction
		3.3 Physical sensors
13:30	Jiří Červenka	Electromechanical Sensing with 3D Graphene Aerogels
		WP4 MULTID CATALYSIS
		chairman: Kateřina Paldusová
		4.1 Subnanometer Catalysis
13:45	Petr Vítek	Atomically Precise CuPd Pentamer Clusters for Catalytic Dehydrogenation of Cyclohexene
		4.2 Hybrid Molecular Catalysis
14:00	Martin Lamač	Activated Borane – A Versatile Heterogeneous Lewis Acid Catalyst
		4.3 Photocatalysis
14:15	Olha Zin	Development of Visible-Light-Active Titanium Oxide Photocatalysts Prepared by Mechanochemical Approach
		4.4 Elementary processes in catalysis
14:30	Samrat Saha	Study of electron and ion-induced dissociation of iron tetracarbonyl acrolein
14:45		**Cofee Break**
		WP5 MULTIDEVICES
		chairman: Hana Tarábková
		5.1 Resilient nano/microelectronics
15:15	Masoud Foroutan Koudahi	Engineering Advanced Silicon/Polymer Interfaces for High-Performance Lithium-Ion Batteries
		5.2 MultiD optoelectronics
15:30	Oleksandr Volochanskyi	Indirect Band Gap and Chain-Locked Linear Dichroism in van der Waals Antiferromagnet AgCrP2S6
		5.3 Hybridtronics
15:45	Rahul Kesarwani	Engineering Optical Anisotropy and Chiroptical Response in Rolled Monolayer MoS2 Nanotube-Like Architectures
16:00		**CONCLUDING REMARKS**

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PARTNERS OF THE AMULET PROJECT

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CHARLES UNIVERSITY

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