

Two-Dimensional Materials

Programme

56th Heyrovský Discussions

June 8-12, 2025, Třešť, Czech Republic



Organizers

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PROGRAMME

Sunday, June 8			
14:00	Registration in the entrance hall of the J. Heyrovský Institute		
15:00	Departure of a charter bus from the J. Heyrovský Institute (Dolejškova 3, Prague 8)		
17:00	Arrival at the Chateau Třešť, registration		
18:30	Welcome buffet		
Monday, June 9			
7:00-			
9:00	Breakfast		
9:00	Morning session:		
	Opening of the Discussions		
Time	Chair	Speaker	Title of presentation
9:05-9:45	M. Velický	R. Gorbachev	Ultraclean van der Waals Heterostructures
9:45-10:05		F. Huang	Mechanism of Gold-Assisted Exfoliation
10:05-10:25		S. Debnath	Investigating MBE growth and characterization of MoS ₂ on Au(788) using ARPES and Raman Spectroscopy
10:25	Coffee break		
Time	Chair	Speaker	Title of presentation
10:55-11:35	K. Bediako	J. Sambur	Band gap renormalization effects on electrochemical currents at 2D semiconductor/electrolyte interfaces
11:35-11:55		M. Jindra	In-situ Raman (Spectro)Electrochemical Study of Intact and Defective Monolayer Graphene
11:55-12:15		M. Velický	Spatial Dynamics of the Fermi Level in Electrolyte-Gated Graphene
12:15	Lunch		
14:30	Afternoon session:		
Time	Chair	Speaker	Title of presentation
14:30-14:50	R. Gorbachev	S. Sahu	Exploring Resonance Raman Scattering and Stimulated Raman Scattering Effects in CrSBr
14:50-15:10		V. Valeš	Stability of transition metal thio(seleno)phosphate monolayers on gold substrates
15:10-15:30		T. Verhagen	Sliding ferroelectricity in misfit layer compound (PbS) _{1.11} VS ₂
15:30-15:50		P. Barath	Get to know Metrohm
15:50	Coffee break + Poster session I		
Time	Chair	Speaker	Title of presentation
17:20-18:00	M. Kalbáč	R. Dryfe	Controlling Wetting on Carbon Surfaces
18:30	Buffet dinner		

Tuesday, June 10			
7:00- Breakfast			
9:00			
9:00	Morning session:		
Time	Chair	Speaker	Title of presentation
9:00-9:40	P. Kusch	D.R.T. Zahn	Tip-enhanced Optical Spectroscopies for Studying 2-dimensional Semiconductors and their Interfaces
9:40-10:00		A. Fiocco	Proximity-induced “magic” Raman bands in TERS spectra of MoS ₂ and WS ₂ deposited on the 1L h-BN-capped gold
10:00-10:20		L. Lafeta	Tip assisted Fourier space nonlinear images of 2D Materials
10:20-10:40		K. Salamon	Atomic defect behaviour in magnetic transition metal dihalides
10:40 Coffee break			
Time	Chair	Speaker	Title of presentation
11:10-11:50	A. Grubišić-Čabo	C. Casari	Pulsed Laser Deposition of 2D TMDs on Metals: from large area Monolayers to Heterostructures
11:50-12:10		J. Honolka	Occupied and unoccupied band structure studies of MoS ₂ monolayers on Au(111) using angle-resolved photoemission and inverse photoemission methods
12:10-12:30		L. Pirker	The Role of Metallic Substrates in Large-Area Exfoliation of TMDCs
12:30 Lunch			
14:30			
Afternoon session:			
Time	Chair	Speaker	
14:30-14:50	D.R.T. Zahn	C. Soe	Metal-Assisted Exfoliation of MoS ₂ : The Role of Au Roughness on Optical and Vibrational Properties
14:50-15:10		F. Karlický	Optical and Excitonic Properties in 2D Materials and van der Waals Heterostructures Using Many-Body Methods
15:10-15:30		E. Paiva de Araujo	Fabrication and Characterization of Janus Transition Metal Dichalcogenide
15:30-15:50		P. Markus	Advancing Nanoscale Material Characterization with AFM: Innovations in Electrical Properties Mapping
15:50 Coffee break + Poster session II			
Time	Chair	Speaker	Title of presentation
17:20-18:00	C. Casari	P. Kusch	Surface Exciton Polaritons in 2D Transition Metal Dichalcogenides
18:30 Buffet dinner			

Wednesday, June 11			
7:00-			
9:00 Breakfast			
9:00 Morning session:			
Time	Chair	Speaker	Title of presentation
9:00-9:40	J. Sambur	K. Bediako	Controlling interfacial electrochemistry with moiré superlattices
9:40-10:00		R. Kesarwani	Twisted Light-Matter Interactions: Advances, Challenges, and Future Prospects
10:00-10:20		V. Skákalová	Structure and properties of MoS ₂ and WS ₂ heterostructure synthesized in graphene oxide at ambient conditions
10:20-10:40		O. Volochanskyi	Graphene-templated Achiral Hybrid Perovskite: Unlocking Circularly Polarized light for Emission & Sensing
10:40 Coffee break			
Time	Chair	Speaker	Title of presentation
11:10-11:50	J. Kneipp	A. Grubišić-Čabo	ARPES studies of in situ exfoliated 2D materials using KISS method
11:50-12:10		J. Plšek	UHV exfoliation on the surface of reactive metals - MoS ₂ on Ti
12:10-12:30		N. Bendiab	Thermal Transport in Suspended Graphene
12:30 Lunch			
14:00 Departure to Telč (Castle tour and general sightseeing) / Departure for Roštejn			
17:45 Departure from Telč			
19:30 Conference dinner back in Třešť			

Thursday, June 12			
7:00-			
9:00 Breakfast + check out			
9:00	Morning session:		
Time	Chair	Speaker	Title of presentation
9:00-9:40	R. Dryfe	J. Kneipp	Spectroscopy in the local fields of plasmonic structures for the characterization of bioorganic samples
9:40-10:00		R. Conan	Correlation of the Structural and Magnetic Morphology of Nanoparticles
10:00 Coffee break + check out			
Time	Chair	Speaker	Title of presentation
10:50-11:10	O. Frank	M. Gastaldo	Counting defects in monolayer MoS ₂
11:10-11:30		A. Bukhari	Defect-Engineered Two-Dimensional Materials: Towards a Holistic Perspective
11:30-11:50		A. Macková	Center of Accelerator and Nuclear Analytical Methods (CANAM) capabilities for 2D materials modification
11:50 Young Researcher Award Ceremony + Discussions Closure			
12:10 Lunch			
13:30 Departure for Prague			

Poster Session I (Monday)		
M1	J. Muthu	Polymer-Free, and Transfer-Free Fabrication of High Quality 2D Materials via Biphasic Iodine Etching
M2	F. Khurshid	Laser-Induced Chlorination of 2D Material
M3	C. Cheung	Clean assembly of van der Waals heterostructures
M4	Z. Dan	Ultra-high vacuum exfoliation method for the preparation of large-area single layer TMDC films
M5	M. Hanušová	Exploring the interaction of MoS ₂ with highly oriented gold surfaces
M6	D. Wang	Guided exchange-dipole spin wave in monolayer CrSBr
M7	F. Cîmpean	Ferroelectric Islands of hBN
M8	M. Hulman	Quest for proximity-induced superconductivity in thin PtSe ₂ layers
M9	V. Havránek	Ion beam micro-beam as a tool for modification of 2D materials

Poster Session II (Tuesday)		
T1	M. Žáček	Exploring Opto-Spintronic Behavior in van der Waals Magnetic Devices
T2	S. Keszei	Investigating MoS ₂ catalysts with Scanning Electrochemical Cell Microscopy (SECCM)
T3	J. Kalbáčová Vejpravová	Light-Mater Interaction in 2D Magnets: Key Concepts and Future Directions
T4	A. Kayal	Study of Photoluminescence in He ⁺ -ion irradiated MoS ₂
T5	M. Kalbáč	UHV exfoliation of 2D materials
T6	P. Čech	Localized Raman Spectroelectrochemistry in an All-Iron Aqueous Redox Flow Battery System
T7	J. David	LEEM Observation of Graphene Intercalation O ₂ , CO, H ₂ , H ₂ O and CO ₂
T8	Z. Vlčková	Raman spectroelectrochemical Insights into Doped Diamond Electrodes in Water-in-Salt Electrolytes
T9	S. Ghosh	Optimising growth parameters for 2D transition-metal dichalcogenides using chemical vapour deposition