Programme

	Tuesday		Wednesday		Thursday
	chair: Ugeda		*chair: Pawlak*		*chair: Fasel*
9:00	**Khajetoorians**	9:00	**Fasel**	9:00	**Ugeda**
9:40	Cahlik	9:40	Grill	9:40	Grutter
10:00	Carva	10:00	Weymouth	10:00	Gerstmann
10:20	*Coffee*	10:20	*Coffee*	10:20	*Coffee*
	chair: Friedrich		*chair: Batzill*		*chair: Ganguli*
11:00	**Feng**	11:00	**Besley**	11:00	**Pawlak**
11:40	Hofmann	11:40	Zhou	11:40	Schulz
12:00	Jolie	12:00	Achilli	12:00	Franzke
12:20	Ghorbani-Asl	12:20	Hinaut	12:20	Fischer
12:40	*Lunch*	12:40	*Lunch*	12:40	*Lunch*
	chair: Besley		*chair: Greplova*		*chair: Drost*
16:20	**Ajayan**	16:20	**Valenti**	16:20	**Swart**
17:00	Mustonen	17:00	Fumega	17:00	Cortés-del Río
17:20	Åhlgren	17:20	Aumayr	17:20	Reichmayr
17:40	*Coffee*	17:40	*Coffee and posters*	17:40	*Coffee*
	chair: Valenti				*chair: Ghorbani-Asl*
18:20	**Greplova**			18:20	**Batzill**
19:00	Friedrich			19:00	Kotakoski
19:20	Jing			19:20	
				21:00	*Workshop dinner*

Tuesday 11.02.2025

chair: Ugeda

9:00 - 9:40 **Khajetoorians**
A quantum simulator to study electronic structure in the Hofstadter limit

9:40 - 10:00 Cahlik
Observation of Multiferroicity in two-dimensional NiBr2

10:00 - 10:20 Carva
Magnetism and THz excitations in quasi-2D systems under external perturbations

10:20 - 11:00 *Coffee*

chair: Friedrich

11:00 - 11:40 **Feng**
Beyond Layers: Unveiling the Potential of Organic 2D Crystals in Emerging Material Science

11:40 - 12:00 Hofmann
Fast Descriptors and Accelerated Process Development for 2D materials

12:00 - 12:20 Jolie
Polarons in single-layer MoS2

12:20 - 12:40 Ghorbani-Asl
Encapsulated alkali metals between bilayer graphene: a computational study

12:40 - 16:20 *Lunch*

chair: Besley

16:20 - 17:00 **Ajayan**
Phases of Boron-Carbon-Nitrogen Compositions

17:00 - 17:20 Mustonen
Hexatic Phase in Covalent 2D Crystals

17:20 - 17:40 Åhlgren
Synthesis of 2D monolayer gold on functionalised graphene

17:40 - 18:20 *Coffee*

chair: Valenti

18:20 - 19:00 **Greplova**
Autonomous Quantum Control in the Age of AI

19:00 - 19:20 Friedrich
Controlling Electronic and Magnetic Properties of 2D Non-van der Waals Materials by Data-driven Design

19:20 - 19:40 Jing
Strain-induced two-dimensional topological crystalline insulator

Wednesday 12.02.2025

chair: Pawlak

9:00 - 9:40 **Fasel**
Quantum magnetism in nanographene spin chains

9:40 - 10:00 Grill
Switching in 2D molecular layers - role of the atomic-scale surroundings

10:00 - 10:20 Weymouth
Lateral force microscopy reveals the sides of molecules and probes individual chemical bonds

10:20 - 11:00 *Coffee*

chair: Batzill

11:00 - 11:40 **Besley**
Electronic structure of two-dimensional bipartite lattices constructed from six-nodal monomers

11:40 - 12:00 Zhou
Ion-irradiation induced magnetic phase transition in 2D semiconductor CrSBr

12:00 - 12:20 Achilli
Novel carbon 2D materials and functionalized graphene: theory and experiments

12:20 - 12:40 Hinaut
Tuning thermal expansion of supramolecular networks

12:40 - 16:20 *Lunch*

chair: Greplova

16:20 - 17:00 **Valenti**
Exploring Correlated phases and topology in van der Waals platforms

17:00 - 17:20 Fumega
Nature of the Unconventional Heavy-Fermion Kondo State in Monolayer CeSil

17:20 - 17:40 Aumayr
Coulomb-driven nanopore formation in 2D materials by impact of slow highly charged ions

17:40 - 19:40 *Coffee and posters*

Thursday 13.02.2025

chair: Fasel

9:00 - 9:40 **Ugeda**
Superconductivity in octahedrally coordinated (1T) layered dichalcogenides

9:40 - 10:00 Grutter
Spatially resolved trap states and random telegraph noise in semiconductors

10:00 - 10:20 Gerstmann
Screening and relaxation in weakly coupled 2D heterostructures: implications for tunable molecular spin-coupling

10:20 - 11:00 *Coffee*

chair: Ganguli

11:00 - 11:40 **Pawlak**
Proximity-induced superconductivity in molecular quantum systems

11:40 - 12:00 Schulz
On-surface synthesis of nanographenes with polyradical states

12:00 - 12:20 Franzke
Magnetic fingerprint of single spins at 2D nanostructures

12:20 - 12:40 Fischer
Spin polarization of an Anderson impurity in MoS2 mirror twin boundaries

12:40 - 16:20 *Lunch*

chair: Drost

16:20 - 17:00 **Swart**
Local noise measurements on a d-wave superconductor

17:00 - 17:20 Cortés-del Río
Observation of Yu-Shiba-Rusinov states in superconducting graphene

17:20 - 17:40 Reichmayr
Raman Marker Bands for In-situ Quality Control During Synthesis Of 2D c-MOFs

17:40 - 18:20 *Coffee*

chair: Ghorbani-Asl

18:20 - 19:00 **Batzill**
Modification of 2D-Transition Metal Dichalcogenides by Excess Metal Incorporation

19:00 - 19:20 Kotakoski
Corrugation-dominated elastic modulus of defect-engineered graphene

19:20 - 19:40

21:00 - 23:00 *Workshop dinner*

Posters

Tiago Antão
Electric Field Control Of Moiré Skyrmion Phases in Twisted Multiferroic NiI2 Bilayers

Büşra Gamze Arslan
Observation of Edge States on NiI2/NbSe2

Thuy An Bui
2D metal-iodides in bilayer graphene encapsulation

Nan Cao
Heisenberg S=1/2 Antiferromagnetic Molecular Chain

Madhuri Chennur
Electrical impact of defect evolution on multi-layer WSe2

Aaron Dunbrack
Monolayer Moiré: Replacing Layers With Valleys In Graphene

Jana Dzibelova
Atomic-resolution investigation of 2D hematene

Linda Feuerstein
Nitrile Groups as Build-in Molecular Sensors for Interfacial Effects at Electrocatalytically Active Planar Carbon-Nitrogen Materials

Akash Gupta
Single-electron charging on Au nanoparticles with Radio Frequency-excitation detected by pendulum Atomic Force Microscope

Shuyu Huang
Moiré energy dissipation driven by nonlinear dynamics

Mitisha Jain
Molecular Dynamics Simulations of He and Ar Ion Irradiation of 2D MoS2 on Au and SiO2 Substrates

Umair Javed
Pore shape selection in hBN with electron beam induced chemical effects

Netta Karjalainen
Hamiltonian parameter learning with artificial neural networks

Clara Kofler
From four t(w)o three: How 4D-STEM measurements of 2D materials lead to 3D information

Pekka Koskinen
The structure and stability trends in atomically thin metallenes

Daniil Kruklinskii
Point and line defects in 2D and bulk CrSBr compounds from first-principles calculations

Artem Kuklin
Stability Challenges in Predicted 2D Materials with Nonequivalent Sublattices: Topological Constraints and the Limits of PBC

Lauri Kurki
Automated structure discovery for scanning tunnelling microscopy

Greta Lupi
Hamiltonian learning quantum magnets with non-local impurity tomography

Manuel Längle
Two-dimensional noble gas clusters in a graphene sandwich

Anshika Mishra
Manipulation of Charge Defects in Monolayer NiBr2

Rabia Nawaz
Low energy ion irradiation of few-layer MoS2

Marcel Niedermeier
Quantum computing topological invariants of two-dimensional quantum matter

Lorena Niggli
Dynamic heterogeneity in the self-induced spin glass in elemental neodymium

Anastasiia Nihei
Heterostructures of 2D Materials from an Integrated Computational Approach

Hermann Osterhage
Fock-Darwin states in artificial atomic structures

Ram Prakash Pandeya
Molecular Order Induced Charge Transfer in a C60-Topological Insulator Moiré Heterostructure

Diana Propst
Unraveling the highly defective regime of graphene and hexagonal boron nitride on the scale of atomic resolution: Automated image acquisition and analysis

Nandhini Ravindran
Overcoming challenges in preparation of monolayer hBN and vdW heterostructure TEM samples

Prosun Santra
Tailoring the electromechanical properties of two-dimensional materials via defect engineering

Yubing Wang
Few layer plates & scrolls of the magnetic topological insulator MnBi2Te4

Christoph Wilhelmer
First-principles investigations of noise in ultra-scaled 2D field effect transistors

Nian Wu
Precise Large-Scale Chemical Transformations on Surfaces: Deep Learning Meets Scanning Probe Microscopy with Interpretability'

Walter Zuccolin
Single-layer boron phosphide on metallic surfaces: screening of promising substrates by first-principles

Hans Ågren
Point and complex defects in single-layer transition metal dichalcogenides