



**Kickoff Meeting**

Erfurt, October 12 – 13, 2020

**Event Locations:**

- Kickoff Meeting: Dompalais (Peterstraße 3)
- Hotel: Prizeotel (Kurt-Schumacher-Straße 2)
- Dinner: Feuerkugel (Michaelisstraße 3)



**Comments:**

- The time slots for your talks are 5 minutes for single PI projects and 10 minutes for consortia. Each presentation is followed by a discussion, which should last on average 10 minutes.
- In your presentation, please concentrate on the following:
  1. the core idea of your project
  2. what do you offer to other SPP members
  3. what do you need from other SPP members
- The event will be streamed via a secured YouTube live channel (not recorded), and we will use Zoom for remote presentations and for discussion between off- and onsite people.

**Monday, October 12**

Until 12:00	Arrival		
12:00 – 13:00	Lunch and individual discussions		
13:00 – 13:30	Welcome + Introduction (Thomas Heine, Florian Arnold)		
13:30 – 15:30	Session 1 (Chair: Jaroslav Fabian)		
	13:30 – 13:40	Xinlang Feng Thomas Heine Thomas Weitz	<i>Topological effects in graphene/2D polymer superlattices</i>
	13:50 – 14:00	Benoit Hackens Rebeca Ribeiro-Palau Christoph Stampfer	<i>Tunable twistrionics: local tuning and probing of topological edge states and superconductivity in bilayer graphene</i>
	14:10 – 14:20	Samuel Beaulieu Ralph Ernstorfer	<i>Tailoring electronic correlations, excitonics and topological properties in van der Waals heterostructures on ultrafast timescales</i>
	14:30 – 14:40 (remote)	Dante Marvin Kennes Carsten Honerkamp	<i>Microscopic understanding of correlation effects in twisted van der Waals [hetero]structures</i>
	14:50 – 15:00	Tim Wehling Ursula Wurstbauer	<i>Correlated miniband and multivalley physics in twisted transition metal dichalcogenides</i>
15:10 – 15:20	Angelo Di Bernardo Hadar Steinberg Wolfgang Belzig Elke Scheer	<i>Towards 2D superconducting spintronics</i>	
15:30 – 16:00	Coffee break		

16:00 – 18:30	<b>Session 2 (Chair: Christoph Stampfer)</b>		
	16:00 – 16:05 (remote)	Felix Lüpke	<i>Topological superconductivity and Majorana states in van der Waals heterostructures characterized by scanning probe microscopy</i>
	16:15 – 16:20 (remote)	Sergey Ganichev	<i>Terahertz nonlinear transport in twisted graphene and van der Waals heterostructures</i>
	16:30 – 16:35 (remote)	Gabriel Bester	<i>Atomistic theory of excited states in van der Waals heterostructures: Moiré confinement strain and electric field effect</i>
	16:45 – 16:50	Agnieszka Kuc	<i>Electronic properties and Raman spectra of inorganic van der Waals heterostructures: first-principle studies</i>
	17:00 – 17:10	Tobias Korn Christian Schüller Andrey Turchanin	<i>Interlayer excitons in advanced, CVD-based van der Waals heterostructures with controlled moiré wavelength</i>
	17:20 – 17:25	Roland Bennewitz	<i>Compressive strain in stacked 2D materials: from proximity to metastable hybridization</i>
	17:35 – 17:45	Christoph Kastl Marko Burghard Alexander Holleitner	<i>Electronic control of spin-orbit and magnetic exchange coupling in graphene vdW-heterostructures (SOControl)</i>
	17:55 – 18:00 (remote)	Thomas Brumme	<i>Spin-orbit coupling, spintexture, and Ising superconductivity in TMDC heterostructures</i>
18:10 – 18:30	<b>Election of Steering Committee</b>		
19:00	<b>Dinner</b>		

Tuesday, October 13

9:00	Opening day 2		
9:00 – 11:00	Session 3 (Chair: Alexey Chernikov)		
	9:00 – 9:10 (remote)	Christopher Gies Christian Schneider Stephan Reitzenstein	<i>Light-matter coupling and cavity-QED with moiré excitons in van der Waals heterostructures</i>
	9:20 – 9:30 (remote)	J. Marcelo Lopes Jens Herfort Manfred Ramsteiner	<i>Proximity effects in ferromagnetic van der Waals heterostructures</i>
	9:40 – 9:45	Jaroslav Fabian	<i>Proximity effects in 2D magnetic vdW (hetero)multilayers</i>
	9:55 – 10:00	Janina Maultzsch	<i>Electron-phonon coupling in 2D van-der-Waals [hetero]structures</i>
	10:10 – 10:15	Stuart Parkin	<i>Artificial multiferroic van der Waals heterostructures</i>
	10:25 – 10:30	Jurgen H. Smet	<i>Magnetotransport Studies of Interfacial Interactions in van der Waals structures</i>
	10:40 – 10:50	Markus Ternes Samir Lounis	<i>Subnanoscale engineering of 2D magnetism in van der Waals heterostructures</i>
11:00 – 11:30	Coffee Break		
11:30 – 13:00	Session 4 (Chair: Janina Maultzsch)		
	11:30 – 11:40	Alexander Steinhoff-List Alexey Chernikov Alexander Högele	<i>Quantum gases in semiconductor van der Waals heterostructures</i>
	11:50 – 12:00	Jonathan J. Finley Fei Ding Rolf Haug	<i>Tunable moiré potentials in 2D-heterostructures using anisotropic strain</i>
	12:10 – 12:20	Patryk Kusch Stephanie Reich	<i>Chasing polaritons: A pathway to investigate the optoelectronic properties of van der Waals heterostructures</i>
	12:30 – 12:40	Rudolf Bratschitsch Michael Rohlfing	<i>Optical excitations in transition metal dichalcogenide heterostructures under pressure</i>
	12:50 – 13:00	Kai-Qiang Lin Sebastian Bange	<i>Tuning excitonic quantum optics in stacked van-der-Waals semiconductors</i>
13:15 – 13:30	Closing		
13:30 – 15:00	Lunch and individual discussions		
15:30	Departure		

## List of onsite participants

Agnieszka Kuc	HZDR	PI
Alexey Chernikov	Universität Regensburg	PI
Andreas Beer	Universität Regensburg	Group Christian Schüller
Andreas Stier	TU München	Deputy Jonathan Finley
Angelo Di Bernardo	Universität Konstanz	PI
Bartosz Szczefanowicz	Leibniz INM	Group Roland Bennewitz
Christian Schüller	Universität Regensburg	PI
Christoph Kastl	TU München	PI
Christoph Stampfer	RWTH Aachen	PI
Edith Wietek	Universität Regensburg	Group Alexey Chernikov
Florian Arnold	TU Dresden	Coordinator
Francesca Falorsi	Universität Göttingen	Group Thomas Weitz
Janina Maultzsch	FAU Erlangen-Nürnberg	PI
Jaroslav Fabian	Universität Regensburg	PI
Jurgen Smet	MPI Stuttgart	PI
Kai-Qiang Lin	Universität Regensburg	PI
Lina Bockhorn	Universität Hannover	Deputy Rolf Haug
Lukas Lackner	Universität Oldenburg	Group Christian Schneider
Markus Ternes	RWTH Aachen	PI
Michael Rohlfing	Universität Münster	PI
Patryk Kusch	FU Berlin	PI
Ralph Ernstorfer	FHI Berlin	PI
Roland Bennewitz	Leibniz INM	PI
Sebastian Bange	Universität Regensburg	PI
Stephanie Reich	FU Berlin	PI
Stuart Parkin	MPI Halle	PI
Thomas Heine	TU Dresden	PI
Tsai-Jung Liu	TU Dresden	Group Thomas Heine
Ursula Wurstbauer	Universität Münster	PI
Wolfgang Belzig	Universität Konstanz	PI
Xinliang Feng	TU Dresden	PI