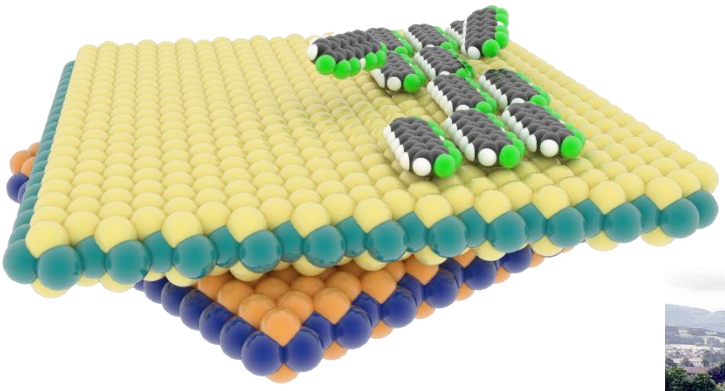
SFB 1083
Structure and Dynamics of Internal Interfaces

Philipps Universität Marburg

Summer School 2022

Prospects and Challenges of Hybrid Interfaces in TMDC and Organic Systems

26.09. to 28.09.2022 Hotel Schützenhof in Eitorf



Organizers:
Prof. Dr. Gregor Witte
Prof. Dr. Ulrich Koert

Conference Secretary:
Dr. Stefan Renato Kachel
Sonderforschungsbereich 1083
Philipps-Universität Marburg
Hans-Meerwein-Straße 6
35032 Marburg, Germany

Philipps-Universität Marburg
D-35032 Marburg, Germany

phone: +49 6421 28-24223
during conference: 0176 72511305
email: sfb@internal-interfaces.de

JUSTUS-LIEBIG-UNIVERSITÄT GIESSEN

JÜLICH Forschungszentrum

WWU MÜNSTER

UNIVERSITÄT LEIPZIG

Summer School 2022

Prospects and Challenges of Hybrid Interfaces in TMDC and Organic Systems

26.09. to 28.09.2022 Hotel Schützenhof in Eitorf

Two-dimensional (2D) materials such as transition metal dichalcogenides (TMDCs) are receiving large interest because of their fascinating physical properties that result from the confinement of electronic states in such layers. Moreover, stacking different 2D materials or combining them with organic semiconductor films enables the fabrication of heterostacks with atomically sharp interfaces that show great potential for future electronic or optoelectronic device applications.

The summer school is organized by the collaborated research center (SFB 1083) and will take place in rural surroundings on the edge of the Westerwald not far from Bonn (35km) and Cologne (50km). Aimed at PhD and graduate students, it offers overview and introductory lectures on various topics ranging from fundamental chemical, physical and optoelectronic properties of TMDCs and heterostructures to experimental techniques to study their properties as well as their integration into future devices.

Timetable

	Monday			**Tuesday**			**Wednesday**
10:30	*Arrival*		08:00 - 09:00	*Breakfast*		08:00 - 09:00	*Breakfast*
10:55	*Welcome*		09:00 - 09:40	V6: Turchanin		09:00 - 09:40	V10: Forker
11:00 - 11:40	V1: Rahimi		09:40 - 10:20	V7: Wallauer		09:40 - 10:20	V11: Beschoten
11:40 - 12:20	V2: Heine		10:20 - 11:00	V8: Selig		10:20 - 11:00	V12: Wallauer
12:30 - 14:00	*Lunch and Registration*		11:00 - 11:30	*Break*		11:00 - 12:00	*Closing Remarks*
14:00 - 14:40	V3: Selig		11:30 - 12:10	V9: Rahimi		12:00 - 14:00	*Lunch and Check-Out*
14:40 - 15:20	V4: Samori		12:10 - 12:40	Poster Pitch III		14:00	*Departure*
15:20 - 16:00	V5: Gerhard		12:40 - 14:00	*Lunch*			
16:00 - 16:30	*Break*		14:00 - 14:30	Poster Pitch IV			
16:30 - 17:00	Poster Pitch I		14:30 - 16:00	Poster Session II			
17:00 - 17:30	Poster Pitch II		16:00 - 18:30	*Excursion*			
17:30 - 18:30	*Networking*		19:00 - 20:00	*Dinner*			
18:30 - 19:30	*Dinner*						
19:30 - 21:00	Poster Session I						

Scientific Program

Monday, 26.09.2022

From 10:30	*Arrival*	**Hotel Schützenhof**
Session I	**(Chair: Gregor Witte)**	
10:55 – 11:00	*Welcome*	
11:00 – 11:40	**Arash Rahimi-Iman, University of Giessen** *Entering a Two-Dimensional Materials World with van-der-Waals Semiconductors*	
11:40 – 12:20	**Johanna Heine, University of Marburg** *Synthesis and Structures of Transition Metal Dichalcogenides*	
12:30 – 14:00	*Lunch Break and Registration*	
Session II	**(Chair: Kerstin Volz)**	
14:00 – 14:40	**Malte Selig, TU Berlin** *Optical Properties of Monolayers of Transition Metal Dichalcogenides*	
14:40 – 15:20	**Paolo Samori, University of Strasbourg** *Boosting 2D semiconductors with molecules*	
15:20 – 16:00	**Marina Gerhard, University of Marburg** *Time-resolved optical spectroscopy and its applications to semiconductor heterostructures*	
16:00 – 16:30	*Coffee Break*	

16:30 – 17:00 **Poster Pitch I** **(Chair: Johanna Heine)**

17:00 – 17:30 **Poster Pitch II** **(Chair: Stefan Kachel)**

Networking and discussion (with coffee)

18:30 – 19:30 *Dinner*

19:30 – 21:00 **Poster Session I**

Tuesday, 27.09.2022

Session III **(Chair: Sangam Chatterjee)**

09:00 – 09:40 **Andrey Turchanin, University of Jena**
Heterostructure interfaces of organic and inorganic 2D Materials

09:40 – 10:20 **Robert Wallauer, University of Marburg**
Time-resolved momentum microscopy

10:20 – 11:00 **Malte Selig, TU Berlin**
From Monolayers to Heterobilayers of Transition Metal Dichalcogenides

11:00 – 11:30 *Coffee Break*

Session IV **(Chair: Marina Gerhard)**

11:30 – 12:10 **Arash Rahimi-Iman, University of Giessen**
Optical Properties of TMDC Monolayers, Bilayers, and Heterostructures

12:10 – 12:40 **Poster Pitch III**

12:40 – 14:00 *Lunch Break*

14:00 – 14:30 **Poster Pitch IV** **(Chair: Robert Wallauer)**

14:30 – 16:00 **Poster Session II**

16:00 – 18:30 *Excursion*

19:00 – 20:00 *Dinner*

Wednesday, 28.09.2022

Session V **(Chair: Ulrich Koert)**

09:00 – 09:40 **Roman Forker, University of Jena**
A comprehensive and intuitive classification of epitaxial relations

09:40 – 10:20 **Bernd Beschoten, RWTH Aachen**
Fabrication of twisted TMD heterostructures for valleytronics

10:20 – 11:00 **Robert Wallauer, University of Marburg**
Imaging electron dynamics in TMDs in momentum space

11:00 – 12:00 *Closing remarks*

12:00 – 14:00 *Lunch and Check-out*

14:00 *Departure*

List of Participants

Axt, Marleen	marleen.axt@physik.uni-marburg.de	Uni Marburg
Bertram, Jo	jo.bertram@rwth-aachen.de	RWTH Aachen
Beschoten, Bernd	bernd.beschoten@physik.rwth-aachen.de	RWTH Aachen
Bischof, Daniel	daniel.bischof@physik.uni-marburg.de	Uni Marburg
Bremerich, Alice	alice.bremerich@student.uni-siegen.de	Uni Siegen
Chatterjee, Sangam	sangam.chatterjee@exp1.physik.uni-giessen.de	Uni Gießen
Dombrowski, Pierre-Martin	pierre.dombrowski@physik.uni-marburg.de	Uni Marburg
Dreher, Maximilian	maximilian.dreher@physik.uni-marburg.de	Uni Marburg
Dürr, Michael	michael.duerr@ap.physik.uni-giessen.de	Uni Gießen
Farooqui, Osama	osama_farooqui@hotmail.com	Uni Köln
Forker, Roman	roman.forker@uni-jena.de	Uni Jena
Gerhard, Marina	marina.gerhard@physik.uni-marburg.de	Uni Marburg
Glaser, Timo	timo.glaser@materialwiss.uni-giessen.de	Uni Gießen
Gruber, Felix	felix.gruber@physik.uni-marburg.de	Uni Marburg
Gümbel, Lukas	lukas.guembel@materialwiss.uni-giessen.de	Uni Gießen
Günkel, Robin	guenkelr@staff.uni-marburg.de	Uni Marburg
Heine, Johanna	johanna.heine@chemie.uni-marburg.de	Uni Marburg
Herritsch, Jan	herritsj@staff.uni-marburg.de	Uni Marburg
Hofeditz, Nico	nico.hofeditz@physik.uni-marburg.de	Uni Marburg
Hutter, Mark	m.hutter@fz-juelich.de	FZ Jülich
Hüppe, Franziska	franziska.hueppe@physik.uni-marburg.de	Uni Marburg
Kachel, Stefan	sfb@internal-interfaces.de	Uni Marburg
Kalff, Carolin	carolin.kalff@chemie.uni-marburg.de	Uni Marburg
Kenmogne, Ruth Pessi	pessiken@students.uni-marburg.de	Uni Marburg
Klement, Philip	philip.klement@physik.uni-giessen.de	Uni Gießen
Koert, Ulrich	ulrich.koert@chemie.uni-marburg.de	Uni Marburg
König, Jonas	koenigj5@students.uni-marburg.de	Uni Marburg

Krug, David	krugda@staff.uni-marburg.de	Uni Marburg
Langlotz, Nils	langlotz@students.uni-marburg.de	Uni Marburg
Münster, Florian	florian.muenster@chemie.uni-marburg.de	Uni Marburg
Münster, Lasse	lasse.muenster@physik.uni-marburg.de	Uni Marburg
Muth, Dominik	dominik.muth2@physik.uni-marburg.de	Uni Marburg
Neuhaus, Leonard	leonard.neuhaus@chemie.uni-marburg.de	Uni Marburg
Nouh, Mohammed	mohammed.nouh@physik.uni-marburg.de	Uni Marburg
Ojaghi, Badrosadat	Ojaghido@students.uni-marburg.de	Uni Marburg
Picker, Julian	julian.picker@uni-jena.de	Uni Jena
Priya, Ravi	priya@staff.uni-marburg.de	Uni Marburg
Radiev, Yurii	radievy@staff.uni-marburg.de	Uni Marburg
Rahimi-Iman, Arash	arash.rahimi-iman@exp1.physik.uni-giessen.de	JLU Gießen
Reisner, Veronika	v.reisner@physik.uni-muenchen.de	LMU München
Ruppenthal, Lukas	lukas.ruppenthal@chemie.uni-marburg.de	Uni Marburg
Ruppenthal, Silvana	silvana.ruppenthal@chemie.uni-marburg.de	Uni Marburg
Samori, Paolo	samori@unistra.fr	Uni Straßburg
Scharf, Dominik	dominik.scharf@chemie.uni-marburg.de	Uni Marburg
Schmalz, Veronika	schmalzv@staff.uni-marburg.de	Uni Marburg
Schmidt, Ole	schmid4p@students.uni-marburg.de	Uni Marburg
Selig, Malte	malte.selig@tu-berlin.de	TU Berlin
Stettner, Monja	m.stettner@fz-juelich.de	FZ Jülich
Turchanin, Andrey	andrey.turchanin@uni-jena.de	Uni Jena
Volz, Kerstin	volz@staff.uni-marburg.de	Uni Marburg
Wallauer, Robert	robert.wallauer@physik.uni-marburg.de	Uni Marburg
Weiske, Hendrik	hendrik.weiske@uni-leipzig.de	Uni Leipzig
Witte, Gregor	gregor.witte@physik.uni-marburg.de	Uni Marburg
Yang, Meng	yangmen@staff.uni-marburg.de	Uni Marburg
Zajusch, Sarah	sarah.zajusch@physik.uni-marburg.de	Uni Marburg
Zoltner, Kassandra	Zoltner@students.uni-marburg.de	Uni Marburg