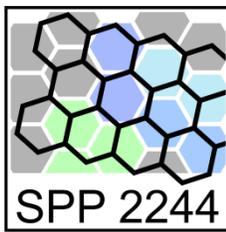


SPP 2244

The SPP Website

The 2dmp website



2D Materials – Physics of van der Waals [hetero]structures

DFG Priority program 2244



Scientific Overview

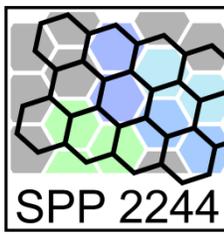
News 

Two-dimensional (2D) materials are crystals with a thickness of only one or very few atoms. After the discovery of graphene, the most prominent representative of this class of materials, many other 2D crystals have been identified, often with intriguing properties that have no counterparts in three-dimensional solids.

Furthermore, stacking 2D crystals in a well-defined manner can result in new states of matter, even if the individual layers are only weakly bound by van der Waals (vdW) interaction. The most striking example, published in 2018, is the transformation of bilayer graphene into a superconductor if the layers are twisted by a “magic angle” of about 1.1 degree. Such a delicate structure manipulation has become possible thanks to the massive research efforts in graphene-related materials, and opens the door to the investigation of phase transitions imposed by the so-called proximity effect, for example between Mott insulator and

Website: news

- News tab, also reachable from landing page
- Important information for all SPP members



TECHNISCHE UNIVERSITÄT DRESDEN 2DMP

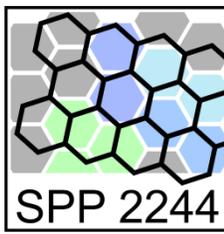
Home Projects Events Webcasts Publications & Outreach Contact

Kickoff Meeting (October 12/13): schedule and online attendance
published on 2020-10-08
You can now find the latest schedule and information regarding streaming for remote participants on our website!

Latest update from DFG
published on 2020-08-26
Decision letters are expected for the mid of September 2020. Projects can start as soon as the decision letters are sent.

DFG selected 20 research projects with 38 PI, funding tentatively starting on Sep 1, 2020.
published on 2020-04-15
DFG selected 20 research projects with 38 PI for funding. In addition, four groups are associated to SPP 2244. The first funding period is scheduled to start on Sep 1, 2020.

Website: projects



- List of all projects
- Details:
 - Abstract
 - Contact
 - Website

TECHNISCHE UNIVERSITÄT DRESDEN 2DMP

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2D Materials – Physics of van der Waals [hetero]structures
DFG Priority program 2244

Scientific Projects

- **Artificial multiferroic van der Waals heterostructures**
Stuart Parkin (MPI Halle)
- **Atomistic theory of excited states in van der Waals heterostructures: Moiré confinement strain and electric field effect**
Gabriel Bester (Universität Hamburg)
- **Chasing polaritons: A pathway to investigate the optoelectronic properties of van der Waals heterostructures**
Patrik Kusch (FU Berlin), Stephanie Reich (FU Berlin)
- **Compressive strain in stacked 2D materials: from proximity to metastable hybridization**
Roland Bennewitz (Leibniz INM)
- **Correlated miniband and multivalley physics in twisted transition metal dichalcogenides**
Tim Wehling (Universität Bremen), Ursula Wurstbauer (University of Münster)
- **Electronic control of spin-orbit and magnetic exchange coupling in graphene vdW-heterostructures (SOControl)**
Christoph Kastl (TU Munich), Marko Burghard (MPI FKF), Alexander Holleitner (TU Munich)
- **Interlayer excitons in advanced. CVD-based van der Waals heterostructures with controlled moiré wavelenath**

Website: events

- Past events
- Upcoming events
- Details on subpages!



The screenshot shows the website header for '2D Materials – Physics of van der Waals [hetero]structures', a DFG Priority program 2244. The header includes the logo of Technische Universität Dresden, the acronym '2DMP', and navigation icons for home, calendar, chat, email, and social media. Below the header is a navigation bar with links for Home, Projects, Events (circled in red), Webcasts, Publications & Outreach, and Contact. The main content area is divided into two sections: 'Upcoming Events' and 'Past Events'. The 'Upcoming Events' section lists a 'Kickoff meeting' on October 12/13, 2020, in Erfurt. The 'Past Events' section lists a 'Review Colloquium' from February 26 to 28, 2020, and a 'Networking symposium' from September 12 to 13, 2019.

TECHNISCHE UNIVERSITÄT DRESDEN 2DMP

Home Projects **Events** Webcasts Publications & Outreach Contact

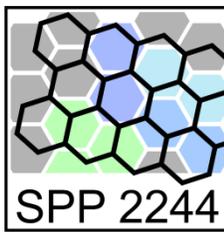
Upcoming Events

- **Kickoff meeting:** October 12/13 2020 in Erfurt.

Past Events

- **Review Colloquium:** DFG review colloquium at Physikzentrum Bad Honnef, Feb 26 2020, 6pm to Feb 28 2020, 2pm
- **Networking symposium:** Preparatory colloquium at IFW Dresden, September 12 2019, 2 pm - September 13 2019, 3 pm

Website: talks and webcasts



- Please send information about talks, seminars and webcasts within and related to the SPP to the office
- Announce on website
- Share link with SPP members

TECHNISCHE UNIVERSITÄT DRESDEN 2DMP

2D Materials – Physics of van der Waals [hetero]structures
DFG Priority program 2244

Home Projects Events **Webcasts** Publications & Outreach Contact

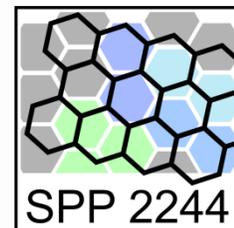
Webcasts

Title: Kickoff Meeting Erfurt, day 2
Speaker: Thomas Heine
Time & Link: 13.10.2020 09:00, **Public webcast** (Password: 2DM+Phys)
More info: [Schedule](#)

Title: Kickoff Meeting Erfurt, day 1
Speaker: Thomas Heine
Time & Link: 12.10.2020 13:00, **Public webcast** (Password: 2DM+Phys)
More info: [Schedule](#)

Title: Condensation signatures and multi-valley physics of excitons in van-der-Waals hetero-bilayers
Speaker: Ursula Wurstbauer
Time & Link: 09.04.2020 10:15, **Public webcast** (Password: wurstbauer)

Website: Publications



- Publications related to SPP on website
- Please send to office:
 - Publications (DOI)
 - Preprints
 - Articles in other media
- Send info when published

TECHNISCHE UNIVERSITÄT DRESDEN 2DMP

2D Materials – Physics of van der Waals [hetero]structures
DFG Priority program 2244

Home Projects Events Webcasts **Publications & Outreach** Contact

Publications

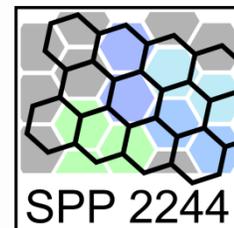
- **Making 2D topological polymers a reality**
Y. Jing, T. Heine
Nat. Mater. (2020) DOI: 10.1038/s41563-020-0690-z

Preprints

In the Media

- **When predictions of theoretical chemists become reality** (TUD Press release at Phys.Org, 22.05.2020)
In a *Nature Materials* News and Views article, "Making 2-D Topological Polymers a reality", Prof. Heine describes how his theoretical predictions made in 2019 about topological 2-D polymers became an experimental reality recently.
- **Priority Programme "2D Materials – Physics of van der Waals [hetero]structures (2DMP)" (SPP 2244) established** (DFG Press release, *Information für die Wissenschaft* Nr. 39, 07.06.2019)
In 2019 the Senate of the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) established the Priority Programme "2D Materials – Physics of van der Waals [hetero]structures (2DMP)" (SPP 2244).

Website: office contact



- SPP 2244 office
- Contact details
 - E-Mail
 - Phone
- Programme contact at DFG

TECHNISCHE UNIVERSITÄT DRESDEN 2DMP

Home Projects Events Webcasts Publications & Outreach **Contact**

SPP 2244

2D Materials – Physics of van der Waals [hetero]structures
DFG Priority program 2244

SPP 2244 Office

Administrative Contact



Mr. Florian Arnold

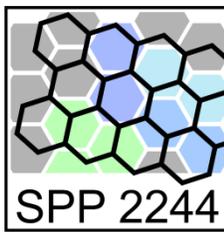
Scientific Contact / Coordinator



Prof. Dr. Thomas Heine

Technische Universität Dresden
School of Science
Faculty of Chemistry and Food Chemistry
Theoretical Chemistry
01062 Dresden

Website: additional features



From left to right:

- Back to front page
- News
- Forum → Mattermost
- Contact
- Twitter

TECHNISCHE UNIVERSITÄT DRESDEN 2DMP

SPP 2244

2D Materials – Physics of van der Waals [hetero]structures

DFG Priority program 2244

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Scientific Overview

News

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Programme Committee