

# Program

## Sunday, November 19, 2017

17:00 – 21:00 Registration

from 18:30 *BUFFET SUPPER / Informal get together*

## Monday, November 20, 2017

08:00 BREAKFAST

08:45 – 09:00 Scientific organizers **Opening and welcome**

### **Technical Advances in Scanning Probes**

09:00 – 09:45 Christian Bobisch **Probing electron transport with atomic scale precision**

09:45 – 10:30 Guillaume Schull **STM-induced light emission: From molecular LED to subnanometric optical microscopy**

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Alexander Weismann **Shot noise spectroscopy of single magnetic atoms using a STM**

11:45 – 12:30 Alexander Weber-Bargioni **Defect mediated material properties of 2-D Transition Metal Dichalcogenides studied by correlating morphology and electronic structure with atomic resolution**

12:30 **Conference Photo** (in the foyer of the lecture hall)

12:35 *LUNCH*

# Program

**Monday, November 20, 2017**

## **Nanomagnetism and Nanoelectronics**

- |               |   |  |
|---------------|---|--|
| 14:00 – 14:45 | Pascal Ruffieux   | <b>Designed electronic properties in graphene nanoribbon heterostructures</b>            |
| 14:45 – 15:30 | Stefan Fölsch   | <b>Quantum dots created by atom manipulation with the scanning tunneling microscope</b>  |
| 15:30 – 16:00 | COFFEE BREAK  |  |
| 16:00 – 16:45 | Fabio Donati  | <b>Magnetic remanence in single rare earth atoms</b>                                     |
| 16:45 – 17:30 | Samir Lounis  | <b>Dynamical spin excitations in nanoscale magnets: From single adatoms to skyrmions</b> |
| 17:30 – 18:15 | Markus Ternes   | <b>Engineering spin and correlations with an atomically precise probe</b>                |
| 18:30         | <i>DINNER</i>   |  |
| 20:00 – 21:30 | <b>60 second flash poster presentation /<br/>Poster session I</b> |  |

# Program

**Tuesday, November 21, 2017**

08:00            *BREAKFAST*

## **Topological and Exotic Materials**

09:00 – 09:45    Steffen Wirth            **STM view on strongly correlated  
electron systems: From heavy  
fermions metals to Kondo insulators**

09:45 – 10:30    Markus Morgenstern    **Sub-nm probing of topological  
insulators and Rashba systems**

10:30 – 11:00    *COFFEE BREAK*

11:00 – 11:45    Paolo Sessi            **Visualizing universal trends in  
topological materials interacting with  
functional perturbations**

11:45 – 12:30    Vidya Madhavan        **Measuring the electron-boson  
coupling with scanning tunneling  
microscopy**

12:30            *LUNCH*

13:45 – 18:30    **Excursion**

Guided tour at the Arp Museum Bahnhof Rolandseck

19:00            *HERAEUS DINNER*  
*(cold & warm buffet, free beverages)*

# Program

Wednesday, November 22, 2017

08:00            *BREAKFAST*

## **2D Materials**

09:00 – 09:45    Dimas de Oteyza

**Tuning graphene nanoribbons  
properties towards functional  
molecular devices**

09:45 – 10:30    Thomas Frederiksen

**Multi-terminal transport simulations  
and electron beam splitting with  
crossed graphene nanoribbons**

10:30 – 11:00    *COFFEE BREAK*

11:00 – 11:45    Peter Liljeroth

**Metal-semiconductor graphene  
nanoribbon heterojunctions**

11:45 – 12:30    Willi Auwärter

**Interfaces of functional molecules with  
2D materials**

12:30            *LUNCH*

# Program

Wednesday, November 22, 2017

## **Magnetism and Superconductivity**

- 14:00 – 14:45 Annica Black-Schaffer **Magnetic impurities in spin-orbit coupled superconductors**
- 14:45 – 15:30 Katharina Franke **Single magnetic adatoms and coupled spin chains on superconducting Pb**
- 15:30 – 16:00 *COFFEE BREAK*
- 16:00 – 16:45 Tristan Cren **Topological superconductivity and Majorana fermions in a superconducting-ferromagnetic hybrid system**
- 16:45 – 17:30 Jonas Fransson **What's picked up by the current passing a magnetic adatom?**
- 17:30 – 18:15 Deung Jang Choi **Magnetic interactions on superconducting surfaces**
- 18:15 – 18:30 Stefan Jorda **The Wilhelm and Else Heraeus Foundation**
- 18:45 *DINNER*
- 20:00 – 21:30 **Poster Session II**

# Program

**Thursday, November 23, 2017**

08:00            *BREAKFAST*

## **Molecules**

09:00 – 09:45    Nadine Hauptmann            **Sensing skyrmions at the atomic scale  
combining magnetic exchange and  
spin-polarized imaging**

09:45 – 10:30    Maciej Bazarnik                **Spin-polarized tunneling to metal-  
organic complexes adsorbed on  
surfaces**

10:30 – 11:00    *COFFEE BREAK*

11:00 – 11:45    Sabine Maier                    **On-surface synthesis and electronic  
properties of molecular networks**

11:45 – 12:30    Ruslan Temirov                **Single-molecule quantum dots in the  
NC-AFM junction: Fabrication,  
properties, functions**

12:30 – 12:45    Scientific organizers            **Final discussion, poster awards and  
closing remarks**

12:45            *LUNCH*

***End of the seminar and FAREWELL COFFEE / Departure***

*Please note that there will be **no** dinner at the Physikzentrum on Thursday evening for participants leaving the next morning.*