



GÖTEBORG  
UNIVERSITY



CHALMERS

## Workshop registration

The registration fee is 800 skr and includes

- Conference fee
- Dinner
- Lunch & Coffee

To register, please contact Maria Siirak  
[maria.siirak@physics.gu.se](mailto:maria.siirak@physics.gu.se)

## Workshop place

Origo building

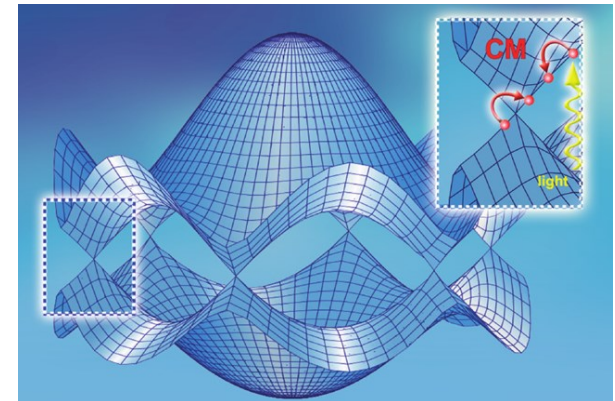
PJ room

Chalmers University of Technology

Fysikgården 1, 412 58 Göteborg, Sweden



# International workshop on Many-body phenomena in graphene



## Organization

Bo Helsing (University of Gothenburg)  
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Gothenburg, Sweden,

October 26-27, 2015

Gothenburg Centre for Advanced Studies  
in Science and Technology

The continuing trend to miniaturization of devices in modern technology reaches the fundamental physical limits of current materials. The search for novel structures with new functionalities has brought graphene into the focus of research.

The goal of workshop is to bring researchers within the Gotheburg Center of Physics and some selected leading international scientist to a smaller scale meeting with focus on further understanding of many-body phenomena in graphene and how to utilize these for future applications. The intention is to have a mix of theory and experimental researchers with the aim to initiate promising collaborations.

#### Topics of the workshop:

- ⇒ **Non-equilibrium dynamics**
- ⇒ **Optics**
- ⇒ **Transport**
- ⇒ **Many-particle interactions**
- ⇒ **Experimental tools**
  - ARPES
  - Pump-Probe spectroscopy
  - Photoluminescence
- ⇒ **Theoretical methods**
  - Density functional theory
  - Density matrix theory

#### Program

##### Monday, October 26, 2015

- 13:30 **Opening (Bo Hellsing)**
- 13:45 **Jari Kinaret (Chalmers University)**  
Graphene and the Graphene Flagship
- 14:15 **Philip Hofman (Aarhus University)**  
Electronic Structure and Electron Dynamics in Two-Dimensional Materials
- 15:00 **Thomas Frederiksen (Donostia International Physics Center, San Sebastian)**  
Atomic-scale electrical contacts to sp<sup>2</sup> carbon-STM experiments and transport simulations of single-C60 junctions
- 15:45 **Coffee break**
- 16.15 **Rudolph Bratschitsch (University of Münster)**  
Atomically thin transition metal dichalcogenides light up
- 17:00 **Saroj Prasad Dash (Chalmers)**  
Spintronics with two-dimensional materials and heterostructures
- 19:00 **Dinner**  
Fish restaurant Sjöbaren (Haga Hygata 25)

#### Program

##### Tuesday, October 27, 2015

- 9:00 **Stephan Winnerl (Helmholtz-Zentrum Dresden-Rossendorf)**  
Coulomb scattering in the vicinity of the Dirac point in graphene
- 9:45 **Florian Wendler (TU Berlin)**  
Microscopic modelling of carrier dynamics in Landau-quantized graphene with a focus on Auger scattering
- 10:30 **Coffee break**
- 11:00 **Tim Wehling (University of Bremen)**  
From optics to superconductivity: Coulomb interactions in two-dimensional materials
- 11:45 **Paul Erhart (Chalmers University)**  
Microscopic Origin of Thermal Conductivity Reduction in Disordered van der Waals Solids
- 12.30 **Lunch**  
Kårrestraurangen (Chalmers Campus)
- 14:00 **Justin Wells (Norwegian University of Science and Technology)**  
Towards design of 2D materials
- 14:45 **Craig Polley (Lund University)**  
Growth and ARPES studies of topological crystalline insulator films
- 15:30 **Closing (Ermin Malic)**