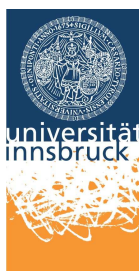


Der Wissenschaftsfonds.



**RESEARCH CONFERENCES**

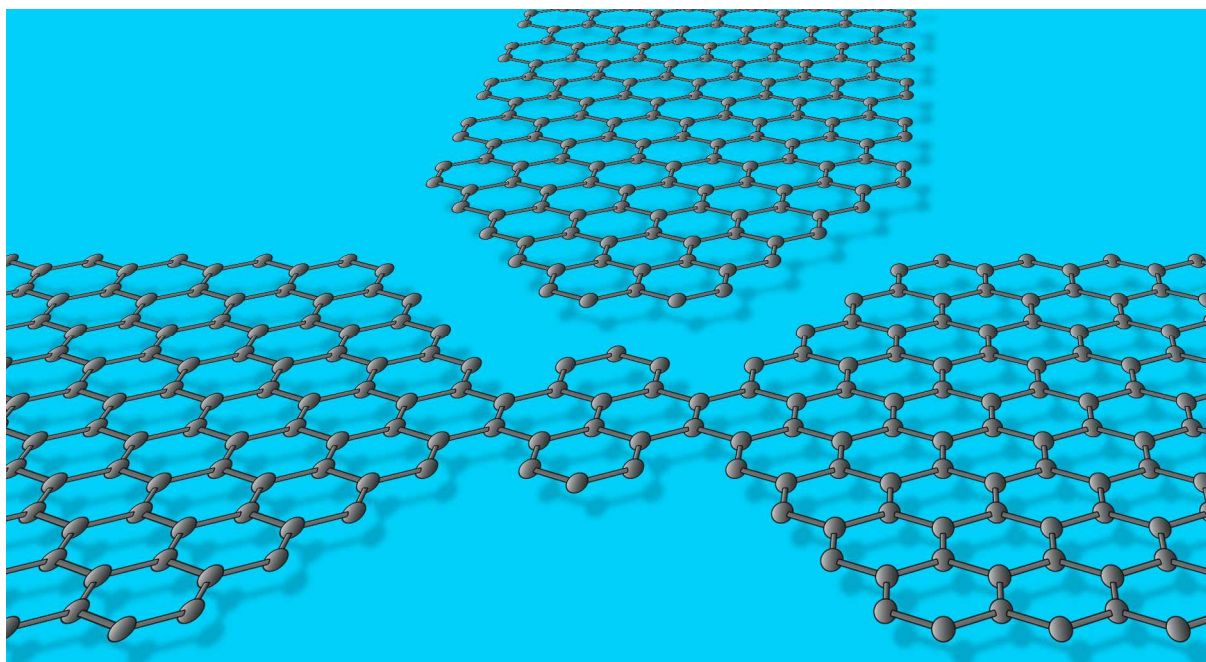
ESF-FWF Conference in Partnership with LFUI

# Graphene Week 2009

Universitätszentrum Obergurgl (Ötz Valley, near Innsbruck) • Austria  
2 - 7 March 2009

**Chair:** Vladimir Falko, Lancaster University, UK  
**Co-Chairs:** Andre Geim, University of Manchester, UK  
Allan MacDonald, University of Texas, Austin, US

[www.esf.org/conferences/09262](http://www.esf.org/conferences/09262)



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# Programme

## Monday 2 March

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from 16.00	Registration at the ESF-RC desk
19.00-20.30	Welcome & dinner
20.30	Conference Opening and Chairs' Welcome

## Tuesday 3 March

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### Session 'Graphene Properties I'

Chair: Laurence Magaud, CNRS

08.30-09.15 (invited)	<b>Michael Crommie</b> Berkley University, US <i>Probing the Electronic Properties of Gated Graphene Flakes at the Atomic Scale</i>
09.15-09.40	<b>Valeria Russo</b> Polytechnic Milan, IT <i>Towards graphene epitaxy on Si</i>
09.40-10.05	<b>Barbaros Ozyilmaz</b> National Unviversity of Singapore, SG <i>Gate controlled non-volatile memory devices using graphene and ferroelectric thin films</i>
10:05-10.30	<b>Frank Schwierz</b> Technical University Ilmenau, DE <i>Graphene Transistors - Prospects and Problems</i>
10.30-11.00	Coffee break

### Session 'Quantum Transport I'

Chair: Michael Fogler, University of California San Diego

11.00-11.25	<b>Andrea Young</b> Columbia University, US <i>Transport in Graphene Heterostructures</i>
11:25-11:50 (invited)	<b>Hideo Aoki</b> University of Tokyo, JP <i>Photo-induced Hall Effect in Graphene</i>
11:50-12:15	<b>James Williams</b> Harvard University, US <i>Experiments on Graphene P-N Junctions</i>
12:15-13:00	<b>Lieven Vandesypen</b> TU Delft, BE <i>Confining Dirac Electrons in Graphene</i>

13:00-14:00	Lunch
14:00-16.30	Discussions
16.30-17.00	Coffee break

## Session 'Graphene on SiC I'

Chair: Jacek Baranowsky, University of Warsaw

17.00-17.45 (invited)	<b>Thomas Seyller</b> University of Erlangen-Nürnberg, DE <i>Electronic and structural properties of epitaxial graphene on SiC</i>
17.45-18.10	<b>Alexander Grüneis</b> University of Vienna, AT <i>Electronic properties of pristine and doped graphene layers from angle-resolved photoemission spectroscopy</i>
18.10-18:35	<b>Yuriy Dedkov</b> Fritz-Haber-Institut der Max-Planck-Gesellschaft, DE <i>Graphene/Ni(111) System: Spin- and Angle-Resolved Photoemission Studies</i>
18:35-20:00	Dinner
20.00-21.30	Poster session I

## Wednesday 4 March

## Session 'Quantum Transport II'

Chair: Klaus Ensslin, ETH

08.30-09.15 (invited)	<b>Tony Heinz</b> Columbia University, US <i>Optical Spectroscopy of Graphene</i>
09.15-09.40	<b>Pertti Hakonen</b> Helsinki University of Technology, FI <i>Coherence and noise in graphene samples with superconducting contacts</i>
09.40-10.05	<b>Françoise Molitor</b> ETH Zurich, CH <i>Transport gap in side-gated graphene constrictions</i>
10:05-10.30	<b>Jeroen Oostinga</b> University of Geneva, CH <i>The insulating state of graphene nanoribbons</i>
10.30-11.00	Coffee break

## Session 'Graphene Properties II'

Chair: Yasuhiro Hatsugai, University of Tsukuba

- 11.00-11.25      **Thomas Szkopek**  
McGill University, CA  
*Optical Conductivity Measurements of Graphene on Glass*
- 11:25-11:50      **Tscaba Toke**  
Lancaster University, UK  
*The reduction of the Lifshitz transition density in graphene bilayers due to many-body effects*
- 11.50-12:15      **Marco Polini**  
NEST-CNR-INFM and Scuola Normale Superiore, IT  
*Drude weight, plasmon dispersion, and pseudospin response in doped graphene sheets*
- 12.15-13.00      **Antonio Castro Neto**  
Boston University, US  
*All-graphene integrated circuits from strain engineering*
- 13:00-14:00      Lunch
- 14:00-16.30      Discussions
- 16.30-17.00      Coffee break

## Session 'Graphene on SiC II'

Chair: Thomas Pichler, University of Vienna

- 17.00-17.45 (invited)      **Phillip First**  
Georgia Institute of Technology, US  
*Tunneling Spectroscopies of Epitaxial Graphenes*
- 17.45-18.30 (invited)      **Marek Potemski**  
Centre National de la Recherche Scientifique, FR  
*Electronic properties of graphitic layers: Magnetic field studies*
- 18:30-20:00      Dinner

## Session 'Graphene Optics'

Chair: Thomas Szkopek, McGill University

- 20.00-20:45 (invited)      **Andrea Carlo Ferrari**  
University of Cambridge, UK  
*Strain, doping, disorder in graphene by Raman Spectroscopy*

20:45-21.30 (invited)

**Denis Basko**

University Joseph Fourier and CNRS, FR

*Theory of Multiphonon Raman Scattering in Graphene*

## **Thursday 5 March**

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### **Session 'Graphene Properties & Devices I'**

**Chair: Karsten Horn, Fritz Haber Institute**

08.30-09.15 (invited)

**George Flynn**

Columbia University, US

*Graphene Chemistry and Structure: An STM View*

09.15-09.40

**Ulrich Starke**

Max-Planck-Institut fuer Festkoerperforschung, DE

*Growth, characterization, molecular doping and bandstructure engineering of epitaxial graphene on SiC(0001)*

09.40-10.05

**Heiko Weber**

University of Erlangen-Nuremberg, DE

*Transport properties of epitaxially grown graphene layers*

10:05-10.30

**Juergen Schaefer**

Technische Universitaet Ilmenau, DE

*Growth and analysis of graphene on different nickel substrate surfaces*

10.30-11.00

Coffee break

### **Session 'Graphene Properties III'**

**Chair: Marco Polini NEST-CNR-INFN and Scuola Normale Superiore**

11.00-11.25

**Yasuhiro Hatsugai**

University of Tsukuba, JP

*Topological aspects of the  $n=0$  Landau level in graphene : chiral symmetry and Hall plateau transition*

11.25-11.50

**Mark Oliver Goerbig**

University Paris-Sud, CNRS, FR

*Tilted Dirac Cones in Graphene and 2D Organic Material*

11:50-12:15

**Michael Fogler**

University of California San Diego, US

*Graphene nanoribbons in crossed electric and magnetic fields*

12:15-13:00 (invited)

**Alexander Balandin**

University of California, Riverside, US

*Thermal Conductivity of Graphene*

13:00-14:00

Lunch

14:00-16.30                      Discussions  
16.30-17.00                      Coffee break

## Session 'Graphene Nanostructures I'

Chair: Alex Savchenko, University of Exeter

17.00-17.45 (invited)        **Scott Bunch**  
University of Colorado at Boulder, US  
*Impermeable Atomic Membranes from Graphene Sheets*

17.45-18.10                      **Marcus Liebmann**  
RWTH Aachen University, DE  
*Oscillating nanomembranes within a monolayer of graphene probed by STM*

18.10-18:35                      **Chuhei Oshima**  
Waseda University, JP  
*Self-standing graphene sheets fabricated by a CVD growing technique*

18:35-20:00                      Dinner

20.00-21.30                      **Poster session II**

## Friday 6 March

## Session 'Quantum Transport III'

Chair: Pertti Hakonen, Helsinki University of Technology

08.30-09.15 (invited)        **Kostantyn Kechedzhi**  
University of Lancaster  
*Weak localisation and mesoscopics in GraFETs*

09.15-09.40                      **Alex Savchenko**  
University of Exeter, UK  
*Quantum Interference in Graphene Structures*

09.40-10.05                      **Jonathan Eroms**  
University of Regensburg, DE  
*Weak Localization and Transport Gap in Graphene Antidot Lattices*

10.05-10.30                      **Lian Li**  
University of Wisconsin, US  
*Interface structure of epitaxial graphene on SiC(0001)*

10.30-11.00                      Coffee break

## Session 'Graphene Properties IV'

Chair: Chuhei Oshima, Waseda University

- 11:00-11:25                      **Saverio Russo**  
University of Tokyo  
*Double-gate few-layer graphene devices*
- 11.25-11.50                      **Laurence Magaud**  
CNRS, FR  
*Structural and electronic properties of epitaxial graphene on SiC surfaces from ab initio calculations*
- 11.50-12:15                      **Henning Schomerus**  
Lancaster University, UK  
*Adsorbate-limited conductivity of grapheme*
- 12:15-13:00 (invited)        **Tapash Chakraborty**  
University of Manitoba, CA  
*Electronic properties of graphene in the presence of foreign molecules*
- 13:00 -14:00                      Lunch
- 14:00-16.30                      Discussions
- 16.30-17.00                      Coffee break

## Session 'Graphene Properties & Devices II'

Chair: Ulrich Starke, Max-Planck-Institut fuer Festkoerperforschung

- 17.00-17.45 (invited)        **Kostya Novoselov**  
University of Manchester, UK  
*Graphene and its chemical derivatives*
- 17.45-18.30 (invited)        **Chung Ning Lau**  
University of California, Riverside, US  
*Graphene Quantum Electronics*
- 18:30-19:15 (invited)        **Klaus Ensslin**  
ETH Zurich, CH  
*Graphene Constrictions and Quantum Dots*
- 19:15-19:30                      Closing
- 19:30                                Conference dinner

### **Saturday 7 March**

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- 09:30                                Buses departure to Munich and Innsbruck Airports

## Poster Sessions

Please note that posters will be presented on March 3 and 5. Participants presenting a poster have been divided in two groups. Poster Session I will take place on March 3, Poster Session II on March 5. Participants will hang their poster following their assigned number - please refer to the following lists.  
Thank you.

### Poster Session I

1	Abergel	David	Long range Coulomb interaction in bilayer graphene
2	Baranowski	Jacek	Defects in Epitaxial Graphene
3	Barreiro	Amelia	Ultra-high electron current through graphene devices and its application
4	Barroso	Fabienne	Adsorption phenomenon in graphite oxide
5	Benjamin	Colin	Graphene Josephson Qubit
6	Bennaceur	Keyan	Hall resistance plateaus in high quality Graphene samples at large currents
7	Bistritzer	Rafi	High Tc superfluidity in bilayer graphene
8	Borghi	Giovanni	Four-band RPA theory of exchange and correlation effects in bilayer graphene
9	Borini	Stefano	Quantitative optical contrast analysis for the assessment of graphene quality
10	Borysiuk	Jolanta	High-resolution transmission electron microscopy (HRTEM) simulations of graphene layers on 4H-SiC (0001) surface
11	Camara	Nicolas	Very Large Graphene Monolayer Grown on SiC
12	Cano	Andres	Koshino-Taylor effect in graphene
13	Castro	Eduardo	Gaped bilayer graphene in the Hartree-Fock approximation
14	Cresti	Alessandro	Current manipulation in graphene nanoribbons
15	Danneau	Romain	Shot noise in etched graphene nanoribbons
16	Droescher	Susanne	Local oxidation of graphene
17	Drut	Joachim	The semimetal-insulator transition in graphene.
18	Fisher	Andrea	Collective Excitations in Graphene in a Magnetic Field
19	Fuchs	Jean-Noël	Collective excitations of doped graphene in a strong magnetic field
20	Gava	Paola	Band gap opening on doped bilayer graphene by ab-initio calculations
21	Gorbachev	Roman	Electron transport in p-n-p graphene structures with 'air-bridge' top gates
22	Güttinger	Johannes	Graphene Quantum Dots in Magnetic Fields
23	Haugen	Håvard	Superconducting transport properties of a three-terminal kink-junction in graphene
24	Khomyakov	Petr	Nonlinear screening of charges induced by metal contacts in graphene
25	Kölbl	Dominikus	Fabrication of side-gated graphene quantum dots
26	Krauss	Benjamin	Laser-induced disassembly of a graphene single crystal into a nano-crystalline network
27	Lahde	Timo Arvid	Lattice Monte Carlo studies of quantum critical phenomena in graphene.
28	Lazzeri	Michele	Structure, Stability, Edge States and Aromaticity of Graphene Ribbons
29	Leenaerts	Ortwin	Graphene: a perfect nanoballoon
30	Liu	Xing Lan	Coulomb blockade in graphene nano-ribbons



## Poster Session II

1	Lohmann	Timm	4-terminal transport in chemically doped graphene pn-junctions
2	Lombardo	Antonio	Graphene Nanoribbons by Nanowire Lithography
3	Lüdtke	Thomas	Transport in decoupled graphene layers
4	Mucha-Kruczynski	Marcin	Theory of ARPES and magnetooptical measurements of bilayer graphene grown on SiC
5	Nemec	Norbert	Ab initio Quantum Monte Carlo study of interlayer binding in graphitic nanostructures
6	Norimatsu	Wataru	Transmission electron microscope observation of the interface between graphene and 6H-SiC (0001)
7	Ojeda	Claudia	Tuning the proximity effect in graphene
8	Pichler	Thomas	Pristine and intercalated graphite revisited: A key to graphene
9	Raineri	Vittorio	Nanoscale capacitive behaviour of graphene on SiO <sub>2</sub>
10	Van De Ruit	Kevin	Epitaxial graphene: a correlated system?
11	Russo	Saverio	Tunable band structure in double gated trilayer graphene
12	Ryzhii	Maxim	Graphene-based terahertz lasers and detectors: Physics and feasibility of realization
13	Schmidmeier	Silvia	Transport measurements in width modulated graphene nanoribbons
14	Schomerus	Henning	Pseudospintronics in bilayer graphene
15	Soldano	Caterina	Resist-free approach for contacting graphene and few-layer graphene
16	Stoeberl	Ulrich	Graphene on various substrates
17	Stoehr	Rainer	The non-linear optical properties of single and multilayer graphene
18	Teweldebrhan	Desalegne	Electron-Beam Irradiation Damage of Graphene and Graphene Devices
19	Tworzydło	Jakub	Finite difference method for transport properties of massless Dirac fermions
20	Van Der Veen	Marleen Helena	Controlled thinning of few-layer graphite to graphene
21	Veligura	Alina	Building a molecular detector with graphene
22	Wang	Jun	Broadband Nonlinear Optical Response of Graphene Dispersions
23	Wehling	Tim Oliver	Adsorbates on graphene: Impurity states and electron scattering
24	Widenkvist	Erika	Fabrication of graphene by bromine-intercalation and sonochemical exfoliation
25	Williams	James	Quantum Hall Effect in Two-Terminal Graphene Devices
26	Wirtz	Ludger	Electron-phonon coupling in graphene within the GW-approximation
27	Wurstbauer	Ursula	Magnetotransport on evenly curved graphene and thin graphite
28	Young	Andrea	Quantum transport and Klein tunneling in graphene heterojunctions
29	Yu	Ting	Engineering band structure of graphene by chemical decoration
30	Yutsis	Ilan	Thermopower measurements on single layer graphene