

# EDISON'19

## Final Program

<b>28 June 2015, Sunday</b> .....	<b>1</b>
<b>29 June 2015, Monday</b> .....	<b>2</b>
Session Mo 0: OPENING / PLENARY SESSION .....	2
Session Mo I: GRAPHENE I .....	2
Session Mo II: GRAPHENE DEVICES .....	3
Session Mo III.A: TERAHERTZ .....	3
Session Mo III.B: SPINTRONICS .....	4
<b>30 June 2015, Tuesday</b> .....	<b>5</b>
Session Tu I: ULTRAFAST OPTICAL PHENOMENA.....	5
Session Tu II: THz SPECTROSCOPY.....	6
Session Tu III: CARRIER DYNAMICS IN ENERGY CONVERSION .....	6
<b>1 July 2015, Wednesday</b> .....	<b>7</b>
Session Wed I: NOVEL MATERIALS AND DEVICES .....	7
Session Wed II: GRAPHENE II .....	8
Session Wed III.A: QUANTUM COMPUTING .....	9
Session Wed III.B: THERMAL TRANSPORT.....	9
<b>2 July 2015, Thursday</b> .....	<b>10</b>
Session Thu I: 2D FUNCTIONAL MATERIALS.....	10
Session Thu II: NON-EQUILIBRIUM CARRIER DYNAMICS – EXPERIMENTAL.....	11
Session Thu III: NON-EQUILIBRIUM CARRIER DYNAMICS – MODELLING.....	11
Session Thu IV: BIOELECTRONICS.....	12
<b>POSTER SESSIONS</b> .....	<b>12</b>
Poster Session Mo P.....	12
Poster Session Wed P.....	15

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### 28 June 2015, Sunday

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19:00-20:30

REGISTRATION (*Hospedería Fonseca*)

20:00

WELCOME RECEPTION (*Hospedería Fonseca—English Courtyard*)

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## 29 June 2015, Monday

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8:15-9:00 REGISTRATION (*Hospedería Fonseca*)

**Auditorio**

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### Session Mo 0: OPENING / PLENARY SESSION

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*Chairperson: C. Jacoboni (University of Modena, Italy)*

9:00-9:15 OPENING

- Mo 0-1** 9:15-9:45 **Invited talk**  
M. Heiblum  
*Weizmann Institute of Science, Israel.*  
Robust electron pairing in the integer quantum Hall effect regime
- Mo 0-2** 9:45-10:15 **Invited talk**  
R. Miranda  
*IMDEA-Nanociencia and Universidad Autónoma de Madrid, Spain.*  
Tailoring graphene for spintronics

10:15-10:45 *Coffee Break*

**Auditorio**

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### Session Mo I: GRAPHENE I

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*Chairperson: L. Eaves (University of Nottingham, U. K.)*

- Mo I-1** 10:45-11:00  
D. K. Ferry  
*Arizona State University, U.S.A.*  
Plasmon induced energy relaxation of hot carriers in graphene
- Mo I-2** 11:00-11.15  
H. Ramamoorthy<sup>1</sup>, R. Somphonsane<sup>2</sup>, J. Radice<sup>1</sup>, and J. P. Bird<sup>1</sup>  
<sup>1</sup>*University at Buffalo, U.S.A.* <sup>2</sup>*King Mongkut's Institute of Technology Ladkrabang, Thailand.*  
Transient electrical behaviour and energy dissipation in graphene transistors
- Mo I-3** 11:15-11:30  
J. M. Iglesias, M. J. Martín, E. Pascual, and R. Rengel  
*University of Salamanca, Spain.*  
A Monte Carlo study on the hot carrier relaxation dynamics in photoexcited graphene
- Mo I-4** 11:30-11:45  
V. Ryzhii<sup>1</sup>, D. Svintsov<sup>2</sup>, T. Otsuji<sup>1</sup>, V. Mitin<sup>1,3</sup>, and M. S. Shur<sup>4</sup>  
<sup>1</sup>*Tohoku University, Japan.* <sup>2</sup>*Moscow Institute of Physics and Technology, Russia.*  
<sup>3</sup>*University at Buffalo, U.S.A.* <sup>4</sup>*Rensselaer Polytechnic Institute Troy, U.S.A.*  
Enhancement of terahertz gain in optically and electrically pumped graphene bilayers due to interband indirect transitions

**Auditorio**

**Session Mo II: GRAPHENE DEVICES**

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*Chairperson: D. K. Ferry (Arizona State University, U.S.A.)*

- Mo II-1 11:45- 12:00**  
M. Bauer<sup>1</sup>, M. Andersson<sup>2</sup>, A. Zak<sup>2</sup>, P. Sakalas<sup>3</sup>, D. Čibiraitė<sup>4</sup>, A. Lisauskas<sup>1,4</sup>, M. Schröter<sup>3</sup>, J. Stake<sup>2</sup>, and H. G. Roskos<sup>1</sup>  
<sup>1</sup>Goethe-University Frankfurt, Germany. <sup>2</sup>Chalmers University of Technology, Sweden.  
<sup>3</sup>University Dresden, Germany. <sup>4</sup>Vilnius University, Lithuania.  
The potential for sensitivity enhancement by the thermoelectric effect in carbon-nanotube and graphene Tera-FETs
- Mo II-2 12:00-12.15**  
S. Boubanga<sup>1</sup>, D. Yadav<sup>1</sup>, T. Watanabe<sup>1</sup>, V. Ryzhii<sup>1,2</sup>, and T. Otsuji<sup>1</sup>  
<sup>1</sup>Tohoku University, Japan. <sup>2</sup>Institute of Ultra-High-Frequency Semiconductor Electronics, Russia.  
Terahertz emission in a double-graphene-layer heterostructure
- Mo II-3 12:15-12.30**  
A. K. Singh<sup>1,2</sup>, G. Auton<sup>3</sup>, E. Hill<sup>3</sup>, and A. Song<sup>1</sup>  
<sup>1</sup>The University of Manchester, U.K. <sup>2</sup>PEC University of Technology, India.  
<sup>3</sup>The University of Manchester, U.K.  
Graphene based ballistic nano-rectifiers
- Mo II-4 12:30-12.45**  
C. Clendennen<sup>1</sup>, N. Mori<sup>1,3</sup>, and H. Tsuchiya<sup>2,3</sup>  
<sup>1</sup>Osaka University, Japan. <sup>2</sup>Kobe University, Japan. <sup>3</sup>Japan Science and Technology Agency, Japan.  
Comparative simulation study of graphene, silicene, and germanene nanoribbon FETs

**12:45-15:00 LUNCH**

**Parallel session: Auditorio**

**Session Mo III.A: TERAHERTZ**

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*Chairperson: R. Sobolewski (University of Rochester, U.S.A.)*

- Mo III.A-1 15:00-15-30 Invited talk**  
D. Jena  
Cornell University, U.S.A.  
Paths for beyond 0.4 THz III-nitride electronics
- Mo III.A-2 15:30-15.45**  
I. Kašalynas, R. Venckevičius, J. Laužadis, V. Jakštās, E. Širmulis, K. Požela, and G. Valušis  
Center for Physical Sciences and Technology, Lithuania.  
Efficient THz emission from the grating coupled AlGaIn/GaN heterostructure on sapphire substrate
- Mo III.A-3 15:45-16:00**  
D. Daher<sup>1</sup>, I. Íñiguez-de-la-Torre<sup>3</sup>, J. Torres<sup>1</sup>, P. Nouvel<sup>1</sup>, L. Varani<sup>1</sup>, P. Sangare<sup>2</sup>, B. Grimbert<sup>2</sup>, M. Faucher<sup>2</sup>, G. Ducournau<sup>2</sup>, C. Gaquière<sup>2</sup>, J. Mateos<sup>3</sup>, and T. González<sup>3</sup>  
<sup>1</sup>Université de Montpellier, France. <sup>2</sup>Université de Lille, France. <sup>3</sup>University of Salamanca, Spain.  
Room temperature terahertz heterodyne detection using unipolar nanodiodes

- Mo III.A-4 16:00-16:15**  
 Y. M. Meziani<sup>1</sup>, S. Morozov<sup>2</sup>, K. Marem'yanin<sup>2</sup>, J. E. Velázquez-Pérez<sup>1</sup>, and K. Fobelets<sup>3</sup>  
<sup>1</sup>University of Salamanca, Spain. <sup>2</sup>Institute for Physics of Microstructures of Russian Academy of Sciences, Russia.  
<sup>3</sup>Imperial College, U.K.  
 Enhancement of sub-terahertz detection by drain-to-source biasing on strained silicon MODFET devices
- Mo III.A-5 16:15-16:30**  
 S. V. Morozov<sup>1,2</sup>, V. V. Romyantsev<sup>1,2</sup>, A. V. Antonov<sup>1,2</sup>, A. A. Dubinov<sup>1,2</sup>, A. M. Kadykov<sup>1</sup>,  
 A. A. Fadeev<sup>1,2</sup>, K. E. Kudryavtsev<sup>1</sup>, N. N. Mikhailov<sup>3</sup>, S. A. Dvoretckiy<sup>3</sup>,  
 and V. I. Gavrilenko<sup>1,2</sup>  
<sup>1</sup>Institute for Physics of Microstructures of Russian Academy of Sciences, Russia.  
<sup>2</sup>Lobachevsky State University of Nizhny Novgorod, Russia.  
<sup>3</sup>A. V. Rzhanov Institute of Semiconductor Physics, Russia.  
 Investigation of possibilities of WLWIR in HgCdTe based heterostructures
- Mo III.A-6 16:30-16:45**  
 A. Kadykov<sup>1,2</sup>, F. Teppe<sup>1</sup>, C. Consejo<sup>1</sup>, N. Diakonova<sup>1</sup>, D. Coquillat<sup>1</sup>, S. Ruffenach<sup>1</sup>,  
 W. Knap<sup>1</sup>, L. Viti<sup>3</sup>, M. S. Vitiello<sup>3</sup>, S. Morozov<sup>2</sup>, V. Gavrilenko<sup>2</sup>, N. N. Mikhailov<sup>4</sup>,  
 and S. A. Dvoretckii<sup>4</sup>  
<sup>1</sup>Université Montpellier II, France <sup>2</sup>Institute for Physics of Microstructures, Russia.  
<sup>3</sup>NEST, Istituto Nanoscienze-CNR and Scuola Normale Superiore, Italy.  
<sup>4</sup>Rzhanov Institute of Semiconductor Physics, Russia.  
 Terahertz excitations in HgTe-based field effect transistors

Parallel session: *Sala Menor*

**Session Mo III.B: SPINTRONICS**

Chairperson: G. Platero (ICMM-CSIC, Spain)

- Mo III.B-1 15:00-15:30 Invited talk**  
 L. M. K. Vandersypen  
 TU Delft, The Netherlands.  
 Multiple-spin read-out and control in semiconductor quantum dots
- Mo III.B-2 15:30-15:45**  
 F. Ungar<sup>1</sup>, M. Cygorek<sup>1</sup>, P. I. Tamborenea<sup>2,1</sup>, and V. M. Axt<sup>1</sup>  
<sup>1</sup>Universität Bayreuth, Germany. <sup>2</sup>Universidad de Buenos Aires, Argentina.  
 Ultrafast spin dynamics in diluted magnetic semiconductors with spin-orbit interaction
- Mo III.B-3 15:45-16:00**  
 L. E. Golub, E. L. Ivchenko, and D. S. Smirnov  
 Ioffe Institute of the Russian Academy of Sciences, Russia.  
 Spin polarization and dynamics in semiconductors in moderate electric fields
- Mo III.B-4 16:00-16:15**  
 Y. Puttisong<sup>1</sup>, Y. Q. Huang<sup>1</sup>, I. A. Buyanova<sup>1</sup>, X. J. Yang<sup>2</sup>, A. Subagy<sup>2</sup>, K. Sueoka,  
 A. Murayama<sup>2</sup>, and W. M. Chen<sup>1</sup>  
<sup>1</sup>Linköping University, Sweden. <sup>2</sup>Hokkaido University, Japan.  
 Optical spin injection and detection in InGaAs/GaAs quantum dots: Effect of photo-excitation energy and density
- Mo III.B-5 16:15-16:30**  
 J. Lohrenz, T. Paschen, and M. Betz  
 TU Dortmund, Germany.  
 Resonant spin amplification in intrinsic bulk germanium: Evidence for electron spin lifetimes exceeding 50ns

**Mo III.B-6 16:30-16:45**  
R. Kaji<sup>1</sup>, T. Tominaga<sup>1</sup>, Y.-N. Wu<sup>2</sup>, S.-J. Cheng<sup>2</sup>, and S. Adachi<sup>1</sup>  
<sup>1</sup>Hokkaido University, Japan. <sup>2</sup>National Chiao Tung University, Taiwan.  
Electron and hole in-plane g-factors in single InAs quantum rings

16:45-17:15 *Coffee Break*

17:00-18:30 **POSTER SESSION. Mo P**

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## 30 June 2015, Tuesday

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### Auditorio

#### Session Tu I: ULTRAFAST OPTICAL PHENOMENA

*Chairperson: K. Hirakawa (University of Tokyo, Japan)*

- Tu I-1 8:30-9:00 Invited talk**  
R. Bratschitsch  
*University of Münster, Germany.*  
Ultrafast valley dynamics in atomically thin transition metal dichalcogenides
- Tu I-2 9:00-9:15**  
S. L. Chen<sup>1</sup>, S. Filippov<sup>1</sup>, W. M. Chen<sup>1</sup>, F. Ishikawa<sup>2</sup>, and I. A. Buyanova<sup>1</sup>  
<sup>1</sup>Linköping University, Sweden. <sup>2</sup>Ehime University, Japan.  
Exciton dynamics in GaAs/GaNAs core/shell Nanowires
- Tu I-3 9:15-9:30**  
T. Kuhn<sup>1</sup>, D. E. Reiter<sup>1,2</sup>, and G. F. Quinteiro<sup>3</sup>  
<sup>1</sup>Westfälische Wilhelms-Universität Münster, Germany. <sup>2</sup>Imperial College London, U.K.  
<sup>3</sup>Universidad de Buenos Aires, Argentina.  
Optical control of exciton and spin states in a quantum dot by excitation with twisted light
- Tu I-4 9:30-9:45**  
A. Grupp<sup>1</sup>, M. Trushin<sup>1</sup>, G. Soavi<sup>1</sup>, A. Budweg<sup>1</sup>, D. de Fazio<sup>2</sup>, U. Sassi<sup>2</sup>, A. Lombardo<sup>2</sup>,  
A. C. Ferrari<sup>2</sup>, W. Belzig<sup>1</sup>, A. Leitenstorfer<sup>1</sup>, and D. Brida<sup>1</sup>  
<sup>1</sup>University of Konstanz, Germany. <sup>2</sup>Cambridge Graphene Centre, U.K.  
Pseudospin carrier coupling in graphene on the femtosecond timescale
- Tu I-5 9:45-10:00**  
Y. Akbas<sup>1</sup>, L. Q. Zhang<sup>2</sup>, Y. Alimi<sup>2</sup>, A. M. Song<sup>2</sup>, I. Íñiguez-de-la-Torre<sup>3</sup>, J. Mateos<sup>3</sup>,  
T. González<sup>3</sup>, G. Wicks<sup>1</sup>, and R. Sobolewski<sup>1</sup>  
<sup>1</sup>University of Rochester, U.S.A. <sup>2</sup>University of Manchester, U.K. <sup>3</sup>University of Salamanca, Spain.  
Ultra-high responsivity of optically-active semiconducting asymmetric nano-channel diodes
- Tu I-6 10:00-10:15**  
A. Krokhin, A. Neogi, A. Llopis, and M. Mahat  
*University of North Texas, U.S.A.*  
Electrostatic enhancement of light emitted by semiconductor quantum wells

**Tu I-7** **10:15-10:30**  
A. V. Andrianov<sup>1</sup>, A. O. Zakhar'in<sup>1</sup>, R. K. Zhukavin<sup>2</sup>, V. N. Shastin<sup>2,3</sup>, and N. V. Abrosimov<sup>4</sup>  
<sup>1</sup>A. F. Ioffe Physical Technical Institute, Russia. <sup>2</sup>Institute of Physics of Microstructures, Russia.  
<sup>3</sup>N. I. Lobachevskii Nizhny Novgorod State University, Russia.  
<sup>4</sup>Leibniz Institute for Crystal Growth, Germany.  
Terahertz emission from lithium doped silicon under continuous wave interband optical excitation

**10:30-11:00** **Coffee Break**

**Auditorio**

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**Session Tu II: THz SPECTROSCOPY**

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*Chairperson: L. Varani (University of Montpellier, France)*

**Tu II-1** **11:00- 11:15**  
F. Meng<sup>1</sup>, M. D. Thomson<sup>1</sup>, B. E. Sernelius<sup>2</sup>, and H. G. Roskos<sup>1</sup>  
<sup>1</sup>Goethe-University, Germany. <sup>2</sup>Linköping University, Sweden.  
Relativistic Doppler reflection as a probe for the initial relaxation of a non-equilibrium electron-hole plasma in silicon

**Tu II-2** **11:15-11:30**  
F. Eßer<sup>1,2</sup>, H. Schneider<sup>1</sup>, S. Winnerl<sup>1</sup>, O. Drachenko<sup>3</sup>, A. Patané<sup>4</sup>, G. Pettinari<sup>5</sup>, and M. Helm<sup>1,2</sup>  
<sup>1</sup>Helmholtz-Zentrum Dresden-Rossendorf, Germany. <sup>2</sup>Technische Universität Dresden, Germany.  
<sup>3</sup>The LNCMI-Toulouse, France. <sup>4</sup>The University of Nottingham, U.K.  
<sup>5</sup>Institute for Photonics and Nanotechnologies (IFN-CNR), Italy.  
Cyclotron resonance spectroscopy of GaAsN in pulsed magnetic fields up to 60 T with free-electron laser IR radiation

**Tu II-3** **11:30-11:45**  
N. Kamaraju<sup>1</sup>, W. Pan<sup>2</sup>, U. Ekenberg<sup>3</sup>, D. M. Gvozdić<sup>4</sup>, S. Boubanga-Tombet<sup>1,5</sup>, P. C. Upadhyaya<sup>1,6</sup>, J. Reno<sup>2</sup>, A. J. Taylor<sup>1</sup>, and R. P. Prasankumar<sup>1</sup>  
<sup>1</sup>Los Alamos National Laboratory, U.S.A. <sup>2</sup>Sandia National Laboratories, U.S.A.  
<sup>3</sup>Semiconsultants, Sweden. <sup>4</sup>University of Belgrade, Serbia. <sup>5</sup>Tohoku University, Japan.  
<sup>6</sup>Indian Space Research Organization, India.  
Terahertz magneto-optical spectroscopy of two-dimensional hole systems

**Tu II-4** **11:45-12:00**  
Y. Zhang<sup>1</sup>, K. Shibata<sup>1,2</sup>, N. Nagai<sup>1</sup>, C. Ndebeka-Bandou<sup>1,3</sup>, G. Bastard<sup>1,3</sup>, and K. Hirakawa<sup>1,2</sup>  
<sup>1</sup>IIS and <sup>2</sup>INQIE, University of Tokyo, Japan. <sup>3</sup>Ecole Normale Supérieure, France.  
Probing manybody quantum states of single InAs quantum dots by terahertz spectroscopy

**Auditorio**

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**Session Tu III: CARRIER DYNAMICS IN ENERGY CONVERSION**

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*Chairperson: S. Goodnick (Arizona State University, U.S.A.)*

**Tu III-1** **12:00-12:30** **Invited talk**  
N. Ekins-Daukes, J. Dimmock, O. Hess, N. Hylton, P. Stavrinou, C. Phillips, A. Pusch, A. Vaquero, and M. Yoshida  
*Imperial College London, U.K.*  
Nonequilibrium carrier dynamics and advanced concept photovoltaics

**Tu III-2 12:30-12:45**  
R. Jaramillo<sup>1</sup>, M.-J. Sher<sup>3</sup>, B. Ofori-Okai<sup>1</sup>, V. Steinmann<sup>1</sup>, K. Hartman<sup>1</sup>, K. Nelson<sup>1</sup>,  
A. M. Lindenberg<sup>2,3,4</sup>, and T. Buonassisi<sup>1</sup>  
<sup>1</sup>Massachusetts Institute of Technology, U.S.A. <sup>2</sup>SLAC National Accelerator Laboratory, U.S.A.  
<sup>3</sup>Stanford University, U.S.A. <sup>4</sup>SLAC National Accelerator Laboratory, U.S.A.  
Non-equilibrium minority carrier dynamics in tinsulfide (SnS) thin films using THz free-carrier absorption

**Tu III-3 12:45-13:00**  
A. L. Vartanian, K. A. Vardanyan, V. N. Mughnetsyan, and A. A. Kirakosyan  
Yerevan State University, Armenia.  
Electron capture processes in quantum dots due to one-and two-phonon assisted transitions: The role of optical phonon confinement

13:00-15:00 LUNCH

15:00-21:30 EXCURSION

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## 1 July 2015, Wednesday

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### Auditorio

### Session Wed I: NOVEL MATERIALS AND DEVICES

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Chairperson: K. Kalna (University of Swansea, U.K.)

**Wed I-1 8:30-9:00 Invited talk**  
M. J. Gilbert  
University of Illinois - Urb. Champaign, U.S.A.  
Towards topological functionality novel materials for new devices

**Wed I-2 9:00-9:15**  
N. Caselli<sup>1</sup>, F. Intonti<sup>1</sup>, F. La China<sup>1</sup>, F. Riboli<sup>1</sup>, A. Gerardino<sup>2</sup>, F. Pagliano<sup>3</sup>, A. Fiore<sup>3</sup>,  
W. Bao<sup>4</sup>, A. W. Bargioni<sup>4</sup>, and M. Gurioli<sup>1</sup>  
<sup>1</sup>University of Florence, Italy. <sup>2</sup>CNR, Roma, Italy. <sup>3</sup>Eindhoven University of Technology, The Netherlands.  
<sup>4</sup>Lawrence Berkeley National Laboratory, U.S.A.  
Plasmonic near-field imaging of the electric and the magnetic fields

**Wed I-3 9:15-9:30**  
S. Colasanti, V. Deep-Bhatt, A. Abdellah, and P. Lugli  
Technical University Munich (TUM), Germany.  
3D Self-consistent percolative model for networks of randomly aligned carbon nanotubes

**Wed I-4 9:30-9:45**  
D. Lopez-Diaz<sup>1</sup>, C. Merino<sup>2</sup>, and M. M. Velázquez<sup>1</sup>  
<sup>1</sup>University of Salamanca, Spain. <sup>2</sup>Grupo Antolin Ingeniería, Spain.  
Manufacturing transparent conductive electrodes: The effect of nanoparticle stabilizer on the optoelectronic properties

**Wed I-5 9:45-10:00**  
A. Price, and A. Martinez  
Swansea University, U. K.  
Comparison of phonon scattering in nanowire field effect transistors with Si, GaAs and InGaAs cores using the NEGF formalism

**Wed I-6**      **10:00-10:15**  
M. Margala<sup>1</sup>, H. Wu<sup>2</sup>, and R. Sobolewski<sup>2</sup>  
<sup>1</sup>University of Massachusetts Lowell. <sup>2</sup>University of Rochester U.S.A.  
Ballistic deflection transistors and their application to THz amplification

**Wed I-7**      **10:15-10:30**  
E. Piccinini<sup>1</sup>, F. Buscemi<sup>2</sup>, M. Rudan<sup>1</sup>, R. Brunetti<sup>2</sup>, and C. Jacoboni<sup>2</sup>  
<sup>1</sup>University of Bologna, Italy. <sup>2</sup>University of Modena and Reggio Emilia, Italy.  
Intrinsic electric oscillations of ovonic devices towards the terahertz limit

**10:30-11:00**      *Coffee Break*

**Auditorio**

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### Session Wed II: GRAPHENE II

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*Chairperson: A. M. Song (University of Manchester, U.K.)*

**Wed II-1**      **11:00-11:30**      **Invited talk**  
A. Bachtold  
*ICFO – The Institute of Photonic Sciences, Spain.*  
Mechanical resonators based on nanotubes and graphene

**Wed II-2**      **11:30-11:45**  
M. T. Greenaway<sup>1</sup>, E. E. Vdovin<sup>1,4</sup>, A. Mishchenko<sup>2</sup>, T. M. Fromhold<sup>1</sup>, O. Makarowsky<sup>1</sup>,  
A. Patané<sup>1</sup>, K. S. Novoselov<sup>2</sup>, A. K. Geim<sup>2,3</sup>, and L. Eaves<sup>1,2</sup>  
<sup>1</sup>University of Nottingham, U.K. <sup>2</sup>University of Manchester, U.K. <sup>3</sup>University of Manchester, U.K.  
<sup>4</sup>Russian Academy of Sciences, Russia.  
Landau level spectroscopy reveals the chirality and Klein tunnelling of Dirac-Weyl  
fermions in twisted graphene tunnel transistors

**Wed II-3**      **11:45-12:00**  
V. Hung Nguyen<sup>1,2</sup>, H. Viet Nguyen<sup>2</sup>, J. Saint-Martin<sup>1</sup>, and P. Dollfus<sup>1</sup>  
<sup>1</sup>Univ. Paris-Sud - CNRS, France. <sup>2</sup>Institute of Physics, VAST, Vietnam.  
Conduction gap in vertical stacks of misoriented graphene layers induced by strain  
engineering

**Wed II-4**      **12:00-12:15**  
C. Cobaleda<sup>1</sup>, S. Pezzini<sup>1,2</sup>, A. Rodríguez<sup>3</sup>, E. Diez<sup>1</sup>, and V. Bellani<sup>2</sup>  
<sup>1</sup>University of Salamanca, Spain. <sup>2</sup>Università degli studi di Pavia, Italy.  
<sup>3</sup>Albert-Ludwigs-Universität Freiburg, Germany.  
Percolation transitions in bilayer graphene encapsulated by hexagonal boron nitride

**Wed II-5**      **12:15-12:30**  
M. Settnes, S. R. Power, D. H. Pedersen, and A.-P. Jauho  
*Technical University of Denmark. Denmark.*  
Bubbles and perforations in graphene- a computational study

**Wed II-6**      **12:30-12:45**  
M. Saiz-Bretin<sup>1</sup>, A. M. Malyshev<sup>1,2</sup>, and F. Domínguez-Adame<sup>1,3</sup>  
<sup>1</sup>Universidad Complutense, Spain. <sup>2</sup>Ioffe Physical-Technical Institute, Russia.  
<sup>3</sup>University of Warwick, U.K.  
Graphene quantum rings with enhanced thermoelectric response

**Wed II-7**      **12:45-13:00**  
O. Couturaud<sup>1</sup>, M. Yang<sup>2</sup>, W. Escoffier<sup>2</sup>, B. Jouault<sup>1</sup>, M. Pierre<sup>2</sup>, and M. Goiran<sup>2</sup>  
<sup>1</sup>CNRS-Université de Montpellier, France. <sup>2</sup>CNRS-Université de Toulouse, France.  
Quantum Hall effect in graphene grown by chemical vapor deposition on SiC



13:00-15:00 LUNCH

Paralell session: Auditorio

### Session Wed III.A: QUANTUM COMPUTING

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Chairperson: T. Kuhn (University of Münster, Germany)

- Wed III.A-1 15:00-15:30 Invited talk**  
A. Sachrajda  
*National Research Council of Canada, Canada.*  
Spin manipulation in triple quantum dots
- Wed III.A-2 15:30-15:45**  
F. Gallego-Marcos, R. Sánchez, and G. Platero  
*Instituto de Ciencia de Materiales, CSIC Spain.*  
Interference of real and virtual transitions in quantum dot chains
- Wed III.A-3 15:45-16:00**  
C. M. zu Rheda<sup>1</sup>, G. Haack<sup>2,1</sup>, and A. Romito<sup>1</sup>  
<sup>1</sup>*Freie Universität, Germany.* <sup>2</sup>*CEA, INAC-SPSMS, France.*  
On-demand maximally entangled states with a parity meter and continuous feedback
- Wed III.A-4 16:00-16:15**  
C. Anton<sup>1</sup>, T. C. H. Liew<sup>2</sup>, M. D. Martín<sup>1,3</sup>, P. S. Eldridge<sup>4</sup>, Z. Hatzopoulos<sup>4</sup>, G. Stavrinidis<sup>4</sup>,  
P. G. Savvidis<sup>4</sup>, and L. Viña<sup>1,3,5</sup>  
<sup>1,3,5</sup>*Universidad Autónoma de Madrid, Spain.* <sup>2</sup>*Nanyang Technological University, Singapore.*  
<sup>4</sup>*FORTH-IESL, Greece.*  
Optical manipulation of polariton condensates on a chip
- Wed III.A-5 16:15-16:30**  
A. Beggi<sup>1</sup>, F. Buscemi<sup>1</sup>, P. Bordone<sup>1,2</sup>, and A. Bertoni<sup>2</sup>  
<sup>1</sup>*Università degli Studi di Modena e Reggio Emilia, Italy.* <sup>2</sup>*CNR - Istituto Nanoscienze, Italy.*  
Time-dependent modelling of single-electron interferometry with edge-states
- Wed III.A-6 16:30-16:45**  
D. Marian<sup>1,2</sup>, E. Colomé<sup>1</sup>, N. Zanghi<sup>2</sup>, and X. Oriols<sup>1</sup>  
<sup>1</sup>*Universitat Autònoma de Barcelona, Spain.* <sup>2</sup>*Università di Genova, Italy.*  
Weak measurement from the electron displacement current: New path for applications

Paralell session: Sala Menor

### Session Wed III.B: THERMAL TRANSPORT

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Chairperson: L. Reggiani (University of Salento, Italy)

- Wed III.B-1 15:00-15:30 Invited talk**  
D. Hatanaka, I. Mahboob, K. Onomitsu, and H. Yamaguchi  
*NTT Corporation, Japan.*  
Phononic crystal waveguides with dynamic control
- Wed III.B-2 15:30-15:45**  
D. E. Reiter<sup>1,2</sup>, D. Wigger<sup>1</sup>, S. Lüker<sup>1</sup>, V. M. Axt<sup>3</sup>, P. Machnikowski<sup>4</sup>, and T. Kuhn<sup>1</sup>  
<sup>1</sup>*Universität Münster, Germany.* <sup>2</sup>*Imperial College London, U.K.* <sup>3</sup>*Universität Bayreuth, Germany.*  
<sup>4</sup>*Wrocław University of Technology, Poland.*  
Generating sequences of phonon wave packets by optical excitation of a quantum dot

- Wed III.B-3 15:45-16:00**  
 B. Sothmann<sup>1</sup>, R. Sánchez<sup>2</sup>, and A. N. Jordan<sup>3,4</sup>  
<sup>1</sup>Université de Genève, Switzerland. <sup>2</sup>ICMM-CSIC, Spain. <sup>3</sup>University of Rochester, U.S.A.  
<sup>4</sup>Chapman University, U.S.A.  
 Chiral thermoelectrics.
- Wed III.B-4 16:00-16:15**  
 J. Larroque, P. Dollfus, and J. Saint-Martin  
 Université Paris-Sud, France.  
 A full-band Boltzmann Monte Carlo study on non-stationary thermal transport in Silicon nanowires
- Wed III.B-5 16:15-16:30**  
 M. Mohamed<sup>1</sup>, Z. Aksamija<sup>2</sup>, and U. Ravaioli<sup>1,3</sup>  
<sup>1</sup>University of Illinois at Urbana-Champaign, U.S.A. <sup>2</sup>University of Massachusetts Amherst, U.S.A.  
<sup>3</sup>University of Illinois-Urbana, U.S.A.  
 Using coupled electron and thermal transport to understand self-heating effects in junctionless MOSFET
- Wed III.B-6 16:30-16:45**  
 J. Mateos<sup>1</sup>, I. Íñiguez-de-la-Torre<sup>1</sup>, H. Rodilla<sup>2</sup>, J. Schlee<sup>2</sup>, J. Grahn<sup>2</sup>, T. González<sup>1</sup>,  
 and A. J. Minnich<sup>3</sup>  
<sup>1</sup>University of Salamanca, Spain. <sup>2</sup>Chalmers University of Technology, Sweden.  
<sup>3</sup>California Institute of Technology, U.S.A.  
 On the intrinsic limit for the temperature lowering in cryogenic low-noise InP HEMTs
- 16:45-17:15**      *Coffee Break*
- 17:00-18:30**      **POSTER SESSION. Wed P**
- 20:30**              **GALA DINNER**

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## 2 July 2015, Thursday

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### Auditorio

#### Session Thu I: 2D FUNCTIONAL MATERIALS

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*Chairperson: A. P. Jauho (Technical University of Denmark, Denmark)*

- Thu I-1 8:30-9:00**      **Invited talk**  
 A. Patané<sup>1</sup>, G. W. Mudd<sup>1</sup>, S. A. Svatek<sup>1</sup>, N. Balakrishnan<sup>1</sup>, O. Makarowsky<sup>1</sup>, P. H. Beton<sup>1</sup>,  
 L. Eaves<sup>1</sup>, M. W. Fay<sup>2</sup>, Z. R. Kudrynskyi<sup>3</sup>, and Z. D. Kovalyuk<sup>3</sup>  
<sup>1</sup>The University of Nottingham, U.K. <sup>3</sup>The National Academy of Sciences of Ukraine, Ukraine.  
 Physics and applications of van der Waals InSe nanosheets and junctions
- Thu I-2 9:00-9:15**  
 O. Makarowsky<sup>1</sup>, L. Turyanska<sup>1</sup>, S. A. Svatek<sup>1</sup>, P. H. Beton<sup>1</sup>, C. J. Mellor<sup>1</sup>, A. Patané<sup>1</sup>,  
 L. Eaves<sup>1</sup>, N. R. Thomas<sup>2</sup>, M. W. Fay<sup>3</sup>, A. J. Marsden<sup>4</sup>, and N. R. Wilson<sup>4</sup>  
<sup>1,2,3</sup>The University of Nottingham, U.K. <sup>4</sup>University of Warwick, U.K.  
 Ligand-induced control of photoconductive gain and doping in a hybrid graphene-quantum dot transistor

Auditorio

**Session Thu II:  
NON-EQUILIBRIUM CARRIER DYNAMICS – EXPERIMENTAL**

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*Chairperson: A. Patanè (University of Nottingham, U.K.)*

- Thu II-1**      **9:15-9:45**      **Invited talk**  
K. Tanimura  
*Osaka University, Japan.*  
Imaging energy-, momentum-, and time-resolved distributions of photoinjected hot electrons in semiconductors
- Thu II-2**      **9:45-10:00**  
W. Pan<sup>1</sup>, and N. Kamaraju<sup>2</sup>  
<sup>1</sup>*Sandia National Labs, U.S.A.* <sup>2</sup>*Los Alamos National Lab, U.S.A.*  
Bloch oscillations in two dimensions
- Thu II-3**      **10:00-10:15**  
K. Shibata<sup>1</sup>, K. Yoshida<sup>2</sup>, T. Minamiya<sup>1</sup>, K. Sato<sup>1</sup>, and K. Hirakawa<sup>2</sup>  
<sup>1</sup>*Tohoku Institute of Technology, Japan.* <sup>2</sup>*University of Tokyo, Japan.*  
Electric-field control of conductance in metal point contacts by electric-double-layer gating
- Thu II-4**      **10:15-10:30**  
Y.-H. Lee<sup>1</sup>, J. E. Han<sup>2</sup>, J. Lee<sup>1</sup>, S. Xiao<sup>1</sup>, J. L. Reno<sup>3</sup>, and J. P. Bird<sup>1</sup>  
<sup>1,2</sup>*University at Buffalo, U.S.A.* <sup>3</sup>*CINT, Sandia National Laboratories, U.S.A.*  
Keeping cool by getting hot: Protected subband formation in quantum point contacts subjected to extreme biasing

**10:30-11:00**      *Coffee Break*

Auditorio

**Session Thu III:  
NON-EQUILIBRIUM CARRIER DYNAMICS – MODELLING**

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*Chairperson: U. Ravaioli (University of Illinois, U.S.A.)*

- Thu III-1**      **11:00-11:15**  
R. Rosati<sup>1</sup>, R. C. Iotti<sup>1</sup>, F. Dolcini<sup>1,2</sup>, and F. Rossi<sup>1</sup>  
<sup>1</sup>*Politecnico di Torino, Italy.* <sup>2</sup>*CNR-SPIN, Italy.*  
Microscopic treatment of energy dissipation and decoherence via many-body Lindblad superoperators
- Thu III-2**      **11:15-11:30**  
N. Sano, M. R. Zulhidza, Y. Kaneno, S. Honda, A. Ueda, and K. Yoshida  
*University of Tsukuba, Japan.*  
Correlation effects of localized impurities on electron transport under 1-D nano-structures
- Thu III-3**      **11:30-11:45**  
R. Hartwar, M. Saraniti, and S. M. Goodnick  
*Arizona State University, U.S.A.*  
Electric relaxation and non-linear transport in InAs nanowires

**Thu III-4 11:45-12:00**  
M. Aldegunde<sup>1</sup>, S. P. Hepplestone<sup>2</sup>, P. V. Sushko<sup>3</sup>, and K. Kalna<sup>4</sup>  
<sup>1</sup>University of Warwick, U.K. <sup>2</sup>Deregallera Ltd., U.K. <sup>3</sup>Pacific Northwest National Laboratory, U.S.A.  
<sup>4</sup>Swansea University, U.K.  
Multi-scale simulations of metal-semiconductor nanoscale contacts

Auditorio

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### Session Thu IV: BIOELECTRONICS

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Chairperson: R. Brunetti (University of Modena, Italy)

**Thu IV-1 12:00-12:15**  
P. V. Gwozdz<sup>1</sup>, A. Bhat<sup>2</sup>, A. Seshadri<sup>2</sup>, and R. H. Blick<sup>1,2,3</sup>  
<sup>1</sup>Institutes for Nanostructure and Solid State Physics (INF), Germany.  
<sup>2</sup>University of Wisconsin-Madison, U.S.A. <sup>3</sup>Center for Hybrid Nanostructures (CHYN) Germany.  
Real time detection of sub-micron particles translocating through micropores

**Thu IV-2 12:15-12:45 Invited Closing Speaker**  
L. Reggiani  
Università del Salento, Italy.  
Proteotronics: The emerging science of protein-based electronic devices

12:45-13:00 CLOSING SESSION

13:00-15:00 LUNCH

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## POSTER SESSIONS

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Hall Auditorio

### Poster Session Mo P

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- Mo P-1** Y. Kawakami<sup>1</sup>, T. Tawara<sup>2,3</sup>, H. Omi<sup>2,3</sup>, R. Kaji<sup>1</sup>, and S. Adachi<sup>1</sup>  
<sup>1</sup>Hokkaido University, Japan. <sup>2,3</sup>NTT Corporation, Japan.  
Inter- and intra-site energy transfers in (Sc, Er)<sub>2</sub>O<sub>3</sub> thin films grown on Si(111)
- Mo P-2** F. Werschler<sup>1</sup>, C. Hinz<sup>1</sup>, T. de Roo<sup>2</sup>, S. Mecking<sup>2</sup>, A. Leitenstorfer<sup>1</sup>, and D. V. Seletskiy<sup>1</sup>  
<sup>1,2</sup>University of Konstanz, Germany.  
Phonon mediated fine-structure relaxation and discrete exciton-phonon coupling in single nanocrystal quantum dots
- Mo P-3** E. Welander, J. Hildmann, and G. Burkard  
University of Konstanz, Germany.  
Influence of hyperfine interaction on the entanglement of photons generated by biexciton recombination
- Mo P-4** C. Hinz, C. Traum, J. Haase, B. Bauer, A. Leitenstorfer, and D. V. Seletskiy  
University of Konstanz, Germany.  
Transient biexcitonic absorption and ultrafast hole relaxation in single CdSe/ZnSe quantum dots
- Mo P-5** S. Lüker<sup>1</sup>, D. E. Reiter<sup>1,2</sup>, and T. Kuhn<sup>1</sup>  
<sup>1</sup>Universität Münster, Germany. <sup>2</sup>Imperial College London, U.K.  
Dark exciton preparation in quantum dots using chirped laser pulses

- Mo P-6** S. Melzer<sup>1</sup>, J. Lohrenz<sup>1</sup>, C. Ruppert<sup>1</sup>, I. A. Akimov<sup>1</sup>, M. Reichelt<sup>2</sup>, T. Meier<sup>2</sup>, and M. Betz<sup>1</sup>  
<sup>1</sup>TU Dortmund, Germany. <sup>2</sup>Universität Paderborn, Germany.  
 Ultrafast optical control over the exciton-polariton propagation in CdZnTe
- Mo P-7** A. Pusch<sup>1</sup>, S. Guazzotti<sup>1</sup>, D. E. Reiter<sup>1,2</sup>, and O. Hess<sup>1</sup>  
<sup>1</sup>Imperial College London, U.K. <sup>2</sup>University of Münster, Germany.  
 Dynamical calculation of third harmonic generation in a semiconductor quantum well
- Mo P-8** J. Serafini<sup>1</sup>, L. Crandall<sup>1</sup>, Y. Akbas<sup>1</sup>, R. Bellman<sup>2</sup>, C. K. Williams<sup>2</sup>, and R. Sobolewski<sup>1</sup>  
<sup>1</sup>University of Rochester, U.S.A. <sup>2</sup>Corning Incorporated, U.S.A.  
 Nonequilibrium carrier dynamics in ultrathin Si-on-glass films
- Mo P-9** V. Clérico<sup>1</sup>, X. Shi<sup>2</sup>, W. Yu<sup>3,2</sup>, S. Pezzini<sup>1,4</sup>, C. Hernández-Fuentevilla<sup>1</sup>, Z. Jiang<sup>3</sup>, D. H. Huang<sup>5</sup>,  
 G. Gumbs<sup>6</sup>, V. Bellani<sup>4</sup>, E. Diez<sup>1</sup>, Y. Meziani<sup>1</sup>, W. Pan<sup>2</sup>, S. D. Hawkins<sup>2</sup>, and J. F. Klem<sup>2</sup>  
<sup>1</sup>University of Salamanca, Spain. <sup>2</sup>Sandia National Laboratories, U.S.A.  
<sup>3</sup>Georgia Institute of Technology, U.S.A. <sup>4</sup>Università degli studi di Pavia, Italy.  
<sup>5</sup>Kirtland Air Force Base, U.S.A. <sup>6</sup>Hunter College of the City University of New York, U.S.A.  
 Excitonic insulator phase of degenerate InAs/GaSb double quantum wells
- Mo P-10** A. Satou<sup>1</sup>, Y. Koseki<sup>1</sup>, V. Ryzhii<sup>1</sup>, V. V. Popov<sup>2</sup>, and T. Otsuji<sup>1</sup>  
<sup>1</sup>Tohoku University, Japan. <sup>2</sup>Kotelnikov Institute of Radio Engineering and Electronics, Russia.  
 Computational study of plasmon instabilities in dual-grating-gate graphene transistor
- Mo P-11** N. Dyakonova<sup>1</sup>, D. B. But<sup>1</sup>, D. Coquillat<sup>1</sup>, W. Knap<sup>1</sup>, C. Drexler<sup>2</sup>, P. Olbrich<sup>2</sup>, J. Karch<sup>2</sup>,  
 M. Schafberger<sup>2</sup>, S. D. Ganichev<sup>2</sup>, G. Ducournau<sup>3</sup>, C. Gaquière<sup>3</sup>, M.-A. Poisson<sup>4</sup>, S. Delage<sup>4</sup>,  
 G. Cywinski<sup>5</sup>, and C. Skierbiszewski<sup>5</sup>  
<sup>1</sup>CNRS-Univ. Montpellier, France. <sup>2</sup>University of Regensburg, Germany.  
<sup>3</sup>Institut d'Electronique et de Microélectronique du Nord, UMR CNRS, France.  
<sup>4</sup>Thales Research and Technology, France. <sup>5</sup>Institut of High Pressure Physics, PAS, Poland.  
 Photoresponse of AlGaIn/GaN field effect transistor to 1.1 THz radiation of high intensity
- Mo P-12** V. V. Koroteyev<sup>1</sup>, V. A. Kochelap<sup>1</sup>, S. Vitusevich<sup>2</sup>, V. Sydoruk<sup>2</sup>, and L. Varani<sup>3</sup>  
<sup>1</sup>Institute of Semiconductor Physics, Ukraine. <sup>2</sup>Peter Grunberg Institute, Germany.  
<sup>3</sup>University Montpellier<sup>2</sup>, France.  
 Steady-state and high-frequency electron transport in GaN nanowires
- Mo P-13** V. Gružinskis<sup>1</sup>, P. Shiktorov<sup>1</sup>, and E. Starikov<sup>1</sup>, H. Marinchio<sup>2</sup>, C. Palermo<sup>2</sup>, J. Torres<sup>2</sup>,  
 and L. Varani<sup>2</sup>  
<sup>2</sup>Center for Sciences and Technology, Lithuania. <sup>1</sup>Université de Montpellier- Campus St Priest, France.  
 Stepped current-voltage relation and THz oscillations in GaN MOSFET due to optical phonon emission: Monte Carlo simulation
- Mo P-14** H. Marinchio<sup>1</sup>, V. V. Koroteyev<sup>2</sup>, C. Palermo<sup>1</sup>, and L. Varani<sup>1</sup>  
<sup>1</sup>University of Montpellier, France. <sup>2</sup>Institute of Semiconductor Physics, Ukraine.  
 Hybrid plasma modes in transistors: Linear and non-linear responses
- Mo P-15** D. Coquillat<sup>1</sup>, V. Nodjiadjim<sup>2</sup>, A. Konczykowska<sup>2</sup>, N. Dyakonova<sup>1</sup>, C. Consejo<sup>1</sup>,  
 S. Ruffenach<sup>1</sup>, F. Teppe<sup>1</sup>, M. Riet<sup>2</sup>, A. Muraviev<sup>3</sup>, A. Gutin<sup>3</sup>, M. Shur<sup>3</sup>, J. Godin<sup>2</sup>,  
 and W. Knap<sup>1</sup>  
<sup>1</sup>CNRS-Univ. Montpellier, France. <sup>2</sup>III-V Lab (Bell Labs, TRT and CEA/LETI joint Lab), France.  
<sup>3</sup>Rensselaer Polytechnic Institute, U.S.A.  
 InP double heterojunction bipolar transistor for broadband terahertz detection and imaging systems

- Mo P-16** M. Marcinkiewicz<sup>1</sup>, F. Teppe<sup>1</sup>, C. Consejo<sup>1</sup>, N. Dyakonova<sup>1</sup>, D. Coquillat<sup>1</sup>, S. Ruffenach<sup>1</sup>, W. Knap<sup>1</sup>, F. Gonzalez-Posada<sup>2</sup>, L. Cerutti<sup>2</sup>, E. Tournié<sup>2</sup>, N. N. Mikhailov<sup>3</sup>, and S. A. Dvoretzki<sup>3</sup>  
<sup>1,2</sup>Université Montpellier, France. <sup>3</sup>Russian Academy of Science, Russia.  
Terahertz studies/probing of 2D and 3D topological transitions
- Mo P-17** D. Pardo<sup>1</sup>, J. Grajal<sup>1</sup>, and S. Pérez<sup>2</sup>  
<sup>1</sup>Technical University of Madrid, Spain. <sup>2</sup>University of Salamanca, Spain.  
Nonequilibrium transport in GaAs Schottky mixers at 2.5 THz
- Mo P-18** I. Íñiguez-de-la-Torre<sup>1</sup>, T. González<sup>1</sup>, J. Mateos<sup>1</sup>, A. Westlund<sup>2</sup>, and J. Grahn<sup>2</sup>  
<sup>1</sup>University of Salamanca, Spain. <sup>2</sup>Chalmers University of Technology, Sweden.  
Zero-bias THz detection in InAs nano-diodes at room temperature
- Mo P-19** I. Íñiguez-de-la-Torre<sup>1</sup>, A. Rodríguez<sup>1</sup>, Ó. García-Pérez<sup>1</sup>, S. García<sup>1</sup>, T. González<sup>1</sup>, J. Mateos<sup>1</sup>, and S. Pérez<sup>1</sup>, A. Westlund<sup>2</sup>, P.-Å. Nilsson<sup>2</sup>, and J. Grahn<sup>2</sup>  
<sup>1</sup>University of Salamanca, Spain. <sup>2</sup>Chalmers University of Technology, Sweden.  
Temperature and surface traps Influence on the THz emission from InGaAs diodes
- Mo P-20** V. Clérico<sup>1,2</sup>, Y. M. Meziani<sup>2</sup>, E. Diez<sup>1</sup>, and J. E. Velázquez-Pérez<sup>2</sup>  
<sup>1,2</sup>University of Salamanca, Spain  
Terahertz spectroscopy of a multilayers flake of graphene
- Mo P-21** J. A. Delgado-Notario, Y. M. Meziani, and J. E. Velázquez-Pérez  
University of Salamanca, Spain.  
TCAD study of sub-THz photovoltaic response of strained-Si MODFET
- Mo P-22** M. Cygorek and V. M. Axt  
Universität Bayreuth, Germany.  
Spin dynamics of carriers in diluted magnetic semiconductors beyond mean field and Golden Rule approximation
- Mo P-23** K. A. Vardanyan, A. L. Vartanian, and A. A. Kirakosyan  
Yerevan State University, Armenia.  
Confined acoustic phonon-mediated spin relaxation in a two-dimensional quantum dot in the presence of perpendicular magnetic field
- Mo P-24** M. A. Yerosyan<sup>1,2</sup>, K. A. Vardanyan<sup>1</sup>, A. L. Vartanian<sup>1</sup>, and A. A. Kirakosyan<sup>1</sup>  
<sup>1</sup>Yerevan State University, Armenia. <sup>2</sup>State Engineering University of Armenia, Armenia.  
Effect of Rashba and Dresselhaus spin-orbit interactions on the polaron properties in wurtzite semiconductor quantum dot in the presence of external fields
- Mo P-25** S. Pezzini<sup>1,2</sup>, C. Cobaleda<sup>1</sup>, B. A. Piot<sup>3</sup>, E. Diez<sup>1</sup>, and V. Bellani<sup>2</sup>  
<sup>1</sup>University of Salamanca, Spain. <sup>2</sup>Università degli studi di Pavia, Italy. <sup>3</sup>CNRS-UJF-UPS-INSA, France.  
Antiferromagnetic to ferromagnetic phase transition in bilayer graphene
- Mo P-26** R. Somphonsane<sup>1</sup>, H. Ramamoorthy<sup>2</sup>, and J. P. Bird<sup>2</sup>  
<sup>1</sup>King Mongkut's Institute of Technology Ladkrabang, Thailand. <sup>2</sup>University at Buffalo, U.S.A.  
Phonon-induced hot-carrier scattering in graphene: Insights from differential conductance
- Mo P-27** R. Rosati, F. Dolcini, and F. Rossi  
Politecnico di Torino, Italy.  
Scattering-induced quantum diffusion in graphene
- Mo P-28** M. Chung Nguyen<sup>1,2</sup>, V. Hung Nguyen<sup>1,2</sup>, H. Viet Nguyen<sup>2</sup>, J. Saint-Martin<sup>1</sup>, and P. Dollfus<sup>1</sup>  
<sup>1</sup>Univ. Paris-Sud CNRS, France. <sup>2</sup>Institute of Physics, VAST, Vietnam.  
Enhancement of Seebeck effect in strained graphene PN junctions

- Mo P-29** S. A. Tarasenko, L. E. Golub, and E. L. Ivchenko  
*Ioffe Physical-Technical Institute, Russia.*  
Valley polarization induced optical effects in graphene
- Mo P-30** R. Rengel, J. M. Iglesias, E. Pascual, and M. J. Martín  
*University of Salamanca, Spain.*  
Effect of charged impurity scattering on the electron diffusivity and mobility in graphene
- Mo P-31** C. H. Fuentevilla, J. D. Lejarreta, E. Diez, and C. Cobaleda  
*University of Salamanca, Spain.*  
Angle dependent conductivity in graphene FET transistors
- Mo P-32** M. Fortes, E. Comesaña, J. A. Rodriguez, P. Otero, and A. J. Garcia-Loureiro  
*University of Santiago de Compostela, Spain.*  
Evaluation of the collection length and optical path enhancement in a-Si:H solar cells
- Mo P-33** W. J. Pasek, M. P. Nowak, and B. Szafran  
*AGH University of Science and Technology, Poland. Aleja Adama Mickiewicza, Kraków, Poland.*  
Singlet-triplet energy splitting of a pair of holes in a GaInAs/GaAs quantum dot molecule
- Mo P-34** J. D. Fletcher<sup>1</sup>, P. See<sup>1</sup>, J. P. Griffiths<sup>2</sup>, G. A. C. Jones<sup>2</sup>, I. Farrer<sup>2</sup>, D. A. Ritchie<sup>2</sup>, T. J. B. M. Janssen<sup>1</sup>, and M. Kataoka<sup>1</sup>  
<sup>1</sup>National Physical Laboratory, U.K. <sup>2</sup>University of Cambridge, U.K.  
Controlling phonon emission in GaAs-based single-electron devices
- Mo P-35** P.-A. Haddad, and J.-P. Raskin  
*Université catholique de Louvain, Belgium.*  
Towards suspended geometric diodes for terahertz rectenna solar cells using wafer-scale CVD graphene on Cu thin films

**Hall Auditorio**

**Poster Session Wed P**

- Wed P-1** V. Janković and N. Vukmirović  
*University of Belgrade, Serbia.*  
Nonequilibrium terahertz conductivity in systems with localized electronic states
- Wed P-2** A. L. Asatryan, K. A. Vardanyan, A. L. Vartanian, and A. A. Kirakosyan  
*Yerevan State University, Armenia.*  
The influence of electric field on the quasi-confined and interface polaron basic parameters in a wurtzite nitride quantum wire
- Wed P-3** S. Illera, J. D. Prades, and A. Cirera  
*Universitat de Barcelona, Spain.*  
Electronic transport in Qd based structures: from basic parameters to opto-electronic device simulations
- Wed P-4** M. I. Alomar<sup>1,2</sup>, J. S. Lim<sup>3</sup>, and D. Sánchez<sup>1,2</sup>  
<sup>1,2</sup>Universitat de les Illes Balears, Spain. <sup>3</sup>Korea Institute for Advanced Study, Korea.  
Dynamical response of interacting mesoscopic capacitors
- Wed P-5** V. A. Kochelap<sup>1</sup>, V. V. Korotyeyev<sup>1</sup>, G. I. Syngayivska<sup>1</sup>, and L. Varani<sup>2</sup>  
<sup>1</sup>Institute of Semiconductor Physics, Ukraine. <sup>2</sup>University Montpellier, France.  
High-field electron transport in GaN under crossed electric and magnetic fields

- Wed P-6** A. Storeboe and T. Brudevoll  
*Norwegian Defense Research Establishment, Norway.*  
Modeling of a back-illuminated HgCdTe MWIR avalanche photodiode with alloy gradients
- Wed P-7** O. Muscato, and V. Di Stefano  
*Catania University, Italy.*  
Hydrodynamic model for silicon carbide semiconductors including crystal heating
- Wed P-8** A. Apostolakis, A. G. Balanov, and K. N. Alekseev  
*Loughborough University, U.K.*  
Acoustic control of electron dynamics in semiconductor superlattices
- Wed P-9** K. H. Park, P. Martin, and U. Ravaioli  
*University of Illinois at Urbana-Champaign, U.S.A.*  
Enhancement of thermoelectric efficiency in non-uniform semiconductor nanowires
- Wed P-10** J. H. Oh and M. Shin  
*Korea Advanced Institute of Science and Technology, Korea.*  
Current-induced torques of finite thickness F/N bilayers under Rashba spin-orbital interaction
- Wed P-11** I. Kanazawa  
*Tokyo Gakugei University, Japan.*  
Goldstone mode induced by skyrmions and collective modes in disordered quantum Hall crystals
- Wed P-12** V. Jakštas<sup>1</sup>, V. Janonis<sup>1</sup>, A. Bičiūnas<sup>1</sup>, R. Aleksiejūnas<sup>2</sup>, A. Kadys<sup>2</sup>, T. Malinauskas, and I. Kašalynas<sup>1</sup>  
<sup>1</sup>*Center for Physical Sciences and Technology, Lithuania.* <sup>2</sup>*Vilnius University, Lithuania.*  
Impact of a superlattice on electrical properties of AlGaIn/GaN/sapphire 2DEG structures
- Wed P-13** V. Talbo<sup>1</sup>, J. Mateos<sup>1</sup>, Y. Lechaux<sup>2</sup>, N. Wichmann<sup>2</sup>, S. Bollaert<sup>2</sup>, and B. G. Vasallo<sup>1</sup>  
<sup>1</sup>*University of Salamanca, Spain.* <sup>2</sup>*Institute of Electronics, Microelectronics and Nanotechnology, France.*  
Monte Carlo model for the analysis and development of III-V Tunnel-FETs and Impact Ionization-MOSFETs
- Wed P-14** N. Mendil, M. Daoudi, Z. Berkai, and A. Belghachi  
*University of Tahri Mohamed Bechar, Algeria.*  
Disorder effect on carrier mobility in fullerene organic semiconductor
- Wed P-15** A. Matsuoka, A. Emoto, and N. Ohtani  
*Doshisha University, Japan.*  
Enhancement of radiative efficiencies of near-ultraviolet organic light-emitting diodes by localized surface plasmon resonance effect
- Wed P-16** J. Dimmock<sup>1,2</sup>, M. Kauer<sup>1</sup>, P. N. Stavrinou<sup>2</sup>, and N. J. Ekins Daukes<sup>2</sup>  
<sup>1</sup>*Sharp Laboratories of Europe Ltd, U.K.* <sup>2</sup>*Imperial College London, U.K.*  
Metallic absorbers and the hot carrier solar cell
- Wed P-17** H. Tanimura, J. Kanasaki, and K. Tanimura  
*Osaka University, Japan.*  
State-resolved ultrafast dynamics of impact ionization in InSb studied by time- and angle-resolved photoemission spectroscopy



- Wed P-18** N. Mori<sup>1</sup>, R. Hill<sup>2</sup>, A. Patané<sup>2</sup>, and L. Eaves<sup>2</sup>  
<sup>1</sup>Osaka University, Japan. <sup>2</sup>University of Nottingham, U.K.  
 Monte Carlo study on anomalous carrier diffusion in inhomogeneous semiconductors
- Wed P-19** D. Moro-Melgar<sup>1</sup>, J. Trettel<sup>1</sup>, A. Maestrini<sup>1</sup>, J. Mateos<sup>2</sup>, T. González<sup>2</sup>, and B. G. Vasallo<sup>2</sup>  
<sup>1</sup>Observatoire de Paris, LERMA, France. <sup>2</sup>University of Salamanca, Spain.  
 A Monte Carlo study of the junction capacity in two-dimensional Schottky diode structures
- Wed P-20** I. Kanazawa  
 Tokyo Gakugei University, Japan.  
 Fractional topological-charge on a domain wall of a narrow-gap semiconductor-dots and D-brane-like dots
- Wed P-21** M. Ruiz-Garcia, M. Alvaro, M. Carretero, and L. L. Bonilla  
 Universidad Carlos III de Madrid, Spain.  
 Noise enhanced spontaneous chaos in semiconductor superlattices at room temperature
- Wed P-22** E. Colomé, D. Marian, and X. Oriols  
 Universitat Autònoma de Barcelona, Spain.  
 Unexpected new many-particle terms in quantum noise
- Wed P-23** Ó. García-Pérez<sup>1</sup>, J. Mateos<sup>1</sup>, S. Pérez<sup>1</sup>, A. Westlund<sup>2</sup>, J. Grahn<sup>2</sup>, and T. González<sup>1</sup>  
<sup>1</sup>University of Salamanca, Spain. <sup>2</sup>Chalmers Univ. of Tech., Sweden.  
 Shot-noise suppression effects in InGaAs planar diodes at room temperature
- Wed P-24** M. Pino  
 Rutgers The State University of New Jersey, U.S.A.  
 Entanglement growth in many-body localized systems with long-range interactions
- Wed P-25** A. V. Velichko<sup>1</sup>, M. Kesaria<sup>2</sup>, A. Patané<sup>1</sup>, O. Makarowsky<sup>1</sup>, M. Capizzi<sup>3</sup>, I. C. Sandall<sup>4</sup>,  
 C. H. Tan<sup>4</sup>, A. Krier<sup>2</sup>, and Q. Zhuang<sup>2</sup>  
<sup>1</sup>The University of Nottingham, U.K. <sup>2</sup>Lancaster University, U.K. <sup>3</sup>Sapienza Università di Roma, Italy.  
<sup>4</sup>The University of Sheffield, U.K.  
 Dilute nitride In(AsNSb) alloys for mid-infrared applications
- Wed P-26** Y. Lechaux, A. Fadjie, N. Wichmann, and S. Bollaert  
 Lille University, France.  
 Improvement of interfacial and electrical properties of Al<sub>2</sub>O<sub>3</sub>/ n-Ga<sub>0.47</sub>In<sub>0.53</sub>As for III-V impact-ionization MOSFETs
- Wed P-27** J. Osla and L. Serra  
 Universitat de les Illes Balears, Spain.  
 Majorana states in presence of orbital motion in planar hybrid nanowires.
- Wed P-28** J. Osla<sup>1</sup>, D. Ruiz<sup>1</sup>, and L. Serra<sup>1,2</sup>  
<sup>1,2</sup>Universitat de les Illes Balears, Spain.  
 Optical absorption of 2D Majorana nanowires
- Wed P-29** W. Desrat<sup>1</sup>, C. Consejo<sup>1</sup>, F. Teppe<sup>1</sup>, S. Contreras<sup>1</sup>, M. Marcinkiewicz<sup>1</sup>, W. Knap<sup>1,2</sup>,  
 A. Nateprov<sup>3</sup>, and E. Arushanov<sup>3</sup>  
<sup>1</sup>CNRS-Université de Montpellier, France. <sup>2</sup>Polish Academy of Sciences, Poland.  
<sup>3</sup>Academy of Sciences of Moldova, Moldova.  
 Non-trivial Berry phase in the Cd<sub>3</sub>As<sub>2</sub> 3D Dirac semimetal

- Wed P-30** D. Nagy, M. Aldegunde, M. A. Elmessary, and K. Kalna  
*Swansea University, U.K.*  
The effect of interface roughness scattering on Si SOI FinFET with Ando's and extended Prang and Nee model
- Wed P-31** J.-F. Millithaler<sup>1</sup>, I. Íñiguez-de-la-Torre<sup>2</sup>, J. Mateos<sup>2</sup>, T. González<sup>2</sup>, and M. Margala<sup>1</sup>  
<sup>1</sup>*University of Massachusetts, U.S.A.* <sup>2</sup>*University of Salamanca, Spain.*  
Optimization of ballistic deflection transistors by Monte Carlo simulations
- Wed P-32** N. Caselli<sup>1</sup>, F. Intonti<sup>1</sup>, F. La China<sup>1</sup>, F. Riboli<sup>1</sup>, A. Gerardino<sup>2</sup>, X. Le Roux<sup>3</sup>, W. Zhang<sup>3</sup>, E. Cassan<sup>3</sup>, L. Vivien<sup>3</sup>, F. Pagliano<sup>4</sup>, A. Fiore<sup>4</sup>, and M. Gurioli<sup>1</sup>  
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Fano near field imaging of photonic localized modes
- Wed P-33** N. López<sup>1</sup>, A. F. Braña<sup>1</sup>, C. García-Núñez<sup>1</sup>, M. J. Hernández<sup>2</sup>, M. Cervera<sup>2</sup>, K. M. Yu<sup>2</sup>, W. Walukiewicz<sup>3</sup>, and B. J. García<sup>1</sup>  
<sup>1</sup>*Universidad Autónoma de Madrid, Spain.* <sup>2</sup>*City University of Hong Kong, China.* <sup>3</sup>*Lawrence Berkeley National Laboratory, U.S.A.*  
Fabrication and characterization of multiband solar cells based on highly mismatched alloys
- Wed P-34** Y. Sun<sup>1</sup>, K. Ashida<sup>1</sup>, S. Sasaki<sup>1</sup>, T. Maemoto<sup>1</sup>, S. Sasa<sup>1</sup>, S. Kasai<sup>2</sup>, I. Íñiguez-de-la-Torre<sup>3</sup>, and T. González<sup>3</sup>  
<sup>1</sup>*Osaka Institute of Technology, Japan.* <sup>2</sup>*Hokkaido University, Japan.* <sup>3</sup>*University of Salamanca, Spain.*  
Fabrication and characterization of fully transparent ZnO thin-film transistors and self-switching nano-diodes
- Wed P-35** A. F. Braña<sup>1</sup>, E. Forniés<sup>2</sup>, N. López<sup>1</sup>, and B. J. García<sup>1</sup>  
<sup>1</sup>*Universidad Autónoma de Madrid, Spain.* <sup>2</sup>*Aurinka PV Group, Spain.*  
High efficiency Si solar cells characterization using impedance spectroscopy analysis.
- Wed P-36** S. G. Pavlov<sup>1</sup>, N. Deßmann<sup>2</sup>, A. Pohl<sup>2</sup>, N. V. Abrosimov<sup>3</sup>, M. Mittendorff<sup>4,5</sup>, S. Winner<sup>4</sup>, R. Kh. Zhukavin<sup>6</sup>, V. V. Tsyplenkov<sup>6</sup>, D. V. Shengurov<sup>6</sup>, V. N. Shastin<sup>6,7</sup>, and H.-W. Hübers<sup>1,8</sup>  
<sup>1</sup>*German Aerospace, Germany.* <sup>2</sup>*Technische Universität Berlin, Germany.* <sup>3</sup>*Leibniz-Institute for Crystal Growth, Germany.* <sup>4</sup>*Helmholtz-Zentrum Dresden-Rossendorf, Germany.* <sup>5</sup>*Technische Universität Dresden, Germany.* <sup>6</sup>*Russian Academy of Sciences, Russia.* <sup>7</sup>*Nizhny Novgorod State University, Russia.* <sup>8</sup>*Humboldt-Universität zu Berlin, Germany.*  
Towards a life-time-limited 8-octave-infrared photoconductive germanium detector
- Wed P-37** A. Pusch, M. Yoshida, N. P. Hylton, O. J. Curtin, A. Mellor, C. C. Phillips, N. J. Ekins-Daukes,, and O. Hess  
*Imperial College London, U.K.*  
The role of a photon ratchet in intermediate band solar cells
- Wed P-38** F. G. Ruiz, B. Biel, J. M. González-Medina, A. Toral, E. G. Marin, I. M. Tienda-Luna, and A. Godoy  
*Universidad de Granada, Spain.*  
Calculation of the ballistic current of few-layer MoS<sub>2</sub> field-effect transistors