International Conference on Terahertz emission, Metamaterials and Nanophotonics

TERAMETANANO-2016

3 – 10 April, Cartagena, Colombia

Program

Sunday 03.04.2016

Arrival of the participants

Welcome reception. Hotel Capilla del Mar

Monday 04.04.2016

09:00 – 09:10 Chair: A. Kavokin
Opening Session-Alexey Kavokin

09:10 – 10:10 Christof P. Dietrich
Room-temperature polariton lasing from fluorescent proteins

10:10 – 10:50 Keith A. Nelson
Phonon-polaritons and nonlinear THz spectroscopy, Exciton-polaritons and BEC

10:50 – 11:20 Chair: S. De Liberato
Coffee break

11:20 – 11:50 Masayoshi Tonouchi
Laser terahertz emission microscope

11:50 – 12:20 D. Laroze
The effects of the intense laser and homogeneous electric fields on the electronic and intraband optical properties of QRs

12:20 – 14:00 Chair: T. L. Cocker
Lunch

14:00 – 14:30 Stefan A. Maier
Plasmonic and dielectric nanoantennas for nanoscale light localization, sensing, and non-linear nanophotonics

14:30 – 15:00 M. E. Portnoi
Terahertz transitions in quasi-metallic carbon nanotubes and graphene nanoribbons

15:00 – 15:20 Simone De Liberato
Strong and Coherent Coupling Between Localized and Propagating Phonon Polariotons

15:20 – 16:00 Chair: M. E. Portnoi
Coffee break

16:00 – 16:30 Pavel A. Belov
Enhancement of Magnetic Resonance Imaging with Metasurfaces

16:30 – 17:00 Tyler L. Cocker
Ultrafast terahertz nanoscopy of nanostructures

Tuesday 05.04.2016

Chair: M. Helm

09:00 – 09:50 Alexey Kavokin
New quantum effect in a two-dimensional electron gas

09:50 – 10:20 K. Hirakawa
Terahertz spectroscopy of quantum nanostructures far beyond the diffraction limit

10:20 – 10:50 R. L. Restrepo
Electric and Magnetic fields effects on the second and third harmonic generation in a Tietz-Hua quantum well

10:50 – 11:20 Chair: Q. Hu
Coffee break

11:20 – 11:50 Simone De Liberato
Ground State Electroluminescence

11:50 – 12:20 M. Helm
The strange implications of electron-electron scattering in graphene

12:20 – 14:00 Chair: K. Hirakawa
Lunch

14:00 – 14:30 Malik Rahmanov
Optical Heterodyne Techniques for Interferometric Measurement of Very Small Displacements and Phases

14:30 – 15:00 Didier Felbacq
Strong and weak coupling of a quantum emitter with a metasurface: a game of poles

15:00 – 15:30 V. Del Campo
Graphitic nanostructures on Ru(0001)

15:30 – 17:00 Chair: Coffee break

POSTER SESSION

Wednesday 06.04.2016

Sightseeing day (time — to be updated)

Excursion (to be updated)

Thursday 07.04.2016

Chair: I. A. Lukyanchuk

09:00 – 09:50 Luis Quiroga Puello
Quenching across a quantum phase transition in radiation-matter systems

09:50 – 10:20 I. A. Sheklykh
Transport and Spin Properties of 2DEG Dressed by Light

10:20 – 10:50 S. Reitenstein
Injection locking in high-beta microlasers operating close to the quantum limit

10:50 – 11:20 Chair: M. E. Mora-Ramos
Coffee break

11:20 – 11:50 Jeronimo Tigon
Coherent THz emission in multilayer graphene induced by dynamical photon drag

11:50 – 12:20 J. C. Martínez-Orozco
Nonlinear optical properties in asymmetric double δ-doped GaAs Quantum Wells

12:20 – 14:00 Chair: L. Quiroga
Lunch

14:00 – 14:30 Igor A. Lukyanchuk
Terahertz Electrodynamics in Ferroelectric Films and Superlattices: The New Metamaterial with Negative Capacitance

14:30 – 15:00 Qing Hu
THz QCL frequency combs, amplifiers, and antenna-coupled efficient emitters

15:00 – 15:30 Mikhail Lapine
New degrees of freedom in nonlinear metamaterials

15:30 – 16:00 Chair: G. Pozina
Coffee break

16:00 – 16:30 J. D. Correa
Ab-initio study on graphene/hBN heterostructures

16:30 – 17:00 P. Cilibrizzi
Static and rotating spin textures in polariton microcavities

Friday 08.04.2016

Chair: A. Bousseksou
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<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
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<tr>
<td>09:00</td>
<td>M. E. Mora-Ramos</td>
<td>Light propagation in hybrid and disordered one-dimensional layered dielectric structures: Spatial field localization</td>
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<td>10:00</td>
<td>Galia Pozina</td>
<td>Super-radiant mode in the periodic structure of InAs monolayers embedded in GaAs Matrix</td>
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<td>11:20</td>
<td>Nikita Kavokine</td>
<td>Water floating upon water: optical manipulation of liquid marbles</td>
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<td>11:50</td>
<td>Philippe Ben-Abdallah</td>
<td>Hyperbolic blackbody and many-body near-field heat transfer</td>
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<td>14:30</td>
<td>Keshav M. Dani</td>
<td>Time Resolved Photoemission Electron Microscopy of Nanoscale Semiconductor Heterojunctions</td>
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<td>15:00</td>
<td>S. Huppert</td>
<td>Ultra-strong coupling with free space radiation</td>
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<tr>
<td>15:30</td>
<td>Nikita Kavokine</td>
<td>Temperature shift of intraband absorption peak in tunnel-coupled QW structure</td>
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<td>16:00</td>
<td>Chair: K. M. Dani</td>
<td>Lunch</td>
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<td>18:00</td>
<td>Walter Orellana</td>
<td>Porphyrin-based polymeric sheets and nanotubes for light harvesting applications: First-principles calculations</td>
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<td>18:30</td>
<td>Chair: C. A. Duque</td>
<td>Gate-tunable plasmonics in nanostructures</td>
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<td>19:00</td>
<td>J. C. Martinez-Orozco</td>
<td>Nonlinear optical rectification and second and third harmonic generation in double 5 - doped GaAs Quantum Wells: Magnetic field effects</td>
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<td>19:00</td>
<td>P. J. D. Giraldo-Gómez</td>
<td>Exciton states in elliptic GaAs-(Ga,Al)As quantum dots under applied electric field</td>
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<td>19:00</td>
<td>E. Kasapoglu</td>
<td>Intense laser field-induced nonlinear optical properties of Morse quantum well</td>
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<td>M. E. Mora-Ramos</td>
<td>Non-linear optical response of V-groove quantum wires</td>
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<td>Electronic states and optical response in two-dimensional elliptical quantum dots</td>
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<td>R. L. Restrepo</td>
<td>Donor impurity-related nonlinear optical transitions in double quantum rings</td>
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<td>Intense laser field effects on nonlinear optical rectification and second-harmonic generation in an atomic potential profile</td>
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<td>19:00</td>
<td>V. Tulpenko</td>
<td>Background impurity in SiGe/SiGe-S type QW, 5-doped in the center and the edge</td>
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<td>19:00</td>
<td>R. Guerrero</td>
<td>Structural, electronic and optical properties of nanotubes constructed from 2D carbon-based materials: Biphenylene and nitrogenated holey graphene</td>
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<td>H. A. Gómez-Urrea</td>
<td>Bulk-phonon polariton modes in polaritonic one-dimensional photonic superlattices</td>
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<td>H. A. Gómez-Urrea</td>
<td>Two dimensional triangular- lattice photonic crystals based on uniaxial polar materials</td>
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<td>B. Tanatar</td>
<td>Cooling without contact between bilayer dipolar gases</td>
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<td>A. Tiutiunnyk</td>
<td>Electron and donor impurity related Raman scattering and Raman gain in triangular quantum dots</td>
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<td>Transport properties through an aromatic molecular wire</td>
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<td>Galia Pozina</td>
<td>Spectral selection of single quantum dots from a dense array via Förster resonance energy transfer</td>
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