



Nanophotonics of 2D materials

2021, Nov 07 -- Nov 13

Organizers:

A. Nikitin (DIPC, Ikerbasque, Spain)

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Monday, November 08

- 14:45-15:00 **Welcome**
- 15:00-15:35 **Employing Material Anisotropy for Infrared Nanophotonics**
Joshua Caldwell
- 15:35-16:10 **Electrical tuning of interlayer excitons in bilayer 2D semiconducting transition metal dichalcogenides**
Monica Craciun
- 16:10-16:35 **Nanoscale disorder in transition metal dichalcogenides: Optimized mapping sample design**
Luca Francaviglia
- 16:35-17:00 **Transition metal dichalcogenide dimer nano-antennas with ultra-small gaps**
Panaiot Zotev
- 17:00-17:30 **Break**
- 17:30-18:05 **Helical Topological Polaritons**
Ritesh Agarwal
- 18:05-18:30 **Quantum Internal Structure of Plasmons**
Luis Brey
- 18:30-18:55 **Topological Optical Phase Engineering in Atomically Thin Transition Metal Dichalcogenides**
Georgy Ermolaev
- 18:55-19:20 **Dynamics of optical vortices in 2D materials**
Yaniv Kurman

Tuesday, November 09

- 11:30-13:00 **Skills4Science: scientific presentations**
- 13:00-15:00 **Break**
- 15:00-15:35 **Live from New York: plasmonic drag in graphene**
Dmitri Basov
- 15:35-16:10 **Dirac plasmon polaritons in topological insulators**
Stephanie Law
- 16:10-16:35 **Broadband Focusing of Acoustic Plasmons in Graphene with an**

- Applied Current**
Michael Sammon
- 16:35-17:00 **Tunable s-SNOM for nanoscale infrared optical measurement of electronic properties of multilayer graphene**
Thomas Taubner
- 17:00-17:25 **Break**
- 17:25-18:00 **Van der Waals active Metasurfaces and Heterostructures for Phase Modulation and Polarization Conversion.**
Harry Atwater
- 18:00-18:35 **Ultrastrong light-matter interactions via nanocavity polaritons**
Sang Hyun Oh
- 18:35-18:45 **Break**
- 18:45-20:15 **[Poster session I](#)**

Wednesday, November 10

- 11:30-13:00 **Skills4Science: scientific writing**
- 13:00-15:00 **Break**
- 15:00-15:35 **Strong coupling between h-BN phonons, photons and molecular vibrations**
Rainer Hillenbrand
- 15:35-16:10 **Probing Polaritons in Low-dimensional Materials with Synchrotron Infrared Nanospectroscopy**
Ingrid Barcelos
- 16:10-16:35 **Ultra-high-Resolution, Label-Free Hyperlens Imaging in the Mid-IR**
Mingze He
- 16:35-17:00 **Germanium monosulfide: a natural platform for highly anisotropic THz polaritons**
Maximilian Obst
- 17:00-17:25 **Break**
- 17:25-18:00 **Transition metal dichalcogenides: a promising platform for nanophotonics**
Valentyn Volkov
- 18:00-18:35 **Interacting excitons in van der Waals heterostructures**
Ajit Srivastava
- 18:35-18:45 **Break**
- 18:45-19:10 **Unveiling the Optical Emission Channels of Monolayer Semiconductors Coupled to Silicon Nanoantennas**
Jean-Marie Pomirol
- 19:10-19:35 **Metamaterials with Dirac carriers for nonlinear terahertz photonics**
Klaas-Jan Tielrooij
- 19:35-20:00 **Excitons with negative-mass electrons**
John Lupton

Thursday, November 11

- 15:00-15:35 **Near-field infrared optical characterization techniques of twisted and indirectly nanostructured 2D material heterostructures**
Frank Koppens
- 15:35-16:10 **Manipulating light at the nanoscale in hyperbolic media**
Pablo Alonso
- 16:10-16:35 **Towards exciton quantum simulators: more trions and vibronic states in Van der Waals heterostructures**
Nathaniel Gabor
- 16:35-17:00 **Rotation-tunable polaritonic resonances in refractive index-engineered biaxial Van de Waals crystal slabs**
Olga Matveeva
- 17:00-17:25 **Break**
- 17:25-17:50 **Quantifying Femtosecond-Nanometer Diffusion of Hot Carriers**
Alexander Block
- 17:50-18:15 **TBA**
TBA
- 18:15-18:40 **Atomically thin electro-optic polarization modulator**
Souvik Biswas
- 18:40-18:50 **Break**
- 18:50-20:15 **[Poster session II](#)**

Friday, November 12

- 09:30 10:05 **Tailored nanophotonics with 2D materials and hybrid systems in the far infrared**
Miriam Vitello
- 10:05-10:40 **Two dimensional infrared sensors beyond light intensity detection**
Wang Xiaomu
- 10:40-11:05 **Gate controlled quantum confinement of excitons in a monolayer tmd**
Maximilian Heithoff
- 11:05-11:20 **Break**
- 11:20-11:55 **Multi-physics modelling of infrared graphene photodetectors**
Eleferios Lidorikis
- 11:55-12:20 **Radial bound states in the continuum for enhanced non-linear optics with 2D materials**
Luca Sortino
- 12:20-12:45 **Anomalous coupling in hyperbolic media**
Lorenzo Orsini