

Online Conference on
Transport at the Nanoscale

12 — 16 October 2020

The conference can be accessed through ZOOM.

All times are given in the time zone of Mexico City (GMT-5 = CET+7)

Online poster session at:

<http://www.cicc.unam.mx/activities/2020/tns/tns-poster.html>

PROGRAM

Monday, October 12:

- 10:00 — 11:00: Stephan Roche, Catalan Institute of Nanoscience and Nanotechnology
Next frontiers for Spintronics & Quantum Computing: Dirac Matter & 2DM-based van der Waals Heterostructures
- 11:00 — 12:00: Penélope Rodríguez-Zamora, Universidad Nacional Autónoma de México
Chirality Transfer in Nanosystems with Bio-Metallic Interface
- 13:00 — 14:00: Caio Lewenkopf, Universidade Federal do Rio de Janeiro
Amorphous Topological Insulators
- 14:00 — 14:45: Luis Foa-Torres, Universidad de Chile
Perspectives on light-matter interaction: Floquet topological insulators and beyond
- 14:45 — 15:30: Laura Oropeza-Ramos, Universidad Nacional Autónoma de México
Graphitizing micro and nano patterns with Carbon-MEMS technology

Tuesday, October 13:

- 10:00 — 11:00: Mads Brandbyge, Technical University of Denmark
First Principles Electron Transport Calculations: From Molecular Contacts to Large 2D Devices
- 11:00 — 12:00: Julio Palma, Pennsylvania State University
Electron Transport in Single Molecules: Molecular Circuits based on Organic and Biochemical Molecules
- 13:00 — 13:45: Nikodem Szpak, Universität Duisburg-Essen
Electron optics in deformed and gated graphene -- analogue gravity and electromagnetic fields in strong regime
- 13:45 — 14:45: Gerardo Naumis, Universidad Nacional Autónoma de México
Electronic and optical properties of new Dirac materials
- 14:45 — 15:30: Mohan Kumar, Universidad Nacional Autónoma de México
Charge transfer in graphitic carbon nitride (g-C₃N₄)-based heterojunctions: Its importance in energy and environmental applications

Wednesday, October 14:

- 10:00 — 11:00: Klaus Richter, Universität Regensburg
Dirac Fermions in Curved Space: Magnetotransport and Quantum Hall Effect in Topological Insulator Nanowires
- 11:00 — 12:00: Stephen Power, Trinity College Dublin
Manipulating valley currents in graphene nanostructures
- 13:00 — 14:00: Jean-Christophe Charlier, Université catholique de Louvain
Modelling the electronic properties of graphene moiré superlattices
- 14:00 — 15:30: Poster Session at <http://www.cicc.unam.mx/activities/2020/tns/tns-poster.html>

Thursday, October 15:

- 10:00 — 11:00: Felix von Oppen, Freie Universität Berlin
Hilbert space geometry of random matrix eigenstates
- 11:00 — 12:00: John Villanova – University of Arkansas
Thermoelectricity of Tin Selenide Monolayers Across a Structural Phase Transition

- 13:00 — 13:45: José Hugo García, Catalan Institute of Nanoscience and Nanotechnology
Exotic Spin transport in two-dimensional topological materials
- 13:45 — 14:30: Yonatan Betancur-Ocampo, Universidad Nacional Autónoma de México
Current flow in phosphorene: Electron optics and perfect waveguides
- 14:30 — 15:15: Andrés Botello-Méndez, Universidad Nacional Autónoma de México
Models for understanding the physical properties of 2D materials

Friday, October 16:

- 10:00 — 11:00: Nancy Sandler, Ohio University and Technical University of Denmark
Strained graphene: a platform to isolate valleys and engineer band structures via Moire patterns
- 11:00 — 12:00: Xavier Waintal, Université Grenoble Alpes
Correlations and computational quantum transport: an approach for calculating Feynman diagrams at large orders
- 13:00 — 14:00: Hernán Calvo, Universidad Nacional de Córdoba
Thermodynamics and role of coherences in quantum-dot-based nanomachines
- 14:00 — 14:45: Raúl Bustos-Marún, Universidad Nacional de Córdoba
Entropy current and efficiency of quantum machines driven by nonequilibrium incoherent reservoirs.
- 14:45 — 15:30: Aron Cummings, Catalan Institute of Nanoscience and Nanotechnology
Spin transport in graphene and graphene-based heterostructures