

TENTATIVE PROGRAM (as of 21/04/2021)

Conference Time Zone – Madrid, Spain (GMT+2)



K: Keynote lecture / I: Invited Lecture / O: Oral contribution / FP: FlashPoster contribution



Tuesday (20/04/2021)

08:50 – 09:00: *Opening - Welcome and Introduction*

Antonio Correia – President (Phantoms Foundation, Spain)

Mario Lanza – (KAUST, Saudi Arabia)

09:00 – 09:30: **Paolo Samorì** (Université de Strasbourg, France) K

Molecular functionalization of 2D materials: high-performance opto-electronic devices

09:30 – 09:40: **Cesar Moreno** (ICN2, Spain) O

Atomically-precise Graphene Nanoarchitectonics

09:40 – 09:50: **Andrea Liscio** (National Research Council of Italy (CNR), Italy) O

Multiscale Charge Transport in van der Waals Thin Films: Reduced Graphene Oxide as a Case Study

09:50 – 10:00: **Haldun Sevinçli** (Izmir Institute of Technology, Turkey) O

Charge Transport in Multilayer Graphene Oxide: Bulk Diffusion versus Device Properties

10:00 – 10:10: **Mario Amado** (University of Salamanca, Spain) O

Valley currents via ballistic edge modes in graphene superlattice near the main Dirac point

10:10 – 10:20: **Stephen Power** (Trinity College Dublin, Ireland) O

Manipulating valley currents in graphene nanostructures

10:20– 10:45: *Break*

Parallel Session I

10:45 – 11:05: **Zhenxing Wang** (AMO, Germany) I

Wafer Scale Integration of Graphene

11:05 – 11:25: **Yuanyuan Shi** (IMEC, Belgium) I

Engineering wafer-scale epitaxial two-dimensional materials for advanced high-performance nanoelectronics

11:25 – 11:45: **Sten Vollebregt** (TU Delft, The Netherlands) I

Wafer-scale graphene: a transfer-free approach

11:45 – 12:05: **Luzhao Sun** (BGI, China) I

Controlled Growth of High-Quality CVD Graphene Film

12:05 – 12:15: **Klaas-Jan Tielrooij** (ICN2, Spain) O

Graphene for nonlinear THz photonics and thermal management

12:15 – 12:25: **Kaichen Zhu** (Soochow University, China) O

Fully inkjet printed h-BN memristors

12:25 – 12:35: **Simon Skrzypczak** (IEMN, France) O

Switch RF based on 2d materials

12:35 – 12:45: **Filipa Silva** (I3S, Portugal) O

Graphene-based materials as platforms for skin disease treatment

12:45 – 12:50: **Bárbara Diego Lisboa Amaral Lopes** (ICN2, Spain) FP

Graphene Nanostructures Integration in Nanophotonic Biosensors

12:50 – 12:55: **Gabriele Bianca** (Istituto Italiano di Tecnologia, Italy) FP

Solution-processed photoelectrochemical (PEC)-type photodetectors based on layered GaSe and GeSe nanoflakes

12:55 – 13:00: **Dorde Jovanovic** (Institute of Physics Belgrade, Serbia) FP

Is solar going indoors?

Parallel Session II

10:45 – 11:05: Fernan Saiz (KAUST, Saudi Arabia)	I
Predicting the strain effects in 2D materials: the case of ZrS ₃ monolayers	
11:05 – 11:15: Yaqing Shen (Institute of Functional Nano and Soft Materials (FUNSOM), China)	O
Anatomy of 2D materials based memristors: the role of each type of defect	
11:15 – 11:25: Wenwen Zheng (Soochow University, China)	O
Effect of metal deposition on atomically h-BN	
11:25 – 11:35: Sebin Varghese (ICN2, Spain)	O
A novel technique to measure thermal diffusion of thin films:	
11:35 – 11:45: Maria Tenorio (ICN2, Spain)	O
Built-in atomically sharp superlattice heterojunctions from hybrid Nanoporous Graphene	
11:45 – 11:55: Michele Magnozzi (Università di Genova, Italy)	O
Local dielectric-function modulation and exciton recombination efficiency in monolayer WS ₂ flakes	
11:55 – 12:05: Alexander Block (ICN2, Spain)	O
Experimental observation of giant thermal diffusivity of Dirac fluid	
12:05 – 12:15: David Saleta (ICN2, Spain)	O
Systematic study of the thermal conductivity of MoSe ₂ as a function of thickness - from bulk to monolayer	
12:15 – 12:25: Peng Xiao (ICN2, Spain)	O
Reversing of humidity response of MoS ₂ - and WS ₂ -based sensors with metal coatings	
12:25 – 12:35: Andrea Tomadin (Università di Pisa, Italy)	O
Microscopic theory of plasmon-enabled resonant terahertz detection in bilayer graphene	
12:35 – 12:40: Chuyao Tong (ETH Zurich, Switzerland)	FP
Valley and Spin Blockade in Graphene Quantum Dots	
12:40 – 12:45: Panaiot Zotev (University of Shieffield, UK)	FP
Transition metal dichalcogenide photonic dimer nano-antenna with ultra-small gap	
12:45 – 12:50: Mahmoud Mohamed Saad Abdelnabi (Sapienza university of Rome, Italy)	FP
Hydrogen isotopes functionalization of nano-porous graphene: attainment of stable and low-defect free-standing graphene	
13:00 – 14:00: <i>Lunch Break</i>	
14:00 – 14:30: Kang Wang (UCLA, USA)	K
Interface coupling and band topology in van der Waals materials	
14:30 – 15:00: Titus Neupert (University of Zurich, Switzerland)	K
Stable-fragile-delicate: new notions in topological band theory	
15:00 – 15:20: Gil-Ho Lee (POSTECH, South Korea)	I
Engineering graphene Josephson junction for sensitive photon detector	
15:20 – 15:50: <i>ePoster Session</i>	
15:50 – 16:20: Xiaodong Xu (University of Washington, USA)	K
Spin, Charge, and Phonon Coupling Effects in a 2D Magnet	
16:20 – 16:40: Talieh S. Ghiasi (University of Groningen, The Netherlands)	I
Electrical and thermal generation of spin currents by magnetic graphene	
16:40 – 16:50: José Hugo Garcia (ICN2, Spain)	O
Spin-Orbit Torques in Magnetic Janus Transition Metal Dichalcogenides	
16:50 – 17:00: Cihan Bacaksiz (University of Bremen, Germany)	O
Differences in magnetic properties of CrI ₃ and CrBr ₃ monolayers caused by spin-orbit coupling	
17:00 – 17:10: Thomas Lyons (The University of Sheffield, UK)	O
Giant effective Zeeman splitting realized by spin-selective strong light-matter coupling	
17:10 – 17:20: Williams Fernando Saverio Torres (ICN2, Spain)	O
Room temperature spin Hall effect in CVD graphene/Pt heterostructures	
17:20 – 17:30: Marc Vila Tusell (ICN2, Spain)	O
Spin dynamics in the topological, low-symmetry MoTe ₂ and WTe ₂	
17:30 – 17:50: Avik Ghosh (University of Virginia, USA)	I
Pseudospintronics - Graphene transistor based on tunable topological properties of Dirac fermions	
17:50 – 18:10: Juan Sierra (ICN2, Spain)	I
Engineering van der Waals heterostructures for spintronics	

18:10: End of Day 1



Wednesday (21/04/2021)

- 09:00 – 09:30: **He Tian** (Tsinghua University, China) K
Novel graphene, BP and perovskite-based 2D devices
- 09:30 – 10:00: **Peng Zhou** (Fudan University, China) K
Find a Way for 2D materials in Electronics
- 10:00 – 10:30: **Antonio H. Castro Neto** (National University of Singapore, Singapore) K
2D-Electrolytes
- 10:30– 10:50: *Break*
- 10:50 – 11:20: **Claudia Backes** (University of Heidelberg, Germany) K
Liquid phase exfoliation, degradation and functionalisation of layered materials
- 11:20 – 11:50: **Jonathan Coleman** (Trinity College Dublin, Ireland) K
Electrical and electrochemical applications of liquid exfoliated nanosheets
- 11:50 – 12:00: **Sebastian Grieger** (University of Heidelberg, Germany) O
Site selective oxidation of monolayered liquid-exfoliated WS₂ by shielding the basal plane through adsorption of a facial amphiphile
- 12:00 – 12:10: **Tim Nowack** (University of Heidelberg, Germany) O
Controlling the photoluminescence of liquid phase exfoliated γ -InSe nanosheet thin films by centrifugation-based size selection
- 12:10 – 12:40: **Li Tao** (Southeast University, China) K
2D Bismuth for Flexible Thermoelectric and Photoelectric Electronics
- 12:40 – 13:00: **Catherine Journet-Gautier** (Université Claude Bernard Lyon 1, France) I
Polymer Derived Ceramics route and derivatives applied to the synthesis of boron nitride
- 13:00 – 14:00: *Lunch Break*
- 14:00 – 14:30: **Vladimir Falko** (National Graphene Institute, University of Manchester, UK) K
Moiré superlattice networks in twistrionics bilayers of transition metal dichalcogenides
- 14:30 – 15:00: **Vincent Meunier** (Rensselaer Polytechnic Institute, USA) K
Lattice dynamics in low-angle twisted bilayer graphene
- 15:00 – 15:20: **Fokko de Vries** (ETH Zurich, Switzerland) I
Gate-Defined Josephson Junctions in Magic-Angle Twisted Bilayer Graphene
- 15:20 – 15:30: **Viet-Hung Nguyen** (Université Catholique de Louvain, Belgium) O
Electronic localization in small-angle twisted bilayer graphene
- 15:30 – 15:40: **Sergey Slizovskiy** (National Graphene Institute, University of Manchester, UK) O
Dielectric susceptibility of graphene due to its out-of-plane polarizability
- 15:40 – 16:10: **James Hone** (Columbia University in the City of New York, USA) K
Bilayer Graphene as a Model Hydrodynamic Semiconductor
- 16:10 – 16:30: *Break*
- 16:30 – 17:00: **Alexander Balandin** (University of California, Riverside, USA) K
Two-Dimensional Charge-Density-Wave Quantum Materials
- 17:00 – 17:10: **Luis Canonico** (ICN2, Spain) O
Disentangling Orbital and Valley Hall Effects in Bilayers of Transition Metal Dichalcogenides
- 17:10 – 17:20: **Hadar Steinberg** (Hebrew University of Jerusalem, Israel) O
Spectroscopy of Two-Dimensional Superconductors with van der Waals Tunnel Junctions
- 17:20 – 17:30: **Rebekka Garreis** (ETH Zürich, Switzerland) O
Shell filling and trigonal warping in graphene quantum dots
- 17:30 – 17:40: **Aleandro Antidormi** (ICN2, Spain) O
Optimizing Graphene Photothermoelectric Detectors
- 17:40 – 18:10: **Annick Loiseau** (ONERA, France) K
BN materials for 2D devices: learnings from optical properties
- 18:10: Closing