

Mission 10 000: Quantum Science & Technologies

October 22nd - 24th of 2019 | INL, Braga, Portugal

NOTE: This is a tentative schedule, times listed are subject to change. Check back often for updates or subscribe to our newsletter at our website: <https://nanogateway.eu/en/mission-quantum/>

PROGRAMME | October 22nd, 2019

8h45 - 9h10 Registration

OPENING SESSION

9h15 Lars Montelius, Director-General INL

MORNING SESSION

KEYNOTE SPEAKER

09h30 **Frank Koppens**, ICREA Professor, ERC Starting Grant Award, ERC Consolidator Grant Award.
Quantum Nano-Optoelectronics Group Leader at ICFO

INVITED TALK

10h15 **Rozema Lee**, Faculty of Physics.
University of Viena

Q. Plasmonics

CONTRIBUTED TALK

10h45 **António Costa**, Plasmons in graphene – superconductor heterostructures
INL

11h00 Coffee break

INVITED TALK

11h30 **Asger Mortensen**, Professor & VILLUM Investigator program on Quantum Plasmonics
University of Southern Denmark

Q. Plasmonics & Photonics

CONTRIBUTED TALKS

12h00 **Sara Núñez Sánchez**, Excitonic core-shell nanoparticles with plasmon-like response, University of Vigo

12h15 **William P. Wardley**, Strong coupling between Surface Exciton Polaritons and complementary optical modes in multicomponent thin film structures, INL

Q. Imaging

12h30 Lunch break

Networking Opportunity

AFTERNOON SESSION

INVITED TALK

15h00 **Joachim von Zanthier**, Associate Professor and Group Leader of Quantum Optics and Quantum Information
Institute of Optics, Information and Photonics. Friedrich-Alexander University Erlangen-Nürnberg, Germany

Q. Imaging

CONTRIBUTED TALK

15h30 **Jana Nieder**, Temporal dynamics of hexagonal boron nitride single quantum emitters, INL

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15h45	POSTER SESSION & Coffe Break	Collaboration opportunities
INVITED TALK		
17h15	Lucas Thiel , Research in the Quantum Sensing Group, Department of Physics University of Basel, Switzerland	Q. Sensing
INVITED TALK		
17h45	Jorge Quereda Bernabeu , Nanotechnology Research Group, University of Salamanca	Q. Sensing

PROGRAMME | October 23rd, 2019

8h30 - 9h00	Registration	
MORNING SESSION		
INVITED TALK		
9h15	Roser Valentí , Institute for Theoretical Physics University of Frankfurt	Q. Topological Materials
INVITED TALK		
9h45	Ramón Aguado , Theory of Quantum Materials and Solid State Quantum Technologies group leader at Materials Science Institute of Madrid (ICMM) ICMM - CSIC	Q. Topological Materials
CONTRIBUTED TALKS		
10h15	Bruno Mera , Topologically protected quantization of work, IST - Instituto Superior Técnico	Q. Topological Materials
10h30	Marcel Claro , Topological insulator quantum dots grown by molecular beam epitaxy, INL	
10h45	Gonçalo Catarina , Anomalous Kerr effect in two-dimensional massive Dirac materials, INL	
11h00	Coffee break	
INVITED TALK		
11h30	Juan José García Ripoll , Instituto de Física Fundamental (IFF) IFF Madrid - CSIC	Q. Information & Q. Simulation
INVITED TALK		
12h00	Fabio Sciarrino , Associate Professor in the Department of Physics University Sapienza	Q. Information & Q. Simulation

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12h30 Lunch break

Networking Opportunity

AFTERNOON SESSION

KEYNOTE SPEAKER

15h00 **Jeanie Lau**, Professor of Physics
UC Riverside, California

Q. Materials

CONTRIBUTED TALK

15h45 **Mario Amado**, Competition between canted antiferromagnetic and spin-polarized quantum Hall states at $v = 0$ in single layer graphene on a ferrimagnetic insulator, University of Salamanca and University of Cambridge

Q. Materials

16h **Alejandro Molina**, Excitonic effects on the magneto-optical properties of ferromagnetic 2D materials, INL

Q. Topological Materials

16h15 **POSTER SESSION & Coffe Break**

Collaboration opportunities

INVITED TALK

17h15 **Tatiana Rappoport**, Associate professor at the Physics Institute of the Federal University of Rio de Janeiro
University of Rio de Janeiro

Q. Materials

CONTRIBUTED TALK

17h45 **Leonardo Novo**, Quantum advantage from energy measurements, ULB Brussels

Q. Computing

18h **Bruno Murta**, Quantum Berry phase estimation, INL

18h15 **Armando Pinto**, Quantum Oblivious Keys for Secure Multiparty Computation, University of Aveiro

PROGRAMME | October 24th, 2019

8h30 - 9h00 Registration

MORNING SESSION

KEYNOTE SPEAKER

9h15 **Samson Abramsky**, Christopher Strachey Professor of Computing and a Fellow of Wolfson College
University of Oxford

Q. Information & Q. Programming

INVITED TALK

10h00 **Ugo dal Lago**, Associate Professor at the University of Bologna
University of Bologna

Q. Information & Q. Programming

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CONTRIBUTED TALKS

10h30 **Carlos Tavares**, A dynamic logic for QASM programs, INESC TEC

10h45 **Ricardo Faleiro**, Quantum Kolmogorov complexity of quantum states and correlations, IT Lisbon

Q. Information & Q. Programming

11h00 Coffee break

INVITED TALK

11h30 **Artur García-Sáez**, Barcelona Supercomputing Center

Q. Computing

CONTRIBUTED TALKS

12h00 **Mikhail I. Vasilevskiy**

12h15 **Henrique Silvério**

12h30 **Pedro Cruz**

Q. Computing

CLOSING REMARKS & AWARD SESSION

12h45 Best Poster Presentation and Best contributed Talk by **Joaquín Rossier**, INL

13h Lunch break

Networking Opportunity

ROUNDTABLE DISCUSSION

14h **Scaling Quantum Innovations: now and tomorrow**

AFTERNOON PARALLEL SESSIONS

HANDS-ON QUANTUM COMPUTING*

15h00 **Joaquín Rossier**, INL
Luís Barbosa, INL

* Limit of 30 participants upon confirmation by the organization.

COMMUNICATION SYMPOSIUM

WHY SCIENCE COMMUNICATION MATTERS?

15h00 **Elisabeth Nilsson**, Learning Organization Developer
INL

INVITED TALK

15h15 **Francisco Villatoro**, Associate Professor in the Department of Computing Science and Language University of Málaga

INVITED TALK

16h00 **Enrique Sahagún**, Scixel.es