

# Mission 10 000: Quantum Science & Technologies

October 22<sup>nd</sup> - 24<sup>th</sup> 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 22<sup>nd</sup>, 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 **Armando Pinto**, Quantum Oblivious Keys for Secure Multiparty Computation, University of Aveiro

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

Q. Imaging

15h45 **Jana Nieder**, Temporal dynamics of hexagonal boron nitride single quantum emitters, INL

\* Not included

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## PROGRAMME | October 22<sup>nd</sup>, 2019

16h	POSTER SESSION & Coffe Break	Collaboration opportunities
<b>INVITED TALK</b>		
17h15	<b>Lucas Thiel</b> , Research in the Quantum Sensing Group, Department of Physics University of Basel, Switzerland	Q. Sensing
<b>INVITED TALK</b>		
17h45	<b>Jorge Quereda</b>	Q. Sensing

## PROGRAMME | October 23<sup>rd</sup>, 2019

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

## PROGRAMME | October 24<sup>th</sup>, 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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PROGRAMME | October 24<sup>th</sup>, 2019

## 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**

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

## 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