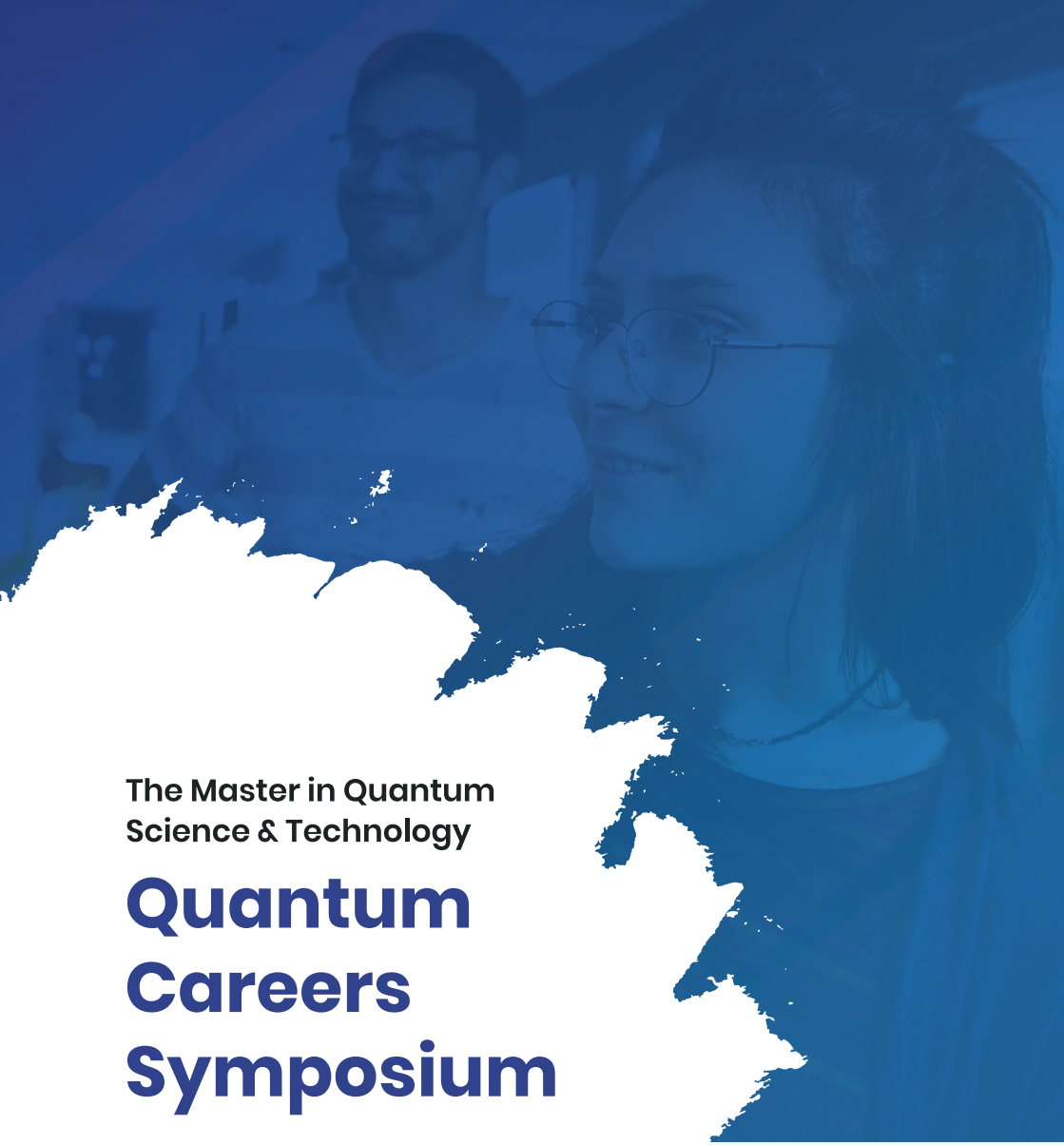

The Master in Quantum Science & Technology

# Quantum Careers Symposium

**La Pedrera, Auditorium**
Passeig de Gràcia, 92
08008 Barcelona

**Online streaming**

# Program

8 April 2022

The Master in Quantum
Science & Technology

**Quantum Careers Symposium**

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# Program

## 8 April 2022

**La Pedrera, Auditorium.** Barcelona

Streaming available

| | |
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| **9:00-9:30** | **Registration** |
| **9:30-9:40** | **Welcome**<br>**Robert Sewell**, ICFO |
| **9:40-10:10** | **Quantum Technologies for the XXI Century**<br>**Ignacio Cirac**, Max Planck Institute<br>Introduced by Antonio Acín, ICFO |
| **10:10-11:00** | **Academia panel**<br>**Hugues de Riedmatten**, ICFO<br>**Bruno Juliá-Díaz**, UB<br>**Morgan Mitchell**, ICFO<br>**Anna Sanpera Trigueros**, UAB<br>**Leticia Tarruell**, ICFO |
| 11:00-11:20 | Coffee break |
| **11:20-12:10** | **Industry panel**<br>**Junye Huang**, IBM Quantum<br>**Vanesa Diaz**, LuxQuanta<br>**Gianni Del Bimbo**, Multiverse<br>**Marta P. Estarellas**, Qilimanjaro<br>**Carlos Abellán**, Quside |
| **12:10-12:15** | **ACTPHAST 4R**<br>**Sergi Ferrando Margalet**, ICFO |
| **12:15-13:00** | **Quantum careers: My experience**<br>**Ayaka Usui**, ICCUB<br>**Vindhiya Prakash**, ICFO<br>**José Hugo García**, ICN2<br>**David López-Nuñez**, IFAE & BSC<br>**Marco Fanizza**, UAB |
| **13:00-13:10** | **Fuelling quantum computers with smart code**<br>**Guillermo García-Pérez**, Algorithmiq |
| 13:10-14:15 | Lunch break |
| **14:15-15:15** | **Quantum initiatives**<br>**Valerio Pruneri**, Q-Communication-Spain<br>**Alba Cervera**, Q-Computing-Spain<br><br>**Quantum projects**<br>**Jennifer Aldama-Guardia**, CiViQ<br>**Charikleia Troullinou**, macQsimal<br>**Jelena Rakonjac**, QIA<br>**Robin Camphausen**, Q-MIC<br>**Jordi Arbiol**, Quantum Materials at Atomic Scale |
| **15:15-15:30** | **Guide to networking**<br>**Frank Wolfs**, ProFound & JoinTheDutch |
| **15:30-16:45** | **Networking** |
| **16:45-17:00** | **Closing** |

# About

The Quantum Career Symposium is organized by the Master in Quantum Science & Technology and it is inspired by the CARLA project; this EU project has worked with 100 professionals of the industry and academia, entrepreneurs and experts in innovation, researchers and students as well as experts and activists in different diversity dimensions to create career camps of excellence. These events aim to encourage university students and young researchers to pursue a career in Deep Tech fields such photonics and quantum technologies. CARLA events integrate the fields of industry, academia, innovation and entrepreneurship, putting special emphasis on empowering diversity.

## About the Quantum Career Symposium

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## About Carla

www.carlahub.eu

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# Welcome

**Robert Sewell**
Head of Academic Affairs, SPIE@ICFO Chair
for Diversity in Photonic Sciences

ICFO

## Bio

Prof. Robert Sewell completed a dual arts/science undergraduate degree at the University of Melbourne, and received his PhD in Physics from Imperial College London in 2009. He joined ICFO in 2009 as a Marie Curie Research Postdoctoral Fellow, and in 2014 was appointed Staff Scientist and Coordinator of Academic Programs at ICFO. From 2021 he is a Tenured Scientist and Head of Academic Affairs, responsible for ICFO's PhD program, postdoctoral training program, and training of undergraduate and master students. He is Co-Director of the Master of Multidisciplinary Research in Experimental Sciences offered by the Barcelona Institute of Science and Technology, a member of the coordination team of the inter-university Master in Quantum Science and Technology, and in 2020 was appointed SPIE@ICFO Chair for Diversity in Photonic Sciences.

## About the Institution

ICFO was founded in 2002 by the Government of Catalonia and the Universitat Politècnica de Catalunya·Barcelona Tech, both of which are members of its board of trustees along with the Cellex and Mir-Puig Foundations, philanthropic entities that have played a critical role in the advancement of the Institute. Located in the Mediterranean Technology Park in the metropolitan area of Barcelona, the institute currently hosts 450 people, organized in 26 research teams that use 80 state-of-the-art research laboratories. Research lines encompass diverse areas in which photonics plays a decisive role, with an emphasis on basic and applied themes relevant to medicine and biology, advanced imaging techniques, information technologies, a range of environmental sensors, tunable and ultra-fast lasers, quantum science and technologies, photovoltaics and the properties and applications of nano and quantum materials such as graphene. In addition to two consecutive accreditations of the Severo Ochoa national program for research excellence, ICFOnians have been awarded 15 elite ICREA Professorships as well as 40 European Research Council grants. ICFO participates actively in the European Technological Platform Photonics21 and is very proactive in fostering entrepreneurial activities, spin-off creation, and creating collaborations and links between industry and ICFO researchers. To date, ICFO has helped create 11 start-up companies.

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# Quantum Technologies for the XXI Century


## Ignacio Cirac

Director of the Theory Division
at Max Planck Institute of Quantum Optics


## Bio

Born in Manresa, Spain. In 1988, he graduated in Theoretical Physics from the Complutense University, Madrid (Spain), and gained his PhD in 1991. Between 1991 and 1996, he was Associate Professor at the University of Castilla-La Mancha (Spain) and Research Associate at the University of Colorado, Boulder (USA). From 1996 until 2001 he was Professor of Theoretical Physics at the University of Innsbruck (Austria). Since 2001 he is a member of the Max Planck Society and director at the Max Planck Institute of Quantum Optics in Garching (Germany). In 2002 he also became honorary professor at the Technical University of Munich. He carries out research in quantum computing, quantum optics and many-body physics. He is a member of the Spanish, German (Leopoldina) and Bavarian Academies of Sciences, and corresponding member of the Austrian. He holds seven honorary doctorships.

## About the Institution

The Max Planck Institute of Quantum Optics (MPQ) is one of 86 research institutes operated by the Max Planck Society. We are located at Research Campus Garching, one of the strongest research regions in Germany, in close vicinity to the elite universities Ludwig-Maximilian (LMU) and Technical University of Munich (TUM). Our research focusses on basic research on the interaction of light and matter under extreme conditions: With our fundamental research, we strive to push the boundaries of our knowledge further and further, as we believe that Quantum Physics will change and shape our world and technologies forever. Currently, our institute consists of several divisions (Laser Spectroscopy, Quantum Dynamics, Attosecond Physics, Theory, and Quantum Many Body Systems), with more than 350 scientists working here, coming from around 40 different nations. The stimulating research environment at MPQ results from fruitful collaboration and exchange between the different groups and divisions, making it one of the world-leading research institutions in this field. The 2005 Nobel Prize for T.W. Hänsch can be regarded as the most outstanding confirmation.

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## Hugues de Riedmatten

ICFO Group Leader and ICREA Professor

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### Bio

Hugues is ICREA professor and head of the Quantum Photonics with Solids and Atoms group at ICFO since 2010. He obtained his PhD from the University of Geneva in 2003, where he worked as a Principal Scientist until 2010 after a two-year post-doctorate at the California Institute of Technology. His research focuses on the science of experimental quantum information and quantum optics. His group is developing quantum technologies to implement quantum networks and quantum repeaters for long distance quantum communication, including quantum memories for light, quantum light sources, and quantum frequency conversion and quantum processing nodes (www.qpsa.icfo.es). His research was awarded the City of Barcelona Prize in Experimental Science and Technology in 2017, a Start-up Grant from the European Research Council and a Frontier research grant from the Moore Foundation.

### About the research group

At the Quantum Photonics with Solids and Atoms research group, we investigate the quantum connection between single photons and atomic ensembles implemented with rare-earth doped solids and cold atomic gases.

Our research program lies at the crossing between quantum information science, quantum optics and nanoscale science. In particular, we are interested in the quantum control of light matter interaction between single photons and atomic ensembles implemented with rare-earth doped solids and cold atomic gases. The goal of the research is to develop the physical resources to implement quantum information networks and quantum repeaters which are required to increase the maximal distance of quantum communication. A more fundamental goal is to enable the observation of fascinating quantum effects, such as entanglement, with distant material systems and to explore and extend the limits of quantum coherence in complex material systems.

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**Bruno Juliá-Díaz**
Professor at Universitat de Barcelona

UNIVERSITAT DE BARCELONA

## Bio

Bruno Juliá-Díaz is Professor at the Department of Quantum Physics and Astrophysics of the University of Barcelona, and a visiting scientist of the ICFO since 2013. After completing his degree in physics in the University of Sevilla (1998), he obtained his PhD degree from the University of Salamanca in 2003. After completing his PhD he was appointed as researcher at the University of Helsinki, as postdoctoral researcher at the CEA/Saclay (France) and research associate in the University of Pittsburgh. In 2006 he got a Juan de la Cierva fellowship at the University of Barcelona. In 2012 he was awarded a Ramon y Cajal fellowship, first at ICFO and later at the University of Barcelona. His current research is mostly on ultracold gases, quantum simulation and quantum many-body physics. He has authored 95 peer reviewed articles which have been cited more than 3000 times. He has supervised 5 PhD thesis and is currently supervising 2 more, 11 master thesis and 25 final degree thesis. He has coauthored a textbook on first year calculus "Anàlisi matemàtica d'una variable" (UB 2011) and recently wrote a two science popularisation books "El frío absoluto" (RBA 2016), and "Superconductividad y superfluidez" (RBA 2017). He is currently the coordinator of the Master in Quantum Science and Technology @ Barcelona.

## About the Institution

The Institute of Cosmos Sciences of the University of Barcelona (ICCUB) is an interdisciplinary center devoted to fundamental research in the fields of cosmology, astrophysics and particle physics. In addition, the institute has a strong technology program through its participation in international collaborations in observational astronomy and experimental particle physics. The Institute was created in 2006 as the instrument of the University of Barcelona for the active support of research in theoretical astrophysics and particle physics, paying special attention to their synergy with cosmology, to promote experimental physics and instrument development, enabling a significant participation of the University of Barcelona in large international collaborations, and to attract highly qualified scientific personnel.

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**Morgan Mitchell**
ICFO Group Leader and ICREA Professor

ICFO

## Bio

Morgan W. Mitchell is an ICREA Professor of Quantum Optics at ICFO. He received his Ph.D. degree from the University of California at Berkeley in 1999, where he focused his research on non-classical light generation by four-wave mixing in atomic vapours. He was then a post-doctoral researcher in the group of Serge Haroche and Jean-Michel Raimond at the LKB, ENS, Paris, where he developed atom trapping/cooling techniques and micro-optical assemblies for cavity-QED experiments with cold Rb. He was then a research associate in the group of Aephraim Steinberg at the University of Toronto, where he made pioneering contributions to quantum sensing, including the first generation of multi-photon "NooN states". At ICFO he leads the group on atomic quantum sensing and metrology, focusing on the use of quantum resources to boost sensitivity in atomic instruments. He has been awarded an ERC Starting Grant "Atomic Quantum Metrology" and two ERC Proof-of-concept grants, which have led to three patents and one start-up. He coordinates the Catalan RIS3CAT "emergent community" in Quantum Technologies. He is author of more than 110 scientific publications in peer-reviewed journals, including five in Nature, five in other Nature-family journals, and 24 in Physical Review Letters. H-index 38 (Scopus), 47 (Google).

## About the research group

At the Atomic Quantum Optics group, we investigate quantum optical and quantum information processes with cold atoms and non-classical light sources, especially quantum processes arising from light-atom interactions.

We study quantum physics as it manifests in atomic and optical systems, especially quantum processes arising from light-atom interactions. One major area of research is atomic quantum sensors, for which we have developed hot-vapor, laser-cooled, and ultra-cold atomic systems. With these we have demonstrated entanglement-enhanced sensing of magnetic fields, and more generally are working to understand how entanglement and other quantum effects can improve quantum sensor technology. Another area of interest is fundamental quantum physics at the light-atom interface. For this we work with individual trapped atoms and ultracold atoms. Finally, we study quantum randomness and its relationship to technology and foundations of physics.

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## Anna Sanpera Trigueros

ICREA Professor and Group Leader at UAB

### Bio

Anna Sanpera Trigueros is an ICREA Professor at the group of Quantum Information of the University Autònoma of Barcelona. She received her Ph.D. degree from the University Autònoma of Barcelona in 1992 working on the subject of superstrong matter-light interactions. In 1993 she moved to the University of Oxford working with K. Burnett and A. Ekert on harmonic generation and quantum information theory, and 1996 she moved as a European postdoc fellow to CEA-University of Saclay, in Paris in the group of M. Lewenstein. In 1998 she obtains an assistant research position at the Leibnitz University of Hannover where she was working in Bose-Einstein condensation, quantum optics and quantum information theory. In 2005 she moved to the University Autònoma of Barcelona. She has published over 140 research papers and a book on Quantum Simulators, and her work has received over 16000 citations. Her research is quite interdisciplinary and at the frontier between quantum information theory, condensed matter physics, quantum simulators and ultracold gases. Otherwise she is very fond of literature, arts, sports and children.

### About the research group

The Quantum Information Group at the Autonomous University of Barcelona (GIQ) is a theoretical team devoted to research, teaching and dissemination of Quantum Information Theory. In particular we work on (i) Quantum Shannon Theory: determining the capability of noisy quantum systems, to preserve information and correlations, thus tackling the ultimate physical limits of information storage and transmission. (ii) Quantum Statistical Inference: establishing the ultimate limits in quantum and quantum hypothesis testing in order to push the precision limits in the estimation of a physical parameters, such as the strength of a magnetic field, that can be used to locate and quantify underground deposits of metals or crude oil. (iii) Quantum Simulators and Quantum Learning: developing new analytical and numerical techniques to analyze quantum correlations (non-locality, steering, entanglement) as well as other quantum resources like quantum coherence in order to construct a unified framework to describe resources in quantum information theory. Special effort is devoted to develop the theory of quantum learning to improve the tasks above. (iv) Quantum Thermodynamics: We investigate how thermodynamical laws break down when systems are correlated with their environments. The effect of correlations in out-of-equilibrium dynamics is also a research line of the group.

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**Leticia Tarruell**
ICFO Group Leader and ICREA Professor

## Bio

Leticia Tarruell got her PhD from the Ecole Normale Supérieure in Paris in 2008 under the supervision of Christophe Salomon, on the study of strongly interacting superfluid Fermi gases. As a postdoc in the group of Tilman Esslinger at the ETH Zurich she studied fermionic atoms in optical lattices as model systems for graphene and quantum magnetism. After a CNRS position at Institut d'Optique in Bordeaux, she joined ICFO in 2013. The Ultracold Quantum Gases experimental group that she leads there explores quantum many-body physics with ultracold potassium and strontium gases, with a focus on quantum mixtures, spin-orbit coupled gases, and optical lattices. She is author of >25 papers, including journals such as Nature and Science, and has been awarded a L'Oreal-UNESCO Spanish prize For Women in Science in 2014, the Royal Spanish Physics Society award "Investigador novel en Física Experimental" in 2015, and an ERC Consolidator grant in 2020.

## About the research group

At the Ultracold Quantum Gases research group, we use ultracold atomic gases as model systems to experimentally explore fundamental phenomena in quantum many-body physics. By exploiting atom-light interactions, we engineer highly controllable artificial quantum materials and probe their properties. Our goal is to employ these systems as quantum simulators for studying open problems in condensed-matter physics, and to realize novel phases without counterpart in the solid-state context. Our research therefore lies at the crossing between quantum optics and condensed-matter physics.

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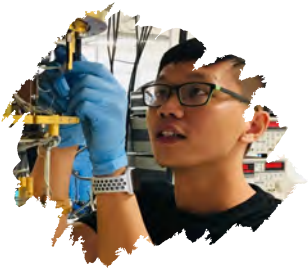

## Junye Huang

Quantum Developer Advocate at IBM Quantum

IBM **Quantum**

### Bio

Junye Huang is a Quantum Developer Advocate at the IBM Quantum Community Team whose mission is building an open, diverse and inclusive quantum community. His passion is teaching people how to program quantum computers using Qiskit and real quantum systems on IBM Cloud. In 2021, Junye led the organization of IBM Quantum Challenge with over 1400 people from 76 countries participated for the celebration of 5th anniversary of IBM Quantum and 40 years of quantum computing. He received Outstanding Accomplishment (highest level of recognition) from IBM Research for quantum education, together with the team behind Qiskit Global Summer School and Qiskit textbook. Junye's passion for quantum computers drives him to create educational games for quantum computers such as QPong, a quantum version of Pong which he created at the first Qiskit camp. QPong was subsequently ported to a physical Quantum arcade machine and toured around Europe, including the EU Quantum Flagship Event in Helsinki in Oct 2019. Before joining IBM, Junye was a graduate student at National University of Singapore conducting experimental research on exploration of topological qubits using 2D materials.

### About the company

IBM Quantum is an industry-first initiative to build quantum systems for business and science applications.

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## Vanesa Diaz

Business Development Director at LuxQuanta

LUXQUANTA

### Bio

Vanesa works as Business Developer Director at LuxQuanta leading the activities related to business development, customer engagement, strategic partnerships and marketing. She has more than 17 years of experience in diverse commercial roles in the optical communication industry where she has built a solid reputation as a communicator with recognized experience at international conferences and industry magazines. Vanesa holds a Masters Engineering Degree in Telecommunications from the University of Cantabria, Spain, and a Master of Business and Marketing from Griffith University, Australia.

### About the company

LuxQuanta was born in May 2021 as a spin-off from ICFO and after being incubated for over 4 years with the mission of developing Quantum Key Distribution (QKD) systems and technologies, exploiting the unique properties of quantum physics to distribute cryptographic keys between users with the highest level of security. The technology is capable of providing high-performance quantum cryptography solutions, easy to integrate into existing network infrastructures while capable of delivering a quantum-safe layer of security on top of mathematical cryptographic techniques. From its headquarters in Barcelona (Spain), LuxQuanta strives to deliver ultra-secure data encryption and communications to all European Union's governmental institutions, financial sectors, data centres and private telecommunication network providers.

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## Gianni Del Bimbo

Head of Quantum Engineering at Multiverse Computing SL

### Bio

Quantum physicist. MSc in Physics from the Ludwig Maximilian University (LMU) of Munich with a thesis on computational methods for strongly correlated systems. BSc in Physics and Astrophysics from the University of Florence. Quantum machine learning specialist.

### About the company

Multiverse Computing SL is a Deep-Tech company developing Quantum Software for Extreme Ideas. It is a Spanish company with headquarters in San Sebastian, and fully owned subsidiaries in Toronto (Canada), Paris (France) and Munich (Germany). It was founded in 2019 by leading experts in the field of Quantum Computing and Finance, as a spin-off of the Donostia International Physics Center (DIPC). In 2019, the founders published a paper that discussed how quantum computation might be applied to the financial industry to solve its most dire problems [https://bit.ly/3pIMEtn]. It showcased how quantum annealers can be used to optimize portfolios. It also discussed how quantum ML methods could accelerate state-of-the-art solutions. The paper showed how Monte Carlo sampling, applied to financial risk forecasting, can benefit from quantum speed-up. Our findings became the cornerstone of our technology. The paper itself has received an enormous audience in the quantum and financial industry. We are world leaders in quantum computing for the financial industry and we are also expanding into clean energy, smart manufacturing, anti-fraud and space industries.

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**Marta P. Estarellas**
Senior Software Engineer
at Qilimanjaro Quantum Tech

## Bio

Marta is a Senior Quantum Engineer in the theory and applications team of Qilimanjaro Quantum Tech, based in Barcelona. She completed her PhD in Physics at the York Centre for Quantum Technologies (University of York, UK). Her previous background spans different fields, with a BSc in Chemistry, a MSc in Physical-Chemistry, an inter-university European Master's in Theoretical Quantum Chemistry and Computational Modelling, and she is currently finishing an Engineer's Degree in Computer Engineering with a focus in Computer Architecture and Networks. She was a postdoc at the Global Research Center for Quantum Information Science at the National Institute of Informatics in Tokyo, where she is now a Visiting Assistant Professor. She is interested and working in the design of superconducting-based quantum computer architectures, the development of adiabatic quantum computing algorithms, applications of NISQ analog-based quantum simulations and the compilation and optimization of quantum algorithms.

## About the company

Qilimanjaro Quantum Tech is a deep-tech startup that addresses real-life quantum-ready problems. Qilimanjaro's integrated hardware & software team co-designs high quality superconducting qubit-based app-specific quantum computers. It has already commissioned its first client gate-based system. In parallel, it is targeting next-generation analog quantum computers with easy-to-use cloud access to effectively address complex optimisation and ML problems. It also provides services for businesses to become quantum-ready, particularly on quantum algorithms, quantum simulation and classical/quantum computer approaches. It has closed significant customer contracts since its first year of operation, and has become a key contributor to the European Commission's AVaQus H2020 project on coherent quantum annealing. Qilimanjaro is a spin-off from the Barcelona Supercomputer Center (BSC), the University of Barcelona (UB) and the Institute of High-Energy Physics (IFAE).

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## Carlos Abellán

CEO at Quside

QUSIDE

### Bio

Carlos Abellan is cofounder and CEO at Quside, a quantum technology spin-off from ICFO. Carlos got his PhD in quantum technologies from ICFO, where he developed the quantum randomness technologies that were transferred to Quside. Carlos has 10 years of experience in quantum and photonics technologies, is co-inventor of multiple patent families and co-author of 15+ papers in top scientific journals. He has received multiple awards for his work, including the MIT Innovators Under 35 Europe.

### About the company

Quside builds quantum technologies for safer connectivity and advanced computation. A spin-off of ICFO in Barcelona, Spain, Quside has a 10+ year heritage in the development and research of quantum technologies and is commercializing innovative quantum random number generators and other hardware solutions. Quside is an active member of the European quantum community and the Quantum Industry Consortium (QuIC) as well as a key contributor in a variety of projects for the European Commission
(Qrange and Civiq projects for the Quantum Flagship program) and National efforts (Clave, Caramuel, QuSpin).

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## Sergi Ferrando Margalet

KTT Business Developer at ICFO

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### Bio

Sergi holds a BSC in Physics from the Universitat de Barcelona (UB), an MSc in Mathematics from the University of London and a PhD in Physics from the Ecole Polytechnique Fédéral de Lausanne (EPFL). After his PhD, Sergi moved to Japan for a 2-year post-doc at the National Institute for Fusion Science (NIFS). He then returned to the Barcelona area where he worked first as R&D Project Leader and then as R&D Director at MONOCROM SL. In 2013, Sergi joined ICFO's KTT Team as business developer to focus on spin-off initiatives inside ICFO's KTT Launchpad. He is presently the manager of PHOTONCAT, the Catalan Photonics Innovation Hub, and representative of the photonics node of DIH4CAT, the European Digital Innovation Hub of Catalonia. He also leads ICFO's and PHOTONCAT's participation in European initiatives like Actphast4.0, Actphast4Researchers and Photonhub Europe. Currently he is also joint vice-president of Fotónica21.

### About the project

Actphast 4 Researchers: helping European researchers with an entrepreneurial mindset to push their breakthrough innovation ideas with photonics based technology support, dedicated business coaching and orienteering.

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# Quantum careers: My experience


## Ayaka Usui

Postdoctoral fellow at ICCUB

ICCUB Institut de Ciències del Cosmos UNIVERSITAT DE BARCELONA


## Bio

Ayaka Usui is from Japan and did a PhD at OIST in Okinawa, Japan. She did research not only in Japan but also in Oxford and Vienna during her PhD. She joined in ICCUB in October 2021 as a postdoc, and this is her first postdoc experience.

## About the research

I study a few particle system and exact diagonalisation in ICCUB. Since there are only a few particles, solving their equations or in other words fully describing them is not hard. We add strong contact interactions and spin-orbit coupling, etc, and are seeing how the properties of the system change.


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# Quantum careers: My experience

**Vindhiya Prakash**
Postdoctoral researcher at ICFO

## Bio

Originally from Chennai, India, I completed the bachelor's and master's degrees in physics at the National University of Singapore in Singapore. Here, I was involved in trapping and manipulation of ultra-cold neutral atoms on a chip for over 3 years, as a part of the team lead by Dr. Bjorn Hessmo at CQT - Centre for Quantum Technologies. With a background in both atomic physics and photonics, my primary interests are in studying atom-photon interactions from a fundamental-science perspective and for applications in quantum metrology, information processing and networking.

## About the research

As a starting stage post-doc in the Atomic Quantum Optics group lead by Prof. Dr. Morgan Mitchell at ICFO, I focus on experimental investigations of light-matter interactions at the level of individual quanta. I recently defended my PhD, during the course of which I developed an SPDC based photon-pair source for photons spectrally tailored to match transitions in cold atoms. My expertise is in quantum non-linear frequency conversion, quantum information encoding in light and spectral tailoring and characterisation at the single-photon level.

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# Quantum careers: My experience

**José Hugo García**
Senior Postdoctoral Researcher at ICN2

## Bio

Computational physicist with more than six years of experience in numerical simulations of low-dimensional disordered condensed matter systems. His current research focuses on the use of quantum transport methods to determine materials' electrical response for device optimization using an algorithm he developed to simulate quantum effects in macroscopic devices reaching the billion-atom scale. He applies these methods to evaluate 2D materials for spintronic applications, aiming at the development of ultralow-power high-speed memories and processors. During the last years, he has published in different renowned journals, Nat. Phys. Rev., Nat. Mat., Chem. Soc. Rev., Phys. Rep., Phys. Rev. Lett., and Nano Lett. He has been a very active writer on Quora's social network earning the Top Writer distinction for four consecutive years. There, he also owns a science space with more than 90k subscribers.

## About the Institute

The Institut Català de Nanociència i Nanotecnologia, with its official English translation Catalan Institute of Nanoscience and Nanotechnology and acronym ICN2, is a non-profit international research institute located close to Barcelona (Catalonia, Spain). It is devoted to the generation of knowledge, materials and devices in the broad fields of ICT, health, energy and the environment.

The expertise of the ICN2 lies at the nanoscale, where new properties, interactions and ways to exploit them in everyday life are being discovered. Among its goals is to bring together scientists from diverse backgrounds in the pursuit of better science, better training and better outreach to society, while also seeking out new ways to engage with local and global industry.

ICN2 was accredited in 2014 as a Severo Ochoa Centre of Excellence, a recognition renewed in 2018 for another 4-year period. The Severo Ochoa Programme, sponsored by the Spanish Ministry of Science, Innovation and Universities, aims to identify and support Spanish research centres that are among the world's best in their specialty.

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# Quantum careers: My experience

**David López-Nuñez**
PhD student at IFAE & BSC

## Bio

David López-Núñez is a PhD student in the QCT group of Pol Forn-Díaz. He studied a Degree in Physics and a Master's Degree in Advanced Physics in the University of Barcelona. His area of research consists on the design, fabrication and measurement of superconducting quantum processors for quantum annealing. He also has experience as a scientific communicator, as he has presented in public, high-school and undergrad talks and also creates content for YouTube.

## About the group

Quantum Computing Technologies (QCT) is a research group on experimental quantum computation led by Pol Forn-Díaz. The focus of the group research is on designing, fabricating and measuring superconducting qubit processors. These processors are intended to perform quantum annealing experiments. This is a type of quantum computation that consists on evolving the quantum state of the quantum processor until the final states that encodes the solution of a problem.

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## Social media

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IGNORANTIA - por Lope Núñez

# Quantum careers: My experience

**Marco Fanizza**
Postdoctoral researcher
at Universitat Autònoma de Barcelona

## Bio

Marco Fanizza is a postdoctoral researcher in the Quantum Information Group (GIQ) at UAB. He received his PhD in 2021 from Scuola Normale Superiore, Pisa. His work has been focused on upper and lower bounds on capacities of quantum channels, and on optimal protocols for quantum statistical inference tasks. Previously, he obtained his bachelor and master degrees from the University of Pisa, and the Scuola Normale Superiore undergraduate diploma. He was a visiting student at the Centre de Physique Théorique (CPT), Marseille, working on a master thesis on spin foam models. His current research interests also include quantum hidden Markov models and quantum statistical learning theory.

## About the research group

The Quantum Information Group (GIQ) research interests range from theoretical aspects of quantum information (quantum Shannon theory, quantum statistical inference, quantum metrology, entanglement theory) over implementations of quantum information protocols (e.g., quantum optics and ultra-cold gases) to applications of quantum information theory in condensed matter systems, nonequilibrium statistical mechanics and dissipative quantum dynamics. GIQ members belong to the unit Física Teòrica: Informació i fenòmens quàntics, which is part of the Physics Department of the Universitat Autònoma de Barcelona.

## Contact info

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# Algorithmiq: fuelling quantum computers with smart code

**Guillermo García-Pérez**
Chief Scientific Office at Algorithmiq

algorithmiq

## Bio

Guillermo holds a PhD from the University of Barcelona and did postdoctoral research at the University of Turku and the University of Helsinki. He co-founded Algorithmiq in 2020, where he has worked as CSO since then. Besides quantum computing, he is interested in foundational aspects of quantum mechanics and complex network theory.

## About the company

Algorithmiq is a company developing advanced quantum algorithms to tackle complex problems in the life sciences. We combine expertise in quantum information, complex systems and computational physics to design algorithms that run on near-term quantum devices to solve important problems in drug development, complex systems simulation and new materials.

## Contact info

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## Social media

in algorithmiq

**Valerio Pruneri**
ICFO Group Leader, ICREA Professor
and Corning Inc. Chair

ICFO

## Bio

Valerio Pruneri is Corning Inc. Chair leading the Optoelectronics group at ICFO. Previously he worked for Avanex, Corning, Pirelli, and the University of Southampton. He is inventor of more than 50 patents and has given more than 100 invited talks. His group has developed technologies for the Photonics industry, including low voltage electro-optic modulators, nonlinear frequency converters, tunable lasers for telecommunication, ultrathin materials and nanostructured surfaces for display screens, quantum devices and systems for imaging and secure communication. His work has led to numerous industrial collaborations and three spin-offs, Quside, Sixsenso and Luxquanta. He was awarded the Philip Morris Prize, Pirelli Fellowship, IBM Faculty award, Paul Ehrenfest award, Duran Farell Prize and Corning Inc. Professorship.

## About the initiative

The project Quantum Communications (QC) in Spain aims at creating EuroQCI infrastructure and contributing to the National and European sovereignty in cybersecurity. At the same time several technologies will be developed, which will eventually be deployed to support the  QC security network and lead to a quantum internet in the long term.

## Contact info

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## Alba Cervera Lierta

Senior researcher at BSC

Barcelona Supercomputing Center
Centro Nacional de Supercomputación

## Bio

Alba Cervera-Lierta is a Senior Researcher at the Barcelona Supercomputing Center. She earned her PhD in 2019 at the University of Barcelona, where she studied her physics degree and a Msc in particle physics. After her PhD, she moved to the University of Toronto as a postdoctoral fellow at the Alán Aspuru-Guizik group. She works on near-term quantum algorithms and their applications, high-dimensional quantum computation, and artificial intelligence strategies in quantum physics. Since October of 2021, she is the coordinator of the Quantum Spain project, an initiative to boost the Spanish quantum computing ecosystem.

## About the initiative

The Quantum Spain project aims to boost the Spanish quantum computing ecosystem by offering quantum computing hardware services to the Spanish Supercomputing Network (RES) users. It also aims to develop novel quantum algorithms and explore its applications in Artificial Intelligence. This initiative involves 27 public institutions across Spain, it is coordinated by the BSC-CNS and it is funded by the Next Generation European funds through the Secretary of State for Digitalization and Artificial Intelligence.

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Barcelona Supercomputing Center

**Jennifer Aldama-Guardia**
PhD student at ICFO

CiViQ

## Bio

Jennifer Aldama obtained her B.Sc. degree in Physics from the National University of Trujillo, Perú, and her M.Sc. degree in Physics from the University of Puerto Rico. She is currently pursuing the PhD in Photonics at ICFO in the Optoelectronics research group led by prof. Valerio Pruneri. At ICFO she is working on the development of Quantum Key Distribution systems based on continuous variable.

## About the project

The goal of the CiViQ project is to open a radically novel avenue towards flexible and cost-effective integration of quantum communication technologies, and in particular Continuous-Variable QKD (CV-QKD), into emerging optical telecommunication networks. CiViQ aims at a broad technological impact based on a systematic analysis of telecom-defined user-requirements. To this end CiViQ unites for the first time a broad interdisciplinary community of 21 partners with unique breadth of experience, involving major telecoms, integrators, and developers of QKD. The work targets advancing both the QKD technology itself and the emerging "software network" approach to lay the foundations of future seamless integration of both. CiViQ will culminate in a validation in true telecom network environment. Project-specific network integration and software development work will empower QKD to be used as a physical-layer-anchor securing critical infrastructures, with demonstration in QKD-extended software-defined networks.

## Contact info

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## Social media

#CiViQ_quantum

**Charikleia Troullinou**
PhD student at ICFO

macQsimal

## Bio

Charikleia Troullinou is a senior PhD student in the Atomic Quantum Optics group lead by Prof. Dr. Morgan Mitchell at ICFO. She received the Bachelor and Master of Science degree in Advanced Physics from University of Crete, Greece. She later moved to United States to focus her studies on experimental particle physics and received a Masters of Science degree from Physics department of Boston University. Her PhD studies at ICFO lie on the topics of Quantum Optics and Atomic Physics, related to squeezed light generation and its application on quantum sensors as well as the development of squeezing techniques towards the quantum enhancement of highly sensitive optically pumped magnetometer.

## About the project

macQsimal is an EU-funded Horizon 2020 research project which designs, develops, miniaturises and integrates advanced quantum-enabled sensors with outstanding sensitivity, to measure physical observables in five key areas: magnetic fields, time, rotation, electro-magnetic radiation and gas concentration. The common core technology platform for these diverse sensors is formed by atomic vapor cells realised as integrated microelectromechanical systems (MEMS) fabricated at the wafer level. The project paves the way for transformative advancements in the domain of quantum sensing and metrology. In this area of research, scientists are working with atomic sensors as a new and improved interface between the physical and the digital world for enhanced applications in various fields such as navigation and medical imaging. Through its balanced basic and applied research concept, macQsimal addresses the fundamental questions of quantum-enhancement techniques such as squeezing, entanglement and quantum non-demolition measures to form a basis for scientific breakthroughs of future research.

## Contact info

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## Social media

#macQsimal

**Jelena Rakonjac**
PhD student at ICFO

## Bio

Jelena is a PhD student at ICFO, where she is working on solid-state quantum memories in the group of Hugues de Riedmatten. Before this, she completed her Bachelors studies and a Master of Science in Physics at the University of Otago in New Zealand.

## About the project

Our goal is to develop a Blueprint for a pan-European entanglement-based Quantum Internet, by developing, integrating and demonstrating all the functional hardware and software subsystems.

## Contact info

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## Social media

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quantum-internet-alliance

## Robin Camphausen

PhD student, ICFOstepstone Fellow

Q-MIC

### Bio

Robin Camphausen is a PhD researcher working in the Optoelectronics group at ICFO under the supervision of Prof. Valerio Pruneri. His research in Q-MIC centres on integrating single-photon detector camera technology and entangled photon sources with phase-detection microscopy techniques. This included the first demonstration of a wide-field scan-free quantum-enhanced phase microscope, and the development of novel fast and practical quantum imaging schemes. His experience ranges from applied classical and quantum photonic technologies, microscopy and imaging, to quantum information and quantum random number generation. Robin graduated from the University of Sydney, completing an Honours degree in Physics after working in the Nanophotonics and Plasmonics Advancement Lab (NPAL), and the Centre for Ultrahigh Bandwidth Devices for Optical Systems (CUDOS).

### About the project

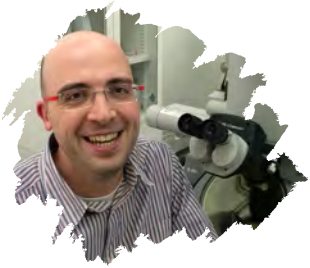
Q-mic aims at developing a new on-chip differential interference contrast microscope based on an unconventional birefringence lens-free configuration, the latest quantum sources and single-photon image sensors. The Q-MIC platform will reach unprecedented sensitivities (a few atomic layers, of the order of 1 Å) over large field of view (tens of $mm^2$) in the low light (single-photon) regime. This unique combination of features will allow, on the one hand, the first demonstration of a practical quantum device for imaging, while providing, on the other hand, a platform for fundamentally new lines of research in quantum metrology, including the interaction of quantum states and bio-species. It is also an important goal of the project to facilitate that the quantum enhanced on-chip interference microscope be built with consumer components, especially thanks to the project's effort in photonic and electronic integration of entangled photon sources and single photon avalanche diode image sensor arrays. This would extend the impact well beyond the scientific interests and lead to portable, high throughput, non-invasive, and label free sensing of transparent objects, such as cells, microorganisms, viruses and proteins. For example, microarrays of biomarkers with millions of spots could be read in a single shot, with no need of fluorescence marking. Other applications include the detection of small particles in the microelectronics industry and inline quality control of transparent substrates for roll-to-roll production of flexible optoelectronic devices.

### Contact info

www.q-mic.eu

### Social media

Robin Camphausen



## Jordi Arbiol

ICREA Professor and Group Leader at ICN2

### Bio

Prof. Jordi Arbiol graduated in Physics from the Universitat de Barcelona (UB) in 1997, he went on to obtain his PhD (European Doctorate and PhD Extraordinary Award) in 2001 from this same institution in the field of transmission electron microscopy (TEM) applied to nanostructured materials. He was assistant professor at the UB. From 2009 to 2015 he was ICREA Professor and group leader at the Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), as well as the scientific supervisor of its electron microscopy facilities. He was President of the Spanish Microscopy Society (SME) (2017-2021) and held the position of vice-president from 2013 to 2017, having been a member of its Executive Board (2009-2021). In 2018 he was elected as Member of the Executive Board of the International Federation of Societies for Microscopy (IFSM) (2019-2026). Since 2015 he has been ICREA Professor and leader of the Advanced Electron Nanoscopy Group at the Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and BIST. He is Scientific Supervisor of the Electron Microscopy Area at ICN2 and BIST, and also at the ALBA Synchrotron EM platform. He has been one of the founder members of e-DREAM. He received the FWO Commemorative Medal (Flanders Research Foundation) in 2021 and was awarded the 2014 EU40 Materials Prize by the E-MRS and was listed in the Top 40 under 40 Power List (2014) by The Analytical Scientist. On March 2022 he has more than 405 peer-reviewed publications and more than 24150 citations (GoS) with h-index: 85 GoS (76 WoS).

### About the Institute

The Institut Català de Nanociència i Nanotecnologia (ICN2), is a non-profit international research institute located close to Barcelona (Catalonia). It is devoted to the generation of knowledge, materials and devices in the broad fields of ICT, health, energy and the environment. The expertise of the ICN2 lies at the nanoscale, where new properties, interactions and ways to exploit them in everyday life are being discovered. Among its goals is to bring together scientists from diverse backgrounds in the pursuit of better science, better training and better outreach to society, while also seeking out new ways to engage with local and global industry.

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### Social media

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jarbiol; institut-catal-de-nanotecnologia

## Frank Wolfs

Talent Acquisition Entrepreneur
at ProFound & JoinTheDutch

### Bio

Frank Wolfs has a degree in marketing and started his career some 25 years ago. He acts on Strategic, Tactical and Operational levels in Hightech companies to develop compelling recruitment strategies and execute the operational plan. Good references in Photonics with companies like IMEC, EFFECT Photonics, Xenics and EPIC.

### About the company

With ProFound Corporate Recruitment we unburden our customers with their recruitment needs. Companies outsource their complete recruitment process to our organisation which means we recruit for a rich diversity of different positions in both SME's as well as in multinationals across different industries. With JoinTheDutch we offer customised recruitment solutions to suit your wishes and needs for the big move. Thanks to JointheDutch you get access to the best opportunities within our network of multinational clients, which operate in all sectors and domains, including Photonics. If we can't find the right match at one of our partners? Do not worry! At JointheDutch we go the extra mile for you to find the perfect career in The Netherlands! As the Dutch say: 'where there is a will, there is a way'.

### Contact info

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### Social media

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Frank Wolfs

ProFoundResources

# Moderator of Academia Panel

**Antonio Acín**
ICFO Group Leader and ICREA Professor

ICFO

## Bio

Antonio Acín is ICREA Professor and Head of the Quantum Information Theory group at ICFO since 2008. He obtained his PhD from the University of Barcelona in 2001, and after two years of postdoctoral work at the University of Geneva, he joined ICFO in 2003. His research is primarily focused on new quantum information protocols, with an emphasis on cryptographic applications and methods for characterizing quantum correlations. Dr Acín has been awarded four grants from the European Research Council: Starting (2008-13), Proof of Concept (2012-13), Consolidator (2014-19) and Advanced (2020-24) and holds the AXA Chair in Quantum Information Science.

## About the research group

The main research objective of the ICFO Quantum Information Theory group is to understand how quantum laws can be exploited to design novel protocols for information processing and communication, with an emphasis on quantum cryptography. The research effort goes from very abstract questions, such as security proofs of cryptographic protocols or characterising correlations beyond quantum physics, to proposals for the implementation of quantum information protocols and collaborations with experimental groups. The group activities also cover research questions in other fields, such as quantum thermodynamics, quantum foundations, quantum optics and many-body physics.

## Contact info

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## Social media

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# Moderator of Industry Panel

**Silvia Carrasco**
KTT Director at ICFO

## Bio

PhD, MBA, KTT Director at ICFO. Vice-chair of the SPIE Chair for Diversity in Photonic Sciences at ICFO, she served as vice-president of the Spanish mirror of the European platform Photonics21, as a Member of the Board of secpho and of the Investments Committee of "Caixa Invierte Start". Currently a member of the Board of Directors of Elisava-Barcelona School of Design and Engineering and in the Board of Directors of several ICFO spin-off companies, Carrasco was awarded a Fulbright Fellowship and enjoyed research stays at several USA institutions, including the College of Optics, University of Central Florida, the Photonics Center, Boston University, and Harvard University, Boston. She received the Fem Talent Award in 2013 and the Economy and Innovation Castelldefels City Award in 2019. Already at ICFO in 2016, Silvia Carrasco created ICFO's KTT Unit, in charge of the innovation, technology transfer and outreach activities. She has a broad experience in IPR and outreach management, resulting in a patent portfolio of more than 100 patent families and a Corporate Liaison Program. She has created ICFO's LaunchPad, a deep-tech start-up incubator where eleven spin-off companies have been launched that currently includes new ventures in various stages of incubation.

## About the group

The Knowledge and Technology Transfer (KTT) Team at ICFO plays a key role at the interface with the industrial and corporate worlds maximizing the flow of information, knowledge, technology and talent.

The KTT Team is responsible for establishing strategic alliances and collaborations with industry, the private sector in general and all types of collaborators. With experience in both business and research, KTT develops a customized business plan that mutually benefits the company and ICFO.

The results are flexible tech transfer alliances with our partners that address their broad needs and interests, from specific research and consultancy projects, co-development, launching of joint ventures, joint labs, and personnel exchange programs, licensing, to other initiatives such as individualized life-long learning courses, workshops, priority recruitment and networking.

The KTT Team is also responsible for the management of ICFO's intellectual property portfolio, fostering entrepreneurial activities and spin off creation and the ICFO outreach program, among others.

## Contact info

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## Social media

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# Moderator of Quantum careers: My experience

**Silvia Tognetti**
KTT Outreach Project Manager ICFO

## Bio

Silvia obtained a BSc and a MSc in Biotechnology from the University of Padova (Italy). She worked as a researcher at University College London and received her PhD from Imperial College London (UK). She was then a Postdoctoral Fellow at Universitat Pompeu Fabra and IRB Barcelona (Spain) before joining ICFO, where she is involved in the coordination and leading the dissemination activities of the CARLA project.

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Silvia Tognetti

# Moderator of Quantum Initiatives & Projects

**Lydia Sanmartí-Vila**
KTT Outreach Project Manager at ICFO

## Bio

Dr. Lydia Sanmartí-Vila is KTT Outreach Project Manager at ICFO. She is ECOP's Executive Officer, where she coordinates the pursuit of new projects for ECOP to encourage collaboration among the centres. She manages ICFO's international outreach projects and activities, such as the current ICFO-coordinated project CARLA and the CSA of the Quantum Flagship as well as past projects such as GoPhoton!, LIGHT2015, PHABLABS 4.0. She is the creator of the LIGHTtalks events, which were replicated in over 20 countries in Europe between 2015 and 2017. Lydia has a degree in chemistry from the Autonomous University of Barcelona and a doctorate in neurobiology from the Otto von Guericke University in Germany, and has extensive international experience.

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Lydia Sanmartí-Vila

# Additional networkers

## Daniel Cavalcanti

Senior Researcher and Brand Communications Director at Algorithmiq

algorithmiq

### Bio

Daniel is a physicist and graphic designer, with a PhD from ICFO/University of Barcelona and a master's degree from IDEP design school. He has been working on quantum information for 15 years on topics spanning quantum foundations, communication and network science. He is currently senior researcher and brand communications director at Algorithmiq and leads Bitflow, a graphic design studio dedicated to science and technology related projects.

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## José Ramón Martinez

Lead Scientist at Quside

QUSIDE

### Bio

José leads the advanced computing activities at Quside. He got his PhD from ICFO, where he focused his research focused on Computational Physics in nanophotonic systems, publishing 10+ articles in highprofile journals and speaking at 5+ technical leading conferences in the field. José developed and solved a wide variety of advanced high-performance computing systems and collaborated often with experimental research groups in modelling and problem-solving. He is also an occasional collaborator in scientific dissemination initiatives. Prior to joining Quside, Jose worked at Xerox PARC (Palo Alto, CA) in the Hardware Systems Lab, developing high-performance solutions for industrial initiatives.

### Contact info

Quside

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# Additional networkers


## Alícia Labián

Projects and Communications Manager at Qilimanjaro Quantum Tech

QILIMANJARO QUANTUM·TECH


### Bio

Alicia has a BSc in Physics and a MSc in Science Communication. She has worked in the field of Corporate Communications in high level research centers such as the Catalan Institute for Nanoscience and Nanotechnology (ICN2) and the Institute for High Energy Physics (IFAE). She complements her scientific background with a wide vision of the startup and agency workflow. Alicia has also worked in advertising and consulting agencies. She joins QQT from the well-known Barcelona delivery unicorn Glovo. She is responsible of Brand Development, project PR and projects' milestone management with fluent workflow.

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## Daniel Szombati

Senior Hardware Engineer at Qilimanjaro Quantum Tech

QILIMANJARO QUANTUM·TECH


### Bio

Daniel is a senior hardware engineer at Qilimanjaro Quantum Systems S.L. He has obtained his PhD from the TU Delft on quantum transport in exotic low temperature semiconductor physics. He then dived into the world of superconducting qubits by taking on research positions first at the University of Queensland in Brisbane and then at the École Normale Supérieure de Lyon, where he made his contribution to the field via significant scientific publications on first principle qubit physics. He is now leading the research efforts at Qilimanjaro towards a first coherent adiabatic quantum computing processor.

### Contact info


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# Additional networkers

## Alexia López

Country and HR Manager at IQM Quantum Computers

IQM

### Bio

Psychologist with over 15 years of HR experience specializing in "high-performance teams" (HPTs) in industry and high-tech companies. As an international certified coach, I have been able to help several technology start-ups during different growth phases to achieve their strategic goals. The most exciting aspect of my job is to support the career paths of passionate researchers. I feel very fortunate to be part of the IQM family and to contribute to a leading project in the field of quantum computing.

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IQMQuantumComputers

## Mireia Vilamala Díez

Recruiting Officer at ICFO

ICFO

### Bio

Mireia Vilamala has a degree in Psychology from the University of Barcelona and a master in Human Resources Management from the Open University of Catalonia. Since 2012, she is part of the Human Resources & Education unit at ICFO, being the internship coordinator for undergraduate and master students. She is also part of the Diversity and Inclusion Committee at ICFO, in charge of designing yearly actions plans addressing diversity and inclusion in general as well as gender in particular. She has received specific training in implementation of Equality Plans and in gender discrimination and gender-based violence in research institutions.

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# Additional networkers

**Victoria Ridruejo**
Recruiting Officer at ICFO

## Bio

Victoria Ridruejo has a degree in Psychology from the Rovira i Virgili University and a master in Clinical Psychology and Psychotherapy from the Ramón Llull University. Since 2018, she is part of the Human Resources & Education unit at ICFO, being the recruiting officer for PhD and Post-doctoral positions. She is also part of the Admissions & Research Recruitment Committee at ICFO in charge of defining ICFO's admission and recruitment policies.

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# Job wall

algorithmiq

**Openings**

Find out more about Algorithmiq at: www.algorithmiq.fi

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QUSIDE

**Openings**

- VHDL Firmware Engineer
- Quantum System Engineer
- Product System Engineer
- Technical Architect

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LUXQUANTA

**Openings**

Work at LUXQUANTA: www.luxquanta.com/careers

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IBM **Quantum**

**Openings**

Work at IBM:
www.ibm.com/employment/#jobs?job-search=Quantum

**Contact info**

www.ibm.com

# Job wall

## Qilimanjaro Quantum-Tech

### Openings

Work at Qilimanjaro: www.qilimanjaro.tech/careers

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## Multiverse Computing

### Openings

- Cybersecurity Specialist, San Sebastian
- Financial Engineer, Paris
- Financial Engineer, San Sebastian
- Machine Learning Engineer, Paris
- Machine Learning Engineer, San Sebastian
- Machine Learning Engineer, Toronto
- Ingénieur Logiciel, Paris
- Software Engineer DS or OR, San Sebastian
- Grant Manager Junior, San Sebastián

### Contact info

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## IQM

### Openings

- Quantum Engineer, Device Design (Espoo)
- Quantum Systems Integrator (Espoo)
- Quantum Physics Engineer (Munich)
- Quantum Software Engineer (Munich)
- Quantum Hardware Engineer (Munich)
- Quantum Algorithm Engineer (Munich)
- Quantum Engineer, Experiments (Espoo/Munich)
- Software Engineer (Espoo, remote)
- Open Application
- Internships at IQM

### Contact info

www.meetiqm.com

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## Quantum Flagship

### Openings

Work in a Quantum Flagship project:
www.qt.eu/about-quantum-flagship/jobs-quantum-technologies

### Contact info

www.qt.eu

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# Job wall

ICFO

## Openings

- **KTT Quantum Technologies Project Portfolio Manager**
- **PhD POSITIONS**

**POST-DOCTORAL AND RESEARCH ENGINEER POSITIONS**

**Quantum Information Theory research group led by Prof. Dr. Antonio Acín:**

- Post-doctoral position in quantum information science
- Post-doctoral and research engineer position in quantum algorithms for industry problems

**Functional Optoelectronic Nanomaterials research group led by Prof. Dr. Gerasimos Konstantatos:**

- Post-doctoral position on Ultrafast Transient Absorption Spectroscopy in Colloidal Quantum Dots for Infrared Optoelectronic Applications
- Post-doctoral positions in Quantum Light Emitters based on Colloidal Quantum Dots
- Post-doctoral positions on Intraband Colloidal Quantum Dot Optoelectronics for MWIR/LWIR Photodetection and Light Emission
- Research Engineer positions on Colloidal Quantum Dot LED Technology

**Optoelectronics research group led by Prof. Dr. Valerio Pruneri:**

- Post-doctoral and research engineer positions in quantum communication

**Quantum Photonics with Solids and Atoms research group led by Prof. Dr. Hugues de Riedmatten:**

- Post-doctoral position in quantum processing nodes using single rare-earth ions

## Contact info

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# This event is possible thanks to:

## Collaborator

algorithmiq

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QUANTUM FLAGSHIP

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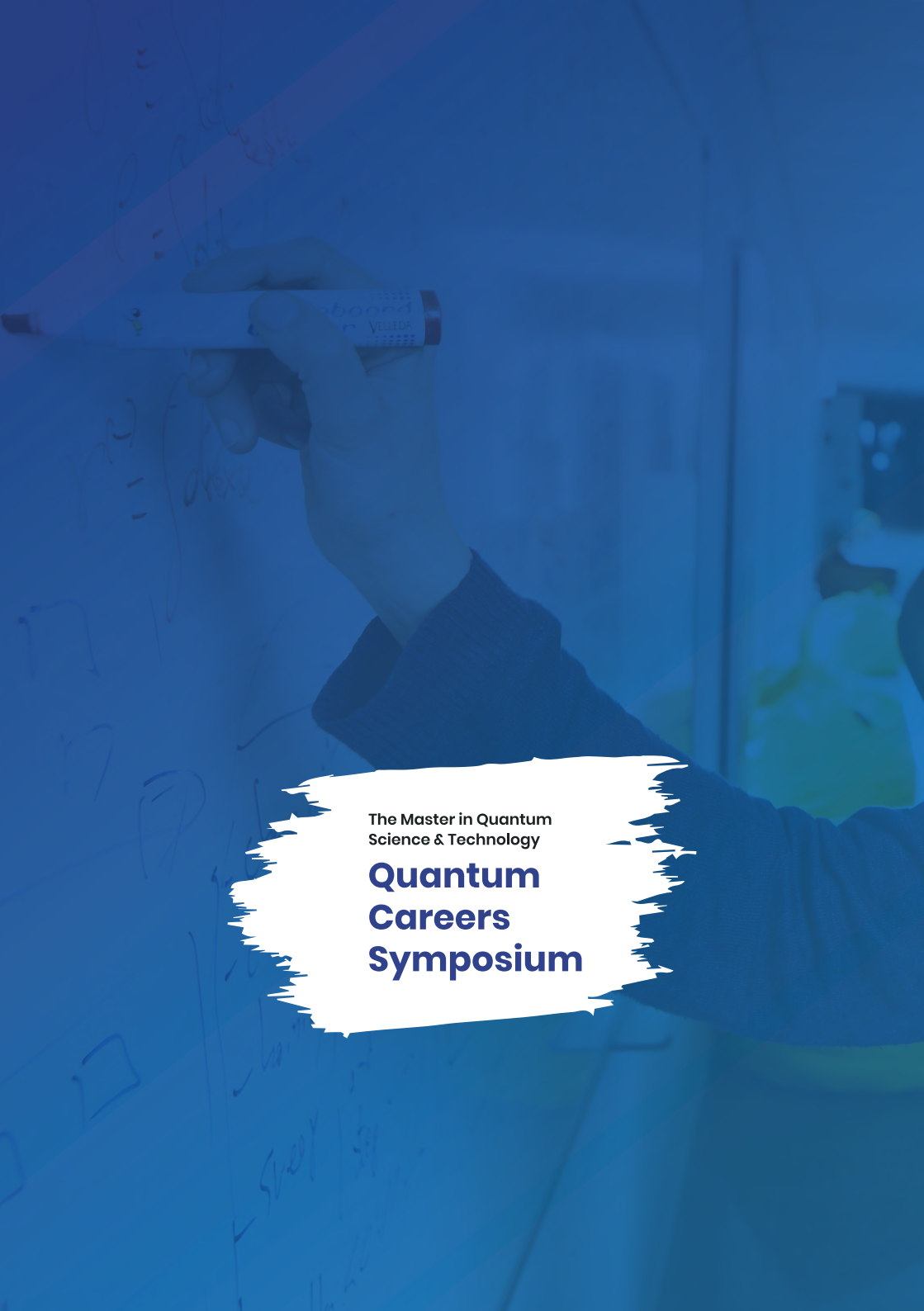
Generalitat de Catalunya
Departament de Recerca i Universitats



The Master in Quantum Science & Technology

# Quantum Careers Symposium