ICFO Spring School on Open-Source Tools for Quantum Science & Technology

March 24, 2025 to March 27, 2025
ICFO Auditorium

Outline:

This Spring School aims to provide students with a practical introduction to software and hardware tools for both theory and experiments in quantum sciences & technology, including applications in computation & simulation, communications, and sensing.

The program will offer a combination of hands-on lectures and & tutorials led by researchers from ICFO and academic and industry experts and will cover a range of topics aimed at introducing students and researchers to a variety of open-source tools, as well as their use in cutting-edge research and industry.

Topics covered include:

Quantum photonic integrated circuits
Quantum simulators with ultracold atoms
Quantum computing
Tensor networks
Simulation tools for 2D & quantum materials
AI-Driven Scientific Discovery

Confirmed speakers include:

Carmen Rubio, ICFO
Darrick Chang, ICFO
Stefano Signorini, ICFO
Remy Vatre, ICFO
Quentin Redon, ICFO
Johannes Hauschild, TUM

Christian Holzl, University of Stuttgart
Jose Hugo Garcia, ICN2
Radha Pyari Sandhir, IBM Quantum
Junye Huang, IBM Quantum
Kevin Schaedler, Axiomatic AI
Sina Saravi, Friedrich Schiller University Jena
Alastair Cunningham, ICFO
Amani Said, career coach
Maialen Larrazabal, Leiden University and Utrecht University
Roozbeh Shokri, Thorlabs
Sandra de Vega, Thotlabs
Jana Nieder, International Iberian Nanotechnology Laboratory
Jacob Taylor, Joint Quantum Institute

The program will also include professional development & networking skills, lab tours, and social activities.
The school is aimed at Master´s students who are interested in familiarizing themselves wit the use of these tools. Advanced undergraduates, starting PhD students, and researchers i the field may also be interested to attend
The school is organized as part of theMaster in Quantum Science and Technology Barcelona in the scope of the DigiQ (Digitally Enhanced Quantum Technology Master) project and the CQA (Catalonia Quantum Academy).
Following the school, the fourth edition of the Quantum CARLA, the **360 Quantum CARLA Careers Symposium Barcelona**, will be held at La Pedrera in Barcelona on **Friday 28 March** and will offer participants a glimpse of the diverse career paths and job opportunities available in this rapidly advancing field, along with an overview of emerging deep tech trends. You can find the details of the program here.
The Quantum Careers Symposium is organized in collaboration with the European Quantum Flagship, DigiQ, CQA, and the Master in Quantum Science and Technology Barcelona in the framework of the 360 CARLA EU project.
Registration:

Registrations for the Spring School are CLOSED.
Applicants will be contacted within one week of the close of registration.
There are**?limited places**?available. Preference will be given to Masters students enrolled in the DigiQ program.
Please note that to attend the Career Symposium a separate registration is required.
Registrations for the **360 Quantum CARLA Career Symposium** are now closed to attend n perso

. Deadline to register

Registrations to attend in person are CLOSED.
March, 27th for the online participation.

Fellowships:
Students enrolled in DigiQ may request travel support from their home university, if this is available.
Participating Institutions:

ICFO - the Institute of Photonic Sciences, is a young research institution that aims to advance the very limits of the science and technology of light, tackling important challenges faced by society at large in all areas of life, including health, energy, information, safety, security and caring for the environment. ICFO is a member of BIST, the Barcelona Institute of Science and Technology. More information about ICFO can be found?here.??

The **Master in Quantum Science and Technology Barcelona** is aimed at graduates in Physics, Physical Engineering or equivalent degrees who want to continue specialization studies in Quantum Science and Technologies. The master, coordinated by the University of Barcelona, is a collaborative effort including 3 universities (UB, UAB and UPC) and 4 research centres (ICFO, BSC, IFAE and ICN2), working on quantum communication, computing, materials, sensing, and simulation.

DigiQ (Digitally Enhanced Quantum Technology Master),?a new European initiative coordinated by the University of Aarhus (DK), aims to drive transformation of the education ecosystem by introducing a number of educational innovations and a multinational programme structure to prepare the workforce and talent for future quantum technologies. It is funded by a ?17.6 million grant over four years through the European Commission's Digital Europe Programme. Twenty universities from ten European countries will participate in DigiQ, including partners from the?Master in Quantum Science and Technology Barcelona

Contact Details:
Please contact us at frontiers@icfo.eu if you have any questions.