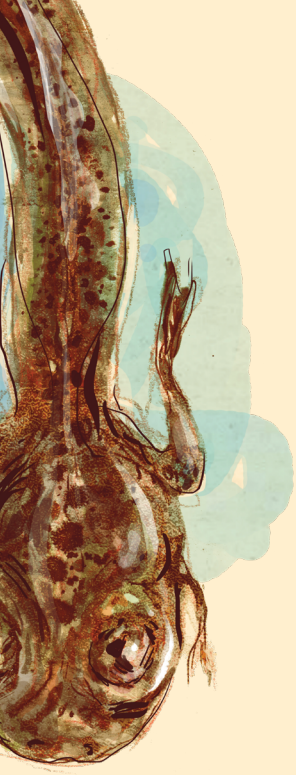

Cursos de Verano 2022

SANTANDER

SEMINARIO

Santander Summer School on Quantum Computing: Theory and Implementations

Del 5 al 9 de septiembre

DIRECCIÓN

Diego Porras Torre

Título académico o profesional: Investigador Científico del CSIC

SECRETARÍA

Juan José García-Ripoll

Título académico o profesional: Investigador Científico del CSIC y coordinador de la Plataforma del CSIC de Tecnologías Cuánticas

Ciencia y Tecnología

SEMINARIO

This summer school is a 5-day introduction to quantum computing, organized together with the International University Menéndez-Pelayo and sponsored by the Spanish Research Council (CSIC) and the European project SuperQuLAN.

The school is oriented to PhD students, Master and Final Year undergraduate students, as well as professionals interested in this exciting topic. No previous knowledge of quantum computing is required, however some background in quantum physics at the level of a typical physics undergraduate course is needed to follow the lectures.

The summer school speakers are renowned scientist in the field. The school program covers the principles of quantum computing (quantum gates, circuits, basic quantum algorithms), the theory of quantum information, quantum variational algorithms and applications in optimization and quantum chemistry, and quantum machine learning. Part of the school program is dedicated to physical implementations of quantum computers and quantum networks with superconducting circuits, trapped ions and neutral atoms.

Código 658m – Tarifa C – 1 ECTS

Organizado con:

CSIC Consejo Superior de Investigaciones Científicas

SuperQuLAN

Solicitud Online

Para cualquier incidencia técnica con la solicitud puede enviar un correo electrónico a: **cau@uimp.es**

Plazos

Solicitud de becas

- Hasta el día 3 de mayo

Apertura de matrícula

- Desde el 20 de abril de 2022 (plazas limitadas)

www.facebook.com/UIMPOficial

@uimp

@uimp1

www.youtube.com/c/uimpoficial

www.linkedin.com/school/universidad-internacional-menéndez-pelayo

UIMP

Universidad Internacional Menéndez Pelayo

Contacto

- De 9:00 a 14:00 h.
- De 16:00 a 18:00 h. (excepto viernes)

Hasta el 17 de junio

SANTANDER

Campus de Las Llamas
Avda. de los Castros, 42
39005 Santander
942 29 87 00

MADRID

C/ Isaac Peral, 23
28040 Madrid
91 592 06 31
91 592 06 33

A partir del 20 de junio

SANTANDER

Palacio de la Magdalena
39005 Santander
942 29 88 00

alumnos@uimp.es

Lunes 5

09:30
Antonio Acín
Introduction to quantum information theory

12:00
Juan José García Ripoll
Introduction to quantum computing I

16:00
Andreas Wallraff
Quantum computing with superconducting circuits

Martes 6

09:30
Diego Porras
Introduction to quantum computing II

12:00
Alba Cervera
Introduction to variational quantum computing I

16:00
Gerhard Rempe
Quantum information processing with atoms and photons

Miércoles 7

09:30
Alba Cervera Lierta
Introduction to variational quantum computing II

12:00
Alejandro Perdomo Ortiz
Quantum machine learning

15:00
Pol Forn-Díaz
Experimental quantum annealing

Jueves 8

09:30
Tim Taminiau
Quantum networks for quantum computation

12:00
Winfried Hensinger
Experimental quantum computing with trapped ions

Tarde Free Afternoon

Viernes 9

09:30
Roberta Zambrini
Implementations of quantum machine learning and reservoir computing

12:00
Daniel Barredo
Quantum computation and simulation with Rydberg atoms