ICFO



ICFO-Wits Frontiers Research School: Photonics and Quantum Technologies: From Fundamentals to Applications

January 18, 2027 to January 22, 2027
University of Witwatersrand, Johannesburg, South Africa

Description

The school will bring together leading researchers from ICFO and Wits University for an intensive five-day programme designed for undergraduate, master's, and early-stage PhD students interested in pursuing research in quantum science, and related fields.

Through a combination of didactic lectures, research seminars, and interactive sessions, participants will gain a solid foundation in key concepts while exploring the latest advances and emerging research directions in the field.

Topics covered will include:

Quantum Technologies and Applications
Photonic Materials and Nanomaterials
Nonlinear Optics and Photonics
Quantum Communication, Sensing, Imaging, and Computing

The programme will also provide participants with the opportunity to interact closely with internationally recognized scientists, discover cutting-edge research carried out at leading institutions, and establish valuable connections with peers and researchers from across the region.

Participants will have the opportunity to present their own research during a poster session, fostering scientific discussion, exchanging ideas with fellow participants and speakers, and receiving valuable feedback from experts in the field.

Lecturers

The programme will feature distinguished researchers from ICFO and Wits University. The list of lecturers will be announced soon and updated as speakers are confirmed.

Registration & Accommodation

The school will be limited to a maximum of **30 students**, selected on the basis of academic merit.

Local accommodation for 5 nights will be provided .

There is NO fee for students to attend the school.

Travel Fellowships

Travel fellowships will be available for selected undergraduate and Master's students travelling from outside the South African region to attend the school. All eligible applicants will be automatically considered for a travel fellowship.

How To Apply

To register for the school applicants must submit:

A Curriculum Vitae
Scanned copies of their complete (Bachelor and Master equivalent) University academic transcripts in English
A statement describing your background, research interests and motivation for attending the school.
Contact of one academic reference
Title & abstract for a proposed poster

The deadline for applications is September 13. Successful applicants will be notified during the week of September 28.

For any questions, please contact us at frontiers@icfo.eu

Research Internships

Up to **two SPIE@ICFO Chair Research Internships** to conduct a project with an ICFO research group are also available on a competitive basis to outstanding undergraduate or masters students selected to attend the school. To be eligible, students must still be enrolled in an undergraduate or masters program when they undertake the internship.

For any questions, please contact us at frontiers@icfo.eu

Eligibility

We welcome applications from individuals worldwide with a variety of backgrounds, including optics, physics, mathematics, electronics, engineering, chemistry and biology.

Candidates must have an excellent academic record, and a strong commitment for scientific research.

Priority will be given to masters-level and advanced undergraduate students, although PhD students and young researchers are welcome to apply.

Persons with disabilities are strongly encouraged to apply. There are no restrictions of citizenship or gender.

Venue

Olives and Plates Conference Venue, University of Witwatersrand, Johannesburg, South Africa

About

International Schools on the Frontiers of Light aim at giving talented young researchers and students worldwide a first introduction to a thematic research area and a taste of an international research environment. These schools incorporate a dynamic and social learning environment beyond participating in lectures, including group discussions, direct interactions with the lecturers, student talks and poster presentations.

ICFO does not tolerate any type of conduct or behavior considered harassment or bullying and has clearly defined policies against harassment.

Organizing Committee

Prof. Andrew Forbes (Wits), Mrs Jodie Robbertse (Wits), Prof. Veronica Ahufinger (ICFO), Dr. Giovanna Petrillo (ICFO)

This project has received funding from the International Year of Quantum Science and Technology (IYQ) initiative.