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Workshop

Optical Fibers and Signal Processing

Valencia, Friday 6th November 2026.

Venue: *Salón de Grados Lise Meitner, Facultad de Física, Campus de Burjassot, Valencia.*

INTRODUCTION

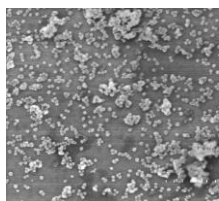
The research group **Optical Fibers and Signal processing** (FOPS) of the University of Valencia organizes the 2026 edition of this workshop, with the participation of the Photonics Research Group (GROC) of the University Jaume I, and the Holography and Optical Processing Group (GHPO) of the University of Alicante.

The members of **FOPS group** are organized in three research units:

- The **3D Imaging & Display Laboratory** (3DID Lab),
- The **Laboratory of Fiber Optics** (LFO),
- The **Diffraction Optics Group** (DiOG).

The research of the group is focused on:

- Three-dimensional computational imaging. Application to the capture and display of macroscopic and microscopic scenes.
- Fabrication, modeling and design of photonic crystal fibers and special fiber components for lasers and new light sources, sensors and microwave photonics.
- Development of new diffractive optical elements for different applications like intraocular and contact lenses, optical trapping, and optical encryption.



Mesoporous silica nano particles (MSN) attached to the surface of an optical fiber for biosensor applications.



Image of a PCB connector captured with a light-field camera.

GOALS

- Dissemination of group activities.
- Strengthening and promotion of scientific collaborations.
- Review of research lines and recent advances.
- Strengthening the collaboration between research groups and industry, particularly in the *Comunitat Valenciana*.

PROGRAM

Morning

9:00 Registration and welcome

Chairman: Dr. Antonio Díez

9:30 Lighting sound: optomechanics as a tool for sensing
Dr. Martina Delgado-Pinar
University of Valencia, Spain.

10:05 From plenoptic concept to industrial 3D vision
B.Sc. Nuria Saniger Pulpillo
Photonics Sensors and Algorithms S.L. Spain.

10:40 Microstructured optical fibres for photonic quantum technologies
Dr. Peter J. Mosley
University of Bath, United Kingdom.

11:15 Coffee break

Chairman: Dr. Emilio Sánchez-Ortiga

11:45 Beam shaping assisted light-sheet microscopy for nanomaterial characterization
Dr. Alexander León-Ramírez
University Jaume I, Spain.

12:20 Distributed acoustic sensing for environmental monitoring and large-scale early-warning systems
Dr. María del Rosario Fernández-Ruiz
University of Alcalá, Spain.

12:55 Optical microscopy and scattering-based sensing for biological and clinical applications
Dr. Roberto Fernández
University of Alicante, Spain.

13:30 Lunch

Afternoon

Chairman: Dr. David Castelló-Lurbe

15:30 Photonics for convergent 6G networks from mm-wave to sub-THz band.
Dr. Beatriz Ortega
Polytechnic University of Valencia, Spain.

16:05 Neutrino astronomy: light in the abyss, window in the sky
Dr. Miguel Ardid
Polytechnic University of Valencia, Spain.

16:40 Engineering electro-optic frequency combs for dual-comb microscopy and spectroscopy
Dr. Alberto Rodríguez-Cuevas
Aston University, United Kingdom.

17:15 Telecentric light field capture for real-time 3D analysis of dynamic macroscopic scenes
Dr. Ángel Tolosa-Ruiz
Universitat de València, Spain.

17:50 Closing remarks