



VNIVERSITAT  
ID VALÈNCIA

## Workshop Optical Fibers and Signal Processing

Valencia, Friday 2<sup>nd</sup> December 2022.

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

### SPONSORS



GENERALITAT  
VALENCIANA



Universitat de València  
PROMETEO/2019/048



Photronics Research Group  
Universitat Jaume I  
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Universitat d'Alacant  
PROMETEO/2021/006



IPN-Bio  
H2020-MSCA-RISE-872049

#### Organizer

Miguel V. Andrés

#### Organizing Committee

Juan Carlos Barreiro  
José Luis Cruz  
Genaro Saavedra  
Walter D. Furlan

#### Scientific Committee

Miguel V. Andrés  
Pedro Andrés  
Manuel Martínez  
Jesús Lancis  
Antonio Díez

### INTRODUCTION

The research group **Optical Fibers and Signal processing (FOPS)** of the University of Valencia organizes the 2022 edition of this workshop, with the participation of the Photonics Research Group (GROC) of the University Jaume I, the Holography and Optical Processing Group (GHPO) of the University of Alicante, and the consortium of the IPN-Bio European Project.

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

- The **3D Imaging & Display Laboratory** (3DID Lab),

- The **Laboratory of Fiber Optics** (LFO),

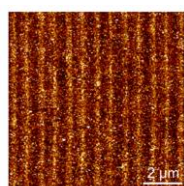
- The **Diffraction Optics Group** (DiOG).

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.



AFM image of periodic  
UV-laser photodeactivation  
of protein bio-layers.

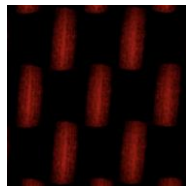


Image of Arabidopsis  
Thaliana obtained with  
lightfield microscope.

### 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. Walter Furlan*

##### 9:30 In-fiber opto-mechanics

Dr. Miguel V. Andrés  
University of Valencia, Spain.

##### 10:05 Real time 3D light microscopy

Dr. Manuel Martínez Corral  
University of Valencia, Spain.

##### 10:40 Laser based specialty fiber fabrication

Dr. Michael Fokine  
KTH Royal Institute of Technology, Sweden.

##### 11:15 Coffee break

*Chairwoman: Dr. Martina Delgado-Pinar*

##### 11:45 Multidimensional computational imaging with single-pixel detection and data fusion

Dr. Armin J. M. Lenz  
University Jaume I, Spain.

##### 12:20 Supercontinuum as a tool to measure modal parameters of optical fibers

Dr. David Castelló-Lurbe  
University of Valencia, Spain.

##### 12:55 Applications and challenges of photonics in fluid mechanics

Dr. Raúl Martínez Cuenca  
University Jaume I, Spain.

##### 13:30 Lunch

#### Afternoon

*Chairman: Dr. Antonio Díez*

##### 15:30 Development and manufacturing of laser devices, from lab to market

David Montes  
European Laser Therapeutics SLU, Spain.

##### 16:05 A physics lab in your pocket

Dr. Juan Antonio Monsoriu  
Polytechnic University of Valencia, Spain.

##### 16:40 Ytterbium-doped fiber lasers operating in long-wavelength band

Dr. Yuri Barmenkov  
Centro de Investigaciones en Óptica AC, Mexico.

##### 17:15 Photonics for sensing

Dr. María Isabel Gómez-Gómez  
Polytechnic University of Valencia, Spain.

##### 17:50 Closing remarks

