FOPS

Optical Fibers and Signal Processing Group (FOPS)

VNIVERSITAT DE VALÈNCIA

Workshop
Optical Fibers and Signal Processing

Valencia, Friday 22nd November 2024.

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

SPONSORS

GENERALITAT VALENCIANA
Conselleria de Educación, Universidades y Empleo

AVI AGÈNCIA VALENCIANA DE LA INNOVACIÓ

FOPS
Universitat de València
CIPROM/2022/30

GROC Photonics Research Group
Universitat Jaume I
CIPROM/2023/44

GHPO
Universitat d'Alacant
PROMETEO/2021/006

IPN-Bio
H2020-MSCA-RISE-872049

Organizers
Miguel V. Andrés
Manuel Martínez

Organizing Committee
Juan Carlos Barreiro
José Luis Cruz
Antonio Díez
Walter D. Furlan

Scientific Committee
Miguel V. Andrés
Enrique Tajahuerce
Antonio Díez
Martina Delgado

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INTRODUCTION

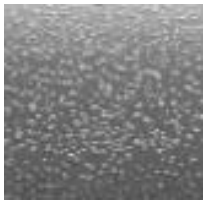
The research group **Optical Fibers and Signal processing** (FOPS) of the University of Valencia organizes the 2024 edition of this workshop, with the participation of the Photonics Research Group (GROC) of the University Jaume I, the Holography and Optical Processing Group (GHPO) of the University of 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 **Diffractive 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.



Surface of an optical fiber decorated with mesoporous silica nanoparticles

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. Walter Furlan

9:30 Towards nonlinearity multifrequency-dispersion management
Dr. David Castelló-Lurbe
University of Valencia, Spain.

10:05 Structured illumination microscopy: smart irradiation for enhanced imaging performance
Dr. Genaro Saavedra
University of Valencia, Spain.

10:40 Rainbow: color quality control by supercontinuum laser
Dr. Esther Irles
Fyla Laser S. L., Spain.

11:15 Coffee break

Chairwoman: Dr. Martina Delgado-Pinar

11:45 Shape dynamics of plasmonic gold nanoparticles upon ultrashort laser irradiation and potential applications
Dr. Juan Carlos Castro-Palacio
Polytechnic University of Valencia, Spain.

12:20 Fiber Optic Sensors at INTA for space platforms
Dr. Raquel López Heredero
Instituto Nacional de Técnica Aeroespacial, Spain.

12:55 Generation and detection of GHz surface acoustic waves with ultrashort light pulses
Dr. Fernando Soldevilla
University Jaume I, Spain.

13:30 Lunch

Afternoon

Chairman: Dr. Antonio Díez

15:30 Holographic lenses as imaging and non-imaging system
Dr. Tomás Lloret-López
University of Alicante, Spain.

16:05 Recent Advances in Fiber Optic Sensing Systems at INESC TEC
Dr. Susana Silva
Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência, Portugal.

16:40 Wavefront Imaging Technologies - Launching a medical technology company
Dr. Wilson Gomes
Wavefront Imaging Technologies S. L., Spain.

17:15 Miniaturised spectrometers with bandgap engineering
Dr. Zhipei Sun
Aalto University, Finland.

17:50 Closing remarks

REGISTRATION: Please, send an e-mail to Amparo Pons (amparo.pons-marti@uv.es). Deadline: 15th November 2024