

where concepts, innovation, developments
and applications on fiber optics-based sensing
are delivered, together with related
photonic principles and technologies

First Call for Papers

www.ofs29.org

Overview

The International Conference on Optical Fiber Sensors (OFS), established in 1983, is acknowledged as the world's leading conference on all topics related to photonic sensing principles and technologies supported in fiber optics, providing a forum for reporting and exchanging ideas on the latest advances in the field. It has also contributed significantly to industrialization and standardization of the related devices and systems for field deployment.

At the beginning of the 1980s, the recognition of the opportunity for high-performance sensing associated with optical fiber led to the development of a new R&D field, creating a community that had its first meeting in London in April 1983, which became identified as OFS1 – 1st International Conference on Optical Fiber Sensors.

Since then, 28 editions of this conference have taken place every 18 months (except in the pandemic time), moving across Europe, Americas, and Asia/Pacific accordingly with the principle of following the light (the Sun). Over this period of more than 40 years the field expanded enormously in consequence of progress in multiple scientific and technological domains, also the diversity of applications where sensing supported by optical fiber presents comparative advantages.

Now, the timeline converges to OFS29, which will happen in Porto by May 2025. It is demanding the responsibility of organizing an event that does justice to the prestigious history of this emblematic conference. Being aware of that, we will do our best to build a scientific program of recognized quality, a showcase where companies all around the world demonstrate their technologies and optical sensing equipments, a context where different generations of researchers and entrepreneurs meet and feel encouraged to share their experiences and goals, a welcoming environment that helps everyone feel at home.

An **Exhibit of Products and Services** as well as **Tutorials** and **Technical Workshops** will also take place during the Conference.

Submission

Submission Deadline January 13, 2025

Author Notification February 28, 2025

End of Early Registration March 31, 2025

Authors are invited to submit their **35-word abstracts** and **4-page manuscript** via a publishing article submission system provided by SPIE.

Manuscript preparation template and guidelines are available at www.ofs29.org/authors/submission.

Scope and topics

including but not limited to

Physical and Mechanical Sensors

Temperature // Pressure // Strain // Vibration // Acceleration
// Flow // Rotation // Displacement // others

Electromagnetic Sensors

Magnetic Field // Electric Field // Current // Voltage

Chemical and Environmental

Chemical Sensors // Remote Spectroscopy // Environmental Monitoring // Security // Defense and Industrial Applications

Biological and Medical Sensors

Sensing for Biophotonics // OCT Imaging // Instrumentation for Life Sciences // In-Vivo Applications

Interferometric & Polarimetric Sensors

Gyroscopes // Hydrophones // Geophones // Acoustic Sensor Arrays

Distributed Sensing

Time // Frequency and Coherence Domain Reflectometry
// Rayleigh, Raman and Brillouin Detection Techniques
// Sensing Cable Designs // Standard and Novel Applications

Multiplexing and Sensor Networking

Topologies and Theories // Multiplexing Techniques // Applications

Passive & Active Devices for Photonic Sensing

Sources // Detectors // Modulators // Specialty Fibers // Integrated Optics Devices // Fiber Gratings // MEMS // Micro-Optic Components

New Concepts for Photonic Sensing

Optical Quantum Sensing Principles and Technology Challenges
// Photonic Crystal Fibers // Hollow Core Fibers // Nanomaterials and Nano-Optical Devices // Metamaterials // Diffractive Optics
// Plasmonic Based Sensing

Signal Processing for Fiber Optic Sensing

Genetic Algorithms // Neural Networks // Data Fusion // Pattern Recognition // Statistical Methods // Virtual Instrumentation

Smart Structures and Smart Materials

Structural Health Monitoring // Strain and Deformation Sensors
// Fiber Embedding Techniques // Condition Monitoring Algorithms

System Applications and Field Trials

Relevant Installations and Field Demonstration of Photonic-based Sensing Systems // Metrology Projects
// Standardization // Commercialization

General Chair

Prof. José Luís Santos
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