

Special Issue

Optical Fibers Beyond Communication: Advances in Sensing, Imaging, and Energy Applications

Message from the Guest Editors

We invite contributions that demonstrate cutting-edge developments in fiber-optic sensing innovations (distributed and multi-parameter sensors, biochemical sensing, and extreme-environment monitoring), next-generation fiber-based imaging (ultra-thin endoscopes and minimally invasive medical diagnostics, computational imaging, and hyperspectral and multimodal imaging systems), and energy applications (oil and gas, electric power, underground and underwater, and wind and solar farms). This Special Issue seeks high-quality research articles, reviews, and case studies that highlight measurable performance improvements, novel applications, or scalable fabrication methods. Interdisciplinary studies combining photonics, materials science, AI-driven signal processing, and real-world deployment are particularly encouraged. By showcasing the latest innovations, this collection aims to accelerate the adoption of optical fibers in next-generation technologies, from smart infrastructure and precision medicine to space exploration and sustainable energy systems.

Guest Editors

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Dr. Yanpeng Li

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Deadline for manuscript submissions

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About the Journal

Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Photonics* (ISSN 2304-6732). *Photonics* is an online open access journal covering both the fundamental and applications of optics and photonics. *Photonics* strives to provide an avenue to allow authors to disseminate their scientific findings—both theoretical/ simulations and experimental works—in highly accessible peer-reviewed journal publications. The manuscript in *Photonics* will be handled with quick turnaround production processing time. We welcome authors to submit their manuscripts for publications in *Photonics*. Our goal in *Photonics* is to enable fast dissemination of high impact works to the scientific community.

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