Special Issue

Advances in Hollow-Core Fiber Technologies and Applications

Message from the Guest Editors

Hollow-core fibers (HCFs) have emerged as a well-established and rapidly evolving class of optical waveguides, in which light is guided through an air or vacuum core rather than a solid medium. Their guiding mechanism enables a range advantages with respect to solid core fibers, including ultra-low latency, reduced nonlinearities, and broadband transmission. Their growing adoption across diverse fields such as high-power laser delivery, nonlinear optics, sensing, and telecommunications underscores their pivotal role in advancing modern photonics.

We are pleased to invite you to contribute to this special issue highlighting recent advances in the science, engineering, and application. We look for contributions that address breakthroughs in fiber design, fabrication techniques, loss mitigation strategies, and integration with photonic devices and systems.

Particular emphasis will be placed on novel applications spanning telecommunications, high-power laser delivery, quantum optics, nonlinear optics, sensing, and gas-based photonic systems. Both theoretical and experimental works are welcome, as well as review articles that synthesize current knowledge and outline future directions.

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Deadline for manuscript submissions

15 May 2026

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Photonics

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CiteScore 3.5

mdpi.com/si/255209

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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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