

Special Issue

Coherence and Polarization Optics

Message from the Guest Editor

Light waves are characterized by four fundamental properties. While intensity and spectrum are ubiquitous in daily life, polarization and phase remain largely confined to scientific research. These two properties, however, unlock unique capabilities—such as polarization-based underwater imaging, 3D surface reconstruction, and biological tissue characterization via Mueller matrix analysis. Phase, predominantly studied in coherent light, plays a central role in quantitative phase imaging, optical coherence tomography, super-resolution microscopy, and scattering-based imaging. This Special Issue aims to present cutting-edge advances in coherence and polarization optics, with a focus on pushing the limits of current imaging systems. Topics include but are not limited to, the following:

- Underwater polarization imaging;
- Polarimetric 3D imaging;
- Polarization-based dehazing in atmospheric environments;
- Mueller matrix imaging and instrumentation;
- Forward and inverse modeling in polarized light transport;
- Scattering imaging and reconstruction;
- Optical coherence tomography (OCT);
- Quantitative phase imaging (QPI).

Guest Editor

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Deadline for manuscript submissions

24 October 2026



Photonics

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Impact Factor 1.9
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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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