

Special Issue

Advances in Mid-Infrared Laser Science and Technology

Message from the Guest Editors

Mid-infrared (mid-IR) lasers, operating typically in the 2–20 μm spectral range, have emerged as powerful tools across a diverse range of applications, including environmental monitoring, biomedical diagnostics, defense, and advanced manufacturing. Their ability to access strong fundamental molecular absorption lines makes them indispensable for high-sensitivity spectroscopy and material processing. Recent advances in laser materials, cavity design, nonlinear conversion techniques, and integration strategies have significantly expanded the performance boundaries of mid-IR laser systems, enabling higher output power, improved wavelength tunability, and enhanced beam quality.

This Special Issue, entitled ‘Advances in Mid-Infrared Laser Science and Technology’, invites submissions of original research articles and comprehensive reviews covering the latest scientific and technological breakthroughs in mid-IR lasers. We welcome contributions that explore the fundamental principles, novel device concepts, and application-driven innovations in this field, aiming to foster a deeper understanding and accelerate the translation of mid-IR laser technology into real-world solutions.

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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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