

## Special Issue

# Computational Optical Imaging: Theories, Algorithms, and Applications

### Message from the Guest Editors

Computational imaging is increasingly prevalent in autonomous systems and biomedical applications, enabled by advances in sensors and reconstruction algorithms. This Special Issue focuses on theories, algorithms, and systems that jointly incorporate sensing and computation to achieve robust imaging under challenging conditions, including sparse or compressed photon regimes, scattering media, long-range and non-line-of-sight scenarios, event-driven neuromorphic sensing, and low-emission constraints in biomedical imaging and spectroscopy. Topics of interest include (but are not limited to) the following:

- Foundational theory for computational imaging and inverse problems;
- Imaging sensors;
- Statistical and optimization methods for robust reconstruction and inference;
- Machine learning for optical imaging;
- Compressive and sparse imaging;
- Single-photon imaging;
- Neuromorphic/event-based sensing and algorithms
- Statistics and optimization algorithms in imaging;
- Computational biomedical imaging and spectroscopic reconstruction.

We look forward to receiving your contributions.

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### Guest Editors

Dr. Zhenya Zang

Department of Biomedical Engineering, University of Strathclyde, Glasgow G4 0RE, UK

Dr. Yiwei Chen

School of Engineering, Yunnan University, Kunming, China

Dr. Dong Xiao

Fraunhofer Centre for Applied Photonics, Glasgow G1 1RD, UK

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### Deadline for manuscript submissions

30 June 2026



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Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[photonics@mdpi.com](mailto:photonics@mdpi.com)

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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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### Editor-in-Chief

Prof. Dr. Nelson Tansu

School of Electrical and Electronic Engineering (EEE), The University of Adelaide, Adelaide, SA 5005, Australia

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