Special Issue

New Trends in Image Analysis for Next-Generation Microscopy

Message from the Guest Editors

Advancements in image analysis are pivotal in fully leveraging the potential of next-generation microscopy, enabling the extraction of meaningful insights from complex and high-resolution datasets. Our main objective for this Special Issue is to foster innovation in image analysis to enhance data interpretation, application efficiency, and access to advanced microscopy tools. This Special Issue will feature a selection of contributions presented at the recent SPAOM 2024 Conference. By showcasing the latest advancements in image analysis for next-generation microscopy, we aim to inspire innovative solutions and promote collaborations to facilitate discoveries across the diverse applications of microscopy. We are looking for papers including, but not limited to, the following areas:

- Machine learning and deep learning in microscopy;
- Image analysis, image enhancement, and super-resolution techniques;
- Single-molecule, single-cell, and live-cell image analysis;
- Nonlinear imaging and advanced microscopy (SHG, THG, CARS, FlIM, or FRET);
- 3D and 4D image reconstruction and visualization;
- Automated quantitative analysis and high-content screening.

Guest Editors

Dr. María Viñas Peña

Dr. Gloria Bueno

Dr. Gabriel Cristobal

Deadline for manuscript submissions

closed (31 May 2025)

Journal of Imaging

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About the Journal

Message from the Editor-in-Chief

The imaging term, specific with journal, is to be considered in its broadest sense. Image processing, image understanding and computer vision are all terms related to imaging acquisition, its processing and the extraction of relevant information from the scene to obtain the underlying knowledge. All tasks related to the above items are oriented toward specific applications in a broad range of areas and topics. The *Journal of Imaging* is conceived as an efficient vehicle in the scientific community for the communication and transmission of the progress and research results in the topics covered.

Editor-in-Chief

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