



Design and Applications of Optical Microscopes

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Deadline for manuscript
submissions:

20 August 2024

Message from the Guest Editors

Dear Colleagues,

As a commonly employed tool in life science and biomedical research, optical microscopy possesses a number of advantages, such as a high resolution, high sensitivity with a wealth of contrast mechanisms, and low damage impacts on the samples. Various optical system designs have promoted great advances in optical imaging, and structural and functional imaging could now be achieved at a high time–space scale.

For application in life science exploration, timely disease diagnosis and superior treatment, optical microscopy has been developed, on the one hand, for achieving deeper analysis with high temporal and spatial resolutions. On the other hand, optical microscopy has been designed to be more controllable, compact and smart for use.

This Special Issue focuses on original state-of-the-art research on optical microscopy and its applications. Both original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

1. Confocal microscopy;
2. Adaptive optics in optical microscopy;
3. Fiber-based endoscopy;
4. Metasurfaces for microscopy;
5. Spatial light modulation and PSF engineering for microscopy

