



Super Resolution Optical Microscopy: Sensing and Imaging

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Message from the Guest Editors

Breaking the optical diffraction limit has been a longstanding challenge in studying the cellular- and molecular-scale activities of living systems and the nanoscale dynamics of novel materials. Various super-resolution microscopies have been developed, of which the most successful is fluorescence labeling super-resolution microscopies. Complementary, label-free microscopies exploit the inherent physical properties of samples and fill the gap of fluorescence microscopies. In addition, newly developed optical materials and structures also shine in this field.

Topics include but are not limited to:

- Fluorescence super-resolution microscopies;
- Fluorescence labeling methods in super-resolution microscopy;
- Label-free super-resolution microscopies;
- Chemical super-resolution microscopies;
- Interferometric light microscopies;
- High-resolution light-field microscopies;
- Plasmonic-based super resolution microscopies;
- Microsphere-aided super resolution microscopies;
- Metasurface-aided super resolution microscopies;
- Optical waveguide-aided microscopies;
- New computational approaches for achieving super-resolved microscopy.

