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Optical Tweezers as Scientific Tools: Applications and Techniques

Guest Editor:

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Message from the Guest Editor

With this Special Issue, we are aiming to reduce the gap between optical tweezer developers and users. The potential topics of this Special Issue include, but are not limited to, the following:

- Any application where particles are trapped or manipulated;
- Applications in biology and medicine;
- Applications in biophysics;
- Applications in ultra-cold atom physics;
- Applications in quantum optics and optomechanics;
- Engineering and industrial uses;
- Measurement techniques that involve or benefit from optical tweezers, including experimental improvements of previous realizations;
- Active and passive approaches to generate optical tweezers;
- Methods to statically or dynamically control their position, shape, intensity, trajectory, polarization, etc.;
- Methods to multiplex the number of beams;
- Open and closed loop approaches to control the beam point spread function;
- Laser beam modes that differ from the Gaussian modes, including their realization and application.