

## Special Issue

# Laser Cooling and Trapping of Atoms, Molecules, and Nanoparticles

### Message from the Guest Editor

In 1970, Arthur Ashkin showed that the use of optical forces to alter the motion of microparticles and neutral atoms could have applications in the manipulation of microscopic particles and of single atoms. These pioneering works have formed the basis for two very successful research areas: laser cooling of atoms and optical trapping. Today, these well-developed techniques are common tools for the manipulation of atoms, molecules and particles. The aim of this Special Issue is to attract publications devoted to experimental and/or theoretical works on the latest achievements, trends and developments, including applications of laser cooling and trapping of atoms, molecules and nanoparticles. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- laser cooling of atoms, molecules, nanoparticles;
- optical tweezers;
- optical forces;
- optical lattices;
- structured light for optical tweezers;
- Bose–Einstein condensate;
- atomic fountains;
- application of laser cooling in quantum science;
- Raman cooling;
- exotic laser cooling schemes.

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### Guest Editor

Dr. Galina Nemova

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### Deadline for manuscript submissions

closed (30 June 2023)



## Applied Sciences

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### Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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### Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo  
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