



## Recent Advances in Nonlinear Optics: From Fundamentals to Applications

Guest Editor:

**Prof. Dr. Anderson Stevens  
Leônidas Gomes**

Physics Department,  
Universidade Federal of  
Pernambuco, Recife, PE, Brazil

Deadline for manuscript  
submissions:

**10 May 2024**

### Message from the Guest Editor

Nonlinear optics (NLO) is a well-established research field, and its advances since 1961, approximately one year after the invention of the first laser, have achieved unthinkable developments and applications, from the basic understanding of light–matter interaction to the development of characterization techniques, with applications that range from optical communications to biophotonics. The exploitation of NLO techniques in the world of nanoscience and nanotechnology has attained fantastic achievements, leading to the establishment of fields such as nonlinear nanophotonics, or nonlinear plasmonics and nanoplasmonics when a metallic/non-metallic interface is present. More recently, going beyond the classical regime, quantum nonlinear optics has been the subject of intense research.

This Special Issue will publish manuscripts that encompass a diversity of aspects under the broad umbrella of "Recent Advances in Nonlinear Optics: From Fundamentals to Applications".

All theoretical, numerical, and experimental papers are welcome for submission. Topics include, but are not limited to, the following:

- Coherent generation and amplification of light through nonlinear optical methods;
- Nonlinear optics in 1D, 2D and 3D architectures;
- Nonlinear optics in plasmonics and nanoplasmonics;
- Nonlinear quantum optics;
- Nonlinear optical imaging modalities;
- Nonlinear optics in disordered media;
- Nonlinear optics in planar waveguides;
- Novel nonlinear optical effects;
- Nonlinear optics applications.

