



## Focus on Nonlinear Processing and Detection Technologies of Weak Optical Signal

Guest Editors:

**Dr. Zhaolu Wang**

Xi'an Institute of Optics and Precision Mechanics Chinese Academy of Sciences, Xi'an, China

**Dr. Yu Zhang**

Research Fellow, Faculty of Engineering, University of Nottingham, Nottingham, UK

Deadline for manuscript submissions:

**closed (20 October 2023)**

### Message from the Guest Editors

Accurate detection of weak optical signals with a very low signal-to-noise ratio is very important in areas including optical communication, imaging, remote sensing, and quantum optics. Some nonlinear processing techniques have unique advantages for weak optical signal detection, which can amplify and regenerate the weak signal from different noises such as phase noise, amplitude noise, or quantum noise. In order to focus on the latest research progress in nonlinear processing and detection technologies of weak optical signals, we welcome original research articles and reviews for submission to this Special Issue. Potential nonlinear technologies include but are not limited to the following:

- Phase-sensitive optical parametric amplification technology;
- Time lens technology;
- Mid-infrared up-conversion technology;
- Terahertz generation and detection technology;
- Quantum enhancement and detection technology;
- Nonlinear optical imaging technology.

