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Progress and Prospects in Optical Fiber Sensing

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Message from the Guest Editor

Dear Colleagues,

Optical fiber sensing has made significant progress in recent years and holds great prospects for the future. With its ability to detect changes in temperature, strain, pressure, and other physical and chemical parameters, this technology has become critical in various fields, including structural health monitoring, industrial process control, and environmental sensing. Advances in fiber optic technology, signal processing, and sensing algorithms have led to improvements in the sensitivity, accuracy, and reliability of optical fiber sensors.

This Special Issue aims to bring together original research and review articles on recent advances, technologies, solutions, applications, and new challenges in the field of optical fiber sensing. The topics will include, but are not limited to:

- Physical, chemical, and biological optical fiber sensors;
- Interferometric, scattering, and polarimetric optical fiber sensors;
- Micro- and nanostructured optical fiber sensors;
- Distributed and multiplexed sensing and sensor networking;
- Environmental, geophysical, marine, security, defense, and industrial applications.