

# Introduction to the Special Issue on Solid-State Lasers

**W**ELCOME to the IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS (JSTQE) Special Issue on **Solid-State Lasers**.

Solid-state lasers are versatile sources of coherent, high-brightness radiation with a diverse range of applications in science and technology, including spectroscopy, health sciences, manufacturing, communication, defense, and metrology. Recent advances in this field have focused on power scaling approaches and efficient pumping architectures, new coherent short-pulse sources, as well as the development of novel gain media based on doped glasses, ceramics, and crystals.

Comprised of 10 invited and 36 contributed papers, this special issue provides a comprehensive overview of the most recent advances and future trends in cutting-edge solid-state laser technologies. The papers which have been authored by top experts of the field cover a wide range of topics including laser beam combining and other power scaling technologies, thin-disk lasers, nonlinear frequency generation schemes using solid-state lasers, mode-locked lasers, frequency combs, and Raman lasers. Solid-state lasers operating from deep ultraviolet to mid infrared, as well as new active media based on ceramic, crystal, and glass hosts are further discussed.

We hope that this JSTQE Issue on Solid-State Lasers will serve as a valuable reference for researchers and will pave the way for further progress in this exciting technological field.

## ACKNOWLEDGMENT

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