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Craig Olson**
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Introduction

Building on the success of last year's inaugural Conference on Photonic Instrumentation, this year's proceedings continue developing the singular yet foundational concept of measurement using light. As SPIE and the world celebrate the International Year of Light, it is worth reflecting on the sheer pervasiveness of optical technology used throughout everyday life. The work within this volume represents an excellent cross-section of how optical physics from the quantum to the macro level can be effectively employed in the real world.

The scientific and engineering work within these pages spans a wide range of techniques exploiting photons and optical fields for novel sensing, chemical detection and discrimination, biological detection and characterization, and polarization control. General techniques applying spread-spectrum theory to cost-effective measurement capability contrast with results of device phenomena exploiting quantum, acoustic, and plasmonic phenomenology. In addition, this year's Photonics Instrumentation joint session with the Conference on Complex Light and Optical Forces illustrated the strong overlap of manipulation of light on a fundamental level, with works demonstrating distinct control over the coherence, polarization, propagation, and amplitude distribution of an optical field, among others.

We are excited to see such a strong continuing interest in the field of instrumentation, especially in the interdisciplinary forums at Photonics West that interleave both the theoretically profound and the eminently practical.

**Yakov Soskind
Craig Olson**