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Craig Olson**
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The CID Number appears on each page of the manuscript. The complete citation is used on the first page, and an abbreviated version on subsequent pages.

Contents

v	<i>Authors</i>
vii	<i>Conference Committee</i>
ix	<i>Introduction</i>

SESSION 1 PHOTONIC INSTRUMENTATION DESIGN I

9369 03	The spatially heterodyned spectrometer: A tool for high resolution Raman spectroscopy? [9369-2]
9369 04	A compact LIBS system for industrial applications [9369-3]
9369 05	Hartmannometer versus Fizeau interferometer: advantages and drawbacks [9369-5]

SESSION 2 PHOTONIC INSTRUMENTATION DESIGN II

9369 06	A high-performance passband-agile hyperspectral imager using a large aperture acousto-optic tuneable filter [9369-6]
9369 07	Planarized fiber-FHD optical composite [9369-7]
9369 08	Surface plasmon polariton generation using acousto-optic effect in fiber [9369-8]
9369 09	Interferometric characterization of few-mode fibers (FMF) for mode-division multiplexing (MDM) [9369-9]
9369 0A	Quantum tunneling photoacoustic spectroscopy for the characterization of thin films [9369-10]

SESSION 3 SENSORS AND RUGGEDIZED SYSTEMS I

9369 0C	Surface plasmon resonance (SPR) sensor using 2ω harmonic lock-in detection [9369-12]
9369 0D	A fuel level sensor for aeronautical applications [9369-15]

SESSION 4 SENSORS AND RUGGEDIZED SYSTEMS II

9369 0I	High spatial resolution distributed optical fiber magnetic field sensor based on magnetostriction by optical frequency-domain reflectometry [9369-13]
---------	--

SESSION 5 STRUCTURED LIGHT IN PHOTONICS INSTRUMENTATION: JOINT SESSION WITH CONFERENCES 9369 AND 9379	
9369 OK	Synthesis and characterization of complex partially coherent beams (Invited Paper) [9369-20]
9369 OL	Formation of propagation invariant laser beams with anamorphic optical systems (Invited Paper) [9369-21]
SESSION 6 METROLOGY AND APPLICATIONS OF PHOTONIC INSTRUMENTS	
9369 OM	Thermal signature identification system (TheSIS): a spread spectrum temperature cycling method (Invited Paper) [9369-22]
9369 ON	Measurement of polarization assemblies for the Daniel K. Inouye Solar Telescope [9369-23]
9369 OQ	Time-to-digital converter card for multichannel time-resolved single-photon counting applications [9369-26]
POSTER SESSION	
9369 OR	Optical accelerometer design based on laser self-mixing interference [9369-28]
9369 OU	A new real-time polarimetric method for determining the distribution of stressed state in different constructions [9369-31]
9369 OV	Optimizing experimental conditions for stimulated emission depletion microscopy in biophotonics [9369-32]
9369 OW	Optical unwrapping by triple illumination interferometer [9369-33]
9369 OX	The area of applicability of apparatus for analyzing the spectral characteristics of reflection, albedo and color parameters of flat objects [9369-34]
9369 OY	Investigation of opportunities of the optical non-invasive diagnostics method for the blood sugar control [9369-35]
9369 OZ	Research of principles for estimating the freshness of meat products by color analysis method [9369-36]

Authors

Numbers in the index correspond to the last two digits of the six-digit citation identifier (CID) article numbering system used in Proceedings of SPIE. The first four digits reflect the volume number. Base 36 numbering is employed for the last two digits and indicates the order of articles within the volume. Numbers start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B...0Z, followed by 10-1Z, 20-2Z, etc.

Alekhin, Artem A., 0Z
Alieva, Tatiana, 0K
Baur, Thomas G., 0N
Beeson, Karl, 0V
Bengtson, A., 04
Bernini, R., 0D
Cámara, Alejandro, 0K
Carpenter, L. G., 07
Chertov, Aleksandr N., 0X, 0Y, 0Z
Choi, Young-Wan, 0C
Denisov, Dmitrii, 05
Ding, Zhenyang, 0I
Du, Yang, 0I
Feng, Bowen, 0I
Gates, J. C., 07
Gawith, C. B. E., 07
Goldschmidt, Benjamin S., 0A
Gorbunova, Elena V., 0X, 0Y, 0Z
Grimaldi, I. A., 0D
Gurell, J., 04
Holmes, C., 07
Hong, Nam-Pyo, 0C
Hunt, Heather K., 0A
Illy, E., 04
Irebo, T., 04
Jafarfard, Mohammad Reza, 0W
Jiang, Junfeng, 0I
Kakauridze, George, 0U
Karasik, Valerii, 05
Karlsson, H., 04
Kilosanidze, Barbara, 0U
Kim, Chang-gun, 0C
Kim, Dug Young, 0W
Kim, Kwang-Jin, 0C
Korotaev, Valery V., 0X, 0Y, 0Z
Kou, Ke, 0R
Kudryashov, Alexis, 05
Kurkhuli, Georgi, 0U
Kvernadze, Teimuraz, 0U
Lægsgaard, J., 09
Lastovskaia, Elena A., 0X, 0Y
Li, Hao, 08
Li, Xingfei, 0R
Liu, Kun, 0I
Liu, Tiegeng, 0I
Mandal, Swarnasri, 0A
Merritt, Scott, 0M
Muliar, O., 09
Nikitin, Alexander, 05

Noharet, B., 04
Nowak, Charissa A., 0A
Onorato, G., 0D
Pannell, Christopher N., 03, 06
Parilov, Evgueni, 0V
Park, Chang-In, 0C
Peretyagin, Vladimir S., 0X
Persichetti, G., 0D
Petrak, Erika, 0N
Petrazzuoli, L., 0D
Petukhova, Daria B., 0Z
Portaluppi, Davide, 0Q
Potasek, Mary J., 0V
Reed, Murray K., 03, 06
Rodrigo, José A., 0K
Rottwitz, K., 09
Rudy, Anna M., 0A
Sakharov, Alexey, 05
Schubert, William H., 0N
Sharif, Farnaz, 0W
Sheldakova, Julia, 05
Smith, P. G. R., 07
Song, Young Sik, 0W
Soskind, Y. G., 0L
Stern, C., 04
Tamborini, Davide, 0Q
Tayebi, Behnam, 0W
Testa, G., 0D
Tisa, Simone, 0Q
Tosi, Alberto, 0Q
Usuga, M. A., 09
Vainik, R., 04
Viator, John A., 0A
Wachman, Elliot S., 06
Wang, Qijie, 08
Ward, Jon D., 06
Yang, Wei Tao, 08
Yang, Ying, 0R
Zhang, Bill G., 03, 06
Zhang, Limin, 0R
Zhang, Ying, 08

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- 1 Photonic Instrumentation Design I
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- 2 Photonic Instrumentation Design II
James T. A. Carriere, Ondax, Inc. (United States)

- 3 Sensors and Ruggedized Systems I
Nada A. O'Brien, JDSU (United States)
- 4 Sensors and Ruggedized Systems II
Filipp V. Ignatovich, Lumetrics, Inc. (United States)
- 5 Structured Light in Photonics Instrumentation: Joint Session with
Conferences 9369 and 9379
Yakov G. Soskind, DHPC Technologies (United States)
Enrique J. Galvez, Colgate University (United States)
- 6 Metrology and Applications of Photonic Instruments
Craig Olson, L-3 Communications (United States)

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**