Front Matter: Volume 10231
# Contents

<table>
<thead>
<tr>
<th>xix</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>xiii</td>
<td>Conference Committee</td>
</tr>
</tbody>
</table>

## PLASMONIC SENSING I

| 10231 07 | UV-SPR biosensor for biomolecular interaction studies [10231-6] |
| 10231 08 | Wide-field surface plasmon microscopy of nano- and microparticles: features, benchmarking, limitations, and bioanalytical applications [10231-7] |

## PLASMONIC SENSING II

| 10231 0A | Fabrication of plasmonic nanopore by using electron beam irradiation for optical biosensor [10231-9] |
| 10213 0C | Investigation of plasmonic transmission in UT shaped graphene arrays [10231-11] |
| 10231 0D | The role of the oxide shell in the chemical functionalization of plasmonic gallium nanoparticles [10231-12] |

## COMPONENTS, SUBSYSTEMS, DATA PROCESSING I

| 10231 0E | A new concept for non-invasive optical sensing: random lasing [10231-13] |
| 10231 0F | Use of VLC for indoors navigation with RGB LEDs and a-SiC:H photodetector [10231-14] |
| 10231 0G | Coupled data transmission and indoor positioning by using transmitting trichromatic white LEDs and a SiC optical MUX/DEMUX mobile receiver [10231-15] |
| 10231 0H | Interrogation of super-structured FBG sensors based on discrete prolate spheroidal sequences [10231-16] |
| 10231 0I | Smart image selection algorithm in analysis plane of the optical-electronic angle measuring sensor [10231-17] |

## COMPONENTS, SUBSYSTEMS, DATA PROCESSING II

| 10231 0J | GeSn/Ge quantum well photodetectors for short-wave infrared photodetection: experiments and modeling [10231-18] |
| 10231 0K | Compressive spectroscopy by spectral modulation [10231-19] |
Speckle tracking approaches in speckle sensing

Analysis of mineral composition by infrared spectral imaging using quantum dot focal plane array sensor

Analysis of nanoparticles with an optical sensor based on carbon nanotubes

Discrimination of trace nitroaromatics using linear discriminant analysis on aerosol jet printed fluorescent sensor arrays

Infrared sensor for water pollution and monitoring

A robust and reliable optical trace oxygen sensor

Black silicon n-type photodiodes with high response over wide spectral range

Low temperature oxidation in air of iron thin films monitored with long period fiber gratings

Surface plasmon resonance prism coupler for enhanced circular dichroism/birefringence sensing

U-bent plastic optical fiber based plasmonic biosensor for nucleic acid detection

Study of inertial hydrodynamic focusing in sheath-driven flows for lab-on-a-chip flow cytometry

The research of the possibility of the dispersion method sensitivity increase for the air tract vertical temperature gradient determination by analyzing the diffraction pattern

Acoustic waves in tilted fiber Bragg gratings for sensing applications

Analysis of the impact of the deposition optical fibers on the deformation measurement with a distributed system BOTDR

CHEMICAL SENSORS I

CHEMICAL SENSORS II

PHYSICAL SENSORS

BIOSENSORS I

POSTER SESSION
Analysis of the detection materials as resonant pads for attaching the measuring arm of the interferometer when sensing mechanical vibrations [10231-46]

Analysis encapsulation of fiber Bragg gratings into polydimethylsiloxane for the needs of dynamic weighing [10231-47]

Photovoltaic optical sensors for high-power conversion and information transmission [10231-48]

Autocollimation sensor to control the angular deformation with increased measurement range [10231-49]

Detection of trace amount of NO₂ gas using tunable blue laser diode [10231-51]

A high resolution hand-held focused beam profiler [10231-53]

Simulation and research of the gamma-ray detectors based on the CsI crystals and silicon photomultipliers [10231-54]

Evaluating inner surface roughness of inline/picoliter fiber optic spectrometer fabricated by an NUV femtosecond laser drilling [10231-55]

Autocollimation sensor for measuring the angular deformations with the pyramidal prismatic reflector [10231-56]

Multiagent robotic systems' ambient light sensor [10231-57]

Optical choppers with rotational elements: modeling, design and prototypes [10231-58]

Optical signal processing for a smart vehicle lighting system using a-SiCH technology [10231-59]

Refractive index sensor based on multi-mode plastic optical fiber with long period grating [10231-60]

Novel techniques for optical sensor using single core multi-layer structures for electric field detection [10231-61]

Construction and laboratory test of the fiber optic rotational seismograph FOSREM for rotational seismology area of interest [10231-65]

CO₂ sensing at atmospheric pressure using fiber Fabry-Perot interferometer [10231-66]

Measuring the modulation-transfer function of radiation-tolerant machine-vision system using the sum of harmonic components of different frequency [10231-67]

Experimental study of laser trimmed surface acoustic wave delay line topologies [10231-69]

The influence of the whispering gallery modes resonators shape on their sensitivity to the movement [10231-70]
Design of an optical sun sensor for a space application: a reliable passive sun tracking device for the SOLAR/SOLSPEC instrument [10231-71]

Temperature sensing setup based on an aluminum coated Mach-Zehnder Interferometer [10231-72]

Shack-Hartmann wavefront sensor using a Raspberry Pi embedded system [10231-73]

Splicing and shaping of the special optical fibers [10231-74]

Overview of field gamma spectrometries based on Si-photomultiplier [10231-78]

An experimental sample of the field gamma-spectrometer based on solid state Si-photomultiplier [10231-79]

Improved vibration sensor based on a biconical tapered singlemode fiber, using in-fiber Mach-Zehnder interferometer [10231-80]

Development of an algorithm of the decision of the inverse ellipsometry problem for multilayer structure of the matrix receiver of optical radiation [10231-81]

Pure and Au nanoparticles doped higher alkanes for an optical fiber temperature threshold sensor [10231-82]

Optical features of zinc selenide, silver iodide and its two-phase composite nanostructures [10231-84]

Gallium nanoparticles colloids synthesis for UV bio-optical sensors [10231-85]

Luminance compensation for AMOLED displays using integrated MIS sensors [10231-86]

New fiber laser design for application in phase sensitive optical time domain reflectometry [10231-87]

Simultaneous transmission of standard data, precise time, stable frequency and sensing signals and their possible interaction [10231-88]

Continuous palladium-based thin films for hydrogen detection [10231-89]

Tiny incident light angle sensor [10231-90]

Miniature optical components for a small inline polarimeter [10231-91]

Supercritical angle fluorescence as a tool to study the interaction between lipid bilayer and peptides [10231-92]

Advanced wide-field surface plasmon microscopy of single adsorbing nanoparticles [10231-93]

Preparation of Mach-Zehnder interferometric photonic biosensors by inkjet printing technology [10231-95]
10231 2J  **Optical sensors based on photonic crystal: a new route** [10231-97]

10231 2K  **Real-time temperature monitoring during radiofrequency treatments on ex-vivo animal model by Fiber Bragg Grating sensors** [10231-98]

10231 2L  **Development of an optical biosensor for the detection of antibiotics in the environment** [10231-100]

10231 2N  **Fabrication of arc-induced long-period gratings in different silica fibers** [10231-102]

10231 2R  **Strain-based multicore fiber optic temperature sensor** [10231-106]

10231 2S  **Heat transfer measurements with a four-core optical fiber** [10231-107]

10231 2U  **Optical sensors of bulk refractive index using optical fiber resonators** [10231-109]

10231 2V  **High-resolution investigation of longitudinal modes of a GaN-based blue laser diode** [10231-110]
Authors

Numbers in the index correspond to the last two digits of the seven-digit citation identifier (CID) article numbering system used in Proceedings of SPIE. The first five 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.

A., Gowri, 13
Adigun, Toofeeq O., 2V
Al-Basheer, Watheq, 1E, 2V
Alberto, Nélia J., 16
Ali, Amir R., 1N
Aljalal, Abdulaziz, 1E, 2V
Altanany, Sameh, 1E
André, Paulo, 16
Angiola, Marco, 2B
Antunes, Paulo, 16
Arakawa, Yashiniko, ON
Ascario, G., IF
August, Isaac, OK
Bailleul, M., OS
Baudet, E., OS
Bavili, N., 2U
Bednarek, Lukas, 19
Blokhina, Anastasia, 21, 22
Bodiou, L., OS
Bokaty, I. O., 1G
Bolse, N., OR
Bolsée, D., 1V
Borisov, E. N., 26
Boussard, C., OS
Bravo, Iria, 27
Briones, M., 0D
Brodersen, O., 2C
Buena Escobedo, J. L., 29
Bureau, B., OS
Cabrini, S., 2J
Campopiano, Stefania, 2K, 2N
Carlomagno, Nicola, 2K
Catalán Gómez, S., 0D
Cavaleri, Stefano, 0E
Çetin, Arif E., OC
Chang, Guo-En, OJ
Charrett, Thomas O. H., 0L
Charlier, J., OS
Choi, Seong Soo, 0A
Choi, Soo Bong, OA
Cicék, K., 2U
Cira, Octavian, 1K
Coelho, L., OY
Colas, F., OS
Compère, C., OS
Contreras-Martinez, Ramiro, 1X
Coppola, G., 2J
Corso, Alain J., 2B
Costa, J., OF

Damé, L., 1V
de Almeida, J. M. M., 0Y
Demian, Dorin, 1K
Denisov, Victor M., 1G, 21, 22, 24
Ding, Yue, 1M
Domingues, Fátima, 16
Donazza, Alberto, 2B
Dönsberg, Timo, 0X
Dostalek, J., 07
Dubois, Valentin, 2E
Duma, Virgil-Florin, 1K
Eckstein, R., OR
Ekşioğlu, Yasa, OC
Emelyanov, Viktor M., 1B
Eryürek, M., 2U
Eschenbaum, C., OR
Espósito, Flavio, 2N
Estudillo-Ayala, Julian M., 1W
Fajkus, Marcel, 1B, 19, 1A
Fechner, P., 0O
Fernandes, Miguel, 28
Filatov, Yuri V., 1U
Filimonov, Evgeniy D., 1B
Finzi, Lorenzo, 0E
Fossati, S., 07
Fortiadi, A. A., 29
Frank, T., 2D
Freitag, J., 2C, 2D
Furin, D., 0O
Gallegos-Arellano, E., 1W
Garduño-Mejía, Jesús, 1F, 1X
Gasmí, Khaled, 1E, 2V
Gauglitz, Günter, 0O, 2L
Geiss, F. A., 07
Ghafour, M., 2U
Gisbert Quils, N., 07
Gökbulut, Beliks, 2R
Golinskaya, A. D., 26
Govorenko, Ekaterina V., 1U
Grobelný, Jaroslav, 25
Guidolin, Martino, 2B
Guiterrez-Arrovo, A., 0S
Güvenç, Sema, 2S
Habermehl, A., OR
Hainberger, Rainer, 2H
Hamad, Morad, 1E
Han, Chul Hee, 0A
Havlis, O., 2A
He, Yelu, 1Q
Conference Committee

Symposium Chairs

Jiri Homola, Institute of Photonics and Electronics of the ASCR, v.v.i. (Czech Republic)
Bedrich Rus, Institute of Physics of the ASCR, v.v.i. (Czech Republic)
Chris Edwards, Central Laser Facility, Science and Technology Facilities Council (United Kingdom)
Mike Dunne, SLAC National Accelerator Laboratory (United States) and Linac Coherent Light Source (United States)
Ivo Rendina, Istituto per la Microelettronica e Microsistemi (Italy)

Conference Chairs

Francesco Baldini, Istituto di Fisica Applicata Nello Carrara (Italy)
Jiri Homola, Institute of Photonics and Electronics of the ASCR, v.v.i. (Czech Republic)
Robert A. Lieberman, Lumoptix, LLC (United States)

Conference Programme Committee

Loïc J. Blum, Université Claude Bernard Lyon 1 (France)
Eduard Brynda, Institute of Macromolecular Chemistry of the ASCR, v.v.i. (Czech Republic)
Stefania Campopiano, Università degli Studi di Napoli Parthenope (Italy)
Artur Dybko, Warsaw University of Technology (Poland)
Günter G. Gauglitz, Eberhard Karls Universität Tübingen (Germany)
Pedro Jorge, INESC Porto (Portugal)
Aleksandra Lobnik, University of Maribor (Slovenia)
Ramaier Narayanaswamy, The University of Manchester (United Kingdom)
Claudia Preininger, AIT Austrian Institute of Technology GmbH (Austria)
Terro Soukka, University of Turku (Finland)
Reinhardt Willsch, Institut für Photonische Technologien e.V. (Germany)

Session Chairs

1 Raman Spectroscopy

Jiri Homola, Institute of Photonics and Electronics of the ASCR, v.v.i. (Czech Republic)
2 Plasmonic Sensing I  
Jiri Homola, Institute of Photonics and Electronics of the ASCR, v.v.i.  
(Czech Republic)

3 Plasmonic Sensing II  
Renato Zenobi, ETH Zürich (Switzerland)

4 Components, Subsystems, Data Processing I  
Jakub Dostálek, AIT Austrian Institute of Technology GmbH (Austria)

5 Components, Subsystems, Data Processing II  
Jakub Dostálek, AIT Austrian Institute of Technology GmbH (Austria)

6 Chemical Sensors I  
Wolfgang Fritzsche, Leibniz-Institut für Photonische Technologien e.V.  
(Germany)

7 Chemical Sensors II  
Shimshon Belkin, The Hebrew University of Jerusalem (Israel)

8 Physical Sensors  
Jiri Homola, Institute of Photonics and Electronics of the ASCR, v.v.i.  
(Czech Republic)

9 Biosensors I  
Francesco Baldini, Istituto di Fisica Applicata "Nello Carrara" (Italy)