

# PROCEEDINGS OF SPIE

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## Tenth International Conference on **Correlation Optics**

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**Oleg. V. Angelsky**  
Editor

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Plenary Session 2

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**J. Courtial**, University of Glasgow (Scotland)

- 1 Informative Content of Statistical Optical Fields, Including Optical Chaos, Singular Optics, Polarization Optics and Coherence  
**S. Hanson**, Technical University of Denmark (Denmark)  
**R. Silvennoinen**, University of Joensuu (Finland)  
**Y. Miyamoto**, University of Electro-Communications (Japan)  
**A. Bekshaev**, I.I. Mechnikov National University (Ukraine)  
**V. Lukin**, Institute of Atmospheric Optics, Russian Academy of Science, Siberian Branch (Russian Federation)  
**A. Rogalski**, Military University of Technology (Poland)
- 2 Optical Correlation Devices Based on Diffractive Optical Elements, Including Optical and Digital Holography, Fractal Optics, Optical Sensors  
**W. Osten**, Universität Stuttgart (Germany)  
**D.A. Zimnyakov**, Saratov State University (Russia)
- 3 Optical Correlation Diagnostics, Interferometry and Microscopy of Rough Surfaces and Random Media  
**S. Odoulov**, Institute of Physics, NAS of Ukraine (Ukraine)  
**Ari T. Friberg**, University of Eastern Finland (Finland) and Aalto University (Finland) and Royal Institute of Technology (Sweden)  
**A. Dieterlen**, Université de Haute-Alsace (France)  
**M. Alonso**, Institute of Optics at the University of Rochester (United States)

- 4 New Applications of Correlation Optics in Biology and Medicine  
**J. Masajada**, Wrocław University of Technology (Poland)  
**A. Ushenko**, Yuriy Fedkovych Chernivtsi National University (Ukraine)  
**T. Lee**, University of British Columbia, Vancouver Coastal Health Research Institute, BC Cancer Agency, and Simon Fraser University (Canada)  
**B. Grzegorzewski**, Nicolaus Copernicus University (Poland)

# **Introduction**

The Tenth International Conference on Correlation Optics continues the series of conferences with the same title held biannually at Yuriy Fedkovych Chernivtsi National University (Ukraine) since 1993. More than 120 participants from 20 countries attended the conference, and about 170 talks were presented.

This volume includes the invited talks as well as the best oral and poster contributions on the following topics:

1. Informative content of statistical optical fields, including optical chaos, singular optics, polarization optics and coherence;
2. Optical correlation devices on diffractive optical elements, including optical and digital holography, fractal optics and optical sensors;
3. Optical correlation diagnostics, interferometry and microscopy of rough surfaces and random media;
4. New applications of correlation optics in biology and medicine.

I am grateful to all participants of the conference, as well as to the members of the International Program Committee and the Conference Organizing Committee whose work provided high scientific and organizing level of the conference.

**Oleg V. Angelsky**

