

**XXXV Optical Society of India Symposium**

**ON**

**CONTEMPORARY TRENDS**

**IN**

**OPTICS AND OPTOELECTRONICS**

**To be jointly organized by**

**Indian Institute of Space Science and Technology  
and  
Optical Society of India**



**Venue : IIST Thiruvananthapuram, India**

**December, 2,3,4, 2010**

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## Scope of the symposium

*The XXXV OSI symposium aims to integrate people who are working on Optics and Optoelectronics in one platform as these topics are of interest to mankind since ages from all over the world. The symposium will cover areas starting from Adaptive Optics to Quantum Optics and include optical materials relevant to optics.*

**XXXV OSI Symposium, 2010**

# **CALL FOR PAPERS**

## **CONTEMPORARY TRENDS IN OPTICS AND OPTOELECTRONICS**

**Adaptive Optics :**  
**Imaging through atmospheric turbulence**  
**Stellar Speckle Interferometry**

**Applied Optics for Space Applications**  
**Diffraction Optics**  
**Optical Testing and Interferometry**  
**Optical Design techniques**  
**Optical Sensors and Detectors**

**Biomedical Optics and Imaging**  
**Optical tweezers**  
**Turbid imaging through rough surfaces**  
**Optical coherence tomography**

## **Classical and Quantum Optics**

**Coherence of optical waves**

**Propagation of optical waves**

**Polarization**

**Squeezed states**

**Fiber Optics**

**Optical Waveguides**

**Fiber Bragg Grating**

## **Optical Metrology and NDT**

**Holographic interferometry**

**Electronic speckle interferometry**

**Digital holographic interferometry**

## **Optical Information Processing**

**Optical Image processing**

**Digital holography**

**Fourier Optics**

# Adaptive Optics

DEC, 2, 3,4 2010

**Adaptive optics** is becoming an important tool for astronomy, space and earth based telescopes, human eye etc. Due to growing interest in applications of adaptive optical technologies, in this symposium we have special session dedicated to Adaptive Optics topics. We invite original papers on areas like *imaging through atmospheric turbulence, Stellar speckle interferometry, LIDAR, SCIDAR, Wavefront sensing and correction, Shack-Hartmann Sensors, Biomorphie mirrors* etc.

## PAPER TOPICS

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- Imaging through atmospheric turbulence
- Stellar speckle interferometry
- LIDAR (Light Detection and Ranging)
- SCIDAR (Scintillation Detection and Ranging)
- Wavefront sensing
- Wavefront correction
- Shack-Hartmann Sensors
- Biomorphie mirrors

## INVITED SPEAKERS (Tentative)

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Chris Dainty, NUI, Galway, Ireland

Anna Consortini, Univeristy of Florence, Italy

S K Saha, Indian Institute of Astrophysics, Bangalore India

A K Gupta, IRDE, Dehradun, India

A Jayaraman, NARL, Gadanki, India

Claire Max, UC, Santa Cruz, USA

James R. Fienup, Instiute of Optics, Rochester, USA

Faber Sandra, UC, Santa Cruz, USA

### Program Chairs

A S Kirankumar, SAC, Ahmedabad

A R Ganesan, IIT Madras

# Applied Optics for Space Applications

Applied optics is one of the important topics for industry, defence and space applications. In this symposium special attention is given to papers related to space application and papers are invited in areas like *optical testing and interferometry, Opto-mechanical design, diffractive optics etc*

## **PAPER TOPICS**

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- Aspheric Testing
- Aberration Testing
- Diffractive Optics
- Collimation Testing
- Lens Design

## **INVITED SPEAKERS (Tentative)**

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Katherine Creath, Univ.Of Arizona, USA  
James C Wyant, Univ. of Arizona, USA  
L N Hazra, Univ.Of Calcutta, India  
M P Kothiyal. IIT Madras  
Ajoy Gosh, Univ. Of Calcutta, India  
Duncan Moore, Inst. Of Optics, Rochester, USA

### Program Chairs

K V Sriram, LEOS, Bangalore  
A S Chakraborty, LEOS, Bangalore  
K R Murali, SAC, Ahmedabad

# Biomedical Optics and Imaging

Biomedical optics is fast becoming important tool in biomedical imaging especially for imaging through turbid media like skin. There are several interesting emerging imaging techniques and in this symposium papers related to *Optical Tweezers*, *Optical Coherence Tomography*, *Digital holographic microscopy* are invited.

## PAPER TOPICS

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- Optical tweezers
- Optical coherence tomography
- Diffraction tomography
- Imaging through turbid media
- Holographic microscopy

## INVITED SPEAKERS (Tentative)

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Jannick P Rolland, CREOL, USA

P K Gupta, CAT, Indore, India

R M Vasu, IISc, Bangalore, India

Adrian Podoleanu, Univ.Of Kent, U.K

Kishan Dholakia, Univ.St Andrews, U.K

Gert Von Bally, Med. Univ.Muinster, Germany

C J R Sheppard, Singapore

Christian Depeursinge, Switzerland

### Program Chairs

P K Gupta

R M Vasu

# Classical and Quantum Optics

Classical and quantum Optics in this symposium covers most of fundamental phenomena of optics like coherence, polarization and propagation of various optical beams through free space etc. Highly original papers are solicited from researchers in the topics like, coherence, polarization, squeezed states etc

## **PAPER TOPICS**

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- Optical coherence of waves
- Polarization optics
- Propagation of various types of optical waves
- Squeezed states
- Quantum information processing

## **INVITED SPEAKERS (Tentative)**

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G S Agrawal, OSU, Stillwater, USA  
Arie Friberg, Helsinki, Finland  
R Simon, Matscience, Chennai  
N Mukunda, IISc, Bangalore  
Franco Gori, Italy  
Aristide Dogariu, CREOL, USA  
Peter Knight, Imperial College, London, U.K  
Datta Gupta, Univ. Of Hyderabad, India  
Bahaa E A Saleh, CREOL, USA

### Program Chairs

H C Kandpal, NPL, Delhi  
Roopmanjari Gosh, JNU, N Delhi  
R P Singh, PRL, Ahmedabad

# Fiber Optics

Fiber Optics is one of fascinating areas of research with immense application potentials in communication systems. Since its discovery the demand for Fiber optical communication for high speed transmission is increasing. Fiber optics sensors, Fiber lasers are some of fascinating areas of research. In this edition of OSI symposium a separate section is devoted to this fascinating area of research and original papers in all areas of Fiber Optics are welcome.

## **PAPER TOPICS**

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- Optical Fiber characteristics
- Fiber Bragg Gratings
- Waveguides and integrate Optics
- Nonlinear optical fibers
- Fiber Lasers
- Fiber sensors

## **INVITED SPEAKERS (Tentative)**

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G P Agarwal, Univ.of Rochester, USA

Nasser Peyghambarian, University of Alabama, Huntsville, USA

A K Ghatak, N.Delhi, India

Thyagarajan K, IIT, Delhi, India

B P Pal, IIT Delhi, India

Anurag Sharma, IIT Delhi, India

### Program Chairs

Vipul Rastogi, IIT Roorkee

Vijay Janyani, NIT, Jaipur

# Optical Metrology and NDT

Optical metrology and Non Destructive Testing is one of the important areas for industrial applications since the invention of lasers and holography. There are several groups working in this important area around the globe. In this symposium we invite several papers and prominent speakers are invited to deliver current developments in this area.

## PAPER TOPICS

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- Holographic Interferometry
- Speckle and Electronic speckle pattern interferometry
- Optical Techniques for NDT
- Photoelasticity and stress analysis
- New algorithms for interferometric fringe processing

## INVITED SPEAKERS (Tentative)

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R S Sirohi, India  
Chandra shacker, IIT Delhi, India  
K Ramesh, IIT Madras  
Giancarlo Pedirini, Stuttgart, Germany  
M Kujawinska, Warsaw, Poland  
P K Rastogi, Switzerland,  
A K Asundi, Singapore

### Program Chairs

N Krishna Mohan, IIT Madras  
Annamalai Pillai, VSSC, Trivandrum

# Optical Information Processing and Holography

Optical information processing and holography is one of the important fields which is on par with its electronics counterpart especially in image processing, 3-D imaging and analysis. In fact, digital holography is being widely used even in biomedical imaging. So, papers are invited in this important area from researchers across institutes. The topics for this symposium are given below but not restricted to only these areas.

## **PAPER TOPICS**

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- Coherence holography
- Digital holography
- Fourier optics
- Optical image processing
- Holographic data storage

## **INVITED SPEAKERS (Tentative)**

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Bahram Javidi, Univ. Of Connecticut, USA  
Mitsuo Takeda, Japan  
Kehar Singh, IIT Delhi, India  
Ishirou Yamaguchi, Japan  
Toyohiko Yatagai, Japan  
Wolfgang Osten, Germany  
Joseph Rosen, Israel

### Program Chairs

Joby Joseph, IIT Delhi, India  
Dalipsingh Mehta, IIT Delhi, India  
Arun Anand, MSU, Baroda, India

# Optoelectronic materials and applications

Optoelectronic materials are important for making next generation optical sensors and detectors. As the advancement in nano-technology is very fast it is appropriate to have a full session on optoelectronic materials in this symposium. We invite original papers on non-linear optical materials, photorefractive materials, materials for sensors and detectors.

## **PAPER TOPICS**

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- Nonlinear optical materials
- Optical sensors
- Thin-film optics
- Photorefractive materials
- Optoelectronic devices
- Photonic crystals

## **INVITED SPEAKERS (Tentative)**

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Robert Boyd, Univ.of Rochester, USA

Gerald Roosen, CNRS, Orsay, France

Narayana Rao, Univ. Hyderabad, India

C Vijayan, IIT Madras, India

R Vijaya, IIT Bombay, Mumbai

V P Mahadevan Pillai, Univ. Kerala, India

V P N Nampoori, CUSAT, India

### Program Chairs

C J Panchal, M S University of Baroda, India

C L Nagendra, LEOS, Bangalore

## **Registration Fees**

**Indian Participants : Rs. 3,000.00**

**OSI Members : Rs. 2,500.00**

**Student Participants : Rs. 1,500.00**

**Student OSI Members : Rs. 1,000.00**

**Foreign Participants : USD 300.00**

**OSA/SPIE Members : USD 250.00**  
**(From Abroad)**

**Foreign Student Participants : USD 150.00**

## **Important Dates**

**Last Date for Receiving Extended Abstracts (1 page) : 15.10.2010**

**Notification of selected abstracts : 29.10.2010**

**No abstract will be accepted after last date**

**ADDRESS FOR ALL CORRESPONDENCES,**

**THE CONVENER,  
XXXV OSI SYMPOSIUM-2010,  
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*Keep watching our website [www.iist.ac.in](http://www.iist.ac.in) and [www.osiindia.org](http://www.osiindia.org)*

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