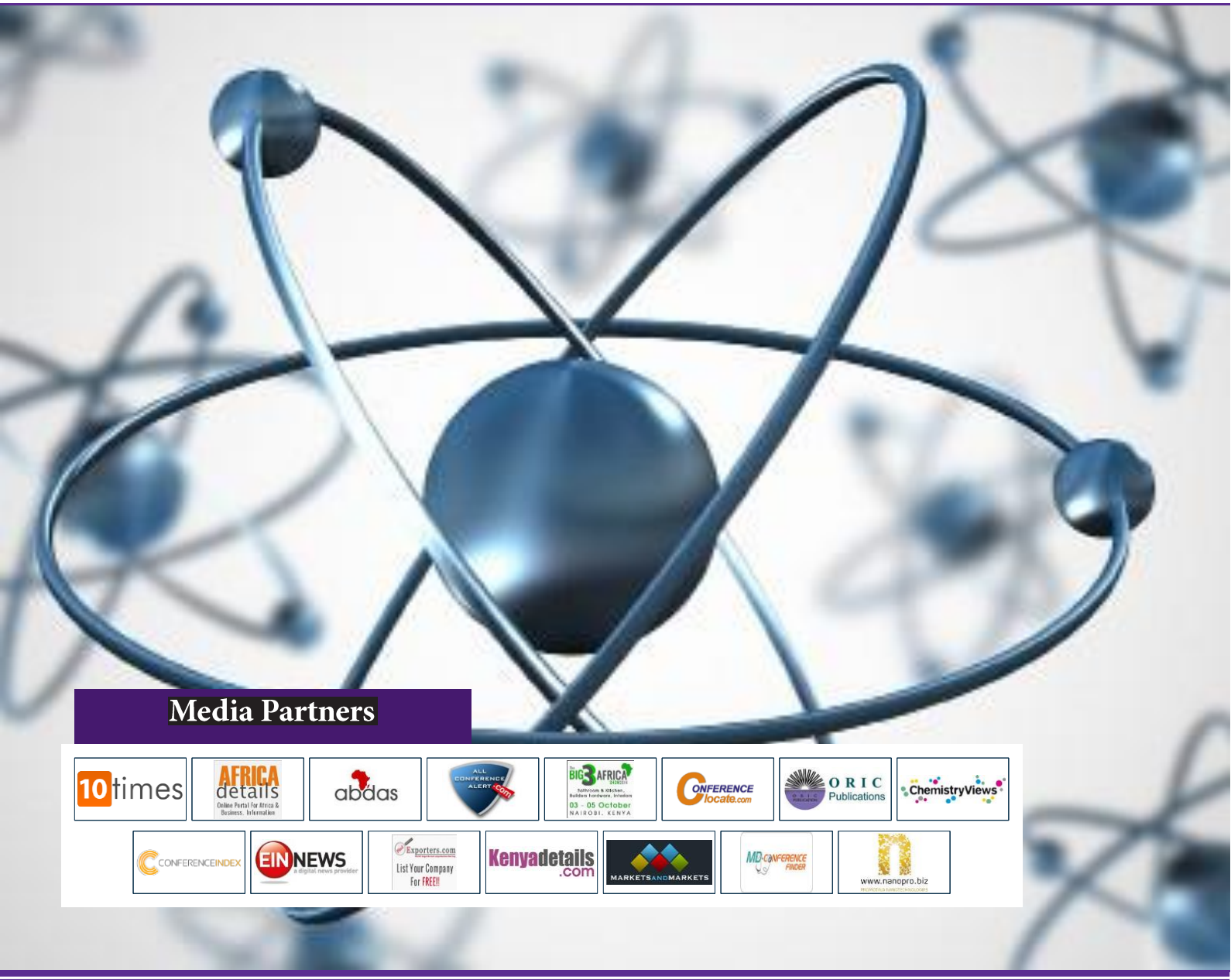
# Scientific Program

OMICS International
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## International Conference and Exhibition on
## Mesoscopic & Condensed Matter Physics

June 22-24, 2015 Boston, USA



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## Day 1 June 22, 2015

**08:30-9:30** Registrations

University A

**09:30-9:55** Opening Ceremony

## Keynote Forum

**09:55-10:00** Introduction

**10:00-10:30** **Peter L. Hagelstein**
Massachusetts Institute of Technology, USA

**10:50-11:20** **Arun Bansil**
Northeastern University, USA

**11:20-11:50** **Mehdi Anwar**
University of Connecticut, USA

Coffee Break 10:30-10:50@Foyer

### Track 9: Applications and New Dimensions in Technology

**Session Chair: Peter L. Hagelstein**, Massachusetts Institute of Technology, USA
**Session Co-Chair: Mehdi Anwar**, University of Connecticut, USA

Session Introduction

**11:50-12:10** **GaN HEMTs for next generation electronics**
**Puneet Srivastava**, Massachusetts Institute of Technology, USA

**12:10-12:30** **Clean unit system platform in "atom-bit-energy/ environment" space for high-efficiency solar cells and kinetosomnogram (KSG) applications**
**Akira Ishibashi**, Hokkaido University, Japan

**12:30-12:50** **Large spin-dependent thermoelectric effects using CoFe-based alloy**
**Takashi Kimura**, Kyushu University, Japan

**12:50-13:10** **Three-component gyrotropic metamaterial**
**Igor Tralle**, University of Rzeszow, Poland

**13:10-13:30** **Study of molecular dynamics in two liquid crystal dimers using laser Raman spectroscopy**
**P R Alapati**, North Eastern Regional Institute of Science and Technology, India

Lunch Break 13:30-14:30@Foyer

**14:30-14:50** **Topological defects in graphene nanostructures**
**Jan Smotlacha**, Joint Institute for Nuclear Research, Russia

**14:50-15:10** **Impact of ambient H2S atmosphere on the growth and properties of vacuum evaporated sulfide semiconductors thin films for device applications**
**Beer Pal Singh**, CCS University, India

### Track 3: Phase Phenomena and Electronic Phenomena

**Session Chair: Daniel Prober**, Yale University, USA
**Session Co-Chair: Igor Tralle**, University of Rzeszow, Poland

**15:10-15:30** **Ultrasensitive far-infrared / THz detection with graphene photodetectors**
**Daniel Prober**, Yale University, USA

**15:30-15:50** **Spin-singlet resonance state in proton-embedded metals: Discovery of novel high-T_K system leading to high-Tc superconductivity**
**Yasutami Takada**, University of Tokyo, Japan

15:50-16:10 **Peculiar physical properties and material synthesis by self-organization**
**Tsuyoshi Takami,** Osaka University, Japan

Coffee Break 16:10-16:30@Foyer

Young Researcher Forum

16:30-16:50 **STM Prediction for Klein tunneling in graphene p-n junctions**
**Dian Shi,** University of California, USA

Workshop

16:50:-17:50 **Smart Materials**
**Ajay Kumar Mishra,** University of South Africa, South Africa

## Day 2 June 23, 2015

University A

## Keynote Forum

09:00-09:30 **Carol Heckman**
Bowling Green State University, USA

09:30-10:00 **Timothy R Field**
Mcmaster University, Canada

**Track 3: Phase Phenomena and Electronic Phenomena**
**Track 4: Magnetic Phases**
**Track 5: Quasiparticles and Soft Matter &**
**Track 6: Quantum Optics**

**Session Chair: Daniel Prober,** Yale University, USA
**Session Co-Chair: Igor Tralle,** University of Rzeszow, Poland

Session Introduction

10:00-10:20 **Nematic-driven anisotropic electronic properties of underdoped detwinned Ba(Fe1-xCox) 2As2 revealed by optical spectroscopy**
**L. Degiorgi,** ETH - Zürich, Switzerland

Coffee Break 10:20-10:40@Foyer

10:40-11:00 **Undulator-like radiation and cooperative phenomena in semiconductor microstructures with grating**
**Igor Tralle,** University of Rzeszow, Poland

11:00-11:20 **First-principles study of large spin-orbit coupling transition-metal compounds: electronic structure and new possibilities**
**Myung Joon Han,** Korean Advanced Instituite of Science and Technology, South Korea

11:20-11:40 **Biologically motivated computational toolbox for energy optimization of nanoelectronic systems**
**A F Isakovic,** Khalifa University, UAE

11:40-12:00 **Unraveling the Physics of Strongly Correlated Electron Systems through Nuclear Magnetic Resonance**
**Nicholas Curro,** University of California, USA

12:00-12:20 **Pure spin current in a broad range of materials generated by YIG-based spin pumping**
**Fengyuan Yang,** The Ohio State University, USA

12:20-12:40 **The fate of quasiparticles at a Kondo destroying antiferromagnetic instability**
**Frank Steglich,** Max Planck Institute for Chemical Physics of Solids, Germany

Lunch Break 12:40-13:40@Foyer

13:40-14:00 **Shaping the quantum wavepacket of free electrons**
**Ido Kaminer,** Massachusetts Institute of Technology, USA

14:00-14:20 **Nanoscale junctions utilizing magnetic thin-film edges**
**Hideo Kaiju,** Hokkaido University, Japan

14:20-14:40 **Neutron scattering investigations on multiferroic materials: Advances in polarized neutron utilization**
**Kazuhisa Kakurai,** Quantum Beam Science Center, Japan Atomic Energy Agency, Japan

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|---|---|
| 14:40-15:00 | **1H and 31P NMR spectroscopy of dynamic structures in nano- and mesostructured hydroxyapatites**<br>**Vytautas Balevicius,** Vilnius University, Lithuania |

**Young Researcher Forum**

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|---|---|
| 15:00-15:20 | **Theory of metal/metal multi-contact interfaces: Implications of the coupling between the electrical and thermal transfer processes**<br>**N Foy,** Universite de Picardie J. Verne, France |
| 15:20-15:40 | **Turning electric and magnetic properties of hydrogen-terminated arm chair boron nitride nanoribbons by adsorption of Cr and Mn atom**<br>**Yusuf Zuntu Abdullahi,** Universiti Sains Malaysia, Malaysia |

**Coffee Break 15:40-16:00@Foyer**

**Workshop (Session A)**

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|---|---|
| 16:00-17:30 | **Work Shop: Electronic Structure of Carbon Nano materials**<br>**Jan Smotlacha,** Joint Institute for Nuclear Research, Russia |

## Day 3 June 24, 2015

**University A**

**Workshop (Session B)**

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|---|---|
| 09:00-10:30 | **Work Shop: Electronic Structure of Carbon Nano materials**<br>**Jan Smotlacha,** Joint Institute for Nuclear Research, Russia |

**Coffee Break 10:30-10:50@Foyer**

**Track 1: The States of Matter**
**Track 2: Phase Phenomena and Electronic Phenomena**
**Track 7: Organic Electronics**
**Track 8: Properties of Cellular Networks and Mesoscale Systems in Biology**

**Session Chair: Xiaoming Wen,** University of New South Wales, Australia
**Session Co-Chair: Fengyuan Yang,** The Ohio State University, USA

**Session Introduction**

| | |
|---|---|
| 10:50-11:10 | **Functional magnetic nanoparticles following Néel relaxation system for hyperthermia treatment**<br>**Yuko Ichiyanagi,** Yokohama National University, Japan |
| 11:10-11:30 | **Recent advances in nanocomposites**<br>**Ajay Kumar Mishra,** University of South Africa, South Africa |
| 11:30-11:50 | **Three-dimensional topological insulators - a new phase of quantum matter; growth issues and the properties of bismuth chalcogenides**<br>**Agnieszka Wolos,** University of Warsaw, Poland |
| 11:50-12:10 | **Photo-physics of organic semiconductors and a fundamental challenge for economic viability of organic solar cell technology**<br>**Lokendra Kumar,** Purdue University, USA |
| 12:10-12:30 | **Density dependent carrier dynamics in organic-inorganic metal halide perovskite**<br>**Xiaoming Wen,** University of New South Wales, Australia |
| 12:30-12:50 | **Quantum Spin Liquid, Topological Order and Entanglement Entropy**<br>**Hong-Chen Jiang,** SLAC National Accelerator Laboratory and Stanford University, USA |
| 12:50-13:10 | **Synthesizing hydrocarbons from carbon dioxide and water with metal nanostructures and solar energy**<br>**Mengyan Shen,** University of Massachusetts Lowell, USA |

**Lunch Break 13:10-14:10@Foyer**


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2nd International Conference and Exhibition on

# Mesoscopic & Condensed Matter Physics

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