Theme: Reaching out to the World of Matter, Material and its Physics

Interactive Sessions  Keynote Lectures  Plenary Lectures  Workshops
Exhibitors  B2B Meetings

***For available speaker slots***

materialsphysics@annualconferences.org

http://materialsphysics.physicsmeeting.com/
**Tentative Program**

**4th International Conference on**

**CONDENSED MATTER AND MATERIALS PHYSICS**

**August 16-17, 2018 London, UK**

**Program at a Glance**

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<th>General Session</th>
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<td>08.00-09.00</td>
<td>Reception/Registration</td>
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<tr>
<td>09.00-09.15</td>
<td>Inaugural Address</td>
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<td>09.15-09.45</td>
<td>Least of 3 Keynote/Plenary Talks</td>
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<td>09.45-10.15</td>
<td>Keynote/Plenary Talk 1</td>
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<td>10.15-10.45</td>
<td>Keynote/Plenary Talk 2</td>
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<td>Panel Discussions/Group Photo</td>
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<td>11.00-12.40</td>
<td>Coffee/Tea Break 10.45-11.00 (Networking)</td>
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<td>5 Speakers (20 Mins Each)</td>
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<td>15.05-17.25</td>
<td>5 Speakers (20 Mins Each)</td>
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**NOTE:** Program Schedule is subject to change with final allotment of the speaker slots.

**Call for Abstract:** [http://materialsphysics.physicsmeeting.com/call-for-abstracts.php](http://materialsphysics.physicsmeeting.com/call-for-abstracts.php)

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Conference Highlights

• Condensed Matter Physics
• Materials Physics
• Soft Condensed Matter
• Magnetic Materials
• Semiconductor Materials
• Advanced Ceramics Materials
• Nanomaterials
• Meta Surfaces
• Superconductivity
• Biophysics
Plan your trip to London

- Westminster Abbey
- Big Ben
- St Paul’s Cathedral
- Tower Bridge
- London Eye
- Tower of London
- The View from The Shard
- Buckingham Palace

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Proceedings of
3rd International Conference on
THEORETICAL AND CONDENSED MATTER PHYSICS

October 19-21, 2017  New York, USA
Keynote Forum

Introduction
Title: Memristors – A new technology paradigm
Mehdi Anwar, University of Connecticut, USA

Title: Transport theory in condensed matter physics-metamaterial is phase transition
Woon Siong Gan, Acoustical Technologies Singapore Pte Ltd, Singapore

Title: Proposed link between the periodic table and the standard model
John O Roberts, University of Liverpool, UK

Title: The history of spin fluctuation theory in itinerant electron systems
Eliade Stefanescu, Advanced Studies in Physics Centre of the Romanian Academy, Romania

Session: Condensed Matter Physics
Session Chair: Yshai Avishai, Ben Gurion University, Israel
Session Co-chair: Eliade Stefanescu, Advanced Studies in Physics Centre of the Romanian Academy, Romania

Session Introduction
Title: Universal and system-specific charge density wave features in 2H-transition metal dichalcogenides
Utpal Chatterjee, University of Virginia, USA

Title: Spin-orbit interaction and topological states in spin 3/2 cold atomic gas
Yshai Avishai, Ben Gurion University, Israel

Title: Inspired by photonics – unconventional electron flow across 2-D P-N junctions
Avik Ghosh, University of Virginia, USA

Title: Structural and optical properties of the MoTe\textsubscript{2}-WTe\textsubscript{2} alloy system
Patrick M Vora, George Mason University, USA

Title: Model of classical thermodynamics based on partition theory, earth attraction and semi-classical asymptotics
V P Maslov, National Research University Higher School of Economics, Russia

Title: Absorption processes and their relationship with the transport processes in semiconductors
Ceballos Garzón Ricardo and Carrillo Guerrero Sergio, National University of Colombia, Colombia

Panel Discussion
Networking & Refreshment Break

Session: Theoretical Physics
Session Chair: Loris Ferrari, University of Bologna, Italy
Session Co-chair: Holger Bech Nielsen, Niels Bohr Institute, Denmark

Session Introduction
Title: Fundamental physics experiment reveals origin construct of DNA
Manuel S Morales, Independent Researcher, USA

Title: Gab-less semiconductor model for relativistic particles
Holger Bech Nielsen, Niels Bohr Institute, Denmark

Panel Discussion
Networking & Refreshment Break
Title: Pseudobosons and quasiphonons: The hidden side of bogoliubov collective excitations
Loris Ferrari, University of Bologna, Italy

Title: Quantum physics as dynamic space-time differential calculus
Eugene Machusky, National Technical University of Ukraine, Ukraine

Title: Synthesis of graphene-Fe magnetic nanofluid for enhancement of water thermal conductivity
Mohamed ibrahim, Süleyman Demirel University, Turkey

Title: Efficient numerical integrator based on FER expansion: Application to solid-state NMR experiments
Eugene Stephane Mananga, The City University of New York, USA

Title: SnO$_2$/TiO$_2$ nanohexagon arrays heterojunction photoanode based dye-sensitized solar cells with enhanced performance
Hafiz Muhammad Asif Javed, University of Agriculture Faisalabad, Pakistan

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**Panel Discussion**

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**Day 2 October 20, 2017**

**Conference Hall: Lexington**

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**Keynote Forum**

Title: Atomic dynamics in liquid in real space and time: Towards the liquid-state-physics
Takeshi Egami, University of Tennessee, USA

Title: Unitary relativistic quantum theory
Eliade Stefanescu, Advanced Studies in Physics Centre of the Romanian Academy, Romania

Title: Electronic structure of inverse opal- and nanoparticulate- TiO$_2$ electrodes
Taro Toyoda, The University of Electro-Communications, Japan

Title: The interplay between off-stoichiometry and intrinsic point defects in quaternary compound semiconductors
Susan Schorr, Free University of Berlin, Germany

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**Panel Discussion**

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**Session: Condensed Matter Physics**

**Session Chair:** Rikio Konno, Kindai University Technical College, Japan
**Session Co-chair:** Rita John, University of Madras, India

Title: Strongly correlated electrons in two-dimensional quantum world
Sergey V Kravchenko, Northeastern University, USA

Title: Density matrix in description of the collision of atomic particle with solid film
Gennadiy Filippov, Chuvash State Agricultural Academy, Russia

Title: A diatomic chain with a mass impurity
Ming B Yu, 191 Waterton Lakes Ave, Las Vegas, Nevada, USA

Title: Theory of thermal expansion of localized paramagnons
Rikio Konno, Kindai University Technical College, Japan

Title: Influence of multiorbital and anisotropic coulomb interactions on isotope effect coefficient in doped Fe-based superconductors
Luxmi Rani, Physical Research Laboratory, India

Title: First principle calculations on the effect of addition of X (Co, Rh, Ir) on TiPd
Rita John, University of Madras, India

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**Panel Discussion**

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**Session: Materials Science and Engineering | Meta Materials and Magnetic Materials | Nanotechnology and Mesoscopic Scale**

**Session Chair:** Jose Alberto Perez Benitez, Instituto Politécnico Nacional, Mexico
**Session Co-chair:** Juan-Luis Domenech-Garret, Madrid Technical University, Spain

Title: On the possibility of refining the gravitational constant and solving the task of integrating the gravitational and electromagnetic fields
Valentyn A Nastasenko, Kherson State Maritime Academy, Ukraine

Title: Quantum simulation of (1+1) D U (1) lattice gauge-Higgs model by using cold atoms in one-dimensional optical lattice
Yoshihito Kuno, Kyoto University, Japan

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Panel Discussion

Networking & Refreshment Break

Title: On-chip plasmonic modulator
M A Swillam, The American University in Cairo, Egypt

Title: Negative partial density of states in mesoscopic systems
P Singha Deo, S N Bose National Centre for Basic Sciences, India

Panel Discussion

Session Introduction

Sessions: Quantum Physics and High Energy Physics | Superconductivity and Superfluidity | Theoretical and Experimental Study of Soft Matter

Session Chair: I Chávez, Instituto de Investigaciones en Materiales, Mexico
Session Co-chair: Ranjan Chaudhury, S N Bose National Centre For Basic Sciences, India

Title: BCS-Bose crossover extended with hole cooper pairs
I Chávez, Instituto de Investigaciones en Materiales, Mexico

Title: Topological excitations in low dimensional magnetic systems
Ranjan Chaudhury, S N Bose National Centre For Basic Sciences, India

Title: Initial model of ether describing electromagnetic phenomena, including gravity
Ioan Has, Land Forces Academy, Romania

Title: Fast zero-point family of methods for computing phonon dispersion
Anant Raj, North Carolina State University, USA

Panel Discussion

Lunch Break

Title: Weyl semimetals A S-matrix study
D Schmeltzer, The City University of New York, USA

Title: Photoinduced interfacial electron transfer dynamics of CdSe quantum dots on single crystal rutile TiO₂ (001), (110), and (111) surfaces
Taro Toyoda, The University of Electro-Communications, Japan

Title: Surface and disorder novel effects on interlayer exchange coupling through magnetic tunnel junctions: Ab initio study
Ke Xia, Beijing Normal University, China

Title: Condensed matter physics at the threshold of the extreme environments of temperature and magnetic fields
Kevin Storr, Prairie View A&M University, USA

Panel Discussion

Poster Presentations

CMP 001
Title: Equivalence between floquet-magnus and Fer expansions to investigate the dynamics of a spin system in the three-level system
Eugene Stephane Mananga, The City University of New York, USA

CMP 002
Title: Introduction in the band theory of liquid dielectrics
Alexander Shimkevich, NRC Kurchatov Institute, Russia
Title: Hybrid plasmonic electro-optical ring resonator based modulator based on electrically tuning the ITO's properties
M A Swillam, The American University in Cairo, Egypt

Title: Python Script in the processing of electrochemical impedance spectroscopy and current transient measurements for the determination of the chemical capacitance
Daniel Andres Triana Camacho, Industrial University of Santander, Colombia

Video Presentations
Title: Treatment of the ‘sing problem’ by pair phase space pseudopotential
V S Filinov, Joint Institute for High Temperatures of the Russian Academy of Sciences, Russia

Title: Scaling of thermocapillary molten pool shape during laser melting
Peng-Sheng Wei, National Sun Yat-Sen University, Taiwan

Title: The decomposition of the solution during phase transition
Alex Guskov, Institute of Solid State Physics of RAS, Russia

Title: New light-emitting materials for optical technologies based on complexes with europium
Peter P Pershukevich, The Institute of Physics of NAS Belarus, Belarus

Awards & Closing Ceremony
2nd International Conference and Exhibition on
Mesoscopic and Condensed Matter Physics
October 26-28, 2016  Chicago, Illinois, USA

Scientific Program
### Keynote Forum

**Introduction**

**Title:** In-situ electron paramagnetic resonance studies of paramagnetic point defects in superconducting microwave resonators  
**Nathan Newman,** Arizona State University, USA  
**Title:** Photonic applications with a protein complex  
**D V G L N Rao,** University of Massachusetts, USA  
**Title:** Theory of thermal expansion of magnetic superconductors  
**Rikio Konno,** Kindai University Technical College, Japan

### Networking & Refreshment Break

### Sessions:


**Session Chair:** Himanshu Verma, University of South Florida, USA  
**Session Co-chair:** Igor Tralle, University of Rzeszow, Poland

**Title:** Scanning tunneling microscopy across a superconductor/topological insulator interface  
**Stuart Tessmer,** Michigan State University, USA  
**Title:** Braiding of majorana fermions and topological quantum computation  
**Louis H Kauffman,** University of Illinois at Chicago, USA  
**Title:** Electronic and magnetic behaviors of 2D atom-thin layers: Graphene, black phosphorus, hexagonal boron-nitride and MoS2  
**Junji Haruyama,** Aoyama Gakuin University, Japan  
**Title:** Quantum entanglement in electron ballistic transport and jaynes-cummings model  
**Igor Tralle,** University of Rzeszow, Poland  
**Title:** Mott-insulators vs. bipolaronic insulators in a deformable lattice and their transitions to metallic ground states by tuning the deformation potential  
**Gayan Prasad Hettiarachchi,** Osaka University, Japan  
**Title:** The phase transition in cerium metal studied by an LDA + Gutzwiller method  
**Haifeng Song,** Institute of Applied Physics and Computational Mathematics, China  
**Title:** Melting and transport properties of aluminium at high pressure from ab initio molecular dynamics simulations  
**S C Wang,** Institute of Applied Physics and Computational Mathematics, China

### Lunch Break

**Title:** The properties of $\alpha$ and $\beta$-UH$_3$ under extreme conditions (stretching and compressing strains): An ab initio study  
**Hongzhou Song,** Institute of Applied Physics and Computational Mathematics, People’s Republic of China

### Panel Discussion

**Sessions:**  
**Solid State Physics and Crystallography | Quantum Physics in Condensed Matter and Mesoscopic Physics**

**Session Chair:** C S Ting, University of Houston, USA  
**Session Co-chair:** Rita John, University of Madras, India
Title: Novel electronic properties of hydrogenated graphene: The first principles calculations
C S Ting, University of Houston, USA

Title: Theoretical investigation on 2D materials: graphene, silicene, germanene, and stanene
Rita John, University of Madras, India

Title: The collective effect of magnetic holes of different dimensions in superparamagnetic continuum subjected to gradient magnetic field: A bireferegence study
P M Trivedi, Bhavan’s Sheth R A College of Science, India

Title: Improved electrochromic performance of WO3/PPy thin films
Anamika Vitthal Kadam, D Y Patil College of Engineering and Technology, India

Title: Theoretical investigation on 2D materials: graphene, silicene, germanene, and stanene
Rita John, University of Madras, India

Title: Topological quantum states visualized by ARPES: From topological kondo insulator to Weyl semimetal
Nan Xu, Paul Scherrer Institut, Switzerland

Networking and Refreshments

Title: Numerical modeling of exciton-light coupling in quantum wells
Pavel Belov, Saint Petersburg State University, Russia

Title: Quantum computation with fibonacci anyons
Claire Levailant, University of California at Santa Barbara, USA

Title: Study of radiation effects on photoelectric and luminescence parameters of two-barrier structures based on silicon
F P Abasov, Institute of Radiation Problems of NAS of Azerbaijan, Azerbaijan

Title: The thermodynamic and optical properties of diamond: A first-principles study
Qili Zhang, Institute of Applied Physics and Computational Mathematics, China

Video Presentation

Title: Degeneracy and interference quantum effects in phase space distribution functions: Path integral approach
A S Larkin, Joint Institute for High Temperatures-RAS, Russia

Panel Discussions

Day 2   October 27, 2016

Keynote Forum

Title: Exploration of intermediate phases of matter on surfaces
Michael W Roth, Northern Kentucky University, USA

Title: Topological phase transitions and a two-dimensional Weyl superconductor in a superconductor/half-metal heterostructure
C S Ting, University of Houston, USA

Session:
Nano and Mesoscopic Scale

Session Chair: Elie. A Moujaes, Federal University of Rondonia, Brazil
Session Co-chair: Yuko Ichiyanagi, Yokohama National University, Japan

Title: Fundamental mechanisms that determine the loss tangent and temperature coefficient of resonant frequency (cf) in modern microwave ceramic dielectrics
Nathan Newman, Arizona State University, USA

Title: Strongly localized isoelectronic impurities for synthesizing novel semiconductor alloys
Kirstin Alberi, National Renewable Energy Laboratory, USA

Title: Local structure analysis and biomedical applications of multifunctional magnetic nanoparticles
Yuko Ichiyanagi, Yokohama National University, Japan

Networking & Refreshment Break
Title: Magnetization of ultrathin [Fe1-cNic]n alloy nanojunctions between Fe or Co leads using an EFT-MFT model
Elie A Moujaes, Federal University of Rondonia, Brazil
Title: Electronic structure of graphene wormhole and graphitic nanocone
Jan Smetlacha, Joint Institute for Nuclear Research, Russia
Title: Synthesis and characterization of Zn-substituted lithium cobalt ferrite using sol-gel autocombustion for a cathode material in lithium ion batteries
Mukhtar Ahmad, COMSATS Institute of Information Technology, Pakistan
Title: Transport properties of “man-made” crystalline: Semiconductor superlattice
M Kofoworola Awoadele, Ladoke Akintola University of Technology, Nigeria
Title: Nanosensors based on single and multiple metal oxide nanostructures
Tonezzer Matteo, The Istituto dei Materiali per l’Elettronica ed il Magnetismo-CNR, Trento, Italy
Title: Enhancement of sensitivity in gas chemiresistors based on carbon nanotube surface functionalized with substituted phthalocyanines
Anshul Kumar Sharma, Guru Nanak Dev University, India

Lunch Break

Title: AFM controlled studies of nanoscale polymeric spheres on a Si substrate
Himanshu Verma, University of South Florida, USA
Title: Emission, structure and aging of silver doped ZnO nanorod films
T V Torchynska, Instituto Politécnico Nacional, México

Panel Discussion
Session: Meta Materials and Magnetic Materials
Session Chair: Roberto Zivieri, University of Ferrara, Italy
Session Co-chair: Rikio Konno, Kindai University Technical College, Japan

Title: 2D ferromagnetic nanostructures: A new class of metamaterials
Roberto Zivieri, University of Ferrara, Italy
Title: Theory of thermal expansion of heavy fermion systems
Rikio Konno, Kindai University Technical College, Japan
Title: New types of composite metamaterials
Paweł Zięba, University of Rzeszow, Poland

Networking & Refreshment Break

Title: Impact of CuZn on structural, morphological and magnetic properties of spinel nanocrystalline ferrites for variety of applications
Majid Niaz Akhtar, COMSATS Institute of Information Technology, Pakistan
Title: Titanium doped semiconductor microring laser on optical fibers
Muhammad Maqbool, Ball State University, USA

Video Presentation
Title: Large-scale Bose-Einstein condensation in a vapor of sodium atoms at normal temperature (T=343K)
Pei Lin You, Guangdong Ocean University, China

Day 3 October 28, 2016
Hall

Sessions:
Superconductivity and Superfluidity | Organic Electronics | Theoretical and Experimental study of Soft Matter
Session Chair: Ranjan Chaudhury, S N Bose National Center For Basic Sciences, India
Session Co-chair: Myung Joon Han, KAIST Institute for interdisciplinary research, Korea

Session Introduction
Title: The rich landscape of organic molecules on graphitic surfaces: What molecular dynamics shows
Michael W Roth, Northern Kentucky University, USA

Title: Reduced dimensionality and emerging material property in perovskite oxide superlattices: A first-principles study
Myung Joon Han, Korea Advanced Institute of Science and Technology, Korea

Title: Spin superfluidity in the frustrated two-dimensional anisotropic XY model
Leonardo dos Santos Lima, Centro Federal de Educação Tecnológica de Minas Gerais, Brazil

Title: Functional oxide nanoarchitectures for emerging energy and clinical technologies
Oommen K Varghese, University of Houston, USA

Title: Effect of metal-ions (Sn and Li) doping on the structural, optical and gas sensing properties of In$_2$O$_3$ nanocrystalline thin films
S N Pandey, Motilal Nehru National Institute of Technology, India

Title: Local properties study of substituted Sr-Ca-Cu-O superconducting structure
A Sklyarova, Nagaoka University of Technology, Japan

Title: Microscopic understanding of high temperature superconductivity and its possible role towards enhancement of critical temperature
Ranjan Chaudhury, S N Bose National Center For Basic Sciences, India

Title: Dielectric relaxation study and molecular interaction of amides in 1, 4-dioxane by using time domain reflectometry
Gajanan Ramrao Mahajan, Shri Datta Arts, Commerce and Science College, India

Title: Morphological studies of virgin and ion irradiated nanostructured BaF$_2$ thin films surfaces
S N Pandey, Motilal Nehru National Institute of Technology, India

Title: Electron-phonon interaction in nanostructures at sub-Kelvin temperatures
Dragos Victor Anghel, Institutul National de Cercetare-Dezvoltare pentru Fizica si Inginerie Nucleara Horia Hulubei, Romania

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3rd International Conference and Exhibition on
Condensed Matter Physics and Materials
October 16-18, 2017 Atlanta, USA

4th International Conference and Exhibition on
Theoretical and Condensed Matter Physics
November 6-7, 2017 Toronto, Canada

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