

2019-2020

Name of the Department/Society: Department of Physics and Electronics/LUMEN

**Name of the Event 5: NATIONAL CONFERENCE ON ADVANCED MATERIALS : THEORY
& APPLICATIONS**

Date of the Event: 26-28 September 2019

A National Conference on “**Advanced Materials: Theory and Applications**” (NCAMTA-2019) is organised by the Department of the Physics & Electronics, in the Conference room of Hans Raj College, from Sept 26-28th, 2019. It is sponsored by UGC, CSIR and Hansraj College. This conference served as a platform for robust discussions on recent advancements and new strategies for development of new materials suitable for applications.

The topics covered in the conference are

- Nanomaterials
- Polymers
- Memory Device
- Optoelectronics Devices
- Sensors Photonics
- Solar Cells
- Multiferroics
- Glass&Ceramics
- Semiconductor thin films
- Graphene and related materials
- Computational Material Science

Under Nanomaterials the four broad categories: optoelectronics, bio-nanomedicine, security and alternative energy were covered in the conference. New classes of polymeric material with unique applications like (a) health, medicine and biotechnology, a rapidly developing domain based on known materials but moving towards designed and engineered polymers, and (b) information and communications were discussed. Cutting-edge technologies such as the Internet of Things, edge computing, and Artificial Intelligence were also covered. Topic on Pollution sensors, RFID sensors, image sensors, biometric sensors, printed sensors, and MEMS and NEMS sensors, temperature sensors, proximity sensors, pressure sensors, and RF sensors, pyroelectrics infrared sensors, water-quality sensors, chemical sensors, smoke sensors, gas sensors, liquid-level sensors, automobile sensors and medical sensors drew lot of focus of the audience.

The Inaugural Lecture was given by the Chief Guest – Prof. Gurmeet Singh, VC, Pondicherry University on WHY BE PROUD OF OUR SCIENCE. Followed by lectures on topics:

- III-V Material and Device Technology for High Frequency Applications
- Paper based analytical devices : from bioelectrodes to microfluidic paper based biosensors



- Heterojunction diodes and Ion Beams : an ultra-sensitive response to fundamental understanding of Physics
- New Insights into Superconducting State in Topological Materials
- Design of nanostructures for photoelectrochemical applications
- Fabrication of Smart Optoelectronic and Gas Sensors
- An understanding of the Nucleation, Growth and Charge Transfer Mechanism of Colloidal Semiconductor Quantum Dots for Hybrid Photovoltaics
- Multiferroic BiFeO₃ thin films for memory application
- Studying crystal and magnetic structure and physical property correlation by employing Neutron diffraction
- Growth of Quantum Dots by Vacuum Thermal Evaporation
- Silicon Wet Bulk Micromachining: A Choice of MEMS Industries
- Non-bonded interactions directed design of AIEE active and mechanofluorochromic donor-acceptor Molecules
- Edge enriched Graphene ultrahigh performance supercapacitive energy storage
- Quasi-2DEG at Oxide Interfaces
- Recent Applications of Nanomaterials in Liquid Crystals

An exposure to these research topics that were covered in the conference boosted up the knowledge of the budding researchers and stirred the enthusiasm of our undergraduate students.

On day 2 of the conference a session was dedicated to nine Oral presentations were given who were judged by the expert panel Dr. S. D. Kaushik, and Dr. Raj Sharma. The best presentation was awarded. On day 3 of the conference a session was dedicated to Poster presentations were given who were judged by the expert panel Dr. S. D. Kaushik, and Dr. Shailesh Narain Sharma.



Poster of the Conference

National Conference

On

ADVANCED MATERIALS: THEORY AND APPLICATIONS (AMTA)

September 26-28, 2019
Organized by



DEPARTMENT OF PHYSICS & ELECTRONICS
HANSRAJ COLLEGE, UNIVERSITY OF DELHI

ORGANIZERS

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Dr. Rama
(Principal)

Dr. Hema Chutani (Convener) **Dr. Davuluri Srikala** (Deputy Convener)

Dr. Maya Verma (Coordinator) **Ms. Bhawna Vidhani** (Deputy Coordinator)

Dr. Kopal Aggarwal (Secretary)

Organizing committee of Department of Physics and Electronics, Hans Raj College, university of Delhi, cordially invites all the researchers in the topics listed below to participate and present their recent research work in the National Conference on "Advanced Materials: Theory and Application". The venue of the conference is Auditorium, Hans Raj college.

About College.....
Hans Raj College, is one of the largest constituent Colleges of the University of Delhi - a premier institution, with highly qualified academicians imparting education in different fields. The College today holds a reputation for outstanding performance in academics, sports and extra-curricular activities and is rated among top ten Colleges of the country in Science, Commerce & Arts.

About the Conference...
The three day conference will provide an excellent opportunity to exchange information and strengthen the collaboration among researchers, faculty and scholars. It will serve as a platform for robust discussions on recent advancements and new strategies for development of new materials suitable for applications.

The conference includes invited lectures, oral and poster presentation. The peer reviewed abstracts of the participants will be published in the conference proceedings.

Correspondence.....
ncamta2019@gmail.com

Topics to be covered.....
Nanomaterials
Polymers
Memory devices
Optoelectronic devices
Sensors
Photonics
Graphene and related materials
Glasses and Ceramics
Semiconductor thin films
Advanced Energy related materials
Computational Material Science
Multiferroics

Important dates.....
Submission of abstract begins: 5th Jan 2019
Deadline to submit the abstract: 20th Jan 2019
Acceptance of Abstract: 10th Feb 2019
Registration begins: 12th Feb 2019
Last date of registration: 2nd March 2019

Registration.....
Participants are requested to pre-register before the last date of registration. The fee does not include accommodation charges

Category	Before deadline	After deadline
Research scholars	Rs. 1500	Rs. 2000
Faculty	Rs. 3000	Rs. 3500

Tentative Schedule.....

DAY 1: September 26, 2019
Conference registration: 8.30 - 9.30 am

Session - 1

9.30 - 10.15 : Inauguration & welcome address
10.15-11.00: Keynote lecture
11.00-11.30: High Tea
Session - 2
11.30-12.15 : Invited talk 1
12.15-1.00: Invited talk 2
12.45-1.15: Oral Presentation 1
(1.15 - 2.00 pm Lunch)
Session - 3
2.00 - 2.45 : Invited talk 3
2.45 - 3.30 : Invited talk 4
(3.30 - 3.45pm Tea break)
3.45 - 4.00 : Oral Presentation 2
4.00 - 4.15: Oral Presentation 3
4.15 - 4.30: Oral Presentation 4

DAY 2: September 27, 2019
Session - 1
9.30 - 10.15 : Invited talk 5
10.15-11.00: Invited talk 6
(11.00-11.15: Tea break)
Session - 2
11.15-12.00 : Invited talk 7
12.15-12.30 : Oral Presentation 5

12.30 - 12.45 : Oral Presentation 6
12.45 - 1.00 : Oral Presentation 7
(1.00 - 2.00 pm Lunch)
Session - 3
2.00 - 4.30 : Poster Presentation

DAY 3: September 28, 2019
Session - 1
9.30 - 10.15 : Invited talk 8
10.15-11.00: Invited talk 9
(11.00-11.15: Tea break)
Session - 2
11.15-12.00 : Invited talk 10
12.15-12.30 : Oral Presentation 8
12.30- 12.45: Oral Presentation 9
12.45 - 1.00: Oral Presentation 10
(1.00 - 2.00 pm Lunch)
Session - 3
2.00 - 2.45: Invited talk 11
2.45 - 3.00 : Oral Presentation 11
(3.30 - 3.45pm Tea break)
3.45 - 4.30 : Valedictory

Members of National Advisory Board...

Prof. Gurmeet Slingh, VC, Pondicherry Univ
Dr. N. Eswara Prasad, Director, DMSRDE, Kanpur
Dr. Md. Naimuddin, DU

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Dr. R.K.Sharma, Dept. of Chemistry, DU
Prof. Parbati Biswas, Dept of Chemistry, DU

Speakers.....
Prof. Gurmeet Slingh, VC, Pondicherry Univ
Prof. Vinay Gupta, DU
Prof. Chandra Prakash, MAIT
Dr. Prasun Ganguly, NDA, Pune
Dr. Anil Kumar Singh, NIT Rourkela
Prof. Marilyn Milton, Dept. of Chemistry, DU
Dr. S. D. Kaushik, Engineer D, UGC-CSR-DAE Mumbai
Dr. R. K. Sharma, Dept. of Chemistry, DU
Prof. Parbati Biswas, Dept of Chemistry, DU



हंसराज कॉलेज
— दिल्ली विश्वविद्यालय —

HANSRAJ COLLEGE
University Of Delhi
NAAC Grade A+ with CGPA 3.62

Poster of the Conference

National Conference on **ADVANCED MATERIALS : THEORY and APPLICATIONS**

September 26-28, 2019

Venue: Hans Raj college, University of Delhi, Delhi - 110007
(NAAC Grade A+, NIRF Rank 9)

Conference welcomes the research community to Advanced Materials : Theory and Applications during September 26-28, 2019. The scientific deliberations at the conference which cover a wide range of topics in Material Science in the form of Keynote speeches, Oral talks and poster presentations. The floor will provide an excellent opportunity to meet experts, exchange information and strengthen the collaboration among researchers. For more information please visit: <https://www.hansrajcollege.ac.in/AMTA/index.html>

Topics to be Covered..

Nanomaterials	Polymers	Memory Devices	Optoelectronic devices
Sensors	Photonics	Solar cells	Multiferroics
Glass & Ceramics	Semiconductor thin films	Graphene and related materials	Computational material science

Objective: To facilitate opportunity for researchers to collaborate and exchange ideas in Material Science research and its recent developments

National Advisory Board

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Dr. Anil Kumar Singh, NIT Rourkela
Dr. Raj Kishore Sharma, University of Delhi
Dr. Md. Naimuddin, University of Delhi
Dr. Rakesh Pandey, Kironi Mal College, University of Delhi

Invited Speakers

Prof Gurmeet Singh, VC, Pondicherry University (Chief Guest, Inaugural Speaker)
Dr. Seema Vinayak, Director, SSPL-DRDO
Prof. Ashok K. Ganguli, IIT Delhi
Prof. Prem Pal, IIT Hyderabad
Prof. Vinay Gupta, University of Delhi
Prof. S. B. Patnaik, JNU, Delhi
Prof. Marilyn Milton, University of Delhi
Prof. A. G. Vedeshwar, University of Delhi
Dr. Raj Kishore Sharma, University of Delhi
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Dr. Prasun Ganguly, NDA, Pune
Dr. Anil Kumar Singh, NIT Rourkela
Dr. Sushil Kumar Singh, SSPL-DRDO
Dr. Anjana Dogra, CSIR-NPL
Prof. Sumitra Phanjoubam, Manipur University

Best Oral and Poster presentation will be awarded

Important Dates

Registration begins : 15 July 2019
Deadline to submit the abstract : 10 August 2019
Acceptance of abstract : 22 August 2019
Last date of registration : 10 September 2019

Local Organizers

Dr. Rama, Principal, Chairperson
Dr. Mona Bhatnagar, Financial Advisor
Dr. Hema Chutani, Convener
Dr. Davuluri Seikala, Co-Convener
Coordinators : Dr. Maya Verma, Ms. Bhavna Vidhani,
Dr. Kopal Aggarwal

Sponsored by:

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Dr. Tanuj Dhanwan (8076304851) Mr. Dibyajyoti Das (9717252188)

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