

International Conference Interface of Physical, Chemical and Biological Sciences

(Sponsored by DST, DBT, ICMR and UGC, New Delhi)

(IPCBS-2017)

11-13 January, 2017

Venue: Golden Jubilee Hall, Dr. Harisingh Gour Vishwavidyalaya, Sagar

Report of the International Conference on Interface of Physical, Chemical and Biological Sciences

(IPCBS-2017) held during 11-13 January, 2017

Background

The International Conference on **Interface of Physical Chemical and Biological Sciences** (IPCBS - 2017) was planned to serve as a forum for bringing leading scientists working in the fields of physics, chemistry and biology together. It was envisaged as premier forum to present recent innovations, advances and achievements in the above fields. The conference was meet to encouraged discussion, deliberations and faster collaborations between them. Three days long vibrant meeting provided opportunities for sharing the latest findings, emerging techniques and their applications. The topics covered in the conference delth with various emerging and frontier areas of Physics, Chemistry and Biology. Recent advances in emerging areas of NMR spectroscopy, nano-technology, biomedical technology, diagnostics, green chemistry, energy, environment and other interfaces were discussed.

Overall approximately **300 delegates** including invited speakers, research scholars, academic and students attended the conference. Invited speakers from USA, Russia, Finland, Israel, and from various pants of India presented their findings on the cutting edge research in these areas and highlighted their interdisciplinary relevance

Inaugural Programme

The Inaugural Programme of the international conference IPCBS-2017 was inaugurated on 11 January 2017 at 10.30 am at the Golden Jubilee Hall, Dr. Harisingh Gour Vishwavidyalaya, Sagar. Shri Jaibhan Singh Pawaiya, Hon'ble Minister Higher Education in Government of Madhya Pradesh was the Chief Guest and Padmashree Prof. Goverdhan Mehta (FRS) was the guest of honor. Prof. Raghavendra P. Tiwari, Hon'ble Vice Chancellor, Dr. Harisingh Gour V.V., Sagar presided over the function. Prof. Malcolm H. Levitt, University of Southampton, UK, Dr. Raz Zarivach, University of the Negev, Israel, Prof. Bruce E. Seely, MTU, Michigan, USA. Were other dignitaries on the dias

First technical session (I day, Session–I; 12.00-02.00) was chaired by Prof. V. K. Singh and Prof. Ganesh Pandey. Following lectures were delivered by eminent scientists:

Plenary Lecture -I 12.00-12.40 Prof. Goverdhan Mehta, University of Hyderabad, Hyderabad	Dimensionality of Chemistry: A Science for Global Sustainability in the 21 st Century
Plenary Lecture-II 12.40- 01.20 Prof. Malcolm H. Levitt, University of Southampton, UK	Nuclear Spins Far From Equilibrium
Lead Lecture – I 01.20- 02.00 Dr. Raz Zarivach, University of the Negev, Israel	Structural studies of magnetosome - associated proteins: a key approach for basic science and biotechnology development

Second technical session (I day, Session–II; 02.40-04.10) was chaired by **Prof. Bruce E. Seely and Prof. Raz Zarivach**. Following lectures were delivered by eminent scientists:

Plenary Lecture – I 02.40-03.10 Prof. Dinakar M. Salunke, ICGEB, New Delhi	New paradigms of specificity at molecular level in immune recognition
Lead Lecture –I 03.10-03.35 Dr. Hanudatta S. Atreya, IISc, Bangalore	New Insights in Protein-Nanomaterial Interactions from NMR Spectroscopy
Lead Lecture –II 03.35-04.10 Prof. T. P. Singh, AIIMS, New Delhi	Structural basis of antibacterial action of innate immune proteins and their exploitation as protein antibiotics

Third technical session (I day, Session III 04.30-06.20) was chaired by **Prof. M. H. Levitt and Prof. T. P. Singh**. Following lectures were delivered by eminent scientists:

Plenary Lecture –I 04.30-05.00 Prof. Ganesh Pandey, CBMR, Lucknow	C(sp ³)-H and C(sp ²)-H functionalization by Visible Light Photoredox Catalysis
Lead Lecture –I 05.00-05.25 Dr K.V. Ramanathan, IISc, Bangalore	Application of One- and Two- Dimensional Solid State NMR Experiments for the Study of Materials and Bio-Solids
Lead Lecture –II 05.25 – 05.50 Prof. N. Suryaprakash, IISc, Bangalore	Water soluble weak Chiral aligning Media and NMR Spectroscopic Techniques for the Discrimination of Enantiomers
Popular Lecture 5.50-6.20 Prof. Bruce E. Seely, MTU, Michigan, USA	Interface of Physical, Chemical and Biological Sciences

One poster session on physical sciences (60 posters) and two poster sessions on chemical sciences (120 posters) were convened and the best posters were adjudged by eminent jury.

On the second day (12.01.2017, Session I 04.30-06.20) was chaired by **Prof. D. M. Salunke and Prof. J. D. Ahi**. Following lectures were delivered by eminent scientists:

Plenary Lecture –I 10.30-11.10 Prof. Yogesh Shouche National Center for Cell Science, Pune	Human Microbiome: Indian perspective
Plenary Lecture –II 11.10-11.40 Prof. T. Satyanarayana, NSIT, New Delhi	Molecular approaches for ameliorating production and catalytic efficiency of acidic α -amylase of <i>Bacillus acidicola</i>

Oral Presentation – I 11.40-12.00 Dr. Hirak R. Das, NIT, Rourkela	Polyphasic taxonomy of Microorganisms
Lead Lecture – I 12.00-12.30 Dr. T. S. Ajitkumar, NCL, Pune	Insights into the mechanical properties of polymers by probing their functional group using solid-state NMR
Lead Lecture-II 12.30- 01.00 Dr. Pranesh Sengupta, BARC, Mumbai	Relevance of Mineralogy in nuclear waste immobilization

In the second session chaired by Prof. T. Satyanarayana and Prof. A. Pathak (Session – II 02.00-04.15) following lectures were delivered:

Plenary Lecture- I 02.00-02.30 Prof. Ravindra Pandey, Michigan Technological University, USA	Bridging Biology and Nanomaterials : Insight from Simulation
Lead Lecture – I 02.30-03.00 Prof. A.C. Pandey, University of Allahabad,	High Fluence Ion Beam Facility at University of Allahabad
Plenary Lecture-II 03.00-03.30 Prof. Amitava Patra, IACS, Jadavpur, Kolkata	Design of Nanomaterials Based Light Harvesting Systems for Potential Applications
Lead Lecture: VI 03.30-04.00 Dr. K. Bhattacharya, BARC	Catalytic Phenomena: A Mechanistic understanding for Energy and Environmental Processes

Two poster sessions on Biological sciences were convened and 120 posters were presented during the session. On the third and last day of the conference the session (10.30-12.30) was chaired by **Prof. Subodh Jain and Dr. Umesh K. Patil. Following five lectures were delivered by eminent scientists:**

Plenary Lecture -I 10.30-11.00 Dr. S. K. Deshmukh, TERI, New Delhi	Natural Products from Endophytic Fungi for Pharmaceutical Uses
Lead Lecture –II 11.00-11.30 Prof. A. Pathak, Univ. of Hyderabad, Hyderabad	Nanoscience and Nanotechnology using energetic ion beams/gamma radiation/lasers
Oral Presentation-I 11.45-12.00 Dr. Konstantin V. Ivanovskikh, Ural Federal University, Ekaterinburg, Russia	Thermally stimulated luminescence and exo-emission properties of Li and Cu doped alkali fluorides irradiated with electron beams
Oral Presentation-II 12.00-12.15 Dr. Sandeep Nigam, BARC, Mumbai	Understanding the structure property relationship by joint experimental and theoretical methods
Oral Presentation -III 12.15-12.30 Dr. M. Manna, Tampere Univ Technology, Finland	Cholesterol modulates β 2-adrenergic receptor in an allosteric fashion – the atom-scale mechanism revealed

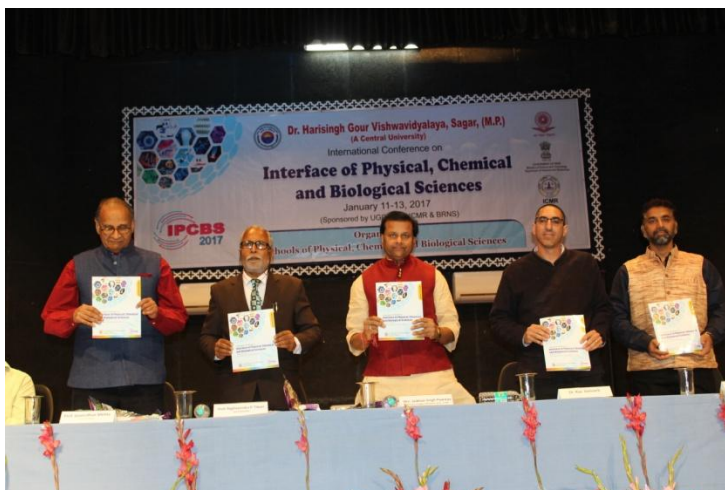
Valedictory session was organized after the lunch. Nine students were awarded for best paper in the field of Physical, Chemical and biological sciences. Vice-Chancellor Prof. R. P. Tiwari in his presidential address congratulated the organizers for successful deliberations during the conference.



Lighting the lamp of Wisdom



Dignitaries on the Dias



Release of Souvenir



Delegates attending the IPCBS 2017



Delegates attending the IPCBS 2017

**Prof. Naveen Kango, Dept of Microbiology, Dr. HS Gour Vishwavidyalaya, Sagar
Dr. K.K. Dey, Dept of Physics, Dr. HS Gour Vishwavidyalaya, Sagar
Conveners**