



President's Note

Dear Colleagues,

It is celebration time at JNCASR. Our Centre has received 4th Rank among Universities and 11th in overall category for 2017 in NIRF Ranking. I congratulate faculty and students for their splendid efforts. Let us continue to excel in research. The Centre has also been accredited with NAAC A++ grade this year (3.76 out of 4 points) which also reflects our position among the top educational institutions in India in imparting higher education and research.

At the individual level, several faculty members have received honours and accolades in recognition for their contribution to science. Let us congratulate Prof. CNR Rao for receiving Doctor of Science (Honoris Causa) from Jamia Hamdard University and Yenepoya University, Prof. K. S. Valdiya for receiving "Pramathanath Bose Memorial Medal" of Asiatic Society, Prof. Hemalatha Balaram for Dr. Raja Ramanna State Award, Prof. Umesh V. Waghmare for Distinguished Alumnus Award of IIT Mumbai, Prof. N. Chandrabhas for Fellow of Royal Society of Chemistry, Dr. Jayanta Halder for CSIR-CDRI Awards 2017 for Excellence in Drug Research in chemical sciences and Dr. Ranjani Viswanatha for receiving SERB Womens' Scientist award and DST Young Career Award in Nano S&T. Let us also congratulate other faculty and students for their respective achievements during the reporting period.

In this period, three patents have been granted; two US and one European. New start-ups are underway. Several other discoveries are at various stages of patenting process. With the admission of 52 students during August and 11 students in January 2017 admission, our student strength stands at 305. JNCASR has also organized several programmes for science outreach conducted by Education Technology Unit and Fellowships and Extension Programmes. Notably, Prof. CNR Rao delivered lectures in various places benefitting 10,170 attendees. There has been enthusiastic participation of students and teachers of science in all the programmes. Let us continue our march with more enthusiasm to excel in all spheres of activities.



Prof. V. Nagaraja
President, JNCASR



NIRF Ranking Memento presented by Hon'ble President to India, Dr Pranab Mukherjee

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JNC IN NEWS

Prof. CNR Rao's book published

The book titled "Lives and Times of Great Pioneers of Chemistry" authored by Dr (Mrs) Indumati Rao and Prof. CNR Rao was published by World Scientific, Singapore.

NAAC A++ grade to JNCASR

The Centre has been accredited for NAAC with 3.76 points (A++ Grade).

Bengaluru's JNCASR fourth best university in India: MHRD rankings

The Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) which did not even figure in the top 10 best universities in the country last year has made it to the fourth position in this year's India Rankings released by the Ministry of Human Resource Development.

Source: Deccan Herald, April 05, 2017

JNCASR is small in size but big on output

Bengaluru continues to reaffirm its position as a city of science. After all, it hosts two of the best research institutes in the country: Indian Institute of Science, which occupies the top position in the India Rankings 2017 released by the HRD Ministry and Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), which debuts as the fourth best university.

Source: The Hindu, April 04, 2017

RESEARCH NEWS

Team Sniffs out a way to locate mercury in any condition

Researchers from the Jawaharlal Nehru Centre for Advanced Scientific Research

(JNCASR), Bengaluru, have developed a unique DNA-based system for detecting mercury under any condition, a technology which they say can be adapted anywhere, from laboratories to point-of-care devices. It can be used to detect extremely low concentrations of mercury in any form, a significant development as very low mercury levels can be readily absorbed by the human body and accumulate in the brain, heart, kidneys and lungs owing to tight binding to proteins, which can cause fatal diseases, said the research team.

Source: Bangalore Mirror, November 08, 2016

Bengaluru researchers mimic nature to produce richer colour

In a novel approach that mimics nature, Bengaluru-based researchers have designed crystalline materials that selectively scatter specific colours of light. Dyes and pigments produce colour predominantly through selective absorption of light. But scattering of light by particles which are arranged in an ordered, periodic pattern produces structural colour, which gives butterfly wings their colour and sheen.

The novel approach adopted by researchers at the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) and Indian Institute of Science (IISc) in Bengaluru has overcome the challenge of transporting the particles to target sites; the size and symmetry of the growing crystallites are also controlled. The results were published in the journal Proceedings of the National Academy of Sciences.

Source: The Hindu, December 18, 2016

Supramolecular chemistry: A temporary change of hands

A discovery of Dr. Subi George is published as research highlight in Nature Nanotechnology, Supramolecular chemistry: A temporary change of hands.

Source: Nature Nanotechnology: Research

Highlights, February 07, 2017.

New weapon to fight drug resistant superbugs found

New Delhi, March 23 (India Science Wire): Antibiotic resistance has become a major health challenge globally, with the emergence of organisms resistant to most powerful antibiotics.

Now Indian scientists have discovered a new class of compounds that may help us fight such 'superbugs'.

Methicillin-resistant Staphylococcus aureus or MRSA is one such superbug. MRSA infection is caused by a type of staph bacteria that has developed resistant to many of the antibiotics normally used to treat such infections.

Researchers at the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) in Bangalore have reported a new class of compounds that can treat MRSA skin infections. The studies have been done in mice, and the new compounds have not shown any acute toxicity. In the studies so far, there is no indication that the bacteria would develop resistance to these compounds even after many applications.

A brewing debate on evolution theory picks up in India

The phenomenon of niche construction in evolutionary biology has been mooted to be highly important but neglected in evolutionary biology theory. Not just that, it has been termed a concept at par with natural selection. Five Indian evolutionary biologists connected to Evolutionary & Organismal Biology Unit of JNCASR, Bengaluru, have set out to show that this is not so. Apart from citing instances of the concept's use in earlier papers, they also argue that incorporating the phenomenon does not involve a major reworking of Standard Evolutionary Theory (SET).

Source: The Hindu, March 25, 2017



ACADEMIC ACTIVITIES

Under various degree programmes in 2016-17, 52 students joined in the August session, and 11 students were admitted in the January session. This took the number of total students in JNCASR to 305.

The advertisement for admission to the Integrated Ph.D., Ph.D. and M.S. programmes 2017-18 session was released in the leading national and regional newspapers, and announced on the Centre's website. The last date for application submission was April 16, 2017.

FELLOWSHIPS & EXTENSION ACTIVITIES

Summer Research Fellowship Programme (SRFP)

The advertisement for SRFP 2017 was announced on the JNCASR website and emailed to around 150 college principals in the country. Screening was completed for total of 1396 applications received. Around 90 scholarships were offered for the year 2017 and students have begun to avail the fellowships.

Project Oriented Chemistry Education (POCE)

Eight students of POCE-2014-16 completed the programme successfully. Seven of them are doing M.Sc. in different institutions in the country, whereas one student is undertaking his Master's programme in Ruhr University, Germany. One of the POCE-2014-16 students is a co-author of a research

paper with Dr. Sebastian Peter, NCU. Advertisement for POCE-2017 has been released in 6 newspapers and announced on our website. In addition, a copy of the form and information sheet has been sent to over 200 college principals of small towns to expand the reach of POCE and encourage students to apply for the programme. The last date to receive the completed applications is March 01, 2017.

Project Oriented Biology Education (POBE)

Advertisement for POBE-2017 has been released in six newspapers and announced on Centre's website. In addition, a copy of the form and information sheet have been sent to over 200 college principals of small towns to expand the reach of POBE and encourage students to apply for the programme. The last date to receive the completed applications is March 01, 2017.

Student Buddy Programme

In its second year after launch, the Centre invited 25 students of class XI from JNV Shimoga on September 9, 2016, 26 students from Kendriya Vidyalaya, CRPF on September 29, 2016, 25 students from JNV, Tumakuru on November 18, 2016 and 19 students from Kendriya Vidyalaya, NAL on December 14, 2016. These students enthusiastically participated and the programme was immensely appreciated by the students and their teachers. There has been feedback from participants on increasing the frequency of the programme and to accommodate larger numbers of students. JNCASR Student buddies were very passionate about the programme and participated enthusiastically.

SCIENCE OUTREACH & EDUCATION TECHNOLOGY

Science Outreach Programmes organised by CNR Rao Hall of Science and Education Technology Unit since November 2016 are:

1. November 8, 2016 for the P.U. students of Kishore Kendra, Malleswaram & on November 28, 2016 to students of the Indian Academy
2. November 9, 2016 - A 'Programme in Biology for students' attended by 190 students and teachers participated in the program.
3. December 5, 2016 - A 'Programme in Chemistry for students' participants included the Regional Children's Science Congress students of Navodaya Vidyalaya Samiti.
4. December 16, 2016 - Visit to Laboratories and the CNR Rao Hall of Science by 25 undergraduate Tibetan students pursuing life sciences and chemistry at different colleges across the country.
5. January 11, 2017 - 75-80 Primary School teachers of Govt. Schools (from Bengaluru) visited the CNR Rao Hall of Science.
6. January 20-22, 2017 - Three-day Science Outreach programme in association with School Chandan, Laxmeshwar, Gadag, participated by 450 students and teachers.
7. February 14-16, 2017: **Parikrma Festival of Science**, theme of the science Festival this year was 'Soil and Agriculture'. Prof. C.N.R. Rao, Prof. Richard Zare, Mr. Pradeep Dutt inaugurated the festival and addressed the students. Prof. V. Nagaraja, Mrs. Indumati Rao, Ms.



Audrey Kitagwa were the other distinguished invitees. Over 220 students from 42 schools and 80 teachers and volunteers participated in the event. The copies of 'Learning Science' Part 1 were given to the students and Learning Science books (Set of 4 Parts) were given to the teachers.

8. February 27 – 1 March, 2017: a three-day Special Lecture Programme was conducted for School Chandan, Gadag, Laxmeshwar in which fifty students and three teachers participated.
9. February 28, 2017: National Science Day Programme was participated by over 150 students and teachers from Jawahar Navodaya Vidyalaya, Bangalore urban and Bangalore Rural, Doddaballapur and from School Chandan, Laxmeshwar, Gadag. The event includes lectures by the Centre faculty members, experiments by JNC students and visit to laboratories, the Chemistry of Materials Exposition and Prof. CNR Rao Archives.

INTELLECTUAL PROPERTY

Patents Granted

- USPTO issued patent (No. 9562814) for 'Manufacturing strain sensitive sensors and/or strain resistant conduits from a metal and carbon matrix' developed by Prof. G.U. Kulkarni, et al.
- USPTO communicated intention to grant patent for 'Antimicrobial compounds, their synthesis and applications thereof' developed by Dr. Jayanta Halder, et al.
- EPO communicated intention to grant patent for 'Intrinsically fluorescent carbon nanospheres and a process thereof' developed by Prof. Tapas Kumar Kundu, et al.

Patent Applications Filed

Two Indian Patent Applications filed for the following inventions:

- Antimicrobial conjugates, method for production and uses thereof', developed by Dr. Jayanta Halder, et al.
- Self-cleaning nanoscale metal-organic frameworks and process of preparation thereof', developed by Prof. Tapas Kumar Maji, et al.

Two International Patent Applications filed under PCT for the following inventions:

- Method for modulating autophagy and applications thereof', developed by Dr. Ravi Manjithaya et al.
- A composite, scaffold and applications thereof', developed by Dr. T. Govindaraju et al.

Nine national phase patent applications have been filed for the following inventions:

- Antimicrobial conjugates, method for production and uses thereof', developed by Dr. Jayanta Halder, et al. Filed in: USA, Europe, Canada, Japan
- Small molecular probes, processes and use thereof' developed by Dr. T. Govindaraju, et al. Filed in: USA, Europe, Canada, S. Africa, Singapore

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ANUROOP: A compressible DNS code to simulate and study flow over turbine blades, by Prof. Roddam Narasimha, et al. Diary No. 12289/2016-CO/SW, Application submitted on: 20/10/2016.

AWARDS

Prof. C.N.R. Rao

- Hon. Doctorate, Assam Kaziranga University, Jorhat;
- Hon. Doctorate, Jamia Hamdard University, New Delhi;
- Doctor of Science (Honoris Causa) from Yenepoya University, Mangalore.

Prof. V. Nagaraja

- Editorial Board: Nucleic Acids Research
- Convenor, Sectional Committee- Microbiology & Immunology, INSA.

Prof. Roddam Narasimha

Felicitation by the Indian Mathematics Consortium (TIMC), for great impact on research, teaching and service to the Indian Mathematical community, on its first Conference at BHU organized in collaboration with the American Mathematical Society on December 15, 2016.

Prof. K. S. Valdiya

- "Pramathanath Bose Memorial Medal" of Asiatic Society for his outstanding contribution in the field of Practical & Theoretical Geology.

Prof. Hemalatha Balaram

- Dr. Raja Ramanna State Award 2015-16 from the Department of Information Technology, Biotechnology and Science and Technology, Government of Karnataka.

Prof. U. V. Waghmare

- Distinguished Alumnus Award 2017, IIT-Bombay;
- Chosen for 26th GD Birla Award for Scientific Research 2016.

Prof. Amitabh Joshi

- Editor of Publications, Indian Academy of Sciences, Bangalore.

Prof. G. U. Kulkarni

- Fellow of International Senior Fellowship of University of Bayreuth 2016;
- Adjunct Member of the faculty for Science and Technology, Gulbarga University, Gulbarga.

Prof. Maneesha S. Inamdar

- Fellow of the Indian Academy of Science, Bangalore;
- Member, JAX Regional Council of the Jackson Laboratories, Bar Harbor, Maine, USA.

Prof. S M Shivaprasad

- Distinguished Lectureship' Award from



APPOINTMENTS & LECTURES



the Materials Research Society of India, at its AGM held at IIT-Bombay in Feb 2017.

Prof. Chandrabhas Narayana

- MRSI-ICSC Super Conductivity and Materials Science Senior Award 2017;
- Fellow of the Royal Society of Chemistry.

Prof. Shobhana Narasimhan

- Nominated to the Board of Governors of IIT Gandhinagar, NIT Rourkela, and Central University of Madhya Pradesh.

Prof. A. Sundaresan

- Article chosen as Editors' Choice 2016 of Solid State Communications journal, doi:10.1016/j.ssc.2015.01.002

Dr. Kaustuv Sanyal

- Fellow of the National Academy of Sciences India (NASI), Allahabad (year of election 2014);
- Fellow of the Indian Academy of Sciences, Bangalore (year of election 2017).

Dr. Rajesh Ganapathy

- DST Swarnajayanti Fellowship Award 2015-2016.

Dr. T. Govindaraju

- DST Swarnajayanti Fellowship Award 2015-2016;
- Indian Peptide Society-Young Scientist Award 2016-2017.
- MRSI Medal 2016-2017, Materials Research Society of India.

Dr. Subi J. George

- Received 'Author Profile' in Angewandte Chemie journal for publishing his 10th article in this journal in 10 years.

Dr. Sebastian C. Peter

- Selected as Emerging Investigator by the Journal of Materials Chemistry A, Royal Society of Chemistry (RSC) in 2017;

- Selected as Emerging Investigator by Materials Research Express, IOP Science in 2017.

Dr. Jayanta Halder

- CSIR-CDRI Awards 2017 for Excellence in Drug Research in chemical sciences.

Dr. Ranjani Viswanatha

- DST young career award in Nano Science and Technology for the year 2017;
- SERB Womens' Excellence Award.

Dr. Kanishka Biswas

- Selected as Emerging Investigator by the Journal of Materials Chemistry C, Royal Society of Chemistry (RSC) in 2017;
- Materials Research Society (MRSI) Medal (2017);
- INYAS membership (2017-2021).

Dr. James Chelliah

- Life member of Indian Academy of Neuroscience.

Dr. C. P. Rajendran

- Inducted as GB Member of Karnataka State Natural Disaster Monitoring Centre.

Dr. Sarit Agasti

- Selected as member of early career researcher Board of @MaterHoriz, RSC.

Best Maintained Garden Award

JNCASR has bagged one consolidated prize for the best maintained garden given by the Mysore Horticulture Society.

Awards received by Students

1. N. Nagarjun, Bioorganic Chemistry Laboratory, New Chemistry Unit (Research Guide: Dr. T. Govindaraju, <http://www.jncasr.ac.in/tgraju/>) has won the "2016 Eli Lilly and Company Asia Outstanding Thesis Award".
2. Ms. Ananya Mishra from Dr. Subi J. George's research group (NCU) received the "RISING STAR" award in

the CEMSupra 2016 Conference held at Tokyo, Japan during December 05-06, 2016.

3. Koushik Pal has received the 2017 Ovshinsky Student Travel Award of the American Physical Society.
4. Mr. Krishnendu Jalani (Research Supervisor: Dr. Subi J. George) received the ACS Omega Best Poster Award in 20th CRSI National Symposium in Chemistry 2017.
5. K. Rajasekhar of NCU (Guide: Prof. T. Govindaraju) received Gandhian Young Technological Innovation (GYTI) Award 2017.
6. Y. V Suseela of NCU (Guide: Prof. T. Govindaraju) received one of the Best Oral Presentations Awards in International Conference on Emerging Trends in Nanoworld (ICETN) on February 27-28, 2017.

APPOINTMENTS

Faculty Fellow

Dr. Premkumar Senguttuvan, jointly with International Centre for Materials Science and New Chemistry Unit

Dean, Academic Affairs

Prof. Umesh V. Waghmare

Chairman, TSU

Prof. Swapan K. Pati

Visiting Scientist

Dr. Manish K. Jaiswal

Dr. E. Satheeshkumar

Dr. Satyanarayana Bonakala

Dr. Kurshed A. Shah

Ms. Parvin Fatahi

Visiting Students

Mr. Aseem Rajan

MoU at ICMS

MoU signed for collaboration with University of Manchester.



LECTURES & MEETINGS

- ICTS Abdus Salam Memorial Lecture by Prof. CNR Rao at ICTS Shivakote, Hesaraḡhatta Hobli, Bengaluru, December 30, 2016.

Special Lecture and Seminar in ICMS

- ICMS seminar by Professor M. Anderson, University of Manchester, January 20, 2017.
- The Sixth Annual "Sheik Saqr Materials Lecture" by Prof. Martin Jansen, MaxPlanck-Institut für Festkörperforschung, December 5, 2016.

Fluid Dynamics Colloquia

1. Ideas from 19th-Century to their 21st-Century Computational Solvers by TchebyFlow, Dr. Gerard Labrosse, TchebyFlow, France, November 16, 2016.
2. Evaporative Instabilities in Pure and Binary Mixtures, Dr. Dipin S. Pillai, University of Florida, November 18, 2016.
3. Boundary layer instabilities in near-critical fluids, Prof. Sakir Amiroudine, Universite Bordeaux, France, December 26, 2016.
4. Theoretical models for compressible vortex streets, Mr. Vikas Krishnamurthy, Imperial College London, UK, February 20, 2017.

Workshop / Conference / Winter School

1. An International Symposium on Solid State Chemistry on December 1-3, 2016.
2. JNCASR-Cambridge University -SSL Winter School - 2016 on Frontiers of Materials Science, December 5 - 9, 2016.
3. NGS Workshop (Next Generation

Sequencing) by Clevergene Biocorp Pvt. Ltd, March 23 - 24, 2017.

Seminars

Chemistry and Physics of Materials Unit Seminars

1. Investigation of some New Sulfides Based Thermoelectric Materials: A Comparison with Oxides, Prof. Antoine Maignam, Laboratoire CRISMAT - ENSICAEN/CNRS, France, November 29, 2016.
2. Mixed Potential Electrochemical Sensors for Exhaust Gas Monitoring in Various Applications, Dr. Ramaiyan Kannan, Rutgers University, USA, December 14, 2016.
3. Biophotonics: A new Dawn in personalized Medicine and Personal Health, Dr. Ishan Barman, Johns Hopkins University, USA, December 22, 2016.
4. Tuneable sieving of ions using graphene oxide membranes & Van der Waals pressure and its effect on trapped interlayer molecules, Dr. Siddeswara Vasu Kalangi, University of Manchester, UK, January 5, 2017.
5. Service Life estimation of outdoor wooden building materials in cold climate zones using FTIR spectroscopy, Dr. Barun Shankar Gupta, Norwegian University of Science and Technology, Norway, April 04, 2017.
6. Development of advanced nanomaterials for potential applications in biomedical, energy storage and catalysis, Dr. Subhasis Rana, Variable Energy Cyclotron Centre, Materials Science, Kolkata, India. April 06, 2017.
7. 2D CdSe Nanoplatelets - Self-assembly and Living polymerization, Dr. Santanu Jana, Laboratoire de Chimie, Ecole Normale Supérieure (ENS) de Lyon, France, May 19, 2017.

Evolutionary and Integrative Biology Unit (EIBU) Seminar

1. Perceptual and cognitive processes in developmental prosopagnosia: why some mothers can't recognize their children from their face, Dr. Garga Chatterjee, Indian Statistical Institute (ISI), Kolkata, January 08, 2017.

Molecular Biology & Genetics Unit Seminars

1. Understanding HIV-Mycobacteria synergism through comparative proteomics, Dr. Sharmistha Banerjee, University of Hyderabad, Hyderabad, November 24, 2016.
2. Epigenetic strategies: nucleosome remodeling and histone variants, Prof. Stefan Dimitrov, Institute Albert Bonniot, France November 28, 2016
3. RNAi-dependent epimutations evoke transient antifungal drug resistance, Dr. Joseph Heitman, Duke University, USA, December 13, 2016
4. Kinetochore specifica/on and assembly in vertebrate cells, Dr. Tatsuo Fukagawa, Osaka University, Japan, December 14, 2016.
5. Gene duplication and sub-functionalization regulates germ-line stem cell fate in the Drosophila Ovary Dr. Girish Ratnaparkhi, IISER Pune, December 16, 2016.
6. Gene Therapy of Human Hemoglobinopathies: A Personal Odyssey, Prof. Arun Srivastava, University of Florida, USA, December 22, 2016.
7. No More Missed Connections: Identifying Novel Interactors of the Insulin-like Growth Factor-1 Receptor by Proximity Labeling, Dr. Akshay Bareja, Duke University, USA, January 3, 2017.
8. Salvia divinorum: A Unique CNS Active Plant, Thomas E. Prisinzano, University of Kansas, US, February 16, 2017.



PAST AND FORTHCOMING EVENTS

9. Role of Epigenetics and non-coding RNAs in Diabetic Complications and Metabolic Memory, Dr. Rama Natarajan, Beckman Research Institute of City of Hope, February 28, 2017.
10. RNA regulation in development and disease, Dr. Ruthrotha Selvi B, MRC Human Genetics Unit, Institute of Sciences, Kolkata, November 30, 2016.
11. Neuro AIDS and Drug Abuse go hand in HAND: Blaming the messengers, Dr. Shilpa Buch, University of Nebraska Medical Center, Omaha, USA, March 07, 2017.
12. Single-cell Measurement of Microbial Stress-response Dynamics in Complex Growth Conditions, Dr. Somenath Bakshi, Harvard Medical School, USA, March 20, 2017.

MBGU Lecture Series

1. Cellular Roles of Restriction Endonucleases – Primitive Immune System to Programmed Cell Death, Prof. V. Nagaraja, President, JNCASR, November 11, 2016.
2. A Beautiful Mind! Social Cognition in Wild Bonnet Macaques, Prof. Anindya 'Rana' Sinha, National Institute of Advanced Studies, Bengaluru, February 10, 2017.
3. Careers – The Right Track for you, Sandhya Sriram, SciGlo Pte. Ltd. April 7, 2017.

New Chemistry Unit (NCU)

Seminars

1. Transient and Adaptive Organization in Nanosystems, Dr. Subhabrata Maiti, University of Padova, Italy, January 12, 2017.
2. Time-dependent evolution of metastable supramolecular assemblies, Prof. Kazunori Sugiyasu, National Institute for Materials Science, Japan, January 13, 2017.
3. Generating LnPd(O) Catalysts for 21st

- Century Organic Synthesis: Understanding the Reduction Mechanism of Pd(II) to LnPd(O)(n = 1 and 2), Dr. Thomas J. Colacot, Johnson Matthey Global R & D Manager, Johnson Matthey, New Jersey, February 6, 2017.
4. Carbon nanotube grows long – Synthesis and Application, Dr. Supriya Chakrabarti, Ulster University, UK, February 7, 2017.
5. Mass Spectroscopy: Drop by Drop, Prof. Richard N. Zare, Stanford University, USA, February 15, 2017.
6. Recent developments in the synthesis of carbo and heterocycles with fluorinated side chains, Prof. Rene Gree, Institut des Sciences Chimiques de Rennes, CNRS UMR, France, March 1, 2017.
7. Peptide based artificial fluorescent probes for biological targets and their bioimaging application, Dr. Debabrata Maity, University of Duisburg-Essen, Germany, March 20, 2017.
8. Optoelectronic properties of low-dimensional nanomaterials and heterostructures, Dr. Chandan Biswas, University of Texas, March 22, 2017.
9. Boron, Borophenes and Borospherenes, Prof. E. Jemmis, IISc, Bangalore, March 28, 2017.
10. Economy and Eco-acceptability-Vital Parameters for a Chemical Reaction, Prof. Brindaban Chandra Ranu, Indian Association for the Cultivation of Science, Kolkata, April 13, 2017.

NCU Lecture Series

1. Exciting Story of Chemical Science: Glorious Past and Challenging Future, Prof. C.N.R. Rao, JNCASR, April 24, 2017.

Neuroscience Unit Seminars

1. Gene Regulatory Networks Guiding Retinal Development Evolution and Disease, Dr. Anand Swaroop, National Institutes of Health Bethesda, USA

- November 30, 2016.
2. Molecular mechanisms regulating cell fate specification in the developing cerebral cortex, Dr. Bhavana Muralidharan, Tata Institute of Fundamental Research, Mumbai, January 13, 2017.
3. Developmental mechanisms of projection neurons in the forebrain Dhananjay Huilgol, Cold Spring Harbor Laboratory, New York, USA, January 13, 2017.

Theoretical Sciences Unit (TSU) Seminars

1. Rheology of dense emulsions – a shear start-up and steady state study, Dr. Vishwas Vasisht, Georgetown University, USA, November 8, 2016.
2. Stochastic thermodynamics in small systems, estimation of dissipation and feedback control, Dr. Anupam Kundu, International Centre for Theoretical Sciences, Bengaluru, November 29, 2016.
3. Correlation effects in Real Materials, Prof. Tanusri Saha-Dasgupta, S.N. Bose National Centre for Basic Sciences, Kolkata, November 30, 2016.
4. Kagome Spin-Liquids and Herbertsmithites, Prof. Rajiv R. P. Singh, University of California, USA, December 27, 2016.
5. Stress Response of Granular Systems, Dr. Kabir Ramola, Brandies University, January 3, 2017.
6. A theoretical model for Scanning Tunneling Microscopy: applications in bi-dimensional materials and molecular electronics, Dr. Yannick J. Dappe, Universita Paris-Saclay, France, January 10, 2017.
7. Towards controlled assemblies of ligand-stabilized noble metal nanoclusters, Prof. Hannu Hakkinen, University of Jyväskylä, Finland, January 24, 2017.



8. Synchronization and survival of connected bacterial populations, Dr. Shreyas Gokhale, Massachusetts Institute of Technology, February 7, 2017.
9. From soft matter to 2D electron gases: Anomalous transport phenomena in heterogeneous media, Prof. Juergen Horbach, Heinrich-Heine-Universität Düsseldorf, February 16, 2017.
10. Phase Ordering Studies and Ground States of the Random Field Ising Model, Dr. Varsha Banerjee, Indian Institute of Technology, New Delhi, February 20, 2017.
11. Accuracy-energy trade-off in a cellular signaling cascade, Dr. Bhaswar Ghosh, Max Planck Institute for Terrestrial Microbiology, Marburg, Germany, February 21, 2017.
12. Two-dimensional melting in systems of soft-deformable particles, Prof. Massimo Pica Ciamarra, Nanyang Technological University, Singapore, February 28, 2017.
13. Phase bands for periodically driven integrable quantum systems, Prof. Krishnendu Sengupta, Indian Association for the Cultivation of Science, Kolkata, March 8, 2017.
14. A geometrical description of granular physics, Dr. Shankar Ghosh, Tata Institute of Fundamental Research Mumbai, India, March 28, 2017.

Discussion Meetings

1. 19th Transcription Assembly Meeting, Prof. Chandrima Das, Bose Institute, Kolkata, November 8-9, 2016.
2. International Symposium on Solid State Chemistry, December 1-3, 2016.
3. Winter School Conference, December 5-9, 2016.

4. IUMRS-ICYRAM 2016, Prof. P.S. Anil Kumar, IISc, December 11-15, 2016.
5. 3rd Chromosome Stability Meeting, Dr. Kaustuv Sanyal, JNCASR, December 15-18, 2016.
6. 42nd Annual Meeting of the Indian Society of Human Genetics (ASHG2017), Prof. Arun Kumar, IISc, March 2-4, 2017.
7. DBT-JNCASR Partnership Proposal Expert Committee Meeting, March 15, 2017.
8. Indo-Korea Meeting, March 25, 2017.

Hindi Workshop

Hindi Workshop, Dr. V. Thilagam, Senior Hindi Officer, IISc, March 24, 2017.

Orientation Programmes for Students

1. Workshop on Prohibition of Sexual Harassment of Women at Work Place, Ms. Kanti Joshi, Support against Sexual Harassment (SASHA), March 13, 2017.
2. Origins of stress and how to manage it, Dr. Elizabeth Daniel, Professor & Consultant Clinical Psychologist, Bangalore, April 12, 2017.

Forthcoming Events

- **A V Rama Rao Foundation Lectures in Chemistry**, Dr. Jitendera Bera, IIT Kanpur and Dr. R. B. Sunoj (Prize lecture) May 12, 2017.
- **Prof. V. Ramalingaswami Memorial Lecture**, Dr. Sowmya Swaminathan, Director General, ICMR, May 29, 2017.
- **ISRO Satish Dhawan lecture**, Dr. A. S. Kiran Kumar, Chairman, ISRO, June 1, 2017.
- **DAE- Raja Ramanna Lectures in Physics**, Dr. S. Krishna Prasad, CeNS, Bangalore and Dr. Arindam Ghosh, IISc (Prize lecture), September 14, 2017.

Annual Faculty Meeting

Talks delivered by Centre's faculty members and other eminent scientists during Annual Faculty Meeting and In-House Symposium held during November 21 - 22, 2016:

1. Non-Coding RNA as Regulators of Gene Function - Mrhl RNA: Discovery to Function by Prof. M.R.S. Rao, NSU/MBGU.
2. Structure Dynamics in Molecular Zinc Phosphates, by Prof. R. Murugavel, IIT-Bombay.
3. Why ecology should take a long - Term View, by Prof. R. Sukumar, CES, IISc.
4. Electronic structure of quantum dots in the eyes of a laser light by Dr. Ranjani Viswanatha, NCU/ICMS.
5. Towards super - efficient LEDs, Prof. S.M. Shivaprasad, CPMU/ICMS.

Annual Faculty Meeting 2017 is scheduled to be held on November 14, 2017, followed by In-House Symposium on November 15, 2017.



Faculty Group Photograph during Annual Faculty Meeting, November 21, 2016.



Mohan Veena Recital by Pt. Vishwa Mohan Bhatt at National Institute of Advanced Studies (NIAS), IISc on November 21, 2016