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Jawaharlal Nehru Centre for Advanced Scientific Research
Jakkur P.O., Bangalore-64
(A Deemed to be University)

President's Note

Dear Colleagues,

It is heartening to note that, as per the recent survey conducted by Wiley-VCH (Angewandte family), Prof. C.N.R. Rao was voted as the most probable scientist for the Nobel Prize in Chemistry for 2016. On behalf of JNCASR and on my own behalf, we would like to congratulate Prof. Rao on the release of his 51st book titled "*Life in Science*" in the recently concluded Annual Meeting of the Indian Academy of Science at Bhopal. Continuing his gesture towards Science Popularisation, Prof. Rao has recently contributed Rs. 30 lakhs to JNCASR towards CNR Hall of Science activities.

During the period, several of our faculty have received prestigious awards and recogniations. Congratulations and wish all of them more success. Congratulations to Breathe Team – Dr. Sebastian C. Peter, Prof. Umesh V. Waghmare and Mr. Rakshith Raghavan, for entering into the semi-finals of $ 20m Green Prize. The discovery reported by researchers from IISc and JNCASR on "*Bacteria powered Micro Heat Engine*" is another highlight. Two faculty fellows have joined JNC recently. Dr Diwakar S. Venkatesan joined in EMU during May 2016 and Dr. Premkumar Senguttuvan as Faculty Fellow jointly with ICMS and NCU in November 2016. We welcome them and wish them success.

A delegation of the Parliamentary Standing Committee on S&T, Environment and Forests, led by Smt. Renuka Chowdhury visited JNCASR on August 29, 2016 and had interactions with the faculty and staff. They also had interactions with the Students/Research Scholars who presented posters on JNC research activities. After visiting a few laboratories and facilities, the delegation expressed deep appreciation of the research activities as well as the extensive Science Outreach Programme of the Centre.

The Centre has been registered with National Apex Committee for Stem Cell Research & Therapy under Ministry of Health & Family Welfare for a period of three years from 2016, strengthening our association with government agencies for stem cell research.

Lastly, I am delighted to share that JNCASR registered a higher global ranking, which is made possible due to the continuous efforts of our faculty members and students.

Prof. V. Nagaraja
President, JNCASR

Smt. Renuka Chowdhury, Chairperson, Parliamentary Standing Committee on Science and Technology, Environment and Forests addressing the JNCASR Community at Nevil Mott Hall, ICMS on August 29, 2016.

Inside this issue...

JNC IN THE NEWS

Prof. C N R Rao highest rated probable for the Chemistry Nobel Prize 2016

ChemistryViews published by Wiley-VCH, (Angewandte family) had announced that a survey conducted by them found Prof. C N R Rao to have received the maximum number of votes in the choice for the 2016 Nobel Prize in Chemistry.

Bengaluru scientists enter semifinals of $20m green prize

Breathe, the Indian team participating in the NRG Cosia Carbon XPRIZE, plans to convert waste from a coalfuelled power plant into usable methanol. In all, 27 teams from around the world have been shortlisted. The team is led by Dr Sebastian Peter from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR). The other two members are Professor Umesh Waghmare, also from JNCASR and Rakshith Raghavan Belur, 30, an engineer with Airbus Group India.

Source: The Times of India (Bangalore), October 24, 2016.

http://carbon.xprize.org/press-release/27-teams-advancing-20m-nrg-cosia-carbon-xprize

Bacteria powered Micro Heat Engine

In a recent research breakthrough, a team of scientists from the Indian Institute of Science and the Jawaharlal Nehru Centre for Advanced Scientific Research in Bangalore suggest a potential physical mechanism that can enhance our understanding of how these molecular machines function. In a series of careful and high precision experiments, the Bangalore team studied the dynamics of an optically trapped colloidal particle, only 1/50th the thickness of the human hair, in a soup of motile bacteria. The bacterial mobility could be turned 'ON' and 'OFF' by very small changes in temperature. As opposed to large engines, micro and nanometer-sized engines are strongly perturbed by fluctuations in their environments. Thus, even while the temperature of the reservoirs was nearly constant, changes in the nature of fluctuations of the colloidal particle in the ON and OFF states of bacterial activity allowed these researchers to estimate the work done by the colloidal bead. Remarkably, this tiny artificial engine outperformed conventional engines in efficiency. These results were reported in the journal Nature Physics (DOI: 10.1038/nphys3870)

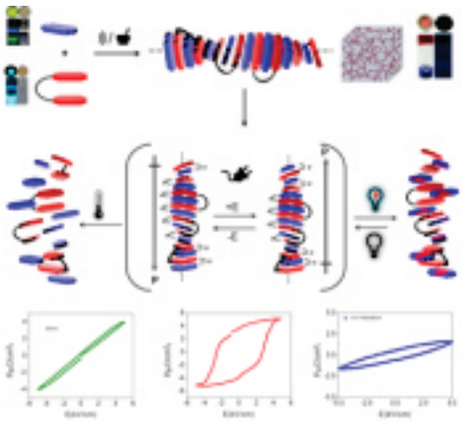
http://www.nature.com/nphys/journal/vaop/ncurrent/full/nphys3870.html

Highly cited article of 2014 from Journal of Medicinal Chemistry

As highly cited article of 2014 from Journal of Medicinal Chemistry, the American Chemical Society has identified the article by Jayanta Haldar, et. al, Small Molecular Antibacterial Peptoid Mimics: the simpler the better!, 57 (4), pp1428–143,

http://dx.doi.org/10.1021/jm401680a

Ferroelectric Multi-Stimuli-Responsive Hydrogel



Ferroelectricity (FE) is rarely observed the phenomenon of spontaneous electric dipoles switching via external electric field. FE property finds a wide range of applications from materials to biology. Dr. T. Govindaraju and his research team has found that unlike inorganic, organic FE extends its utility to a larger range of applications encompassing flexible and printable electronic devices. However, the single crystalline low temperatures (< 71 K) FE property hinders their practical applications. Herein, the team designed supramolecular chiral TIS-CT hydrogels via synergy between hydrogen bonding and charge transfer interaction. This, facilitate a strong network of ordered dipoles and therefore exhibited solution processable thin-film FE. Moreover, the tunability of these interactions with multiple external stimuli (optical, mechanical, thermal, and electrical) allowed them to display first ever reported room temperature multistate thin-film memory devices.

http://d4sci.com/ferroelectric-multi-stimuli-responsive-charge-transfer-hydrogel/

Research work in the Atlas of Science

One of Dr. Tapas K. Maji's recent research has been highlighted in the Atlas of Science (http://atlasofscience.org or http://atlasofscience.org/sample-page/). Highlighted research paper: Chakraborty A, Bhattacharyya S, Hazra A, Ghosh AC, Maji TK, Post-synthetic metalation in an anionic MOF for efficient catalytic activity and removal of heavy metal ions from aqueous solution. Chemical Communication, 52, 2831 (2016).

JNCASR improves in Global Ranking

The rankings were published by the Nature Publishing Group that brings out a number of well-known academic journals. It also shows that in terms of the overall science output, India ranked 13, while the United States topped the list.

In the rankings released on Thursday, ranking of Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) has significantly gone up.

http://www.deccanherald.com/content/542192/iisc-slips-global-research-rankings.html

ACADEMIC, FELLOWSHIPS & SCIENCE OUTREACH

Academic Activities

Degree Programmes

During the August admissions of 2016-17, 53 students joined the Centre, and during mid-year admissions of January 2015-16, 8 students joined JNCASR under different degree programmes. The current student strength is 307. On August 02, 2016, the Academic Office organized an Orientation Programme for new students. The new students were welcomed to the Centre by the President, Deans, faculty members and senior students, and there were short presentations on topics such as research ethics, computer usage and ethics, safety measures, guidelines for the protection of women at the workplace, and opportunities for extra-curricular activities at JNCASR. This was followed by a two hour long interactive workshop conducted by an invited counselor who specializes on working with young students, on how to cope with the stress that is inevitable in an academic career.

A notification inviting applications for admissions to the M.S. (Engg./Research) and Ph.D programmes for the January session of 2016-17 was release on JNC Website.

Fellowships and Extension Programmes

Student Buddy Programme

During the first series of the programme, launched last year, 76 students from Jawahar Navodaya Vidyalaya and Kendriya Vidyalaya benefitted. In its second year, the Centre invited 25 students of class XI from JNV Shimoga on September 09, 2016. For the second programme on September 29, 2016, 26 students of class XI and XII from Kendriya Vidyalaya, Rail Wheel Factory, Yelahanka enthusiastically participated and the programme was immensely appreciated by the students and their teachers. Two more programmes are planned for November and December 2016.

Visiting Fellowship Programme

The Centre received 17 applications for the Visiting Fellowships Programme 2016-17 under different categories. Fifteen scientists from research institutions across the country were selected and will be hosted under faculty and honorary faculty of the Centre.

Summer Research Fellowship Programme (SRFP)

Under SRFP 2016, sixty one students availed the scholarship and received research training in various areas of physics, chemistry, biology or engineering at research institutes in Bangalore, and other places in the country.

The notification inviting applications for SRFP 2017 has been put up on the JNCASR website and the same along with application form has been emailed to around 150 college principals in the country.

Project Oriented Chemistry Education (POCE)

Under POCE 2016, eleven students from 9 states were selected. Eight students of POCE-2014-16 batch were awarded Diploma in Chemistry. Out of the eight students, one has been admitted for Master's programme in Germany, one has joined IIT Guwahati and others have joined state universities for their higher studies.

CNR Rao Hall of science-ETU-SOP, JNCASR had conducted three (two days each) workshop on, "Experiments using college chemistry kit" for pre-university science students of different colleges.

One of the POCE students of 2013-15 has been a co-author of a paper published by Dr. Kanishka Biswas and another student of POCE 2014-16 batch is a co-author of a paper published by Dr. Sebastian Peter.

Project Oriented Biology Education (POBE)

For POBE 2016, 313 applications were received. Ten students were selected from different parts of the country. The classes for the POBE batch of 2016 commenced on June 01, 2016. The second and third year batches came early to complete their project tenures. Eight students of POBE 2014 received their Diplomas in Biology on successful completion of their 3-year POBE tenure.

JNCASR-CICS (Centre for International Cooperation in Science) Fellowship Programme

This Fellowship programme aims to encourage mobility of scientists from developing countries and to promote co-operation among developing regions. Two Fellows selected for the year 2009-10 have been given certificates on successful completion of their 3 month training programme in India. 4 Fellows have been given certificates for the year 2010-11. Two scientists from Uzbekistan and Nigeria selected for the fellowship of 2015-16 completed their tenure at JNCASR and Institute of Himalayan Bioresource Technology Palampur respectively.

Science Outreach and Education Technology

There were series of events organized by Education Technology Unit in popularizing science among school and college science students. These programmes were also aimed at science education for the teachers of these schools and colleges. The events include: Science Outreach Program organized by Himalayan Gram Vikas Samiti, Uttarakhand on May 11-13, 2016. In this event Prof. C. N. R. Rao

delivered the lectures titled 'Celebration of Chemistry' at Gangolihat, and 'Can India become a global leader in Science Education' at Nainital. Faculty Members from JNCASR also delivered lectures in this programme. On June 6-7, 2016, a multimedia presentation of the CD-ROM `NANOWORLD' was shown to POCE students and the CD-ROM 'A brief history of chemistry' by Prof. Rao was presented. On June 14, 2016 ICMS, JNCASR in collaboration with the C. N. R. Rao Education Foundation presented the National Prizes for Research in Energy Materials and Devices (Donated by AVRA Laboratories, Hyderabad) to Prof. K. S. Narayan (JNCASR) and Dr. K. Vijayamohanan Pillai (CSIR- Central Electrochemical Research Institute, Karaikudi). Prof. Sir Richard Friend presented the award and felicitated the awardee. Prof. V. Nagaraja presided over the function. Other major events conducted by ETU were:

- On June 30, 2016, Teachers-students workshop in which the CNR Rao Education Foundation sponsored 2015 prizes for Outstanding Science Teachers were presented to Shri. Purandaranarayana Bhat K. and Shri. Sanjay Kumar Srivastava.
- On July 4, 2016, a meeting of the resource persons was organized to decide the Teachers/students program schedule for the year 2015-2016.
- On July 22, 2016, a 'Programme in Physics for students' was organized for 190 students and teachers at the Madan Mohan Malaviya Amphitheatre, JNCASR
- On August 23, 2016, a 'Programme in Chemistry for students' was participated by 210 students and teachers.
- During September 01, 14 & 15, 19 & 20, the SOP-POCE laboratory conducted workshops on experiments using the College Chemistry Kit for college students. On September 1, Mrs. Indumati Rao gave the lecture on "Michael Faraday" to the students.

ETU has collaborated with Prof. CNR Rao in designing, formatting and editing the print-ready copy of a book to be published by Penguin.

Intellectual Property

A Memorandum of Understanding (MoU) with Clevergene Biocorp Pvt Ltd for managing next generation sequencing facility at JNCASR to ensure mutual benefits derived out of advanced scientific sequencing equipment like Hiseq2500, Miseq and allied infrastructure.

R&D Agreement with a multinational corporation for developing advanced scientific protocols for testing of materials used in high-end telecommunication devices.

Research Agreement with a multinational petrochemical company for accelerated materials discovery.

Technology Transfer Agreement with a Chennai based company involved in research, manufacturing and exports of agriculture products for an environment friendly technology that offers controlled release of improved semiochemical for management of agriculture insects

In addition, during the said period, discussions have been initiated with about half a dozen Indian and foreign industrial players for patent licensing, know-how transfer, material transfer, and collaborative R&D projects. These discussions are at various stages, and are expected to result into mutually rewarding arrangements.

During the period, JNCASR signed multiple agreements/MoUs with Indian and foreign R&D institutions for collaborative R&D programs.

Patents Granted

The Centre has obtained 4 patents (USA-2, India-1 and Australia-1):

Indian Patent (No. 272637) issued for 'Intrinsically fluorescent carbon nanospheres and a process thereof' by Prof. Tapas Kumar Kundu, Prof. Eswaramoorthy Muthusamy et al.

US Patent (No. 9376435B2) issued for 'Chromophores for detection of volatile organic compounds' by Dr. Subi Jacob George et al.

US Patent (No. 9439922) issued for 'Tat DNA Sequences, gene constructs, vaccine and processes thereof' by Prof. Ranga Udaykumar.

Received notice of allowance to grant patent for 'Cationic antibacterial composition' by Dr. Jayanta Haldar et al. from Australian Patent Office.

Patent Applications Filed

One Indian Provisional Patent Application has been filed for the invention of Prof. Jayanta Haldar et al. Three International Patent Applications filed under PCT for the following inventions:

- Luminescent conjugates microporous polymer with Lewis Acidic 'Boron' sites on the pore surface: ratiometric sensing and capture of F^- Ions' by Prof. Tapas Kumar Maji et al.
- Compounds as DNA probes, methods and applications thereof' by Prof. Govindaraju Thimmaiah et al.
- Compounds as stimuli-responsive probes, methods and applications thereof' by Prof. Govindaraju Thimmaiah et al.

Three National Phase Patent Applications filed for the following inventions of Prof. Jayanta Haldar et al:

- Vancomycin-Sugar conjugates and uses thereof' in Europe and South Korea.
- Chitin derivatives, method for production and uses thereof' in USA.

APPOINTMENTS & AWARDS

International Collaborations and MoUs in ICMS

- Collaboration with Max-Plank-Gesellschaft zur Forderung der Wissenschaften
- Collaboration with University Pierre and Marie CURIE, Sorbonne
- Collaboration with Temple University of the Commonwealth System of Education.

New Appointments

D. S. Kothari Research Professorship

Prof. S. B. Krupanidhi

Honorary Professors

Prof. Sandeep Trivedi (TIFR)

Prof. Rajesh Gopukumar (ICTS)

Prof. Anurag Kumar (IISc)

Dr. Baldev Raj (NIAS)

Prof. R. Sukumar (IISc)

Prof. R. Murugavel (IIT-Bombay)

Faculty Fellows

Dr. Diwakar S. Venkatesan - Engineering Mechanics Unit.

Dr. Premkumar Sengatovvan – New Chemistry Unit and International Centre for Materials Science

Visiting Scientists

Prof. Garry Brown

Dr. Tokeer Ahmad

Dr. Shiladitya Sengupa

Dr. Henu Sharma

Dr. Richard Charles Reming III

Dr. Kh. Thianminlian Varhei

Dr. Irshad Ahmad

Dr. Satheesh Kumar

Visiting Students

Mr. Selim Bel Haj Salah

Ms. Manjodh Kaur

Ms. Simran Kumari

Mr. Aseem Rajan

Workshop Faculty In-Charge

Prof. K. S. Narayan

Awards & Recognitions

Prof. C N R Rao

Gitam Foundation Annual Award;

Bhaskaracharya Award by Poojya Shree Channaveerswamiji Sarangamath, Sindgi, Vijayapur.

Prof. V. Nagaraja

G. N. Ramachandran Gold Medal for Excellence in Biological S&T for the year 2016 during CSIR Foundation Day on September 26, 2016.

Prof. K. S. Narayan

The National Prize for Research on Energy Materials and Devices given by the C. N. R. Rao Education Foundation, supported by the AVRA Laboratories Pvt. Ltd., Hyderabad.

Prof. S.M. Shivaprasad

Conferred with Honorary Doctorate (D. Sc.) by the Vijayanagara Sri Krishnadevaraya University, Bellary, Karnataka

Prof. Amitabh Joshi

Elected as Convenor, Sectional Committee on Animal Sciences, Indian National Science Academy, New Delhi, for 2017.

Dr. T. Govindaraju

AVRA Young Scientist Award (2015), Avra Laboratories;

CRSI Bronze Medal (2016) of Chemical Research Society of India.

Dr. Sarit Agasti

The Wellcome Trust/DBT India Alliance Intermediate Fellowship;

The Innovative Young Bio technologist Award (IYBA) from DBT.

Dr. Sebastian C. Peter

Selected as the emerging investigator by Institute of Physics in Material science;

Admitted as the member of the Royal Society of Chemistry.

Dr. Kanishka Biswas

Young Scientist Medal, Indian National Science Academy (INSA), India (2016) for probing and developing new thermoelectrics for energy harvesting;

Alkyl Amines and Chemicals Ltd. and ICT-Young Scientist Award, (2016).

Selected for the "IUMRS–MRS Singapore Young Researcher Merit Award", which is jointly instituted by the International Union of Materials Research Societies (IUMRS) and the Materials Research Society (MRS) of Singapore.

JNCASR received the Best Maintained Garden Award by The Mysore Horticultural Society.

The Most Valuable Staff Member prize

Mrs. Sudha J., Sr. Stenographer Gr. I. has been awarded The Most Valuable Staff Member prize for the year 2016.

Lectures & Meetings

Discussion Meetings

- Three-day Symposium on Contemporary Issues in Condensed Matter Systems, convened by Prof. V. Venkataraman, June 13-15, 2016.
- Conference on Emerging Materials (CEMAT) 2016, convened by Prof. Arun M. Umarji, IISc, July 18-19, 2016.
- Workshop on "Modern Approach to Materials", Christ University, Bangalore, August 29-30, 2016.
- 11th Asian Epigenomics Meeting, Prof. Tapas K Kundu, JNCASR, September 30 - October 01, 2016.
- Sixth Annual Materials lecture by Prof. Sir Richard Friend, Cavendish Laboratory, Department of Physics, University of Cambridge, June 14, 2016.
- Symposium on Contemporary Issues in Condensed Matter Systems at IISc during June 13-15, 2016.
- Chemical Frontiers-2016, convened by Prof. R. Murugavel, August 25-28, 2016.
- Ninth International Materials Lecture by Prof. Clement Sanchez, Collège de France, September 29, 2016.
- 12th JNC Research Conference on "Chemistry of Materials", convener: Dr. Subi J. George, JNCASR, September 23-25, 2016 at Trivandrum.
- Group Research Conference, convened by Prof. Roddam Narasimha, Engineering Mechanics Unit, June 30, 2016.
- Central Instrument Facility Meeting, convened by Prof. Kaustuv Sanyal, Molecular Biology and Genetics Unit, August 25, 2016.

Endowment Lectures

A.V. Rama Rao Foundation & Prize Lecture in Chemistry: Intramolecular Electronic Coupling at the Mixed Valent States. Fact or Fiction, Prof. G.K. Lahiri, Chemistry Department, Indian Institute of Technology Bombay, Powai, Mumbai; **Prize Lecture:** Natural Products Synthesis: Efficient Methods & Innovative Strategies, Dr. C.V. Ramana, Division of Organic Chemistry, CSIR-National Chemical Laboratory, Pune, May 04, 2016.

Sixth Annual Materials Lecture of ICMS: Radiative and Non-Radiative Processes in Photovoltaics, Professor Sir Richard Friend, FRS, Cavendish Laboratory, Cambridge, June 14, 2016.

Prof. C.N.R. Rao Oration Award Lecture (17th in the series)

Earthquake generation along the Himalayan Arc: knowns and unknowns, Prof. C. P. Rajendran, Geodynamics Unit, August 16, 2016.

DAE-Raja Ramanna Lectures in Physics: Down-to-Earth String Theory, Prof. Rajesh Gopakumar, Director, ICTS (TIFR), Bengaluru; Prize Lecture: Spin-Spin Correlations at Different Length Scales in Crystalline Systems, Dr. S M Yusuf, Head-Magnetism Section & Scientific Officer, Solid State Physics Division, BARC, Mumbai, September 28, 2016.

International Materials Lecture of ICMS: Integrative Materials Chemistry : from Nanostructures to Hierarchical structures, Prof. Clement Sanchez, Chair, Chemistry of Hybrid Materials, Laboratoire de Chimie de la Matiere Condensee de Paris, Universite Pierre et Marie Curie Collège de France, Paris, September 29, 2016.

Special Lecture

Science Start-ups from R&D Institutions, Mr. Kaushik Gala, India Science Venture Fund, VC Community, August 08, 2016.

Symposium/Workshops/ School

1. Flow Cytometry Workshop: The Flow Cell at MBGU, along with Flow cytometry Solutions Pvt. Ltd conducted a 3-day workshop "Experimental designing, data analysis and presentation" from July 12-14, 2016.
2. School on optical microscopy and spectroscopy was organized at SSCU auditorium, IISc, July 18th- 22nd, 2016.
3. Biotechnology Ignition Grant (BIG) Workshop, July 20, 2016.
4. TSU In-House symposium, August 03, 2016.

Seminars

CPMU Seminars

1. Multiple Colossal Phenomena in Magnetoelectric Eu_{1-x} $(Ba, La)_x$ TiO_3, Prof. Ramanathan Mahendiran, Department of Physics, National University of Singapore, June 14, 2016.
2. Covalent Organic Frameworks as Ingredient for novel heterogeneous Catalysts- Old wine in a new bottle?", Prof. Ramanathan Vaidhyanathan, Department of Chemistry, Indian Institute of Science Education and Research, Pune, July 08, 2016.
3. Kelvin Probe: A Powerful technique for non-destructive surface and interface studies", Prof. A. Subramanyam, Department of Physics, IIT Madras, Chennai. August 17, 2016.
4. The Nobel Prizes in Science (2016): An Appreciation", Dr. S. T. Lakshmikumar, National Physical Laboratory, (NPL), New Delhi. November 10, 2016.

EMU Seminars

1. Mechanics of non-woven fibrous matrices and their interactions with cells, Prof. Sovan Das, Indian Institute of Technology Kanpur, September 16, 2016.
2. Use of 3D photoelastic model to extract three components of traction, Dr. Dhiraj Kumar Singh, Graduate University Okinawa, Japan, September28, 2016.
3. Marangoni Instabilities and Pattern Selection in Layered F lows, Mr. Jason R . Picardo, Department of Chemical Engineering, Indian Institute of Technology Madras, Chennai, October 5, 2016.

ICMS Seminar

1. Semiconductor Nanowires for Optoelectronics and Energy Applications, Prof. Chennupati Jagadish, Research School of Physics and Engineering The Australian National University, Australia, October 26, 2016.

MBGU Seminars

1. Wisdom of Crowds: Linking Collective Protein Interactions to Cellular Function, Dr. Sivaraj Sivaramakrishnan Protein Acrobatics Lab University of Minnesota, Twin-Cities, July 04, 2016.
2. A tale beyond (Histone) tails: Enhancer identification using Histone H3 tail and globular domain acetylation marks, Dr. Pradeepa Madapura, Lecturer (Laboratory Head), School of Biological Sciences, University of Essex, United Kingdom, August 24th 2016.
3. Understanding chikungunya induced disease and approaches to vaccines and therapeutics, Dr. Suresh Mahalingam, Institute for Glycomics, Griffith University, August 26, 2016.
4. Why HIV-1 clade C is less fit – and yet highly successful in the global AIDS epidemic?, Prof. Vinayaka Prasad, Department of Microbiology and Immunology, Albert Einstein College of Medicine, USA, September 26, 2016.
5. HIV-1 host-virus interactions and persistence-- Novel single cell assays to monitor latent HIV-1 reservoirs, Prof. Ganjam V Kalpana, Department of Microbiology and Immunology, Department of Genetics, Albert Einstein College of Medicine, USA, September 27, 2016
6. LSM with Airyscan: The present and the future with Cryo Airyscan, Dr. Vimal Gangadharan, Applications Scientist, Zeiss Microscopy Labs New York (ZMLNY), Carl Zeiss Microscopy, New York, USA, September 30, 2016.
7. Engineering Cardiac Ion channels with new approaches in order to illuminate mechanisms of cardiac function and disease, Dr. Prakash Subramanyam, Associate Research Scientist, Columbia University, New York, October 06, 2016.
8. Composition and conformation of peptide: an implication to de novo sequencing in tandem mass spectrometry, Dr. Raja Banerjee, Department of Biotechnology, Department of Bioinformatics, Maulana Abul Kalam Azad University (WBUT), West Bengal, November 04, 2016.
9. Human TRIM5 is a potent restriction factor for tick-borne flaviviruses, Abhilash Chiramel, Laboratory of Virology, NIAID (National Institute of Allergy and Infectious Diseases), USA, November 07, 2016.

NSU Seminars

1. Rhesactome¬ protein network as a "molecular brake" for motor behaviors in mice", Dr. Srinivasa Subramaniam, Department of Neuroscience, The Scripps Research Institute, Florida, July 25, 2016.
2. "Adult Neurogenesis: Targeting new neuron formation to regulate mood", Vidita Vaidya, Department of Biological Sciences, Tata Institute of Fundamental Research, Mumbai, August 23, 2016.

TSU Seminars

1. Effect of Macromolecular Crowding on an Enzymatic Reaction: Experimental Results and Theoretical Model, Prof. R. Swaminathan, Department of Biosciences and Bioengineering, IIT Guwahati, Guwahati, May 27, 2016.
2. How does the closed state of I±VI²3 Integrin destabilized by mutations? Multiscale Molecular Dynamics Study, Dr. Anirban Polley, The University of Chicago, Illinois, USA, August 02, 2016.
3. Localized Operator Partitioning Method for Electronic Energy Transfer, Dr. Jayashree Nagesh, Chemical Physics Theory Group, University of Toronto, August 24, 2016.

PAST AND FORTHCOMING EVENTS

Other Programmes

Hindi Workshop

Hindi Workshop on "Verbal Communication in Hindi, Shri. Srinivas Rao, BEL, Bengaluru, June 20, 2016.

Hindi Week

The Centre organized week long activities from 14-21 September, 2016 under the Hindi Saptah. These include talks by scientists from JNC and NAL; most prominently, the inaugural talk on "अतीत की एक महान नदी सरस्वती और हरप्पा सभ्यता" by Prof. K.S. Valdiya , workshop on the importance of learning Hindi for official correspondence, quiz competition and various other cultural activities. A talk in Hindi on 'Science of Speech Coding', Shri Sanjeev Gupta, DRDO Bangalore, was organized on September 16, 2016. Staff and students enthusiastically participated in all the events and won prizes.

International Day of Yoga

The 2nd International Day of Yoga was celebrated in the Centre on June 21, 2016. Prof. K S Narayan, Dean R & D inaugurated the Yoga Posters displayed by the JNCASR group. A lecture was organized on Healthy eating habits, Diet & Nutrition by Dr. Supritha .K.M ., Specialist Physician, Dietitian and Nutritionist, followed by Yoga Demonstration by JNCASR group, led by Smt. Shwetha (Yoga trainer) at the Kanada Hall, Jakkur Campus. During the programme, Certificates were distributed to the Yoga Performers of JNCASR, by Grand master Yoga Bhushana, Smt. Rajashree Prasad, Swami Vivekananda Seva Kendra, Bangalore.

Rashtriya Ekta Diwas

The Centre organized a marathon titled 'Run for the Unity' on Monday, October 31, 2016 to observe the "Rashtriya Ekta Diwas (National Unity Day)". The run started from the security main gate of Jakkur Campus was participated by faculty, students and staff of the Centre. A pledge was administered by Prof. V. Nagaraja in presence of JNCASR members on November 02, 2016.

Vigilance Awareness Week

On account of Vigilance Awareness Week from October 31 – November 05, 2016, the "Vigilance Pledge" was taken by all Faculty, Students and Staff of the Centre on November 02, 2016 and was administered by Justice Santosh Hegde, Former Justice of Supreme Court of India, and Former Lokayukta of Karnataka. A Vigilance lecture on "Public Participation in promoting Integrity and eradicating Corruption" was delivered by Shri. Shiva Kumar, Chief Vigilance Officer, BEL, Bangalore on November 03, 2016 in the Kanada Auditorium, Jakkur Campus.

Kannada Rajyotsava

The Kannada Rajyotsava was celebrated in the Centre on November 02, 2016. The programme was presided by President, JNCASR Prof. V. Nagaraja and the Chief Guest being Bharat Ratna, Prof. C. N. R. Rao.

Staff Orientation Programme

Two Staff Orientation Programme have been arranged for the administrative staff under the Staff Development Programme. The first was on Importance of self-motivation at work by Dr. P Chiranjeevi, JNCASR on July 26, 2016 and another on Communication Skills and English Language by Mr. Sreenivas Krishna, October 14, 2016.

AEBS Programme

Programme to familiarize the staff, on Aadhaar Enabled Biometric System (AEBS) in the Centre, has been arranged on July 28, 2016.

Annual Faculty Meeting

The Annual Faculty Meeting and In-House Symposium is scheduled on November 21 - 22, 2016. Talks by eminent scientists from the Centre and IISc has been scheduled on November 21, followed by In-house Symposium.

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