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Bi Annual
Newsletter

JAWAHARLAL NEHRU CENTRE FOR
ADVANCED SCIENTIFIC RESEARCH

JNC NEWS

Issue: 60
May 2023

Message from the President

I am delighted to note that the Centre's groundbreaking research work in science and technology continues unabated. Alongside filing 5 patents, we recently developed an artificial synapse for brain-like computing using industry-compatible semiconductors – this has enormous implications in the field of artificial intelligence. Likewise, the impact of recently created nanostructures by one of our research teams that relies on infrared absorption technology will be felt in fields like defense and imaging and sensing.

These and several other works of our researchers have brought us many accolades. It is with great pleasure that I congratulate Prof. C. N. R. Rao on receiving DSc Honoris Causa by Assam Royal Global University and Lifetime Achievement Award from the Chirantan Rasayan Sanstha. I also congratulate Prof. Kaustuv Sanyal and Prof. T. Govindaraju who were awarded the Sun Pharma Science Foundation Research Award in the categories of medical science – basic research and pharmaceutical science, respectively. Govindaraju also received NT Award 2023. Our Council Chairperson Prof. V. Ramgopal Rao has been appointed as Group VC of BITS, with campuses in Pilani, Goa, Hyderabad, Mumbai & Dubai. Prof K N Ganesh received Padma Shri and National Chair Professorship of SERB. I further wish to extend my compliments to Prof. Tapas Kumar Kundu for receiving the ICBS Global Lectureship Award 2022; to Prof. Sebastian C. Peter for becoming both a Fellow of the International Association of Advanced Materials in 2022 and for receiving the J. C. Bose Diamond Jubilee Scientist Award. A special mention also to Prof. H. Ila who has featured in a new book published by the Vigyan Prasar, Department of Science & Technology titled Vigyan Vidushi – 75 Women Trailblazers of Science. Several more faculty members have been honoured with national and international accolades during this period and my best wishes to all of them. Several of our students have also garnered numerous accolades and awards over the past six months; my hearty congratulations to all of them as well.

The Centre signed several agreements in the past six months including a Memorandum of Understanding with YRGCARE, Chennai, for a project on emerging viral infections and non-communicable diseases. On the academic front, 8 new students joined through mid-year admissions, 7 of whom are women. 47 degrees (Ph.D., Int. Ph.D., and M.S.) were awarded as on May 2023, and our current student strength is 329.

One of the highlights of the year has been the 2nd Shanghai Cooperation Organization (SCO) Young Scientist Conclave in February 2023, hosted by the Centre on behalf of DST. This 5-day event was attended by over 70 eminent scientists from 6 SCO member states - India, Russia, Kazakhstan, Uzbekistan, China, and Tajikistan. The 5 thrust areas of discussion were agriculture, artificial intelligence, sustainable energy and storage, disease biology and healthcare, and environmental protection and natural resource management.

Our F&E activities have been extremely well placed with SRF and GRIP programmes receiving overwhelming response. Science Outreach Programmes were conducted successfully in different parts of the country, benefiting several teachers and students.

Constitution Day; National Science Day; Observance of Republic Day and Bharatiya Bhasha Utsav, Khel Utsav etc. were observed with appropriate programmes.

The Centre keeps making bold strides thanks to the efforts of each member. It is my sincerest hope that the same passion and zeal continues.

Warm regards,

G. U. Kulkarni

President, JNCASR

Major Highlights

Visit of Delegation from Max Planck Society and German Research Foundation

A delegation from the Max Planck Society (MPG) (four MPI directors and scouting officers) and the German Research Foundation (DFG) visited our Centre on 13th March 2023 to meet partner groups, scout new partner groups, and collaborate. This meeting was chaired by Prof. G. U. Kulkarni, President, JNCASR, and comprised presentations on an overview of JNCASR, MPG, and DFG, followed by scientific presentations and discussions by MPG delegates.



Medical Camps

Dhanvantari (JNCASR Health Centre) organised a series of medical camps from 16th–19th January 2023 for testing diabetes, bone marrow density, and female healthcare-related screening. Faculty members, students, and staff and their family members enthusiastically participated in these camps.

News reported by:

- Twitter post by JNCASR, 19th January 2023 (rb.gy/ucizw)

Participation in Science Exhibitions

Research conducted at JNCASR was showcased in a series of exhibitions, including the 108th Indian Science Congress, held at Nagpur from 3rd–7th January 2023; the National Youth Festival, held at Dharwad from 12th–16th January 2023; and the India International Science Festival 2022, held at Bhopal from 21st–24th January 2023.

News reported by:

- Twitter post by JNCASR, 9th January 2023 (rb.gy/pyuje)
- Twitter post by JNCASR, 13th January 2023 (rb.gy/qzrfa)
- Twitter post by JNCASR, 25th January 2023 (rb.gy/0k5v5)



Several dignitaries, students and scientists visited our stall at the 108th Indian Science Congress held at Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur, Maharashtra

Leading News

JNCASR recently hosted the 2nd SCO Young Scientist Conclave

The Department of Science and Technology (DST), Government of India organised the 2nd SCO Young Scientist Conclave at JNCASR from 6th–10th February 2023. This 5-day event was inaugurated by Dr. Jitendra Singh, Hon'ble Minister of State (Independent Charge) for Science and Technology and Earth Sciences, Government of India. Over 70 scientists participated from the SCO member countries,



India, Russia, Kazakhstan, Uzbekistan, China, and Tajikistan, and shared their current research on five thematic areas (agriculture and food processing; artificial intelligence and big data processing; sustainable energy and energy storage; disease biology and healthcare; and environmental protection and natural resource management). Dr. S. Chandrasekhar, Secretary, DST, presented the valedictory address.

News reported by:

- Press Information Bureau, 7th February 2023 ([rb.gy/9jzts](https://pib.gov.in/Press-Release.aspx?ID=173253))
- Department of Science & Technology (DST) ([rb.gy/m5a19](https://www.dst.gov.in/News/2023/02/06/01))
- The Hindu (Bengaluru Edition in Print), 6th February 2023

Special Swachhta Campaign 2.0



As part of the Special Swachhta Campaign 2.0 launched by the Government of India, a series of rigorous cleanliness

activities were undertaken at JNCASR from 2nd–31st October 2022.

News reported by:

- Twitter posts by JNCASR, 27th October 2022 ([rb.gy/2yf0j](https://twitter.com/JNCASR/status/1584444444))

Two JNCASR scientists received the Sun Pharma Science Foundation Research Award



(Prof. Kaustuv Sanyal)



(Prof. T. Govindaraju)

Prof. Kaustuv Sanyal, MBGU, and Prof. T. Govindaraju, NCU, received the Sun Pharma Science Foundation Research Award under the categories of Medical Science – Basic Research and Pharmaceutical Science, respectively.

News reported by:

- Twitter posts by Sun Pharma, 14th December 2022 ([rb.gy/w4n2q](https://twitter.com/SunPharma/status/1604444444))

New Appointments, Promotions, and Resignations

New Appointments – Research Associates

- Dr. Dileep Pullepu, MBGU
- Dr. Draksharapu Rammohan, NCU
- Dr. Himani Singh, NCU
- Dr. Jishnu N. Nampoothiri, TSU
- Dr. Manojit Ghosh, CPMU
- Dr. Pavitra V., CPMU

- Dr. Pratibha Kumari, NCU
- Dr. Vijay Suresh Akhade, MBGU

New Appointments – Provisional Research Associates

- Madhu R., NCU
- Priya Brahma, MBGU

New Appointments – Contractual

- Balraj A., Section Officer
- Dr. Geetha G. Nair, Advisor (Technical Matters)
- Nalini M., Section Officer
- Rangaswamy L., Electrical Supervisor
- Vivek N. Kagali, Site Engineer

Additional Responsibility

- Dr. Premkumar S. Senguttuvan (Associate Professor, ICMS/NCU), Head, CompLab

- Dr. Sarit S. Agasti (Associate Professor, CPMU/NCU), Faculty In-charge, Sports Facility

Resignation

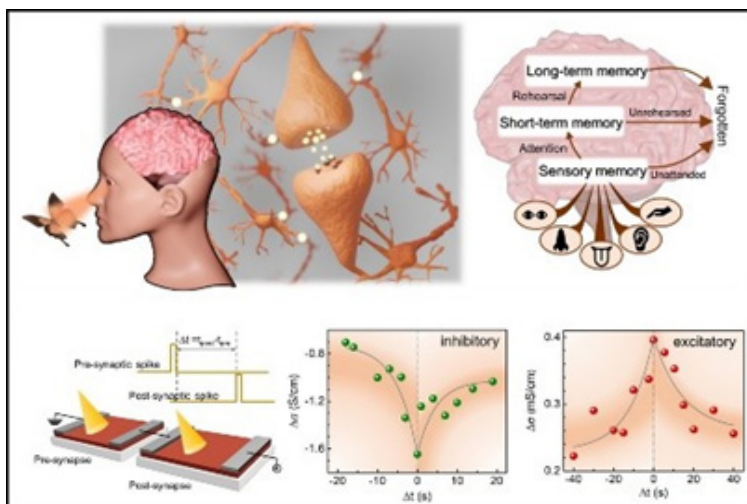
- Dr. James P. C. Chelliah, Associate Professor, NSU (6th April 2023)

Research Highlights

Development of New Brain-Inspired Artificial Synaptic Devices

Dr. Bivas Saha and his team successfully used scandium nitride (ScN), a semiconducting material with high stability, scalability, and complementary metal-oxide-

semiconductor compatibility, to develop optoelectronic artificial synaptic devices that can mimic biological synaptic activities. This invention provides a foundation for using ScN semiconductors for practical neuromorphic applications at a relatively lower energy cost. This research was published in *Advanced Electronic Materials* ([10.1002/aelm.202200975](https://doi.org/10.1002/aelm.202200975)).



News reported by:

- Department of Science and Technology (<http://bitly.ws/FjCb>)
- Twitter posts by DST, 25th January 2023 (<http://bitly.ws/FjDx>)
- The Times of India, 23rd January 2023 (<http://bitly.ws/FjCq>)

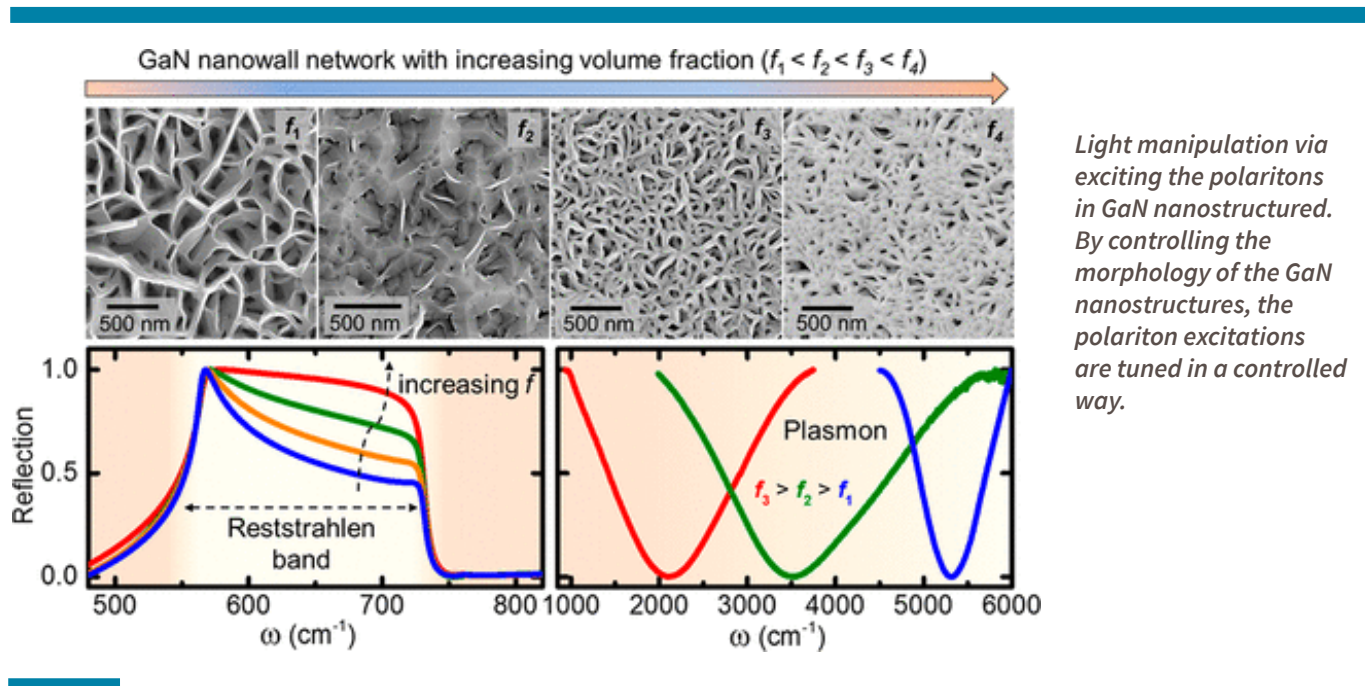
Fig: Top - Schematic of human visual system and the neural synapse. Bottom - Measurements done with two devices connected in series and the corresponding STDP curves representing Hebbian learning in an inhibitory ScN synapse.

Extending GaN Applications to Infrared Absorption-Based Technologies

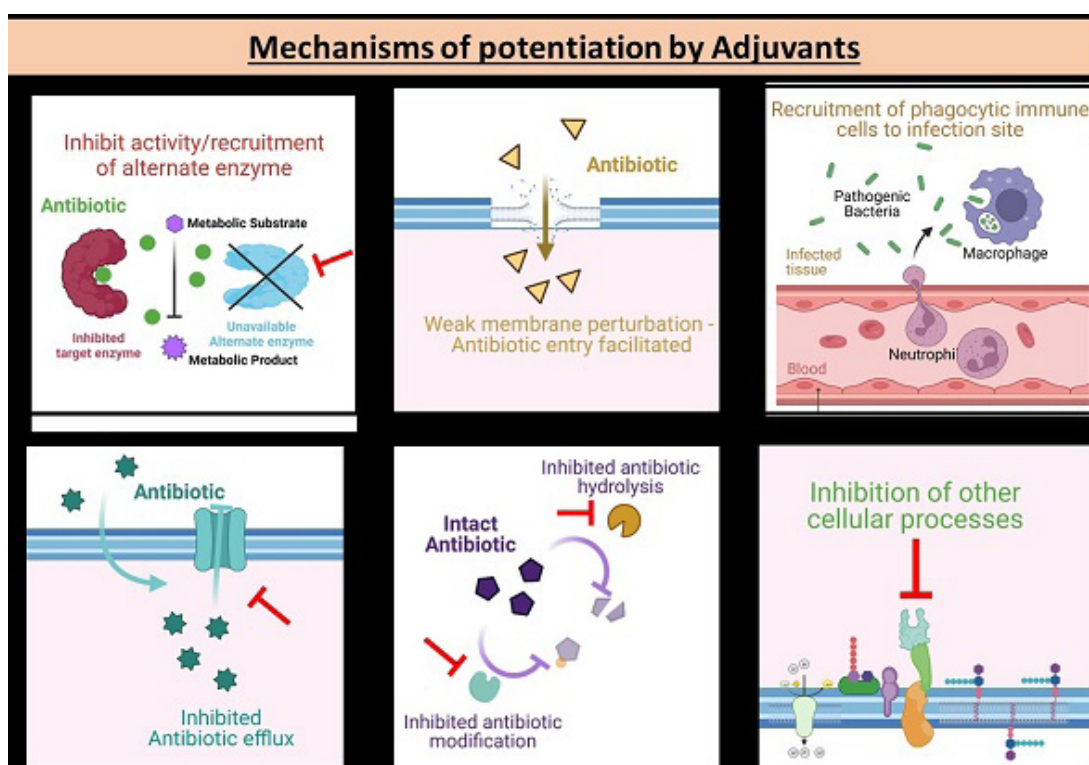
Gallium nitride (GaN) is widely used in light-emitting diodes, power electronics, and optoelectronic applications based on blue light emission. Dr. Bivas Saha and his research team showed, for the first time, infrared light emission and absorption using GaN nanostructures. The demonstrations by the team paves the way for novel uses of GaN in infrared nanophotonics, including security and imaging applications. The research was published in *ACS Nano Letters* ([10.1021/acs.nanolett.2c03748](https://doi.org/10.1021/acs.nanolett.2c03748)).

News reported by:

- Department of Science and Technology (<http://bitly.ws/FjRk>)
- Twitter posts by DST, 26th December 2022 (<http://bitly.ws/FjRr>)
- TheHealthSite.com, 22nd July 2022 (<https://bit.ly/3aUYOMQ>)



Adjuvant Antibiotics to Counter Antibiotic Resistant Pathogens



Schematic demonstration of how antibiotic adjuvants can target antibiotic resistance either directly or indirectly.

The increasing prevalence of antibiotic resistance among pathogens has rendered many antibiotics obsolete. Prof. Jayanta Haldar and his research team recently reported on the incredible potential of using antibiotic adjuvants to counter such resistance. They highlighted the concept of ‘weakly perturbing the membrane’ to overcome the permeability barrier and efflux mechanisms in pathogens using non-toxic adjuvants that also have the potential to improve the efficacy of obsolete drugs via combination therapy.

News reported by:

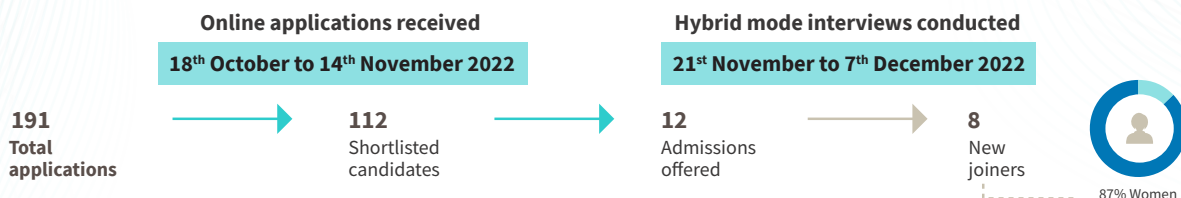
- India Science Wire, 6th April 2023 (<http://bitly.ws/FkJn>)
- The Federal, 9th April 2023 (<http://bitly.ws/FkJQ>)

Academic Activities

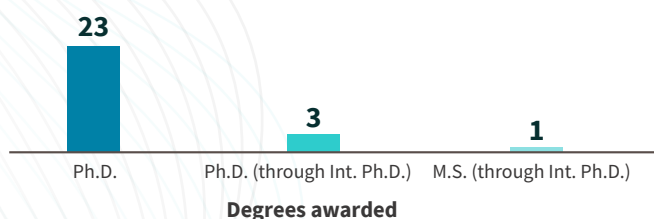


Research Admissions

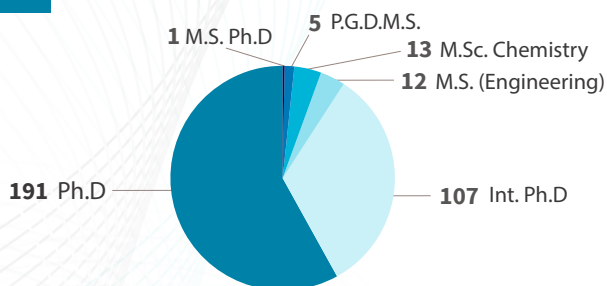
Mid-year admissions (January semester 2023)



Degrees awarded (on 2nd February 2023)



Summary of On-Roll Students (as on 12th April 2023)



Courses Taught in January–April term

33

Applications for admissions to Ph.D./M.S. (Engineering)/M.S. (Research)/M.Sc. in Chemistry/M.Sc. in Inter-Disciplinary Biosciences for the August semester were invited from 20th March to 19th April 2023.

Awards and Achievements

Awards and accolades by faculty members

Prof C. N. R. Rao

- Received the SMC Lifetime Achievement Award from Society for Materials Chemistry
- Received the Lifetime Achievement Award from Chirantan Rasayan Sanstha

Prof. H. Ila

- Featured in the book “Vigyan Vidushi – 75 Women Trailblazers of Science” released by DST Vigyan Prasar

Prof. Kaustuv Sanyal

- Received the Sun Pharma Science Foundation Research Award in the category of Medical Science – Basic Research

Dr. Sarit Agasti

- Won the INSA Medal for Young Scientists, 2022

Prof. Sebastian C. Peter

- Won the J. C. Bose Diamond Jubilee Scientist Award, 2022

Prof. Tapas K. Kundu

- Won the ICBS Global Lectureship Award, 2022
- Received the Sir M. Visvesvaraya Senior Scientist State Award for the year 2021

Prof. T. Govindaraju

- Received Sun Pharma Science Foundation Research Award in the category of Pharmaceutical Science

Fellowships

Prof. Raghvendra Gadagkar

- Elected as Fellow of the American Academy of Sciences

Prof. Sebastian C. Peter

- Elected as Fellow of the International Association of Advanced Materials
- Elected as Fellow of the Royal Society of Chemistry

Prof. T. Govindaraju

- Elected as Fellow of the Indian Academy of Sciences

Memberships

Prof. Jayanta Haldar

- Invited as Guest Editor of RSC Medicinal Chemistry Special Issue on antimicrobial resistance

Dr. Kushagra Bansal

- Elected as Member of The American Association of Immunologists

Student and Alumnus Achievements

- **Dr. Abhilash Lakshman** (JNCASR alumnus, Ph.D., NSU; Research Supervisor: Prof. Sheeba Vasu) received INSA Medal for Young Scientists, 2022

- **Diksha Padhi** (Ph.D. student, NCU; Research Supervisor: Prof. T. Govindaraju) received the SASTRA-Saroj Chandrasekhar Memorial Award on National Science Day on 28th February 2023

- **Dipanjana Patra** (Int. Ph.D. student, NCU; Research Supervisor: Prof. Jayanta Haldar) awarded Best Poster Teaser at In-House Symposium, 2022

- **Himanshu Joshi** (Ph.D. student, TSU; Research Supervisor: Prof. Kavita Jain) Entry was selected in the top 100 in AWSAR Competition 2022

- **Mansi Rathi** (Ph.D. student, NSU; Research Supervisor: Prof. Sheeba Vasu) awarded the Best Poster Prize at the Indian Neurobehavior Conference 2022, held at Manipal Academy of Higher Education, MAHE for her poster on “Exploring the ontogeny of adult social traits in *Drosophila melanogaster*.”

- **Medha Rao** (Ph.D. student, EIBU, Research Supervisor: Prof. Amitabh Joshi) received the best poster award at the 4th Conference of the Indian Society of Evolutionary Biologists (ISEB4), held at Ahmedabad University

- **Parmesh Das** (Ph.D. student, NCU; Research Supervisor: Dr. Bani Kanta Sarma) received the best poster award at Indian Peptide Symposium (IPS-2023) at BITS Pilani, Goa

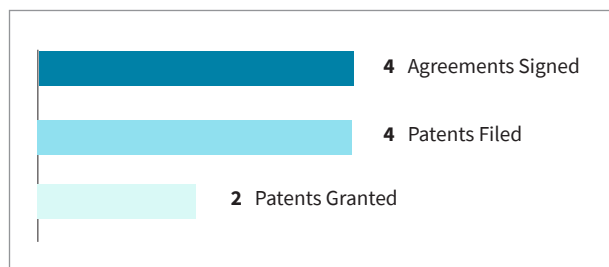
- **Prasenjit Mandal** (Ph.D. student, ICMS; Research Supervisor: Prof. Ranjani Viswanatha) received the best poster award at the Perovskite Society of India Meet (PSIM-2023) held at IIT Roorkee

- **Prerana Muralidhara** (Ph.D. student, MBGU; Research Supervisor: Dr. Kushagra Bansal), Best Talk Award in JNCASR's In-House Symposium 2022
- **Rutvij Kaustubh Kulkarni** (Integrated Ph.D. student, NSU; Research Supervisor: Prof. Sheeba Vasu) awarded \$1000 as Grants in Aid of Research (GIAR) 2022 by Sigma Xi Society for the project "Exploring the ontogeny of adult social traits in *Drosophila melanogaster*."
- **Subham Das** (Ph.D. student, NCU/ICMS; Research Supervisor: Prof. Ranjani Viswanatha) received the best poster award at International Conference on Advanced Materials (ICAM-2023) held at Goa University, Goa
- **Sudip Mukherjee** (Integrated Ph.D. student, NCU; Research Supervisor: Prof. Jayanta Halder) selected for Poster Presentation at ACS Publications Symposium on Biological and Medicinal Chemistry 2023, Bonn, Germany
- **Vanshika Sood** (JNCASR Alumnus, M.S. (Biological Science), MBGU; Research Supervisor: Dr. Kushagra Bansal) won the Best Poster Award at JNCASR's In-House Symposium 2022
- **Yash Acharya** (Ph.D. student, NCU; Research Supervisor: Prof. Jayanta Halder) selected for Poster Presentation at GRC and GRS Staphylococcal Diseases 2023, New Hampshire, USA and awarded Oral Presentation Prize at ChemSci 2023: Leaders in the Field Symposium at JNCASR

■ Research and Development

Agreements Signed

- A Know-How License Agreement was signed on 18th January 2023 between JNCASR, ICAR-NBAIR, and Farmroot Agritech Pvt. Ltd., Bangalore, for the technology "Controlled release dispenser for delivery of semiochemicals", which was jointly developed by Prof. M. Eswaramoorthy, JNCASR, and Dr. Kesavan Subaharan, ICAR-NBAIR.
- A Consultancy Agreement was signed on 15th November 2022 with YRGCARE, Chennai, to provide consultancy services.
- A Non-Disclosure Agreement was signed with M/s. Firefront Foods Pvt. Ltd, Pune, for collaborative research in the development of a healthy product using "Glucose-based Carbon Nanosphere" on 19th December 2022.
- A Memorandum of Understanding was signed on 1st March 2023 with YRGCARE, Chennai, for a collaborative project on "Infectious diseases, including HIV-AIDS, tuberculosis, and emerging viral infections and non-communicable diseases and neurologic disorders".



Visit of R&D Teams

The R&D teams from the following institutions visited the Centre for discussions on possible collaborative research projects/ research funding:

- L'Oréal R&D Team, Mumbai, visited the Centre on 19th January 2023.
- Dr. Cheryl Anderson, Head of Innovation and External Networks, R&D, TATA Steel UK Limited, visited the Centre on 15th February 2023.
- A delegation headed by Prof. Antoine Petit, President and CEO, CNRS, visited the Centre on 20th February 2023.
- Dr. Rakesh Kumar, Director, Param Hansa Philanthropy, Bengaluru, visited the Centre on 22nd February 2023.

Intellectual Property



Patents Granted

India

- Patent (No. 422077) for 'Method of Enhancing Heat Transfer in Devices by Dispersing Heating or Radiation Absorbing–Emitting Elements and Devices Thereof' developed by Prof. Kottigegollahalli Ramanna Sreenivas et al.
- Patent (No. 410284) for 'Turbostratic Graphite and Process of Preparing the Same' developed by Prof. Giridhar Udapi Rao Kulkarni et al.



Patent Applications Filed

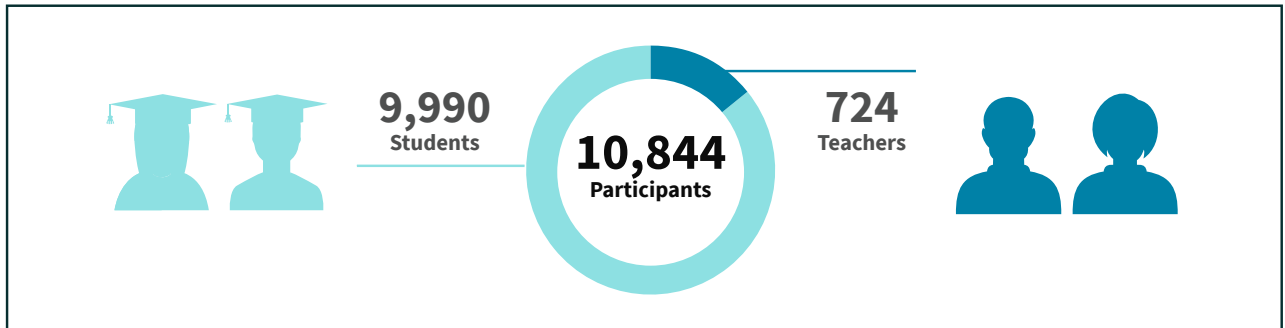
International, PCT

- 'A Catalyst for Thermochemical Reduction of CO₂' developed by Prof. Sebastian Chirambatte Peter et al (No. PCT/IN2023/050037, filed on 13th January 2023)
- 'Pd based catalyst and Implementations Thereof' developed by Prof. Sebastian Chirambatte Peter et al. (No. PCT/IN2023/050152, filed on 15th February 2023)
- 'Amyloid and Associated Pathology Modulators and Methods Thereof' developed by Prof. Govindaraju Thimmaiah et al. (No. PCT/IN2023/050201, filed on 3rd March 2023)

India, Divisional 1

- 'Small Molecular Probes, Processes and Use Thereof' developed by Prof. Govindaraju Thimmaiah et al. (Patent Appl. No. 202342024834, filed on 31st March 2023)

Outreach Activities and Education Technology Unit (ETU)



Science Outreach Programmes

2nd December 2022: The C. N. R. Rao Hall of Science and ETU organised a science outreach programme called “Vijnyanotsava “Hongiranotsava”: Learning Science through Experiments” at Hongirana Pre-University College, Amatekoppa, Sagara District, Karnataka. In this one-day event, 1490 students and 90 teachers from 28 high schools and pre-university colleges of Shimoga District participated.



12th December 2022: An “Interactive Lecture Programme for Teachers” was organised at JNCASR in hybrid mode, wherein Dr. Gururaj Karajagi, Founder and Chairman, Academy for Creative Teaching, Bengaluru, delivered a talk on “Joy of Teaching Science”. Around 100 teachers working in high schools, and pre-university, B.Sc., and B.Ed. colleges across Karnataka participated in the event, which was also live streamed on YouTube, with around ~300 online participants.

5th January 2023: Educational lectures for school students and teachers were organised by ETU as “Interactive Lecture Programme in Biology” and “Fun with Science Experiments” at JNCASR. In this hybrid programme, 140 students from Classes X, XI, and XII and 200 teachers participated in person, while 8000+ students joined online from schools/colleges of Jawahar Navodaya Vidyalaya across the country under the “Vigyan Jyoti Program”.



19th-21st January 2023: A 3-day Science Outreach Programme was organised by JNCASR at the C. N. R. Rao Hall of Science, Chandan School, Laxmeshwar (Gadag district), Karnataka. Approximately 300 students of Classes X, XI, and XII and 30 teachers from 12 colleges in Dharwad, Gadag, and Koppal participated.

16th February 2023: The C. N. R. Rao Hall of Science and ETU, JNCASR, organised the “Interactive Lecture Programme in Science” for Class X rural students. A talk titled “The Brain” was presented by Prof. T Govindaraju, JNCASR, followed by a tour of the Bharat Ratna Prof. C. N. R. Rao galleries and the Chemical Heritage Exposition, and a demonstration session on “Learn Science with Experiments”. About 60 students and 4 teachers participated in this program.

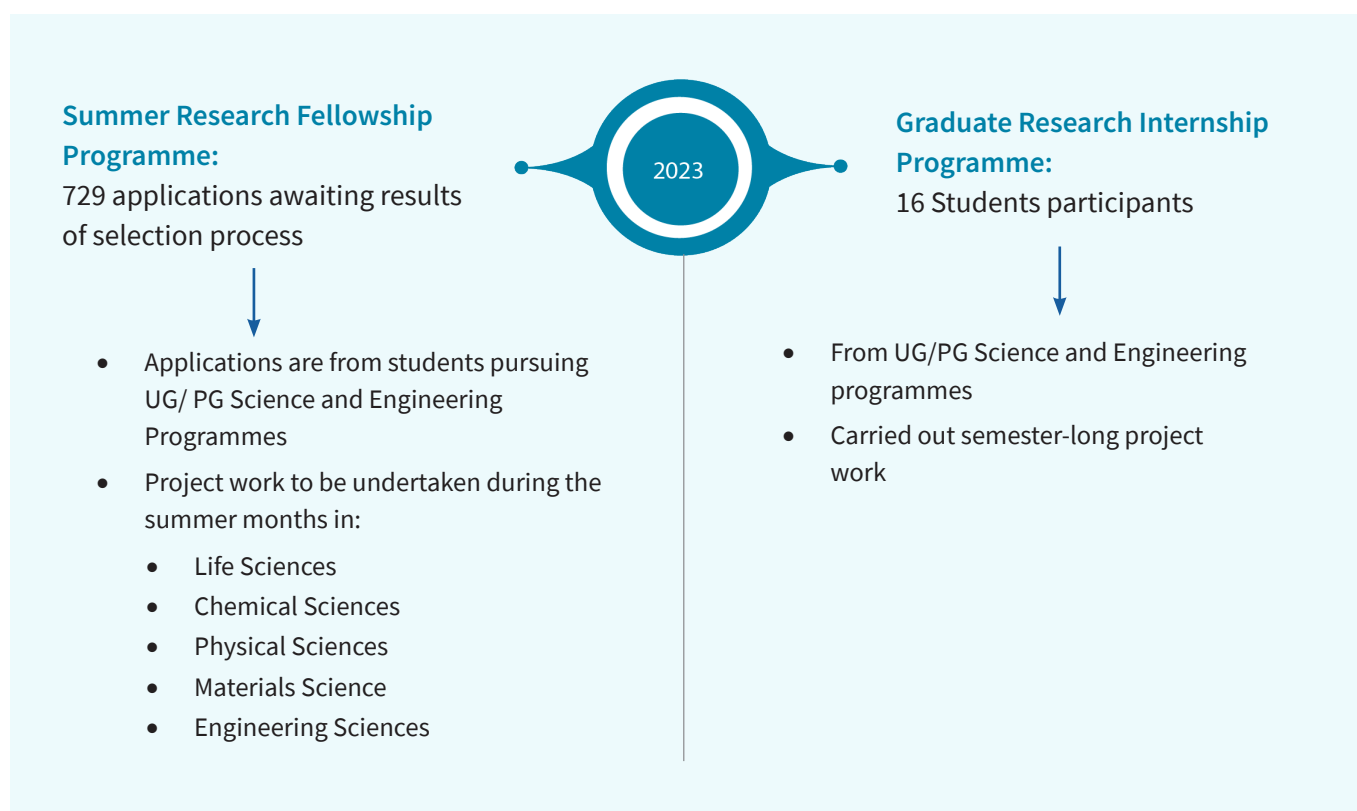
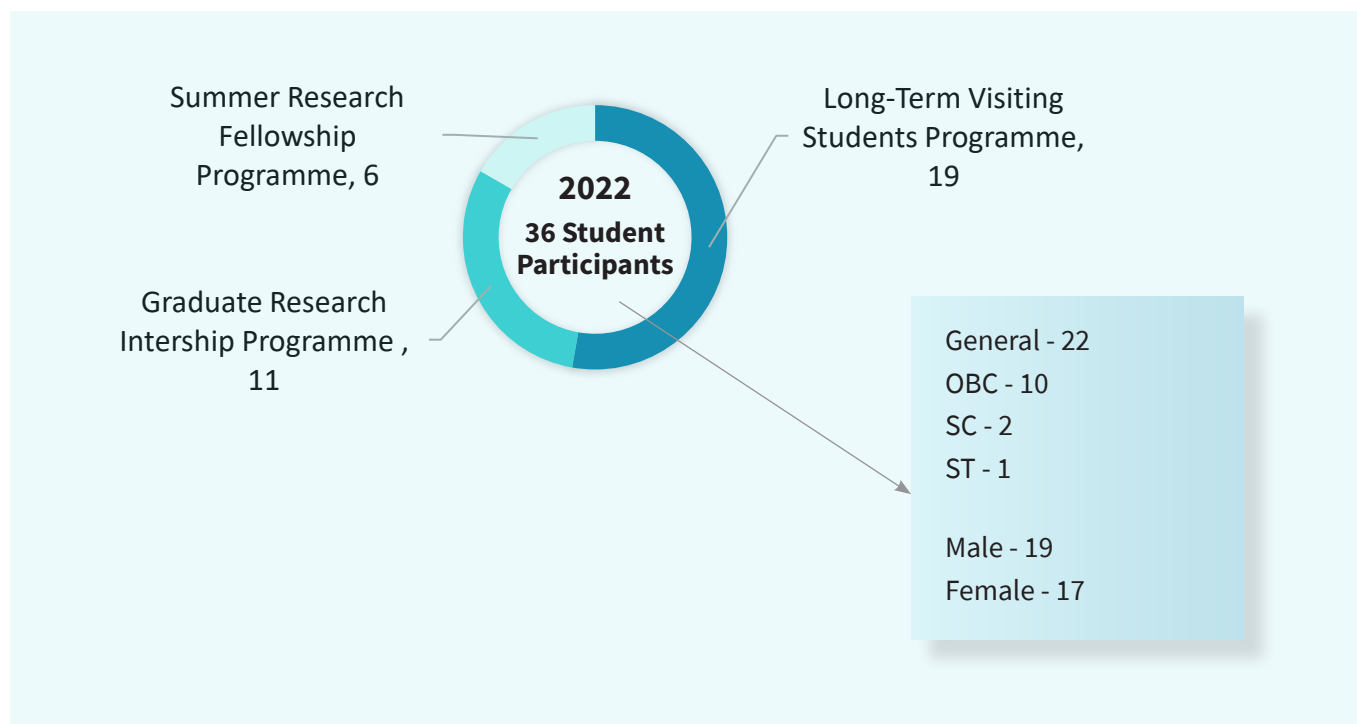


28th February 2023: National Science Day was celebrated at JNCASR with the enthusiastic participation of the Centre’s researchers, along with ~130 school students and teachers from several schools in Bangalore. Additionally, a talk by Jaishri Sanwal Bhatt on “The Rocks: Tangible Trace of the Earth’s Past” was organised by ETU.

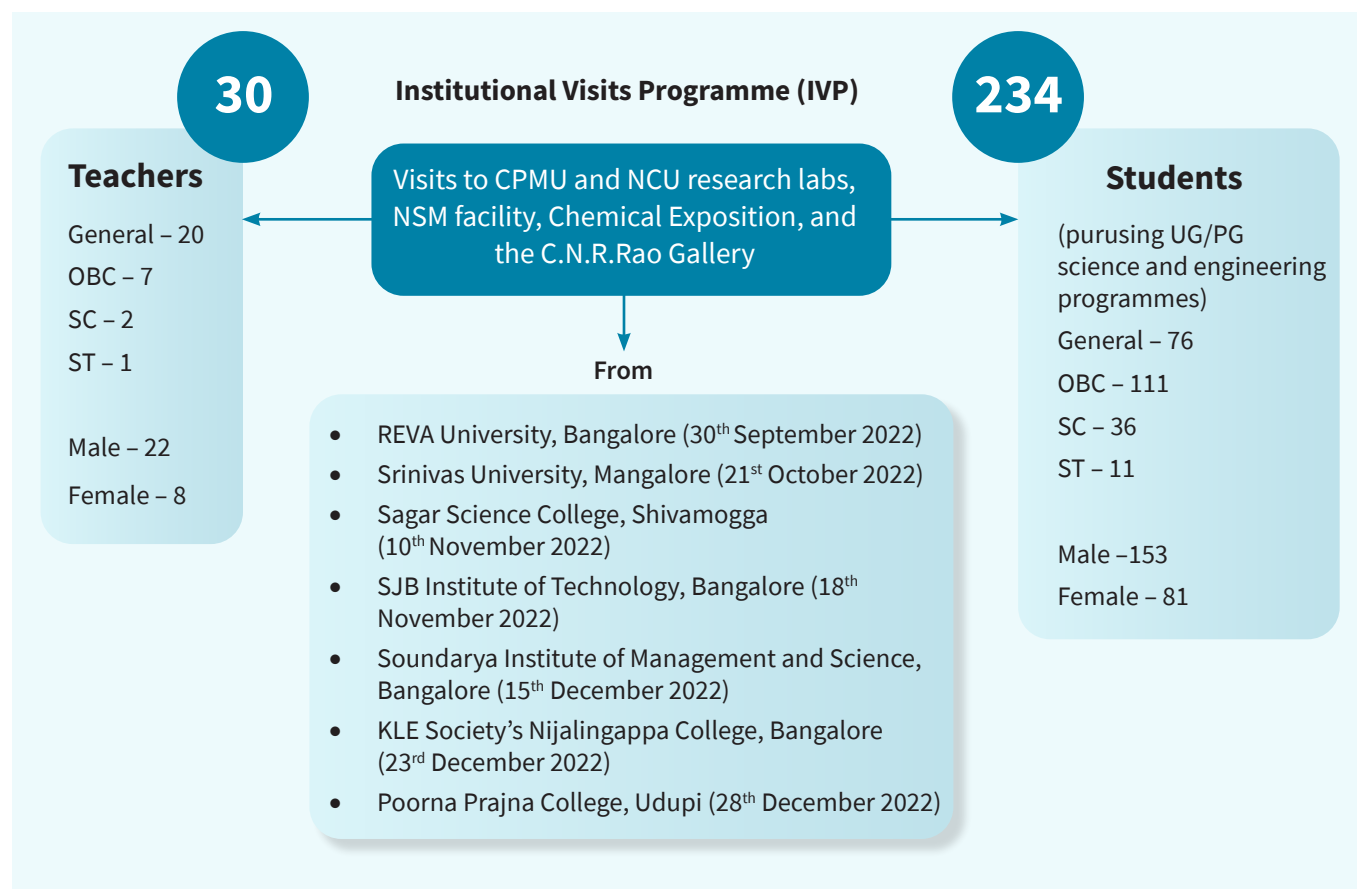


Fellowships and Extension (F&E) Programmes

Fellowship Programmes



Extension Programmes



Sponsored Programmes

DBT-India Science and Research Fellowship (ISRF)–INSA Scheme

Dr. Deval Prasad, Assistant Professor, Department of Chemistry, Tribhuvan University, Kathmandu, carried out a research project titled “A study of thermoelectric behaviour of polyaniline coated titanium oxide nanoparticles” under the mentorship of Prof. Kanishka Biswas, NCU, for a period of five months from 1st November 2022 to 31st March 2023.

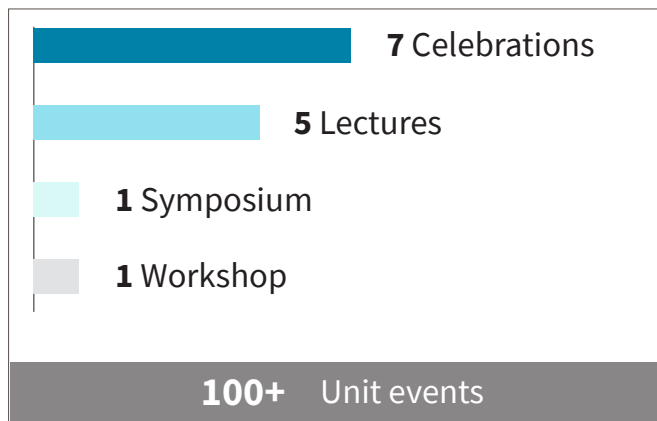
SERB–Teachers Associateship for Research Excellence (TARE) Scheme

Dr. Uttara Chakraborty, Assistant Professor, Manipal Institute of Regenerative Medicine, Bangalore, started a research project titled “Studying Host–Pathogen Interactions of Human Mesenchymal Stem Cells and their roles in Immunomodulation Autophagy” under the mentorship of Prof. Ravi Manjithaya, MBGU, from 3rd January 2023.

Research Exposure cum Training Programme for Students from Northeast India and the Union Territories of J&K and Ladakh Under the INSPIRE Scheme

JNCASR has been chosen to host a three-month long Research Exposure cum Training programme in the physical sciences for M.Sc. students from Northeast India and the union territories of J&K and Ladakh, who are graduating in 2023 or have graduated in 2022. The programme will be conducted during the summer months under the INSPIRE scheme. The selection of instructors to provide suitable training to students to be able to qualify in competitive exams such as GATE and CSIR-UGC NET for JRF is underway.

Lectures, Symposium, Workshop and Celebrations



Celebrations

- Rashtriya Ekta Diwas 2022** was celebrated on 31st October 2022 to commemorate the birth anniversary of Sardar Vallabh Bhai Patel. Homage was paid to the Iron Man of India and the Rashtriya Ekta Diwas Pledge was administered by Joydeep Deb, Administrative Officer, JNCASR.



- On 31st October 2022, the **Swachhta Pledge** was administered at JNCASR by Prof. N. S. Vidhyadhiraja, Dean, Fellowships and Extension Programmes, in the presence of officials.



- The **Vigilance Awareness Week 2022** was observed at JNCASR with the Integrity Pledge taken on 31st October 2022. The pledge was administered by Vigilance Officer Prof. Kaustuv Sanyal in the presence of officials.
- Constitution Day (Samvidhan Diwas)** was observed on 26th November 2022 at JNCASR to commemorate the day the Constitution of India was adopted. The Preamble to the Constitution of India was read by Prof. N. S. Vidhyadhiraja, Dean, F&E Programmes, followed by a talk on “The constitutional values and the fundamentals of the Constitution”. An online essay competition on the theme “Constitutional values and fundamentals of the Indian Constitution”, open to all members of the Centre, was also conducted, with cash prizes given to the winners.

- Bharatiya Bhasha Utsav** was celebrated on 11th December 2022. The Centre organised a multi-lingual book exhibition, wherein multilingual science popularisation books published by the Centre were kept on display. The books covered various languages of the country including Sanskrit, Kannada, Hindi, Bengali, Telugu, and Malayalam, from the Centre’s library collection. Additionally, the community members were encouraged to wear their ethnic dress and requested to post a short writeup on “My Language My Signature”.



- The **74th Republic Day** was celebrated on 26th January 2023 with the unfurling of the National Flag



by Prof. G. U. Kulkarni, President, JNCASR, followed by the national anthem. Over 700 members, including faculty members, officers, students, and staff participated in the event.

- JNCASR's Annual Mini Marathon, a 5 km run, was organised to celebrate International Women's Day on 5th March 2023.

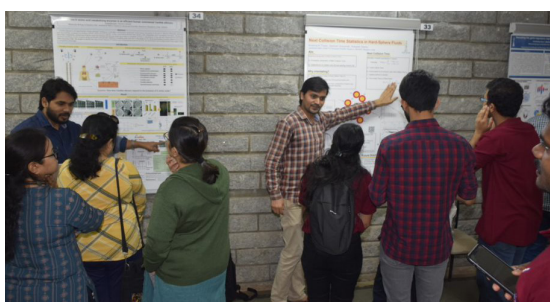
Lectures, Seminars, and Colloquia

- The Annual Faculty Meeting (AFM) and In-house Symposium (IHS) were held from 17th–18th November 2022. The event comprised talks by faculty members and students as well as poster teasers and presentations by students, postdocs, and R&D assistants. The Degree Award Ceremony was also held on 18th November 2022. During the event, Prof. G.U. Kulkarni, President, JNCASR, awarded degree certificates to the graduating students.



Address by Prof. G. U. Kulkarni, President, JNCASR (left) and Prof. Umesh V. Waghmare, Dean Faculty Affairs (right) at the Annual Faculty Meeting on 17th November 2022

Talks and Q&A sessions during the In-house Symposium on 17th and 18th November 2022



Poster Teasers and Presentation Session on 17th November 2022

- The 12th Sheikh Saqr Materials Lecture was organised by the International Centre for Materials Science on 6th December 2022 at JNCASR. Prof. Bettina V. Lotsch from Max Planck Institute for Solid State Research, Stuttgart, Germany, gave the lecture titled “Tackling the COF Trilemma: Design, Defects, and Disorder”.



- **Special Lecture:** Prof. Erick Carreira, ETH Zurich, Switzerland, and Editor-in-Chief, JACS, presented a talk on “Strategies and tactics in natural products as an engine for discovery” on 20th February 2023.

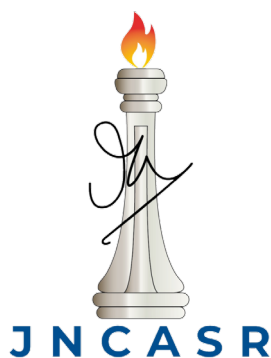
- **Darwin Lecture:** Prof. Vassiliki Betty Smocovitis (Departments of Biology and History, University of Florida) delivered a lecture titled “From Synthesis to Integration: G. Ledyard Stebbins, Developmental Genetics and the Path to an Integrative Biology (1959-1973)” on 27th February 2023.
- The fourth edition of Leaders in the **Field Symposium, ChemSci 2023** was organised by JNCASR in association with the Royal Society of Chemistry’s Chemical Science journal from 23rd–25th January 2023. This in-person meeting comprised 20 talks, including talks by the Associate Editors Prof. Serena DeBeer and Prof. Steve Goldup, and Executive Editor, Dr. May Copsey of the journal.
- **Bio-imaging Workshop**, organised by MBGU and NSU, was held from 6th–8th February 2023. The event was supported by Zeiss, Evident/Olympus, Biotron Healthcare India, and Bitplane Imaris. The workshop included talks on the basics of confocal, super-resolution, multiphoton, and high content imaging and demonstration of image analysis using Cell Path Finder, Zeiss Arivis, and Bitplane Imaris software.
- The Placement, Alumni, International Relation Office organised a talk by **Prof. Ram Seshadri** from University of California, on “*Making clear and informative figures for scientific publishing*” on 7th February 2023.
- **Prof. Ravindra N. Bhatt** (ECE, Princeton University, USA, and Theoretical Physics, TIFR, Mumbai) presented a talk on “*The fascinating saga of composite fermion fermi surfaces*” on 17th February 2023.

Apart from the above, 100+ other events were cumulatively organised by each unit of the Centre, including seminars, lectures, workshops, and conferences.

■ Upcoming Events

- Workshop on Data Analysis of Neutron Scattering (Elastic and Inelastic) and Users Meeting convened by Prof. Sundaresan from 12th–16th June 2023
- NAMMA Psi-k workshop by Prof. Shobhana Narasimhan from 24th–28th July 2023
- RPGR meeting by Prof. Shobhana Narasimhan from 20th–23rd November 2023

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