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Bi Annual  
Newsletter

JAWAHARLAL NEHRU CENTRE FOR  
ADVANCED SCIENTIFIC RESEARCH

# JNC NEWS

Issue: 59  
November 2022

## Message from the President

It gives me great pleasure to begin by congratulating Prof. C. N. R. Rao on receiving SMC Lifetime Achievement Award from Society for Materials Chemistry. Another noteworthy information is the appointment of Prof. Ajay K. Sood, honorary professor at JNCASR, as the 4<sup>th</sup> Principal Scientific Adviser to the Government of India. I would also like to extend my compliments to Dr. Sebastian C. Peter, one of the recipients of The National Prizes for Research in Environmental Chemistry, including CO<sub>2</sub> reduction and Green Hydrogen Award 2021. Several of our other faculty members have also received various national and international awards and recognitions; I proudly congratulate them all.

I am also delighted to note that we have taken several strides forward in pursuing our respective research goals, which is reflected in the number of high-impact publications and patents acquired/applications filed! Some of the notable achievements include the discovery of a novel material that converts infrared light to renewable energy, a unique concept developed to revive the effect of obsolete antibiotics against threatening bacterial infections, and the development of a molecule that can help counter obesity and associated health problems! Indeed, these are commendable achievements.

I am also pleased to note the outstanding performance of our students who have won scientific accolades at an early stage of their research career. A total of 50 degrees across

various programs and disciplines have been awarded in the past 5 months. With the joining of 72 new students, our current student strength reaches 351. I welcome our new additions and wish all our students much success in the coming months.

We have had several successful outreach programmes and events conducted in the past few months. As a step toward encouraging good science education in schools, through the generous funding of the C. N. R. Rao Education Foundation, JNCASR awarded the Outstanding Science Teacher Prize to teachers from high schools in the districts of Karnataka and Uttar Pradesh. I am also glad to note that our Fellowship programmes are gaining momentum post its reopening, with 15 fellows having joined us on campus.

Apart from regular work, the JNCASR community has also celebrated several events of national importance such as Independence Day, World Environment Day, and Hindi Pakhwada, with much enthusiasm. Various departments have also efficiently conducted scientific workshops and conferences.

This has indeed been a fruitful period with each member of our Centre putting in their best efforts with a lot of passion and hope that this continues going ahead.

Warm regards,

**G. U. Kulkarni**  
President, JNCASR

## Major Highlights

### JNCASR Scientist was Awarded National Prize for Research in Environmental Chemistry

The National Prizes for Research in Environmental Chemistry, including CO<sub>2</sub> reduction and Green Hydrogen Award 2021, were presented to Dr. Vivek Polshettiwar from TIFR, Mumbai, and Dr. Sebastian C. Peter from JNCASR on 21<sup>st</sup> September 2022 at a programme held at JNCASR. As part of the event, Dr.



Polshettiwar spoke on “Storing Sun Energy into Carbon Dioxide using Green Hydrogen” and Dr. Peter delivered a talk on “Carbon and Water Recycling for

Sustainable Energy: From Fundamental Chemistry to Green Technologies”.

### JNCASR awarded Outstanding Science Teacher Prizes for 2020 and 2021

With the generous funding of the C. N. R. Rao Education Foundation, JNCASR awarded the Outstanding Science Teacher Prize to Mr. M. Bheemappa (Girls Government High School, Maski, Raichur, Karnataka) and Dr. Ravi Prakash Sharma (Vishnu Inter College, Bareilly, Uttar Pradesh) for the year 2020 and to Mr. Vidyadhar N. Yatagiri (Government

High School, Peerapur, Vijayapur, Karnataka) for the year 2021. Around 700 students (classes X, XI, and XII) and 50 teachers from various schools and colleges participated in the hybrid mode in the programme.



### JNCASR met with the Parliamentary Committee on Official Language

The Second Sub-Committee of the Committee of Parliament on Official Language interacted with officials of JNCASR and DST in Bengaluru on 26<sup>th</sup> August 2022 to review the implementation of the official language at the Centre.



## Leading News

### JNCASR faculty member received IIT Bombay's International Award for Excellence in Research in Engineering & Technology

Prof. Santosh Ansumali from the Engineering Mechanics Unit, JNCASR received this prestigious award for his research in mesoscale simulation methods, kinetic theory, and numerous algorithms. The award was presented on the occasion of Teacher's Day celebrations at IIT Bombay on 5<sup>th</sup> September 2022.

#### News reported by:

- *The Times of India*, 8<sup>th</sup> September 2022 (<https://bit.ly/3gF1jpl>)

### JNCASR researcher recognised as Emerging Investigator 2022

Dr. Pratap Vishnoi, DST Ramanujan Fellow at JNCASR, has been recognized as an Emerging Investigator 2022 by the Journal of Materials Chemistry A of Royal Society of Chemistry and published a perspective (invited) in this journal on Phosphorene-based catalysts for H<sub>2</sub> production

from water splitting reaction ([10.1039/D2TA01932A](https://doi.org/10.1039/D2TA01932A)).

### A protocol developed by JNCASR researchers has become popular among Bio-protocol's community

Recently, Prof. Maneesha Inamdar's group at JNCASR published a protocol to obtain the whole lymph gland of *Drosophila melanogaster* for analysis of post-embryonic haematopoiesis ([10.21769/BioProtoc.4204](https://doi.org/10.21769/BioProtoc.4204)). Unlike traditional methods that dislodge and damage blood progenitors, the proposed method maintains tissue integrity and architecture and is amenable to quantitative analysis. Notably, this technique has been one of the most used methods by Bio-protocol's community in the past year.

JNCASR has tied up with GVK-Emergency Response Research Institute (GVK-EMRI) from 15<sup>th</sup> July 2022 to station an ambulance equipped with Advance Life Support (ALS) along with a well-trained Emergency Medical Technician round the clock in the Centre premises to assist and provide ambulance services to our community in all medical emergencies. This is a unique and first-of-its-kind institution-based support facility approved and operating in the city.

# New Appointments & Promotions

## Promotions (Faculty)

- Prof. Kanishka Biswas, *NCU promoted as Professor*
- Prof. Ranjani Viswanatha, *ICMS promoted as Professor*
- Prof. Sridhar Rajaram, *ICMS promoted as Professor*
- Prof. Sebastian C Peter, *NCU promoted as Professor*
- Dr. Premkumar Senguttuvan, *ICMS/NCU promoted as Associate Professor*

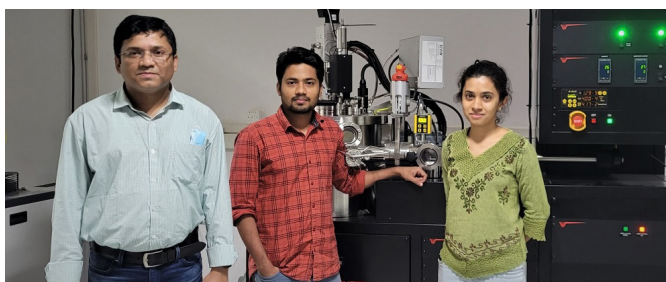
## Appointment (On contract)

- Dr. Rajalakshmi R, *Editorial Assistant*
- Mr. Ajesh Sinha, *Personal Assistant/Office Secretary*
- Dr. Aruna Satyamurthy, *Project Scientist III*
- Mr. Ananda, *Coordinator (Hindi)*
- Mr. Raju B Mahantshetti, *Consultant (Accounts and Finance)*

# Research Highlights

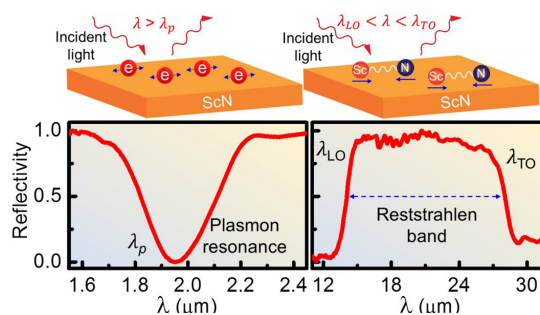
## Discovery of a novel material that converts infrared light to renewable energy

Dr. Bivas Saha's team from JNCASR, along with their collaborators from IISc Bengaluru and University of Sydney, Australia, discovered a novel material that can emit, detect, and modulate infrared light with high efficiency. This makes it useful for application in harvesting solar and thermal energy and in optical communication devices. This discovery was published in *Nano Letters* ([10.1021/acs.nanolett.2c00912](https://doi.org/10.1021/acs.nanolett.2c00912)).



## News reported by:

- *Press Information Bureau*, 5<sup>th</sup> July 2022 (<https://bit.ly/3FXDU55>)
- *Vigyan Samachar, DST*, 5<sup>th</sup> July 2022 (<https://bit.ly/3aWCrXv>)
- *The Tribune*, 5<sup>th</sup> July 2022 (<https://bit.ly/3PN0ua1>)
- *Khabar Infra*, 7<sup>th</sup> July 2022 (<https://bit.ly/3ooPhRe>)



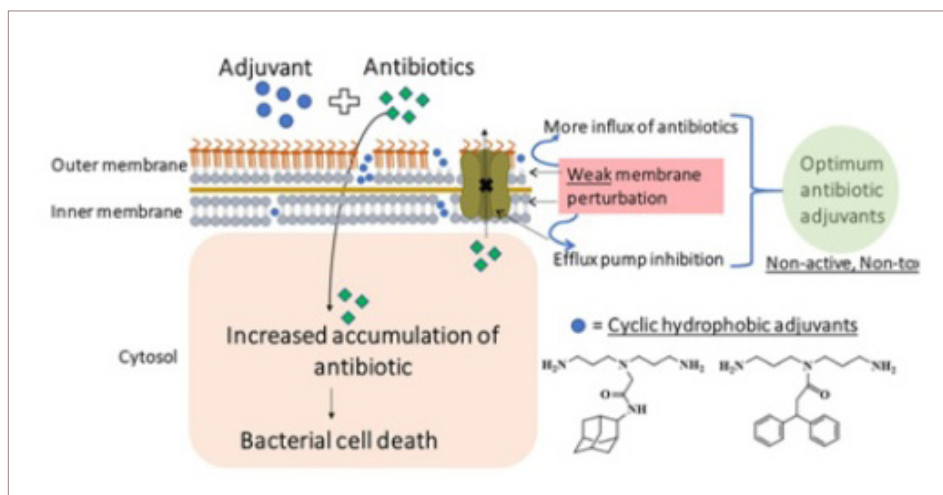
Left: Dr. Saha and his team at JNCASR. Right: High-quality tunable short-wavelength infrared (IR) plasmon-polariton and long-wavelength IR phonon-polariton was demonstrated in complementary metal-oxide-semiconductor compatible group III-V polar semiconducting scandium nitride (ScN) thin films. Image: <https://doi.org/10.1021/acs.nanolett.2c00912>

## A new strategy to counter multidrug-resistant bacteria

Prof. Jayanta Halder and his Ph.D. student Ms. Geetika Dhanda developed a new cyclic hydrophobic moiety in a triamine-containing compound, which, in combination with existing antibiotics, can weakly perturb the bacterial membrane. This novel strategy can not only counter antibiotic resistance in bacteria but also help revive the efficacy of obsolete antibiotics.

## News reported by:

- *Press Information Bureau*, 21<sup>st</sup> July 2022 (<https://bit.ly/3I7TJim>)
- *Vigyan Samachar, DST*, 21<sup>st</sup> July 2022 (<https://bit.ly/3PMdzjX>)
- *TheHealthSite.com*, 22<sup>nd</sup> July 2022 (<https://bit.ly/3aUYOMQ>)



The unique concept of “weakly perturbing the membrane” by incorporating cyclic hydrophobic moieties in a chemical design with free amine groups serves as a breakthrough for nontoxic membrane-perturbing adjuvants and has the potential to revitalize the effect of obsolete antibiotics to treat complicated Gram-negative bacterial infections

(Image: <https://doi.org/10.1021/acsinfecdis.2c00092>)

### Novel molecule to keep obesity in check!

Obesity is a common lifestyle-related health problem that has no available drug yet for treatment. Prof. Tapas Kundu and his team at JNCASR discovered that histone butyrylation underlies fat accumulation and subsequent obesity development. Further investigation led to the novel molecule LTK-14A, a p300-specific butyrylation inhibitor that could attenuate weight gain in a mouse model of obesity. This molecule is highly promising for treating obesity.

News reported by:

- *The Hindu*, 10<sup>th</sup> September 2022 <https://bit.ly/3G30mA4>



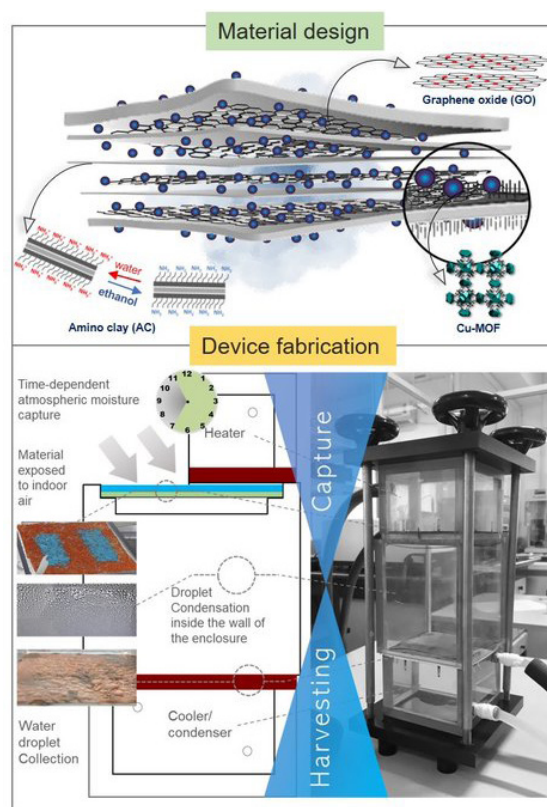
### JNCASR scientists devise an efficient water harvesting system

Prof. Tapas K. Maji and his team recently devised a series of binary (aminopropyl functionalized magnesium phyllosilicate or aminoclay, and CuBTC) and ternary (aminoclay, graphene oxide, and CuBTC) MOF nanocomposites that can efficiently harvest water from the air in all locations, including the indoor atmosphere. This work has been reported in *Advanced Functional Materials* (DOI: [10.1002/adfm.202203093](https://doi.org/10.1002/adfm.202203093))

News reported by:

- *Vigyan Samachar*, Department of Science and Technology, Govt. of India, <https://bit.ly/3Wud4yQ>

The schematic of material preparation and prototype developed by JNCASR team

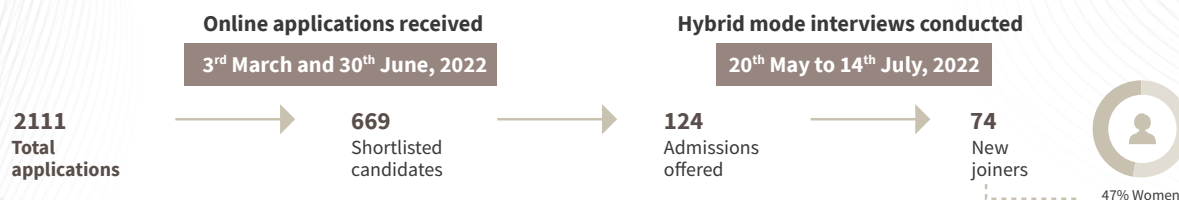


# Academic Activities



## Research Admissions

### August Semester-2022

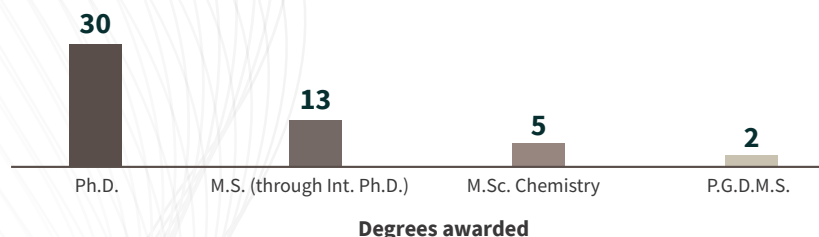


### Mid-year Admissions (Jan Semester-2023)

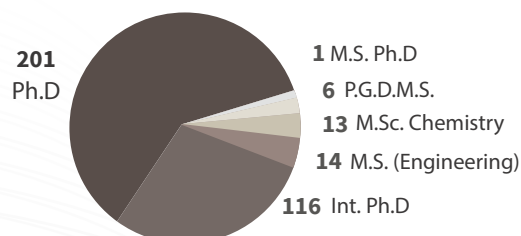
- Advertisement for online applications for admissions to Ph.D./M.S.(Engg.)/MS (Research) was announced tentatively on 19<sup>th</sup> October 2022.
- Last date to apply for mid-year admissions is 14<sup>th</sup> November 2022.



## Degrees awarded (Since last Council of Management meeting on 27<sup>th</sup> May 2022)



## Distribution of on-roll students across degree programmes (as on October 2022)



## Courses are being taught for August-December 2022 term

**42**

All the newly admitted students reported at the Centre on 1<sup>st</sup> August 2022

# Awards and Achievements

## Awards and accolades by faculty members

### Prof C. N. R. Rao

- SMC Lifetime Achievement Award from Society for Materials Chemistry

### Prof. G. U. Kulkarni

- Selected to receive the CNR RAO Prize in Advanced Materials, which will be presented during the MRSI AGM from 19<sup>th</sup>-23<sup>rd</sup> December 2022

### Prof. Ajay K. Sood

- Awarded the SERB-National Research Chair
- Appointed as the Principal Scientific Adviser to the Government of India

### Prof. Sebastian C. Peter

- Received the National Prize 2021 for Research on Environmental Chemistry, including CO<sub>2</sub> Reduction and Green Hydrogen (instituted by the CNR Rao Education Foundation) on 21<sup>st</sup> September 2022
- Received the Society for Materials Chemistry Bronze Medal 2022

### Prof. Santosh Ansumali

- Received IIT Bombay International Award for Excellence in Research in Engineering & Technology on 5<sup>th</sup> September 2022, for his significant and impactful contributions to engineering and technology

### Dr. Sarit Agasti

- Received India Alliance Intermediate Fellowship award

### Dr. Achira Roy

- Received International Research Donation towards studying rare neurodevelopmental disorders by M-CM Network, New York, USA in June 2022

### Dr. Pratap Vishnoi

- Received recognition as Emerging Investigator 2022 by

the Journal of Materials Chemistry A, Royal Society of Chemistry

## Memberships

### Prof. G. U. Kulkarni

- Adjunct Faculty at Manipal Academy of Higher Education for 2 years

### Prof. Maneesha S. Inamdar, MBGU

- Appointed as Director of inStem, NCBS Bengaluru, w.e.f. 19<sup>th</sup> August 2022

### Prof. Tapas K. Kundu

- Distinguished Visiting Professor in the Bioscience and Bioengineering department, at IIT Bombay

### Prof. Hemalatha Balaram

- Member, Governing Council, Sun Pharma Science Foundation.
- Member, Sectional Committee, INSA

## Fellowships

### Prof. Shobhana Narasimhan

- Elected as a Fellow of the American Physical Society

### Prof. Srikanth Sastry

- Elected as a Fellow of the American Physical Society

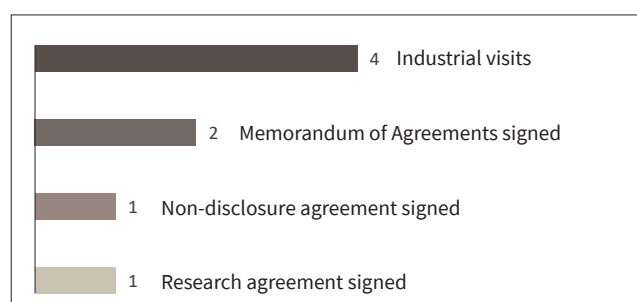
## Student Award

- **Mr. Arjun Cherevotan** (Ph.D. student, New Chemistry Unit; Research supervisor: Prof. Sebastian C. Peter) was selected for the International Climate Protection Fellowship by Humboldt Foundation

# Research and Development

## Agreements Signed

- **Research Agreement** was signed with Hind High Vacuum Pvt. Ltd., Bangalore, by Prof. G. U. Kulkarni, on 10<sup>th</sup> August 2022.
- **A non-disclosure agreement** was signed with Trane Technologies (India) Limited, Bangalore, by Prof. Tapas K. Maji on 3<sup>rd</sup> October 2022.



- **Two MoAs** were signed with the Department of Biotechnology (DBT), Govt. of India on 24<sup>th</sup> June and 14<sup>th</sup> September 2022 by Prof. Ravi Manjithaya and Prof. Namita Surolia, respectively.

## Industrial Visits

At the request of the Ola Battery Innovation Center (BIC), R&D Team, Bangalore, a meeting with our faculty members who work in energy-related areas was held on 23<sup>rd</sup> June 2022. The Dean, R&D along with Dr. Premkumar Senguttuvan, Prof. Santosh Ansumali, Prof. Swapan K. Pati, and Prof. M. Eswaramoorthy gave presentations on their research works, followed by lab visits.

An interactive meeting with M/s. Syngene, Bangalore was held on 6<sup>th</sup> July 2022 at Biocon Conference Hall, NSU. Dean, R&D along with faculty members Prof. Tapas K. Kundu, Prof. Ravi Manjithaya, Prof. James P. C. Chelliah, and Prof. Sridhar

Rajaram presented their ongoing research activities.

The Department of Technical Education, Karnataka deputed a delegation of 40 faculty members undergoing a workshop titled: "E-Mobility" to the Centre on 13<sup>th</sup> July 2022. During the visit, Dr. Premkumar Senguttuvan and Prof. Sebastian C. Peter gave presentations on research in the fields of batteries and CO<sub>2</sub> reduction. The visitors were also shown the Energy Storage and Consumption lab, the Molecular Materials lab, and the CO<sub>2</sub> Reduction lab.

An interactive meeting with Sunpharma Advanced Research Company Ltd., Mumbai was held on 7<sup>th</sup> September 2022 in the Biocon Conference Hall to actively seek and develop new collaborations between academic and industry partners to support our research activities. Faculty members Prof. Ravi Manjithaya, Dr. James P. C. Chelliah, Prof. Sridhar Rajaram, Prof. Tapas K. Kundu and Dean, R&D actively participated in the meeting.

## Intellectual Property



### Patents Granted

#### International, Singapore

- Patent (No. 11201801522R) for 'Compounds as DNA Probes, Methods and Applications Thereof' developed by Prof. Govindaraju Thimmaiah *et al.*
- Patent (No. 11201801523S) for 'A Compound and Pharmaceutical Composition Thereof' developed by Prof. Govindaraju Thimmaiah *et al.*

#### India

- Patent (No. 402365) for 'Composition Substrates and Methods Thereof' developed by Prof. Giridhar Udapi Rao Kulkarni *et al.*
- Patent (No. 407937) for 'Luminescent Conjugates Microporous Polymer with Lewis Acidic 'Boron' Sites on the Pore Surface: Ratiometric Sensing and Capture of F<sup>-</sup> Ions' developed by Prof. Tapas Kumar Maji *et al.*
- Patent (No. 408041) for 'Small-molecular adjuvants to repurpose existing antibiotics against multidrug-resistant bacterial infections' developed by Prof. Jayanta Halder *et al.*



## Patent Applications Filed

### International, PCT

- 'Soluble Analogues of 6Bio Thereof and Implementation Thereof' developed by Prof. James Premdoss Clement Chelliah *et al.* (Patent Appl. No. PCT/IN2022/050408, filed on 29<sup>th</sup> April 2022)
- 'Indirubin Compounds and Methods Thereof' developed by Prof. James Premdoss Clement Chelliah *et al.* (Patent Appl. No. PCT/IN2022/050409, filed on 29<sup>th</sup> April 2022)
- 'Small molecule modulator targeting a rare histone modification, regulating adipogenesis and pharmaceutical formulation thereof' developed by Prof. Tapas Kumar Kundu *et al.* (Patent Appl. No. PCT/IN2022/050515, filed on 2<sup>nd</sup> June 2022)
- 'A Catalyst, Its Application in Production of Hydrogen' developed by Prof. Sebastian Chirambatte Peter *et al.* (Patent Appl. No. PCT/IN2022/050741, filed on 17<sup>th</sup> August 2022)

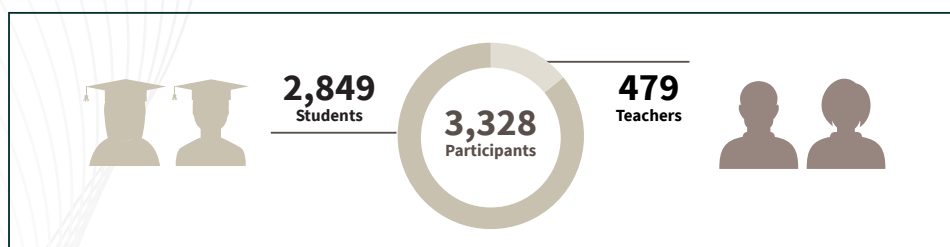
### India, Provisional

- Prof. Jayanta Haldar *et al.* (Patent Appl. No. 202241047460, filed on 20<sup>th</sup> August 2022)
- Prof. Govindaraju Thimmaiah *et al.* (Patent Appl. No. 202241047794, filed on 22<sup>nd</sup> August 2022)
- Prof. Diwakar Seyyanur Venkatesan *et al.* (Patent Appl. No. 202241048057, filed on 23<sup>rd</sup> August 2022)
- Prof. Sebastian Chirambatte Peter *et al.* (Patent Appl. No. 202241052295, filed on 13<sup>th</sup> September 2022)

### India, Complete

- 'Switchable Optical Device and Method of Controlling Operation of a Switchable Optical Device' developed by Prof. Giridhar Udapi Rao Kulkarni *et al.* (Patent Appl. No. 202241029617, filed on 23<sup>rd</sup> May 2022)

## Outreach Activities and Education Technology Unit (ETU)



### Programmes organised and conducted by the ETU and C. N Programmes organized and conducted by the ETU and C. N. R. Rao Hall of Science were as follows:

**2<sup>nd</sup> June 2022:** A day-long Teachers Orientation Program in association with Parikrma Humanity Foundation to discuss the responsibilities of a teacher. Approximately 185 teachers participated from five Parikrma learning centers.

**25<sup>th</sup> June 2022:** The popularization of science in the Rural High School program in Ankli in association with Basavaprabhu College, Chikodi. About 625 high school students and 50 teachers participated from ~10 high schools.

**1<sup>st</sup>-3<sup>rd</sup> July 2022:** A residential enrichment science workshop for final year B.Sc. students, was organized at Sagar, in Shimoga, in association with Sagar Science Forum, Sagar. About 50 students and 5 teachers participated.

**7<sup>th</sup> July 2022:** Science Outreach Program was conducted at Poornaprnja PU College, Udipi, Karnataka. Around 139 students and 55 teachers participated.

**7<sup>th</sup> July 2022:** Learning Science through Experiments was conducted at Poornaprnja PU college, Adamaru, Karnataka. Participated by around 25 students and 70 teachers.





**8<sup>th</sup> July 2022:** Science Outreach program was conducted at Poornapriya PU college, Sangameshwarapete, Chikmagalur, Karnataka. About 252 students and 18 teachers participated.

**9<sup>th</sup> Sept 2022:** The Learning Chemistry through Experiments Program. About 145 students and 4 teachers participated from VVS and Sardar Patel PU College, Bengaluru.

**20<sup>th</sup> Sept 2022:** An Interactive Lecture Program in Biology. About 250 students and 6 teachers participated from Nagachetan PU College, Yelahanka, MPL Sastry PU College, Rajajinagar & Pragati Girls PU College, Vijayapura (Devanahalli), Karnataka.

**29<sup>th</sup> Sept 2022:** Interactive Lecture Program in Earth Science, organized in memory of Prof. K. S. Valdiya. Lectures were delivered by Prof. Binod Sreenivasan (IISc) and Dr. Jaishri Sanwal Bhatt (JNCASR). About 130 students and 6 teachers participated in the event.

**1<sup>st</sup>-3<sup>rd</sup> October 2022:** A residential enrichment workshop for PU college students, in association with Sagar Science Forum, Sagar, Karnataka. 58 students and 2 Teachers participated.

**7<sup>th</sup>-9<sup>th</sup> October 2022:** A science outreach program at JNV Champavat in association with Himalayan Gram Vikas Samiti, Gangolihat, Uttarakhand.



## ■ Fellowships and Extension (F&E) Programmes

### Outreach program conducted jointly with other organizations

Outreach program organized by JNCASR in association with KHEA, Dharwad titled: “Frontier Lectures in Contemporary Physics & Chemistry” on 14<sup>th</sup> May 2022. The event included lectures by Prof. G. U. Kulkarni, President, JNCASR, Prof. S. M. Shivaprasad, Director, KHEA, Dharwad, Prof. B. L. V. Prasad, Director, CeNS, Prof. Ritu Gupta, IITJ, Dr. M. G. Sreenivasan, HHV Pvt. Ltd, Bangalore, and Dr. Ashutosh Singh, CeNS.

### Popular Lecture Programme (PLP)

On an invitation from Shri H.P. Bairwa, Principal, Jawahar Navodaya Vidyalaya, Jodhpur, Prof. G.U. Kulkarni, visited the school as a part of Popular Lecture Programme (PLP) and addressed the students of Class X–XI on 23<sup>rd</sup> July 2022 Saturday, and delivered a talk titled “Pursuing Science as Career”. Around 150 students from Class X–XII of the Vidyalaya, apart from science teachers, participated. JNV organized this lecture as a part of the DST Vigyan Jyoti Program. Dr. Ritu Gupta, Coordinator, Vigyan Jyoti Programs assisted the organization.

### Institutional Visits Programme (IVP)

1. A delegation, brought together by the Sagar science forum, of about 50 final year B. Sc. (PCM) students and

lecturers visited the research labs of CPMU and NCU, NSM facility, Chemical Exposition, and C. N. R. Rao Hall of Science Gallery at the Centre on 20<sup>th</sup> July 2022.

2. About 60 students and 2 professors from Smt. Danamma Channabasavaiah College of Arts, Commerce, Science and Management Studies, Kolar, Karnataka visited the research facilities at the Centre on 25<sup>th</sup> August 2022.
3. 50 students pursuing 1st-year B. Tech programme and 5 lecturers from Don Bosco Institute of Technology, Bangalore visited the Centre on 26<sup>th</sup> August 2022. 60 students pursuing M.Sc. Chemistry (Final year) and 5 lecturers from REVA University, Bangalore visited the Centre on 30<sup>th</sup> September 2022. Both delegations sought to seek knowledge in the field of Nanomaterials and the working of instruments such as the electron microscope, X-ray diffractometer, and FTIR instrument.

### Fellowship Programmes

After re-opening of the F&E Programmes, 31 out of 140 SRFP students completed the programme through online/offline (on campus) mode. Furthermore, 5 and 9 students joined the POBE and POCE programs on campus, respectively. Of 14 visiting fellows, 2 joined the program on campus. Out of 28 offered admission to GRIP, 18 completed the programme offline.

# Lectures, Conferences, and Other Events

2	Endowment lecture
1	Meeting
1	Conference

## Endowment Lectures

### Prof. C.N.R. Rao Oration Award Lecture

Prof. C.N.R. Rao Oration Award Lecture was organized on 16<sup>th</sup> August 2022. Prof. Santosh Ansumali, from the Engineering Mechanics Unit, JNCASR, was the speaker at this event who spoke about “Drik Ganita: towards realistic simulation of complex systems”.



## DAE-Raja Ramanna Lectures in Physics

The DAE-Raja Ramanna Lecture in Physics and the Prize Lecture were organized on 22<sup>nd</sup> September 2022 at JNCASR. The main lecture was delivered by Prof. Amlan J. Pal, Director of the UGC-DAE Consortium for Scientific Research, Indore, J.C. Bose National Fellow at the School of Physical Sciences, Indian Association for the Cultivation of Science, Kolkata, who spoke about “Derivation of band-edges in semiconductors and their importance towards optoelectronic devices”. The speaker of the Prize Lecture was Prof. Navkanta Bhat, Dean, Division of Interdisciplinary Sciences, Professor, Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science, Bengaluru, who spoke about “Sensor scaling for intelligent and smart nanoelectronics”.

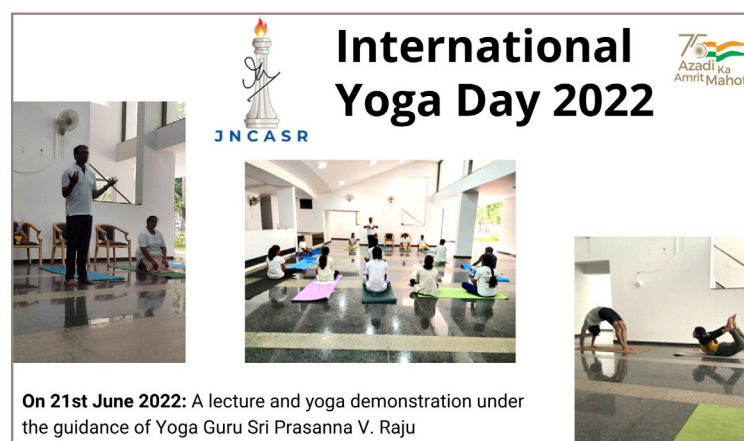
## Meetings & Conferences

- A conference on “Current Directions in Statistical Physics” was organised by Prof. Subir K. Das, JNCASR from 5<sup>th</sup> to 6<sup>th</sup> August 2022.
- The EMBO conference on “Molecular and physiological basis of behavioural/cognitive defects in Neurodevelopmental disorders” was organised by Prof. James Chelliah, JNCASR, from 31<sup>st</sup> October to 3<sup>rd</sup> November 2022

## Celebrations of Significant Days

**World Environment Day** was celebrated on 6<sup>th</sup> June 2022, with a talk titled “Climate Change and Extremes over the Himalayas” by Prof. A. P. Dimri, Director, Indian Institute of Geomagnetism, Mumbai. The talk was also live-streamed on the Centre’s YouTube channel ([youtu.be/A2rH29FaWvk](https://youtu.be/A2rH29FaWvk)).

**International Yoga Day** was celebrated at JNCASR through a series of events. On 20<sup>th</sup> June 2022, a yoga competition was organized for all, and the competition was judged by Yoga Guru Ms. Bramarambha Patil. On 21<sup>st</sup> June 2022, a lecture and yoga demonstration was given by a team of volunteers and students led by Yoga Guru Sri Prasanna V. Raju at 7:30 AM at the Centre.

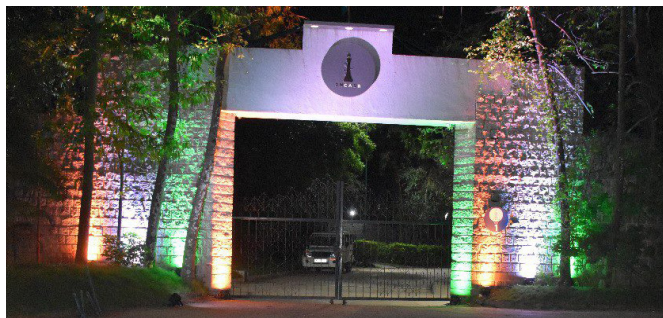


On 21st June 2022: A lecture and yoga demonstration under the guidance of Yoga Guru Sri Prasanna V. Raju

India’s **76<sup>th</sup> Independence Day** was celebrated on 15<sup>th</sup> August 2022, by hoisting of the national flag by Prof. G. U. Kulkarni, President, JNCASR, in the presence of officials, students, and family members. This was followed by a speech by Prof. N. S. Vidhyadhiraja, Dean, F&E Programmes. As part of ‘Azadi ka Amrit Mahotsav’, an online essay competition on the theme ‘Role & responsibilities of Science & Technology in nation building’ and a 5 Km Freedom Run on 14<sup>th</sup> August 2022 were conducted. The winners were felicitated on 15<sup>th</sup> August, followed by an enthralling performance of patriotic songs by the students’ Cultural Group. As part of ‘Har Ghar Tiranga’ campaign under the aegis of Azadi Ka Amrit Mahotsav, the Centre hoisted the national flag at all the gates of its main campus and on its other campuses and prominent buildings



from 13<sup>th</sup> to 15<sup>th</sup> August 2022. Additionally, more than 150 flags were distributed and the main entrance and select buildings were decorated with Tricolour lights.



**Hindi Pakhwada Celebration** was organised at JNCASR from 14<sup>th</sup> to 30<sup>th</sup> September 2022, and began with the circulation of Hon'ble Home Minister's Hindi Fortnight message on Hindi diwas (14<sup>th</sup> September). Several events were organised to motivate employees to use Hindi for communication such as Hindi news reading, Hindi essay writing, and Hindi Shabd Gyan competitions, a lecture on official language policy, and OLIC meeting. A special talk on "Policies on Official Language Implementation and how to work in Hindi smoothly" was also delivered by Shri Srinivas Rao, Asst. Manager (OL), BEL.



**Vigilance awareness week (31<sup>st</sup> October to 6<sup>th</sup> November 2022)** : An integrity pledge was undertaken at the Centre on 31<sup>st</sup> October 2022. An online essay competition was also organised on the topic "Corruption-free India for a developed nation".

### Seminars/Workshops/Conferences

- A workshop was held on "Semiconductor Nanostructures and Applications" in Nevill Mott hall towards Felicitation of Prof. S. M. Shivaprasad on 24<sup>th</sup> June 2022.
- The talk "Self-assembly of Non-planar Scaffolds: Unraveling the Mutual Monomer Orientation in Supramolecular Polymers" was delivered by Prof. Luis Sanchez, Universidad Complutense de Madrid on 29<sup>th</sup> July 2022.
- The talk "Role of histone acetylations in genome reregulate" was given by Dr. Pradeepa Madapura, lizard Institute, Queen Mary University of London on 22<sup>nd</sup> August 2022.
- The SAMat Talk on "Trap States in Semiconductor Quantum Dots: Friend or Foe" by Prof. K. George Thomas, IISER Thiruvananthapuram, was organised on 16<sup>th</sup> September 2022.
- The NCU Tutorial Lecture titled 'Single-Molecule Spectroscopy' by Prof. Jürgen Köhler, University of Bayreuth, Germany was organised on 30<sup>th</sup> September 2022.
- A hands-on Workshop on RNA-seq and CHIP-seq data analysis in partnership with Clevergene Biocorp Pvt. Ltd. was conducted from 14<sup>th</sup>-15<sup>th</sup> July and again from 13<sup>th</sup>-14<sup>th</sup> October, 2022 at CCMS/NSM classroom in College Building. The workshop was coordinated by Prof. Anuranjan Anand, Prof. Kaustuv Sanyal, and Dr. Kushagra Bansal.

In addition to the above, 27 other events were organised, including seminars, lectures, webinars, workshops, and meetings.

## ■ Upcoming Events

- Annual Faculty Meeting and the In-House Symposium (IHS-2022) on 17<sup>th</sup> and 18<sup>th</sup> November.
- International Winter School 2022 on Frontiers in Materials Science from 5<sup>th</sup>-9<sup>th</sup> December 2022.
- Sheikh Saqr Materials Lecture will be delivered by Prof. Bettina V. Lotsch, Max Planck Institute, Stuttgart on 6<sup>th</sup> December 2022.



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Editor

**Dr. Sheeba Vasu**

Editorial Assistance

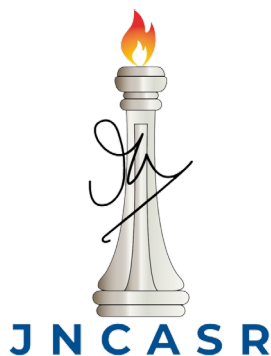
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**Jawaharlal Nehru Centre for Advanced Scientific Research**

Jakkur, Bengaluru - 5600 064, Karnataka, India

Phone: 91-80-22082750; Fax: 91-80-22082766; E-mail: [admin@jncasr.ac.in](mailto:admin@jncasr.ac.in)