

Indian National Young Academy of Science  
भारतीय राष्ट्रीय युवा विज्ञान अकादमी

# ANNUAL NEWSLETTER

## January – December 2024



## Contents

<b>Contents</b>	<b>Page</b>
<b>About INYAS</b>	1
<b>INYAS Zones</b>	1
<b>Core Committee and Editors</b>	2
<b>Message from Chair</b>	3
<b>INYAS Core Committee Meetings</b>	4
<b>INYAS 9th General Body Meeting</b>	5
<b>INYAS Mid-Year Meeting</b>	7
<b>Outreach Activities</b>	9
<b>Remote and Rural Area Dedicated Activities</b>	27
<b>Science Awareness Camps</b>	33
<b>Events on Women in Science</b>	55
<b>National Science Day Celebration</b>	65
<b>Conferences/Seminars/Webinars</b>	83
<b>INYAS logo competition</b>	97
<b>INYAS Flagship Event “PRAYOJAN”</b>	98
<b>INYAS Flagship Event “WINGS”</b>	101
<b>Awards, Recognitions, and Achievements by INYAS members</b>	104
<b>New Membership 2024</b>	112

### ***About INYAS***

INYAS was founded in December 2014 by INSA with 20 members. The INSA council selected the INSA Young Scientist Medal recipients as its founding members. Currently, INYAS has 108 members from various disciplines. INYAS is an INSA-recognized academy of young scientists in India with the following vision:

#### **Vision**

- ❖ Promotion of science education and outreach
- ❖ Encouragement of networking among young scientists
- ❖ Supporting young scientists in career independence
- ❖ Engagement in interdisciplinary & intergenerational scientific dialogues
- ❖ Boosting science capacity in the country
- ❖ Collaboration with other Young Academies of the world

#### **INYAS Zones**

INYAS is committed to international collaborations as well as local outreach. Initially INYAS formed seven local chapters. These local chapters transitioned into INYAS Zones from Mid- Year-Meeting (MYM), 2023. These zones will also liaison with INSA local chapters to initiate new activities and exponentially increase the impact on the ground.

<b>Zones</b>	<b>Coordinator</b>	<b>Co-coordinator</b>
NCR	Subhash Babu	Chhama Awasthi
North	Shweta Yadav	Santanu Mukherjee
North Central	Manoj Patel	Arun Jugran
Central	Sanjay Singh	Anuraj Singh
East	Rohit Shahi	Chirasree Roychaudhuri
North East	Mayuri Chabukdhara	Ramu Adela
West	Neetu Jha	Brindaban Modak
West Central	Nisha Singh	Dhiraj Bhatia
South East	Sai Santosh Ravi	Nagarajan Subbiah
South	Ramakrishna Matte	Reshma Gills

## *Core Committee*



## *Editors*

	
<i>ICAR-National Rice Research Institute, Cuttack, Odisha</i>	<i>Central University of South Bihar, Gaya, Bihar</i>



## *Message from Chair*

**Dear Valued Readers and Esteemed Colleagues,**

It gives me immense pride to present the highlights of INYAS' activities and achievements for 2024, a year that also marks a significant milestone, our 10th anniversary. Over the past decade, the Indian National Young Academy of Science (INYAS) has grown into a dynamic and impactful community, dedicated to advancing scientific outreach, education, and innovation across the nation. What began in 2014 as a small group of committed individuals has flourished into a vibrant body of more than 100 active members and numerous distinguished alumni from diverse disciplines, unified by our commitment to fostering scientific curiosity and bridging socio-economic gaps through the power of science and technology.

Our flagship programs that are RuSETUP, PRAYOJAN and WiSDom—have continued to address the critical needs of our society. RuSETUP (Rural Science Education and Training Utility Program) focused on empowering marginalized students and educators in rural areas. Through hands-on experiments in Rajasthan and workshops such as Vigyan Varta, this initiative benefited thousands, reaching over 3,000 students and 300 teachers. PRAYOJAN addressed the lack of awareness about career opportunities among young researchers and early-career scientists. This year, the program received an overwhelming response, with 303 participants from across India and the globe, including countries like Canada, Germany, and the USA. WiSDom (Women in Scientific Domain) championed gender inclusivity in STEM, empowering women researchers and professionals through initiatives such as WINGS 2024 and a unique comic series celebrating female role models in science. INYAS undertakes science outreach activities at most remote locations of India. RuSETUP- “Fostering Curiosity: Science for Young Minds was organised at University of Ladakh, with students from various locations in Ladakh. The event aimed to spark curiosity and inspire young students towards science through expert talks and hands-on activities. Additionally, **Science Awareness and Career Consultation Camp, World Water Day and Mathematical Sciences Workshop** was organised in educational institutes of Assam region. These initiatives make scientific learning accessible in remote regions of North-Eastern India. Moreover, the **Science Outreach Programme** engaged 55 girl students and 8 lecturers from Pulwama, Kashmir with hands-on chemistry experiments and motivational talks, bridging the gap between science and learners.

Our outreach efforts this year have been nothing short of remarkable. INYAS organized over 100 events, reaching diverse audiences across India. From the Remote Area Lecture Series and Science Awareness Camps to Mental Health Workshops for ASHA workers in Rajasthan, our programs demonstrated how science can be a powerful tool for societal progress. We celebrated special occasions such as World Water Day and the International Day of Light, raising awareness on sustainability and the significance of science in everyday life. Events like Science Sparks, Career Exploration Camps, and Environmental Science Camps further inspired the next generation to pursue careers in science and technology. Competitions also remained a key avenue for fostering innovation and creativity. SARANSH, our 3-Minute Thesis Presentation Competition, provided young researchers with a platform to communicate their work to broader audiences. The National Competition for Research Excellence encouraged innovation in areas like biosensors, nanofibers, and

carbon materials, emphasizing interdisciplinary research.

This year, INYAS also made significant strides in fostering scientific dialogue and influencing policy-making. Our Mid-Year Meeting and Technical Symposium brought together experts from diverse fields to discuss crucial themes such as Green Energy, Research Integrity, and Affordable Healthcare. These discussions not only facilitated interdisciplinary collaboration but also informed the creation of White Papers addressing vital challenges, including postdoctoral research opportunities, improving social science education, and elevating women's leadership in STEM. On the global front, INYAS strengthened its partnerships with the Global Young Academy (GYA) and the Inter-Academy Partnership (IAP). Through projects like RESCUE, aimed at combating predatory publishing, and SciPADRec, focused on science policy and diplomacy, INYAS has established itself as a key player in the global scientific community. The INYAS Mid-Year Meeting and Technical Symposium on "Empowering Young: Leveraging Science and Technology for Sustainable Development" was organised from 26 - 28 September 2024 at IISER Kolkata. The final satellite session S4 titled "Role of Neighbourhood National Young Academies (NYAs) to Build Scientific Temperament among Asian Countries" proved to be a high-yielding gathering and opened the platform for international dialogue exchange.

As we celebrate a decade of INYAS, we are also looking ahead with renewed energy and purpose. Our Vision Document for the Next Decade outlines ambitious goals to expand outreach initiatives, promote gender equity in STEM, and foster innovation. To commemorate this milestone, we have launched a special journal collection which will feature high-impact research contributions from our members and alumni.

I would like to take this opportunity to express my heartfelt gratitude to all INYAS members, alumni, the core committee, and the INYAS office for their dedication and tireless efforts. My sincere appreciation also extends to INSA and our funding agencies for their invaluable support, as well as to the speakers, collaborators, and participants who enriched our programs this year. As we step into the next decade, I am confident that INYAS will continue to inspire and empower individuals, fostering national development through science, innovation, and outreach. Let us work together to create a future where science remains a cornerstone of progress, sustainability, and inclusivity.

Warm regards,  
**Dr. Nishant Chakravorty**  
Chair, Indian National Young Academy of Science  
Associate Professor, IIT Kharagpur

## **INYAS CORE COMMITTEE MEETINGS**

INYAS Core Committee meetings were held 11 times between January to June, 2024.

S. No.	Meetings	Date
1	CC Meeting	03 Feb 2024
2	CC Meeting	18 Feb 2024
3	CC Meeting	08 March 2024
4	CC Meeting	17 April 2024
5	CC Meeting	15 May 2024
6	CC Meeting	09 June 2024
7	CC Meeting	21 July 2024
8	CC Meeting	07 September 2024
9	CC Meeting	27 September 2024
10	CC Meeting	28 October 2024
11	CC Meeting	13-15 December 2024





## **INYAS 9<sup>th</sup> GENERAL BODY MEETING**

**Date: 16-18 February, 2024**

The 9th Annual General Body Meeting (GBM) of the Indian National Young Academy of Sciences (INYAS) was convened at the Indian National Science Academy (INSA), New Delhi from February 16 - 18, 2024.

During the meeting, the annual report (2023-2024) was presented, providing a comprehensive overview of the activities undertaken throughout the year. This included outreach initiatives, chapter events, flagship events, and efforts in fostering international relations. Following the report, new INYAS members were formally inducted. Finally, Secretary, INYAS made the concluding remarks.



Session 2 commenced by welcoming the Chief Guest, Prof. Ashutosh Sharma, President, INSA and the Guest of Honor, Dr. Brajesh Pandey, Executive Director, INSA by Dr. Rajendra Dhaka, Chairperson of INYAS. Prof. Ashutosh Sharma delivered a keynote address on 'VIKSIT BHARAT' (Visionary India) and shared insights on the nation's progress towards achieving it. He also unveiled the INYAS Newsletter. Day 2 commenced with presentations by new INYAS members. Following this, an election pitch was made for vacant Core Committee positions, coordinated by the election office. The prestigious "Member of the Year" and "Outshining Award" were announced, with the winners sharing brief statements. In the post-lunch session, the election for the vacant Core Committee and Chair positions was facilitated by the election office. This was followed by the second technical session, featuring brief talks by recently joined INYAS members.





Following this, the gathering welcomed the Guest of Honor, Dr. Ranjana Aggarwal, Director, NIScPR. In her keynote talk, she highlighted the importance of science communication and emphasized on strengthening the Indian journals. On day 3, the outgoing members and Core Committee members were felicitated. They shared their experiences and provided valuable feedback. The outgoing Chairperson delivered his farewell message and the new Core Committee members were handed over the responsibilities to continue the activities of INYAS more vibrantly. The Chairperson of INYAS delivered closing remarks and appreciated the overall efforts.

The Outgoing Chairperson of INYAS, Dr. Rajendra Dhaka made the opening comments in the Core Committee Meeting which was followed by experience sharing and comments from outgoing Core Committee members. The specific plans of new Core Committee members for INYAS were discussed. Responsibilities were shared among the new Core Committee members. Various agenda items, such as Science Day, Women's Day, and others, were discussed. The Chairperson of INYAS, Dr. Nishant Chakravorty, delivered closing remarks.

### **INYAS Mid-Year Meeting and Technical Symposium**

**Event:** INYAS Mid-Year Meeting and Technical Symposium on “Empowering Young: Leveraging Science and Technology for Sustainable Development”

**Date:** September 26<sup>th</sup> -28<sup>th</sup>, 2024

**Venue of the event:** Institute of Science Education and Research (IISER) Kolkata

**Co-ordinators:** Chirasree Ray Chaudhuri and Anindita Bhadra

#### **Major key take away from the organised event**

The INYAS Mid-Year Meeting and Technical Symposium on “Empowering Young: Leveraging Science and Technology for Sustainable Development” was organised from 26 - 28 September 2024 at Indian Institute of Science Education and Research (IISER) Kolkata celebrating INYAS’ 10<sup>th</sup> anniversary. The first day of the three-day symposium successfully covered two technical sessions and one panel discussion focusing on ‘Agriculture and the Agri-food Sector’s Role in Feeding the Globe Sustainably’, ‘Advanced Strategies for Climate Action and Sustainable Development’ and ‘Young Scientists in Science Governance’ respectively. The first day also witnessed a vibrant inaugural session wherein three INYAS Publications - Annual Report 2023-24, Mid-Year Newsletter 2024 and MYM-2024 Brochure were released. The second day featured four sessions on affordable healthcare, industry-academia collaboration and green energy highlighting innovation and sustainability which concluded with a focus on ethics in research. The third day continued with discussions on novel materials for a greener future and the final milestone satellite session on Asian Young Academies (AYA).

The final satellite session S4 titled “Role of Neighbouring National Young Academies (NYAs) to Build Scientific Temperament among Asian Countries” proved to be a high-yielding gathering. The final session of the Mid-Year Meeting brought together representatives from the Global Young Academy (GYA), the International Science Council (ISC) and representatives from National Young Academies of Bangladesh, Sri Lanka, Nepal, Pakistan and Early Career Forum of New Zealand, on the same platform. The session initiated with introductory remarks by, Prof. Chandra Shekhar Sharma (GYA Co-Chair and Former Chair, INYAS) reflecting on INYAS’s early initiatives to unite NYAs across Asia and emphasized the significance of enhancing collaboration among NYAs in Asia to maximize global impact focussing in developing the young scientific community worldwide. Following the trajectory each NYA representative showcased a brief presentation highlighting their organization's achievements and future aspirations for cross-border and cross-cultural scientific cooperation. First in line Sri Lanka’s SLAYS spotlighted its robust international connections and contributions to various organizations like NASSL and NSF. Moving ahead The Royal Society Te Apārangi Early Career Forum elucidated its structure of three-year terms and broad membership across disciplines. The National Young Academy of Bangladesh (NYAB) unfolded their ongoing joint activities with INYAS and SLAYS, including work on an IAP-sponsored project focused on predatory publishing. Thereafter Nepal’s NAYAN, emphasized its role in proliferating interdisciplinary dialogue exchange while Pakistan’s NAYS outlined its extensive outreach programs, including Science 4 Youth (S4Y) and a variety of focus groups dedicated to advancing women in science, biosafety and health. INYAS activities were presented by Prof. Nishant Chakravorty (Chair, INYAS).

Towards the conclusion Prof. Nishant Chakravorty, Chair INYAS summarized the session’s future plan of action focusing on both short-term and long-term agendas shared by the panelists for global scientific upliftment. He proposed that Asian NYAs initiate consistent and systematic joint activities and increase the frequency of online meetings and constructing toward in-person annual meetings with tangible outcomes. To start the engine,

joint efforts could include research collaborations, capacity-building workshops, technical symposiums, international programmes and dialogue exchange forums for young scientists. Overall the session flagged the pressing need for an Asian National Young Academy network to create a unified platform for interaction. Such a diverse network will ensure Asian NYAs to collectively address regional challenges and pursue shared objectives. Together with INYAS the proposed platform aims to amplify the voices of young scientists and foster a scientific temperament across Asia, marking a significant milestone towards escalated scientific diplomacy, policy formulation and collaboration across the globe.





### Outreach Activities

**Event: TEACH - 2024**

**Date: January 2, 2024**

**Co-ordinators: Jai Prakash**

**No. of Participants: 100**

The first event of TEACH (Training Early Minds Through Applied ResearchCH)– 2024 Series was held at Hari Baba Janta Inter College, Gown of District Sambhal, U.P. The event was basically an Awareness Programme on Challenges and Opportunities in Science organized for Science Stream Students of the school situated in Rural and Semi Urban Areas. In the beginning, Principal of the School, Mr. Harishpal Singh introduced about the programme and speaker, Dr. Jai Prakash, Member, INYAS. Dr. Jai Prakash first spoke about INYAS, its vision and mission and its contribution towards the awareness and welfare of school children. Then he talked about how the Applied Research can help to train early minds (which is basically the TEACH stands for). He talked about various Schemes by different Govt. agencies for school teachers and children in detail. He also taught the important points to achieve success in their career. The event was ended with the Vote of Thanks.



**Event: Mental Health Training and Workshop for ASHA Workers**

**Date: April 4, 2024**

**Co-ordinator: Devendra Singh Basera**

**Venue of the Event: Sirohi (Rajasthan)**

**No. of Participants: 300**

A seminar on "Scientific Evidence-Based Approaches in Mental Health Disorders" was conducted in collaboration with the National Mental Health Program (NMHP) Sirohi chapter and INYAS in the Sirohi district of Rajasthan on April 4, 2024. The seminar was



intended for ASHA workers (Accredited Social Health Activists, who are grassroots-level



health workers serving as key coordinators between people and health services in villages). The event was attended by 200 ASHA workers, representing tribal villages in Rajasthan, which means the learning potentially reached 200 villages. The seminar was enthusiastically received by the ASHA workers and has resulted in a

significant increase in the number of people seeking mental health care from these areas.



---

**Event: Aahar Kranti -nutrition awareness camp**

**Date: April 5, 2024**

**Co-ordinator: Sharanjeet Dhawan**

**Name of Zone: NCR**

**No. of Participants: 120**

CCSHAU COA, Bawal celebrated 3<sup>rd</sup> anniversary of Aahar Kranti- Nutrition Awareness Camp in collaboration with INYAS-INSIA, New Delhi (10<sup>th</sup> Anniversary Celebrations) and GIST, VIBHA, Haryana. The main objective of this program was to make women and students aware about balanced diet. Dr. Kanti Prakash Sharma, Professor of Nutritional Biology, Central University of Haryana, Mahendragarh, Haryana and Dr. Shantanu Mukherjee, Shoolini University, Himachal Pradesh were the experts on this occasion. More than 120 participants including farmers, women farmers, students of Government Senior Secondary School Banipur, Bawal, Shahbazpur participated in this nutrition awareness

camp. Dr. Naresh Kaushik, Principal of Agriculture College, Bawal inaugurated the camp by welcoming the chief guest, keynote speaker and all the participants. Prof. Kanti Prakash Sharma focused on the changes in lifestyle giving priority to a balanced diet. He emphasised on the importance of home-cooked food instead of processed food. Prof. Kanti asked to give priority to local food sources. He created awareness to include coarse grains, pulses, seasonal fruits and vegetables in the diet. The expert called management of energy, organic food and decency in behaviour as important points for India's development. College students created awareness about balanced diet through street drama. Detailed literature elaborating the different parameters of a balanced diet was distributed to all the participants. Emphasising on a healthy diet, fruits and fresh squash prepared by students of the college was served to all the participants. Amla candies prepared by the students were presented to the dignitaries. On this occasion, Dr Veda Krishnan, Secretary INYAS discussed various activities, flagship events and encouraged the young faculty members to join the academy.



**Event: SKILLIFY**

**Date: March 23, 2024**

**Venue of the event: ICAR-IARI, New Delhi**

**Co-ordinators: Veda Krishnan & Subhash Babu**

**Name of Zone: NCR Zone**

**No. of Participants: 54**

The INYAS NCR Zone, in collaboration with ICAR-Indian Agricultural Research Institute,



New Delhi was organized one day programme Skillful Knowledge and Innovative Learning for Futuristic Youth (SKILLIFY) on 23 March, 2024. The programme was dedicated to skill- building and professional development. The program was attended by 54 Participants from various universities across India. The programme was covered wide array of topic i.e. CV Writing, Soft Skills Development, Fellowships and Opportunities, Interdisciplinary Research and Communication Strategies. The through interactive sessions and expert guidance from prestigious institutions around India, participants gained valuable insights and practical tips to excel in their academic and professional pursuits.



**Event: Lecture by an Industry expert on "'Unraveling Dissolution: Navigating IVIVC, Regulatory Considerations, and Biowaiver in Pharmaceutical Development'"**

**Date: April 10, 2024**

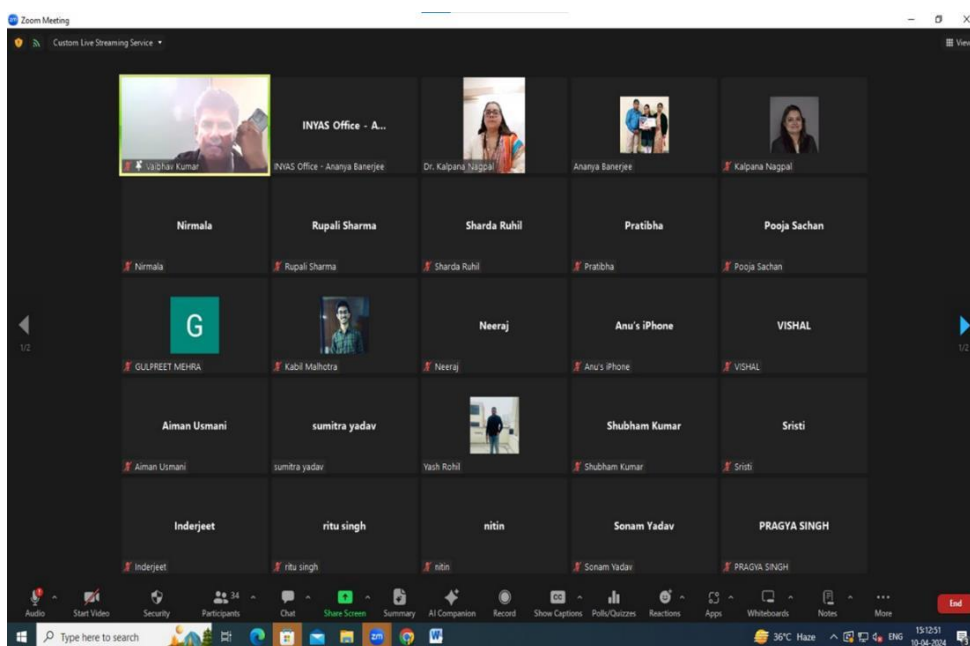
**Co-ordinator: Kalpana Nagpal**

**No. of Participants: 40**

An online Lecture on 'Unraveling Dissolution: Navigating IVIVC, Regulatory Considerations, and Biowaiver in Pharmaceutical Development' was conducted by INYAS and AIP, Amity University jointly on April 10th, 2024, from 2 PM onwards. The event started by welcoming the guests and participants. Chair INYAS introduced the audience to INYAS and explained the relevance of the session's topic. Dr. Kalpana Nagpal, the event coordinator, introduced the speaker. The speaker, Mr. Vaibhav Kumar, Associate Director, Analytical research in Mylan Laboratories, Hyderabad, very enthusiastically delivered his

talk and emphasized the very relevant key points, mentioning the importance of learning the topic. He discussed the real case studies faced by the pharmaceutical industry and their solutions. The students attended the session both online as well as in the offline mode in their classroom and connected virtually with the speaker. This was followed by one-to-one interaction and a question-answer session by the audience to the speaker. The resource person patiently answered the queries related to this topic and mentored them for their career as freshers' in the pharmaceutical industry. The session ended after delivering a formal vote of thanks.

**Event: Lecture for students on the Indian Scientific Expedition and developing interest in choosing research for their future career**



**Date: April 16, 2024**

**Co-ordinator: Avinash Sharma**

**Venue of the Event: Jai Hind Junior College, Pimpri, Pune**

**No. of Participants: 205**

The event focused on his Antarctica journey, aiming to inspire 11th-grade students' curiosity in science. The event discussed career options in polar biology, showcasing the exciting opportunities available. Through engaging storytelling and visuals, attendees learned about the challenges and rewards of polar exploration. A key takeaway was the importance of interdisciplinary collaboration in addressing scientific questions and environmental issues in Antarctica. Overall, the event ignited students' passion for science and encouraged them to consider pursuing careers in polar research. In closing, the event both fueled students' curiosity with insightful questions and inspired them to pursue exciting opportunities in polar research, underscoring their passion for science.





**Event: International Day of Light Celebrations**

**Date: May 16, 2024**

**Co-ordinator: Jai Prakash**

**No. of Participants: 250**

The International Day of Light – 2024 was celebrated on May 16, 2024, at Brilliant Public School, Aligarh, under the auspices of the 10<sup>th</sup> Anniversary of the Indian National Young Science Academy (INyas). More than 200 students from the science stream attended the program and gained awareness about the International Day of Light and scientific topics. The program began with a welcome address by Dr. Shyam Kuntail, the Principal of Brilliant Public School, Aligarh. He welcomed the guests and praised the regular celebration of such programs, which aim to inspire students to develop a scientific temperament. Dr. Jai Prakash, an INyas member from the Physics Department at AMU Aligarh, provided a comprehensive overview of the International Day of Light and emphasized organizations like INyas in fostering scientific awareness. He elaborated on how INyas offers valuable opportunities for young students, including fellowships, prestigious awards, and promising career paths in the scientific field. Dr. Prakash's presentation not only educated the students about the day's significance but also motivated them to actively engage in scientific initiatives and explore the vast possibilities for their future endeavors. His insights served as a catalyst for the students, encouraging them to pursue their passion for science and contribute meaningfully to the scientific community. Dr. Jai Prakash's talk, combined with the cultural

program, not only educated the students about the significance of the day but also instilled in them a deeper appreciation for science and culture.

Prof. B.P. Singh, former Chairperson of the Physics Department at Aligarh Muslim University, delivered an enlightening talk on “Light and Energy” within the theme “Light in Our Lives” advocated by UNESCO. He shed light on various aspects: firstly, he emphasized how light illuminates the earth, revealing its form and structures. He then discussed its crucial role in the water cycle, driving processes like evaporation, condensation, and precipitation. Prof. Singh highlighted how light is closely connected to fire, producing heat and energy. Furthermore, he discussed how light travels through air, allowing us to perceive the world around us, and through space, providing a medium for understanding the cosmos. He also covered the role of light in industry, medicine, peace, communication, and more. He detailed methods of energy production and advocated for nuclear energy options for sustainable development. Prof. Singh underlined the significance of celebrations in science, explaining how such events serve as platforms to highlight the role of light in science, technology, art, and culture, thereby promoting UNESCO's education, equality, and peace goals. Dr. Prabhat Das Gupta, a practicing homeopath, delivered a motivational lecture that inspired the students. The event was well appreciated and attended.



---

**Event: Impact of Science and Technology Intervention on the Socio-economic Development of Eastern Ghats**

**Date: August 15 2024**

**Venue of the event: DST-Biomass Trigeneneration Plant, Athanavur Village, Yelagiri**



hills

**Co-ordinator: Sakthivadivel Duraisamy**

**No. of Participants: 45**

The purpose of this program is to teach students, local tribal people, and government officials the fundamental science and technology that is behind the government project implementation and how to apply system components to improve livelihoods. This process has been achieved through field visit and the lectures. Therefore, the main aim of the event was to educate local people beneficiaries, government officials, and school students with the field experience. Eventually, the government officers, particularly those in the police and forest departments, panchayat officials, and the local people, got benefited.



---

**Event: Entrepreneurship: A Step Ahead**

**Date: 10<sup>th</sup> September, 2024**

**Venue of the event: IIT Indore**

**Co-ordinator: Kiran Bala**

**No. of Participants: 85**

The event "Entrepreneurship: A Way Ahead" was organized to provide college students with a valuable opportunity to delve into the dynamic field of entrepreneurship. The event was held at the prestigious Indian Institute of Technology (IIT) Indore, the event was made possible by the generous support of the Indian National Young Academy of Sciences (INYAS), an organization committed to promoting advancements in science and education. The event was meticulously coordinated by Prof. Kiran Bala from the Department of Biological Sciences and Bioengineering (BSBE) at IIT Indore. This initiative is of great significance as it aims to ignite and nurture the entrepreneurial spirit among young students. Through engaging sessions and real-life experiences, the event sought to foster a deep interest in entrepreneurship and innovation. The collaboration between IIT Indore and INYAS highlights a shared commitment to equipping the next generation with the skills, knowledge, and enthusiasm needed to make impactful contributions to entrepreneurship, science, and education. Participants and activities A total of 85 participants from IIT Indore and Chameli Devi Group of Institutions, Indore,

took part in this interactive session. The event commenced with an inaugural address by Professor Kiran Bala, who warmly welcomed the participants and highlighted the significance of such events for college students. This was followed by an insightful talk by Mr. Aditya SG Vyas, CEO of DRISHTI CPS Foundation at IIT Indore, focused on the theme of launching a startup and the role of academia in nurturing entrepreneurship. Mr. Vyas's presentation covered essential aspects of entrepreneurship, such as understanding customer needs through empathy, employing design thinking, prototyping, and effective marketing strategies. He also discussed how academic institutions can play a crucial role in shaping a promising career in entrepreneurship. Furthermore, he highlighted the support provided by government agencies like the Department of Biotechnology (DBT) and the Department of Science and Technology (DST) in funding various startup initiatives. Mr. Vyas also emphasized the significance of incubation centers within colleges, explaining how they offer mentorship and financial support to foster the growth of startups. The second keynote speaker, Mr. Shanil Kothari, Founder of ListApp, delivered an interactive session that provided participants with in-depth insights into the terminology and concepts prevalent in the field of entrepreneurship. He discussed his journey and the challenges he faced in the process of developing a startup, underscoring the critical importance of networking and building strategic connections within the startup ecosystem. Mr. Kothari further emphasized the significance of teamwork, and the necessity of thorough market research and understanding the target audience as foundational elements for establishing a successful venture. By providing an environment of learning and innovation, this event emphasized the importance of entrepreneurship as a career path and highlighted the role of academic institutions in nurturing entrepreneurial talent. Such initiatives are crucial in empowering students to think creatively, build valuable networks, and develop the skills necessary to navigate and succeed in the evolving landscape of startups and business ventures.



---

**Event: Beyond the Classroom: A Journey into Science Careers**

**Date: 14<sup>th</sup> October, 2024**

**Venue of the event: IIT BHU**

**Co-ordinator: Sanjay Singh**

**No. of Participants: 110**

A workshop on “Beyond the classrooms: A journey into science careers” was successfully held at IIT (BHU), Varanasi, on 14th October 2024 for high school students (10th to 12th



class). The workshop aimed at inspiring the next generation of scientists. In this workshop, esteemed IIT professors, who are also INYAS members, shared their personal experiences and insights about various scientific fields, highlighting the diverse career opportunities available. The event included guided tours of state-of-the-art facilities at IIT, such as the Central Instrumentation Facility (CIF), the Supercomputer Center, and the Precision Hub, allowing students to witness cutting-edge research and technology in action. Following the tours, an interactive Q&A session engaged students and provided a platform for them to ask questions about pursuing careers in science. This format fostered a deeper understanding of the field and encouraged students to think critically about their future paths. Feedback from participants revealed a heightened enthusiasm for science and an increased desire to explore potential career options. Overall, the workshop successfully enhanced students' perspectives on science, motivating them to consider how they can contribute to this dynamic and impactful field. The workshop successfully enhanced students' perspectives on science, motivating them to consider how they can contribute to this dynamic and impactful field.



---

**Event: Creativity, Innovation, and Research Opportunities in Mathematical Sciences**

**Date: October 24-26, 2024**

**Venue of the event: Jawaharlal Nehru College, Boko, Assam**

**Co-ordinator: Hemen Dutta**

**Name of Zone (in case zonal event): North East Zone**

**No. of Participants: 150+**

The NE Zone of INYAS, in association with Jawaharlal Nehru College in Boko, Assam, organized special sessions on the theme "Creativity, Innovation, and Research Opportunities in Mathematical Sciences" as part of the College's International Conference on the Emerging Role of Mathematics in Science and Technology, held from October 24-26, 2024. Prof. Pratulananda Das of Jadavpur University participated in the first day's session as a resource person, providing instances of how mathematical observations and treatment can lead to much deeper mathematical notions and results through the creative thinking process. Dr.

Manjil P. Saikia and Dr. Mayuri Chabukdhara of INYAS, and Prof. Kanhaiya Jha of Kathmandu University served as resource persons for the second day's session. Dr. Saikia discussed online about various career opportunities at the regional, national and, international levels, as well as tips for preparing for them. Dr. Chabukdhara presented how mathematical concepts such as fuzzy logic can be useful for social issues like evaluation of surface and groundwater quality, as well as a brief overview of INYAS activities. Prof. Jha presented various concepts from fixed point theory and explained how they are relevant to the real world and how they have evolved over time to ignite the creative and innovative spirit of the young minds in attendance. Dr. Ankush Bhaskar attended the third day's session online as a resource person and discussed solar storms and space weather, as well as the potential role of mathematics in space research and technology. Each presentation was followed by a Q&A session, in which many attendees actively participated. Dr. Hemen Dutta coordinated each session from the INYAS side. The presentations and discussions held at this event are expected to help participants better understand the different roles of mathematics in science and society, the importance of creativity and innovation, and the various research and career opportunities in mathematical sciences.



## Event: Science Awareness Camp for Students and Farmers

Date: 16<sup>th</sup> and 17<sup>th</sup> November, 2024

Venue of the event: Class 6 to 8 at Seth Haridas Vidyalaya, Balkeshwar, Agra – 4 and for Class 9 to 12 at DEI, REI Intermediate College, Agra; Farmer Awareness Camp at Manoharpur Village, Agra on 17 November 2024

Co-ordinator: Ashwani Kumar Tiwari, Subhash Babu, Pankaj Kumar, and Ranjit Kumar

Name of Zone (in case zonal event): NCR Zone

No. of Participants: 68 (Class 6 to 8) and 92 (class 9 to 12) on 16/11/2024; More than 70 farmers on 17/11/2024

The INYAS-NCT Zone organized a Science Awareness Camp for Students for Class 6 to 8 at Seth Haridas Vidyalaya, Balkeshwar, Agra – 4 and for Class 9 to 12 at DEI, REI Intermediate College, Agra, on 16th November 2024. Also, a Farmer Awareness Camp at Manoharpur village in Agra on 17 November 2024. The program aimed to create interest among young students in science and promote Science Education. There were four deliberations on the significant science topics and demonstration of the edifice instruments. There were 68 students from classes 6 to 8 and 92 students from classes 9 to 12 in the events. Both events were very successful. Students actively participated in the events and were enthusiastic and interactive with the speakers. We distributed the kit to students. Furthermore, in the Farmer Awareness Camp at Manoharpur village in Agra on 17 November 2024 more than 70 farmers participated in the camp. The camp aimed to motivate them to do organic farming. Also, we distributed mustard seeds to farmers. The events were coordinated by Dr Ashwani Kumar Tiwari, Dr Subhash Babu, Dr Pankaj Kumar, and Dr Ranjit Kumar. The outcome of the events was published in the local newspapers. Students actively participated in the events and were enthusiastic and interactive with the speakers. Moreover, farmers were motivated to do organic farming.

आज

वर्गीकृत-आगरा-आसपास

दयालबाग : आई.एन.वाई.एस (आईएनवाईएस) ने छात्रों के लिए विज्ञान जागरूकता शिविर का आयोजन किया



आगरा। भारतीय राष्ट्रीय युवा विज्ञान अकादमी (आईएनवाईएस), एनसीआर जोन ने आरुआइ इंटरमीडिएट कॉलेज, दयालबाग, आगरा में कक्षा 9 से 12 के छात्रों के लिए एक प्रेरणादायक विज्ञान जागरूकता शिविर आयोजित किया। इस कार्यक्रम का उद्देश्य छात्रों में वैज्ञानिक विज्ञान और जागरूकता को प्रोत्साहित करना था। इसमें 100 छात्रों ने उत्साहपूर्वक भाग लिया। विभिन्न कक्षाओं वाले छात्र कार्यक्रम में भाग ले रहे थे। छात्रों को प्रयोगों और सहायक चर्चा का समर्थन था, जिससे छात्रों को वैज्ञानिक अवधारणाओं और उनके वास्तविक जीवन अनुप्रयोगों के बीच संबंध बनाने में मदद मिली। इन अवसर पर वक्ताओं की मदद—डॉ. अश्वनी कुमार तिवारी (जोड़व, नई दिल्ली), डॉ. रंजित कुमार (आरुआइ, नई दिल्ली) और डॉ. रंजित कुमार (दयालबाग दृष्टिकोण) ने इस कार्य में सक्रिय भाग लिया। कार्यक्रम के हिस्से के रूप में, छात्रों को एक किट प्रदान की गई थी, जिसमें छात्रों ने अपने विज्ञान शिक्षा की महत्वपूर्ण भूमिका पर प्रकाश डाला। इसके बाद, डॉ. रंजित कुमार ने आईएनवाईएस का परिचय दिया और अकादमी के छात्रों को प्रेरित करने के लिए कहा कि वे प्रयोगों पर चर्चा करें। डॉ. पंकज कुमार ने चर्चा और विचार पर एक रोचक व्याख्यान दिया, जिसमें विद्युत क्षेत्र, आवेग का कण और विद्युत के व्यावहारिक अनुप्रयोगों जैसे जलिन विद्युत की समझ बढ़ाया प्रस्तुत किया। उन्होंने तारक के संचालन की प्रदर्शित किया। उनके जीवन में जुड़े उदाहरण और संसाधन 'आज' में छात्रों में वैज्ञानिक विज्ञान के प्रति रुचि उत्पन्न। डॉ. अश्वनी कुमार तिवारी ने जोन समान पर अपनी चर्चा कोटिंग की, जिसमें जोन की गुणवत्ता, मॉडर्न (रॉबोटिक्स) और कुल भूमि क्षेत्र (टीटीएस) जैसे महत्वपूर्ण विषयों पर बात की। उन्होंने वास्तविक दुनिया का उदाहरण देकर जोन परीक्षण के तरीके प्रदर्शित किए, जिसमें छात्रों को जोन मुद्रा का मूल्यांकन और जोन की खराब गुणवत्ता के प्रभाव को समझने में मदद मिली। यह व्यावहारिक रणनीति को अपने आवास के जोन समझने की जांच करने के लिए प्रेरित करता है। डॉ. मुनाष बाबू ने परिवर्तन सामर्थ्य और ऊर्जा संचालन के बीच महत्वपूर्ण पर चर्चा की। उन्होंने आधुनिक कृषि प्रथाओं, उनके पर्यावरणीय प्रभावों और सतत क्षेत्र के महत्व पर प्रकाश डाला। उनका व्याख्यान छात्रों को खराब गुणवत्ता सुनिश्चित करने के साथ-साथ पर्यावरणीय क्षति को कम करने के लिए उनके जीवन के लिए प्रेरित करता है। शिविर का एक विशेष आकर्षण यह

गुणवत्ता मान पर सख्त प्रदर्शन था। एक पोर्टेबल संचार का उपयोग करते हुए, शिक्षकों ने छात्रों को जोन के गुणवत्ता और उनकी गुणवत्ता के विज्ञान को समझने में मदद की। छात्रों को जोन के साथ दृष्टि, जिसमें छात्रों, स्टार और आवेगों के बीच संबंधों को समझना था। छात्रों ने शिक्षकों से सीखे संवाद करने और विज्ञान को इंटरैक्टिव और सार्वजनिक तरीके से सीखने के इन अवसर के लिए अपना स्वागत किया। आईएनवाईएस विज्ञान जागरूकता के क्षेत्र में अपने प्रयासों को अपने बड़ा राह है, तब एक ऐसे पीढ़ी के लिए जो जोन के बीच भीषण की चुनौतियों से निपटने के लिए वैज्ञानिक रूप से सक्षम हो। आरुआइ इंटरमीडिएट कॉलेज में विज्ञान जागरूकता शिविर उनके इन विज्ञान में एक और मील का पत्थर है।

### Picture of Event 1 at Seth Haridas Vidyalaya, Balkeshwar, Agra





**Picture of Event 2 at DEI, REI Intermediate College, Agra**



### **Event: Career opportunities after school education in India**

**Date: December 7, 2024**

**Venue of the event: PM Shree School Jawahar Navodaya Vidyalaya, Patehra Kalan, Post-Kubari Patchara, Mirzapur**

**Co-ordinator: Sanjay Singh**

**No. of Participants: 200**

The "Career Opportunities After School Education in India" workshop, organized by INYAS on December 7th December, 2024, at PM Shree School Jawahar Navodaya Vidyalaya, Mirzapur, was an enlightening event that aimed to equip students with essential information about various career options available after completing their school education. The workshop featured two prominent speakers: Dr. Sanjay Singh, Coordinator of the Central Zone, INYAS, and Dr. Ashish Kumar Mishra, an INYAS member. Both are Associate Professors at IIT (BHU) and brought a wealth of academic and professional experience to the session. Dr. Sanjay Singh and Dr. Ashish Kumar Mishra shared their knowledge on the diverse fields students can pursue, ranging from engineering, medicine, and entrepreneurship to social sciences and research. They emphasized the significance of skill development and higher education in shaping future career paths. Their discussions were centered around guiding students on how to make informed decisions based on their interests and aptitudes, highlighting emerging fields and industries in India. Students

achieved knowledge on the diverse fields where they can pursue, ranging from engineering, medicine, and entrepreneurship to social sciences and research. Speakers emphasized the significance of skill development and higher education in shaping future career paths. Students were highly enthusiastic and participated in the discussion.



---

### **Event: Hands-on-session on Wearable Robotics for School Students**

**Date: December 11, 2024**

**Venue of the event: Human-Centered Robotics Lab, IIT Gandhinagar**

**Co-ordinator: Vineet Vashista**

**No. of Participants: 15**

On December 11, 2024, a hands-on session on wearable robotics was organized for school kids at the Human Centered Robotics Lab, IIT Gandhinagar. The event, held from 3 PM to 5 PM, aimed to introduce young minds to the fascinating world of robotics. The session covered basic concepts such as sensors, actuators, and controllers, providing a solid foundation for understanding robotic systems. Live demonstrations of wearable robots, including exoskeletons and assistive devices, captivated the students' attention. They witnessed these advanced technologies in action, gaining insights into their practical applications. The hands-on activities allowed the kids to explore basic human movements using cardboard hands and EMG sensors, effectively demonstrating robotic motion. One of the highlights was the use of a wearable virtual reality system, which showcased the potential of gaming for body movement and assistive tools. This interactive approach not only engaged the students but also emphasized the importance of technology in enhancing human capabilities. The session successfully sparked curiosity and interest in robotics among the participants, highlighting the potential of wearable robotics in improving quality of life. The event underscored the importance of early



exposure to advanced technologies, inspiring the next generation of innovators. The session successfully sparked curiosity and interest in robotics among the participants, highlighting the potential of wearable robotics in improving quality of life. The event underscored the importance of early exposure to advanced technologies, inspiring the next generation of innovators.

---

**Event: Exposure visit for school students**

**Date: December 14, 2024**

**Venue of the event: Department of Physics, Aligarh Muslim University, Aligarh**

**Co-ordinator: Jai Prakash**

**Name of Zone (in case zonal event): NA**

**No. of Participants: 350**

On December 14, 2024, the Department of Physics at Aligarh Muslim University (AMU) organized a Scientific Social Responsibility (SSR) program, welcoming around 350 students from classes 10 and 12 of Government Girls Inter College, Godha, Aligarh and Govt. Inter college, Etah. Professor B.P. Singh introduced the students to the department's 115-year legacy in teaching and research. He highlighted various research activities and the department's state-of-the-art facilities, including the Nuclear Physics Laboratory, Liquid Crystal Laboratory, and Accelerator and Diffraction Facilities, encouraging students to pursue science with enthusiasm and dedication. Dr. Jai Prakash, an INYAS member, motivated students, urging them to adopt a scientific mindset and informing them about government schemes for higher education in science. He elaborated on the advancements in liquid crystal materials as well. The students observed mesmerizing Sun's surface, including sunspots through telescope. The young minds also visited to the various laboratories. The program concluded with a vote of thanks from Mr. Rajiv Agarwal, Science Coordinator, who expressed their gratitude to the department for this enriching experience and hoped for future collaborations. The visit was a resounding success, inspiring students and exemplifying AMU's commitment to promoting scientific awareness and nurturing future scientists.







---

**Event: Communicating Science to Society: From Plastic to Bioplastic**

**Date: December 20, 2024**

**Venue of the event: IIT Indore**

**Co-ordinator: Kiran Bala**

**Name of Zone (in case zonal event): NA**

**No. of Participants: Approx 400**

The Indian Institute of Technology Indore, in collaboration with the Indian National Young Academy of Science (INYAS), hosted an enlightening event titled “Communicating Science to Society: From Plastic to Bioplastic.” This impactful event brought together 400 students from 8 colleges and institutes, along with faculty members and experts, to discuss the pressing issue of plastic pollution and explore sustainable bioplastic alternatives. The event was conducted by Prof. Kiran Bala, the Event Coordinator. The Chief Guest, Dr. Vanchana Singh Parihar (Administrator “One Stop Centre Sakhi” and District Mission Coordinator, DHEW Indore), along with distinguished speakers Dr. Ritu Kothari (Department of Civil Engineering, IIT Indore) and Dr. Bikash Kumar (Department of Biosciences and Biomedical Engineering, IIT Indore), delivered thought-provoking talks on sustainability and innovation. Additionally, an interactive quiz session was a key highlight of the event, engaging students in a lively competition on sustainability and environmental science. The enthusiastic participation was rewarded with exciting prizes, including pen drives, IIT Indore-engraved bottles, keychains, pens, and chocolates. As a token of gratitude, customized cups with IIT Indore’s logo and picture were presented to all visiting faculty members, symbolizing the institute’s appreciation for their contributions. Special acknowledgment was given to INYAS for its support in organizing and promoting the event. The day’s activities and discussions inspired the participants to take meaningful steps toward combating plastic pollution and embracing sustainable alternatives. This event created awareness amongst students about the problems associated with plastic. Additionally, the role of bioplastic was also communicated to students. Quiz competition was done at the end of day to understand whether students have gained the knowledge or not.



### **Event: National Mathematics Day 2024 Celebration**

**Date: December 22, 2024**

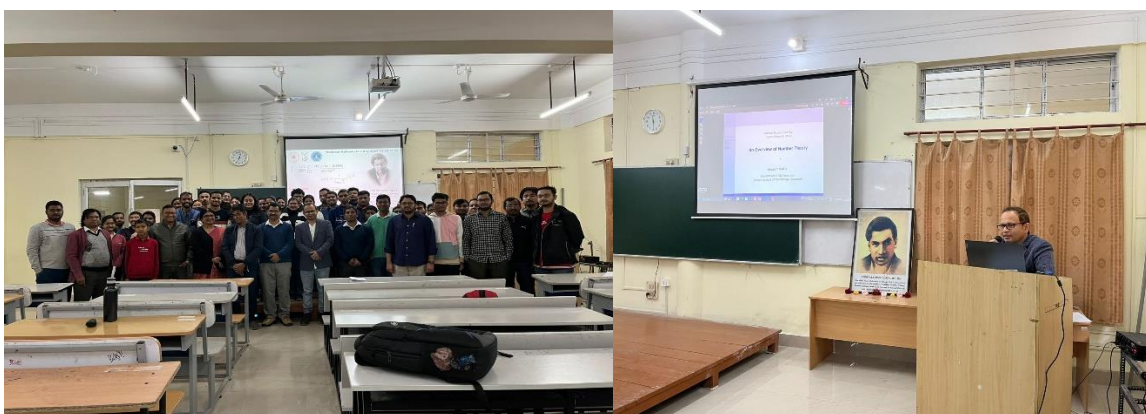
**Venue of the event: Department of Mathematical Sciences, Tezpur University**

**Co-ordinator: Manjil Saikia**

**Name of Zone (in case zonal event): NA**

**No. of Participants: 50**

IN-YAS celebrated National Mathematics Day 2024, on the occasion of the birth anniversary of S. Ramanujan on 22nd December 2024 at Tezpur University, Assam. The event had two invited talks by senior mathematicians from Assam, Professor Nayandeep Deka Baruah (Tezpur University) and Professor Anupam Saikia (IIT Guwahati), followed by a short career counselling session by IN-YAS Member, Dr Manjil Saikia (Ahmedabad University). There were students from schools and Tezpur University, along with several members of the faculty of Tezpur University. Professor Baruah spoke about the life and works of Ramanujan, while Professor Saikia spoke about some interesting aspects of the number system, highlighting several open problems in mathematics. The event was successfully held with around 50 student participants. Several students later interacted with the convenor and the resource persons, about various aspects of a career in mathematics.



**Event: Biodiversity Conservation through Student participation**

**Date: December 30, 2024**

**Venue of the event: GIC, Phata, Rudrapryag**

**Co-ordinator: Arun Kumar Jugran**

**Name of Zone (in case zonal event): North Central Zone**

**No. of Participants: 119**

G.B. Pant National Institute of Himalayan Environment (NIHE), Garhwal Regional Centre, Srinagar, in collaboration with the Indian National Young Academy of Science (INYAS), organized a one-day workshop on “Biodiversity Conservation through Student Participation” at Government Inter College (GIC), Phata, Rudraprayag, Uttarakhand, on 30th December 2024. The workshop targeted students from classes 9 to 12, with an impressive participation of 119 students. The primary goal of the workshop was to explain and develop knowledge for the students about the importance of biodiversity and different conservation methods. Objectives of the workshop were to provide a detailed explanation of biodiversity and the types of ecosystems, methods of biodiversity conservation, and sensitization of the young minds toward biodiversity conservation. The welcome ceremony of the event was followed by a lecture by Dr. Chandra Sekar, Scientist F & Head of GRC-NIHE, on the workshop's objectives and an overview of the institute. This was followed by a welcome address from the principal of GIC Phata, Rudraprayag, who appreciated the initiative and its relevance. Dr. A.K. Jugran delivered a lecture on biodiversity conservation and management. He elaborated on the concept of biodiversity, its significance, the types of ecosystems, and conservation methods, including in-situ and ex-situ approaches. The session included an interactive session with students and teachers, which was immediately followed by a quiz competition.





### **Remote and Rural Area Dedicated Activities**

#### **Event: Career Exploration Camp**

**Date: Feb 23, 2024**

**Co-ordinator: Sharanjeet Dhawan**

**No. of Participants: 45**

A one-day career exploration camp was held at Govt Sen. Sec. School in Majhitar, East Sikkim, to inspire students to pursue science education. During this event, students received a career guidance kit prepared by the INYAS team (Indian National Young Academy of Sciences - INSA, New Delhi). Through discussions on various career paths available after high school, students showed great enthusiasm and motivation towards furthering their education. The career guidance kit was handy for exploring the array of career opportunities, enabling them to discover the availability of various courses.



---

#### **Event: Role of renewable energy technologies in sustainable development and livelihood improvement of tribal communities**

**Date: March 20, 2024**

**Co-ordinator: D. Sakthivadivel**

**No. of Participants: ~325**

In order to meet the Science and Technology needs of the local student population in the Scheduled Tribal area of Athanavur village, Yelagiri hills, this event has been organized in association with the Department of Science and Technology (DST) to commemorate the tenth anniversary of INSA-INYAS. It has been determined to focus on events that pertain to the welfare of tribal students, including skill development, sustainable development that leads to better livelihood outcomes, and instruction in basic science and technology related to Renewable Energy (RE) sources and its importance. Through the integration of science and technology trainings, workshops, and awareness quiz sessions, the one-day social awareness program on “Role of Renewable Energy Technologies in Sustainable

Development and Livelihood Improvement of Tribal Communities " empowered **275 students** and **25 local tribal people including Panchayat workers**.

The program begins with a RE related awareness quiz for the students of Govt. Hr. Sec. School, Athanavur, focusing on the real-world applications of renewable energy in science and technology. This helps students understand the role of renewable energy in their personal growth and future opportunities. The Principal Investigator then delivered an expert talk on (i) Introduction to Renewable Energy (RE) Sources and its Applications, (ii) Sustainability and the RE based Science and Technology Interventions for the Livelihood Improvement, (iii) Brief about the RE based Trigenation system installed at Athanavur village and its benefits and impacts. A field visit to biomass-driven trigeneation system that was installed as a result of the ongoing DST project was also included in this program. The four award winners from the quiz event have been distributed by Ms. Rajasree Girivelan, the Panchayat President, Athanavur Gram Panchayat in presence of the Head Master and Asst. Head Master of the School. In addition, the skill development workshops for community members offering practical training on installed biomass trigeneration systems have been conducted. Through establishing a connection between conventional wisdom and contemporary developments, the program aims to elevate the community in the direction of the intended beneficiaries. This complete approach to social awareness aims to raise consciousness while also improving the livelihood of Scheduled Tribe people and students in Athanavur Village in a meaningful and long-lasting way.



**Event: Institutional Visit of students from rural areas of Maharashtra**

**Date: May 13 – 15, 2024**

**Venue of the event: Vikram Sarabhai Space Centre/ISRO, IISER-Trivandrum, Rajiv Gandhi Center for Biotechnology, National Institute for Interdisciplinary Science and Technology**

**Co-ordinator: Ankush Bhaskar**

**Name of Zone (in case zonal event): South Zone**

**No. of Participants: 24 students+ 3 teachers**

A group of 24 students and three teachers from rural Maharashtra visited leading scientific research institutes in Trivandrum from May 12 to May 15, 2024, in collaboration with IISER- Trivandrum and INYAS. On the first day, they toured the National Institute for Interdisciplinary Science and Technology (CSIR - NIIST), exploring facilities like gas chromatography, agricultural processing, spectroscopy, and biofuel plants. In the afternoon, they visited the Rajiv Gandhi Centre for Biotechnology (RGCB), learning about advanced biotechnological tools, animal tissue research, and HPV vaccine development. The visit highlighted the synergy between cutting-edge tools and researchers. On the second day, they explored IISER Trivandrum's physics, chemistry, mathematics, biology, and ecology labs. Scientists provided guidance on various subjects and informed them about research opportunities in fields like astrophysics, nanotechnology, and biochemistry. Students learned about instrumentation labs, Raman spectrometry, NMR technology, and the Padmanabh supercomputer. The third day featured a visit to the Vikram Sarabhai Space Centre (ISRO), where they witnessed the launch of the RH 200 sounding rocket for upper atmosphere research. They also toured the VSSC Space Museum, which houses information on India's space history and future launch vehicles. Dr. Ankush Bhaskar interacted with the students, discussing satellites, rockets, and space research, and answering their questions.

This visit provided students from rural area invaluable insights into the role of advanced instrumentation in research. They experienced state-of-the-art labs, witnessed a live rocket launch, and saw scientific discovery in action. Such exposure will undoubtedly inspire them to pursue scientific research, contributing to the nation's advancement.





**Event: Science Outreach Programme for School Children of Sector Machil, Kupwara  
(Under the INYAS theme Connecting the Dots-Rural connect Programme)**

**Date: 31 June and 01 July 2024**

**Venue of the event: Boys Higher Secondary School, Ring Payeen Machil and Boys  
Higher Secondary School, Doudh Machil**

**Co-ordinator: Aijaz Ahmad Dar**

**No. of Participants: 90 each day**

A two-day science outreach program was organized by INYAS-New Delhi and the Department of Chemistry, University of Kashmir, targeting schools along the Line of Control in Machil, Kupwara, on June 31 and July 1, 2024. The objective was to inspire and educate students about the importance and opportunities in applied sciences. Dr. Aijaz Ahmed Dar led the initiative, supported by scholars from the Crystal Engineering Laboratory at the University of Kashmir. To enhance scientific awareness and inspire students towards careers in applied sciences, Dr. Dar delivered an extension lecture at BHSS Ring Payeen, which is about 160 km from Srinagar. Ninety students from the border village of Kupwara participated. On the second day, the program was held at Govt. BHSS Dudi Machil. In the first session, Dr. Dar gave a talk on "The Need and Opportunities in Applied Sciences," and students had the opportunity to interact with the team. The second session included hands-on training, where students were fascinated by experiments such as rainbow colors, elephant toothpaste, dissolving polystyrene, golden rain, and others. It effectively promoted the importance of applied sciences among students in the remote region of Machil, Kupwara, despite the challenging terrain. The program has laid a strong foundation for continued scientific engagement and education in the region.



**Event: Science Outreach Programme for School Children of Pulwama, Jammu & Kashmir**

**Date: August 29, 2024**

**Venue of the event: University of Kashmir**

**Co-ordinator: Aijaz Ahmad Dar**

**No. of Participants: 90**

The Indian National Young Academy of Sciences (INYAS) New Delhi in collaboration with Department of Chemistry, University of Kashmir, organized one day science outreach programme in the Department of Chemistry, University of Kashmir on Aug 29, 2024 entitled "Connecting the dots – Rural Connect programme for school children of Pulwama". The programme intended to bridge the gap between scientific knowledge and the participants to promote highlight significance of applied sciences in everyday life and create awareness about need of and opportunities in applied sciences. 55 girl students from two higher secondary schools of Arihal and Pampore, Pulwama participated in the even along with 8 lecturers. The programme consisted of briefed inaugural in which the Head, Department of Chemistry, Prof Aijaz A. Dar and other faculty members, Prof. Syed Wajaht Amin Shah, Prof. Mohsin Ahmad Bhat and Dr. Dar, Aijaz Ahmad participated and interacted with the students. Inaugural was followed by tea and a motivational lecture on scope and opportunities of applied sciences by programme coordinator Dr. Dar, Aijaz Ahmad. The programme also included extended hands on laboratory session during which research scholars demonstrated interesting chemistry experiments in fun way to the participants.



During inaugural session, Prof. Aijaz Ahmad Dar, Head of the Department of Chemistry, emphasized upon the need for making the scientific developments eco-friendly to ensure long term sustainability of life on earth. He stressed upon considering the natural processes as inspirations for current and future research to minimize its hazardous effects on life. Dr. Syed Wajahat Amin Shah motivated the students to opt for applied sciences and apprised them about on-going research in the Department. Programme coordinator and INYAS member, Dr. Dar, delivered an enlightening talk on the "Need and Application of Applied Sciences," focusing on how scientific practices can be harnessed to improve the quality of life. Using the example of quick and successful discovery of vaccines against the deadly Covid 19, he explained the importance of applied science and its applicability in solving

real-world problems. The relevance of education system and need to introduce emerging courses like robotics, artificial intelligence and machine learning in school education curriculum. He concluded his talk, by highlighting the need for promoting the educational programmes to encourage bright students to opt for applied sciences as next generational scientists have to be amongst them. The students were given hands-on training by research scholars of the Department, wherein various fascinating chemistry related experiments were carried out to which students were very elated. The student left on positive note and were intrigued by the event.

---



### *Science Awareness Camps*

#### **Event: Science Awareness and Career Consultation Camp**

**Date: 20 January, 2024**

**Co-ordinators: Pankaj Barah**

**No. of Participants: 350**

The Science Awareness and Career Consultation Camp, organized by the Indian National Young Academy of Science (INYAS) in collaboration with the Students Science Council, Tezpur University, took place at Sankardev Shiksha Niketan in Gohpur, Solengi Gaon, Assam, on January 20, 2024. Dr. Pankaj Barah, an INYAS member from Tezpur University, served as the coordinator and resource person. The event, attended by over 350 school students (from class VIII to class XII), featured hands-on science demonstrations and captivating science magic, enhancing the experience by combining education with interactive and entertaining elements. The primary objective was to cultivate science awareness and provide valuable career consultation to the participating students.



The outreach initiative focused on offering career guidance and insights in the field of science to students from diverse backgrounds. The program encompassed popular science lectures and science activity demonstrations, with a special emphasis on engaging students within the unique context of a remote village. Dr. Pankaj Barah delivered insightful lectures aimed at captivating the students' interest and broadening their understanding of various scientific concepts. Ten post-graduate level students from the School of Sciences (Chemical Science, Physics, Mathematical Sciences, Molecular Biology and Biotechnology, Environmental Sciences) at Tezpur University actively participated in the program. The team organized hands-on science activities, making learning interactive and enjoyable and fostering a deeper appreciation for scientific principles. The camp was designed not only to provide educational value but also to inspire and guide students in their academic and career journeys. By extending science education to remote areas, the initiative aimed to contribute to the overarching mission of promoting scientific awareness and knowledge in diverse communities.





### Event: Scientist-Student Interaction

Date: March 01, 2024

Coordinator: Kanti Bhooshan Pandey

No. of Participants: 100

One-day scientific lecture-cum-scientist-student interaction programme among the students of Vavdi School, Ghogha, Bhavnagar was held on 01 March, 2024 on the occasion of National Science Day in the campus of CSIR-Central Salt & Marine Chemicals Research Institute, Bhavnagar, Gujarat, organized under CSIR-Jigyasa program in association with INYAS. About 100 school students and their teachers visited the institute and saw closely the science happening here. The school students interacted with scientists of different domains and got to know the importance of science in day-to-day life and career paths available in science for them.





## Event: Science Experiment Demonstration

Date: March 16, 2024

Co-ordinators: Ankur Gupta

No. of Participants: 100

A team of volunteer from IIT Jodhpur visited Mahatma Gandhi Government School, Jhipasani Village, Rajasthan on 16 March 2024 to conduct science experiment demonstrations for students and develop curiosity towards science among them. We divided the students into small groups to ensure better engagement and interaction. Each experiment was explained step- by-step, emphasizing the scientific principles behind it. Students were encouraged to ask questions and actively participate in the experiments. Safety precautions were taken into consideration for all activities. During our visit, we conducted a series of 22 science experiments designed to be engaging and educational for students. Some of the experiments are

- a. **Effect of density:** Demonstrating a simple effect of water density, adding salt into water increases the density of water.
- b. **Watch the water rise:** Illustrating the effect of negative pressure created in a funnel using a candle helped the water to rise in the funnel.
- c. **Tubeless tire:** Exploring the concept of a tubeless tire using balloons and electrical tape.
- d. **Understanding of gravity:** Using simple demonstrations such as dropping objects of different weights to the ground to help students understand the concept of gravity and its effects on objects.





**Event: Vigyan Varta-2**

**Date: February 27 2024 to March 6 2024**

**Co-ordinators: Shweta Yadav and Jayaram Kolleboyina**

**Name of Zone (in case zonal event): North**

**No. of Participants: 3000**

Office of Dean Students' Welfare, Central University of Jammu and Indian National Young Academy of Science under the dynamic leadership of Hon'ble Vice Chancellor Prof. Sanjeev Jain and convenership of Dr. Shweta Yadav, Associate Dean, International Affairs and INYAS, Member organised the program of Vigyan-Varta in Central University of Jammu. In this programme, around 3000 students and 300 teachers of High and Higher Secondary Schools of rural zones (viz. Samba, Ghagwal, Ramgarh, Purmandal, Marh, Gandhi Nagar (Khanna Chhargal) and Vijaypur) of District Samba, Jammu & Kashmir visited the CUJ campus between 27th of February, 2024 and 6th of March, 2024. The students and teachers visited different departments and laboratories including ISRO, DRDO, Computer labs, Language labs and Central Library. Students and teachers got a good exposure of university life and learnt about various courses offered by different departments along with the speciality of each program/course offered. This ambitious program was designed for nurturing scientific temperament in students of Class IX, X and XI. Curious students interacted with faculty and scholars and enthusiastically participated in different activities.



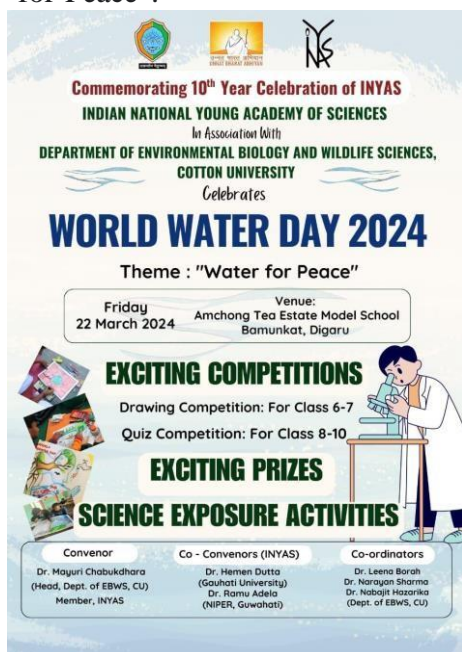
## **Event: World Water Day 2024-Water for Peace**

**Date: March 22, 2024**

**Co-ordinator: Mayuri Chabukdhara**

**No. of Participants: 101**

On 22 March 2024, the Indian National Young Academy of Sciences (INYAS), in association with the Department of Environmental Biology and Wildlife Sciences (EBWS), Cotton University, Guwahati, organized World Water Day 2024 with the theme, "Water for Peace".



The event occurred at the Amchang Tea Estate Model School, located in the picturesque region of Digaru in the Kamrup Metropolitan District, Assam. A documentary screening was held, showcasing several documentaries on the theme of pollution. A quiz competition was held in conjunction with a drawing competition for the school students, focusing on water-related topics such as water conservation and pollution. The school students enthusiastically participated in these activities, showcasing their knowledge and creativity. They were also exposed to scientific instruments used in environmental and wildlife studies, such as a microscope, pH meter, and binoculars. The winners were given certificates and prizes, including books. Overall, around 100 participants were present during the event. The

students and faculties of the school were happy to have such an event and mentioned that it will motivate and encourage students to take up science in their career and do meaningful for the society.



---

**Event: NCR Zonal Science Week**

**Date: May 2 – 7, 2024**

**Venue of the event: CCSHAU COA Bawal, Haryana**

**Co-ordinator: Sharanjeet Dhawan**

**Name of Zone: NCR Zone**

**No. of Participants: 350**

Commemorating the 10th-year celebration of the Indian National Young Academy of Sciences (INYAS), CCSHAU COA Bawal, Haryana and INYAS-INSIA, New Delhi organized NCR Zonal Science week from May 02-07, 2024. During this week, various activities such as a Science exhibition, hands-on Science experiments, visits to labs, interaction with scientists, expert lectures, poster-making competitions, and a visit to ICAR-IARI, New Delhi, were organized. The main aim of this science week was to promote science education among students of different schools and to encourage them towards higher studies. This science week was organized under the dynamic leadership of Prof B R Kamboj, Hon'ble Vice Chancellor, CCSHAU. Prof Kamboj always emphasizes the holistic development of students, and this type of programme will certainly be helpful for the overall development of students. Dr Naresh Kaushik, Principal of COA Bawal, provided valuable guidance and motivation to students throughout the week. On the first day, 60 students from Aryans Model Sr Sec School Charkhi Dadri, Haryana, visited the science exhibition and various laboratories. Scientists from different domains, such as Horticulture, Plant Pathology, Agronomy, Entomology, Plant breeding, etc., explained multiple techniques and future aspects of agriculture engineering. A career guidance kit prepared by INYAS was distributed to explore various career opportunities available for them. On the second day, students from Govt Sr Sec School Bawal, Govt Girls Sr. Sec. School Bawal, Govt. Sr. Sec. School Jarthal, Govt. Sr. Sec. School Nangal Shehbazpur participated in the poster-making



competition on different themes such as -Mission Viksit Bharat – 2047, Swachh Bharat, Chandrayaan 3 -Proud to be an Indian, Atmanirbhar Bharat, Water conservation.

During the third day of the science camp, progressive farmers from the neighboring areas engaged with scientists to gain a better understanding of achieving higher yields. They discussed the issues being faced at different stages, and scientists proposed remedies to them. On the fourth day, 32 CCSHAU COA Bawal students visited different ICAR-IARI New Delhi divisions. Dr Veda Krishnan (Secretary, INYAS), Dr Subhash Babu (Coordinator, NCR Zone), Dr Kapila Shekhawat, Principal Scientist, IARI and Dr Pravin Kumar Upadhyay discussed various career opportunities available for the students after undergraduate. During the Agriculture Extension division visit, Dr Girijesh Singh Mahra interacted with the students and provided information about recent research being done by the scientists at IARI. On the last day, May 07, 2024, two esteemed scientists, Prof KS Bangarwa and Prof. R K Nanwal former scientists from CCS HAU motivated the students for new start-ups and entrepreneurship skills. Prizes and certificates were distributed to the winners during the closing ceremony.

The science camp, designed for grade 10 to undergraduate students in B.Sc. Agriculture, provided an opportunity to explore science through models and lab experiments. It motivated students to pursue science in their higher studies, with many expressing interest in revisiting the labs to further understand the intricacies of agri technology and organic farming instruments.



---

**Event: Environmental Science Camp**

**Date: May 8, 2024**

**Venue of the event: Kendriya Vidyalaya, Mayur Vihar Phase I, Khichripur, New Delhi**

**Co-ordinator: Sandhiya Lakshmanan**

**Name of Zone: NCR Zone**

**No. of Participants: 150**

An environmental science camp to spread environmental awareness among students was organized to create responsible and well-informed citizens. Students from Class IX of KV Kichripur, along with the Principal, Vice-Principal, and teachers, participated in the camp. Dr. Meher Wan provided a brief introduction to INYAS and its activities. Dr. Sandhiya

Lakshmanan delivered a lecture on air pollution and climate change, exploring their interlinkages. Dr. Ashwani Kumar Tiwari discussed water pollution, including the calculation of TDS (Total Dissolved Solids) levels in drinking water and methods to reduce them. The students were made aware of the carbon footprint produced by daily activities and were educated on reducing their carbon footprint through responsible and sustainable practices. The contributions to climate change from the 1980s to the present were illustrated, and students were surprised to learn about the evolution of various environmental and atmospheric components contributing to climate change. The role of other air pollutants in climate change was explained, and students were informed about advanced technological solutions in the automobile and industrial sectors that can reduce greenhouse gas emissions. They were particularly interested in learning about the crucial role of advanced after-treatment technologies in engines for reducing pollutant emissions. A quiz and slogan competition on sustainability and climate change were conducted, with students participating enthusiastically. Overall, both students and teachers were well-sensitized to self-responsible and natural ways to achieve sustainability.



**Event: Science Camp**

**Date: May 14-15, 2024**

**Venue of the event: NCCS, Pune**

**Co-ordinators: Avinash Sharma**

**Name of Zone (in case of zonal event): West zone**

**No. of Participants: 7**

The Indian National Young Academy of Sciences (IN-YAS) and the National Centre for Cell Science (NCCS) in Pune organized an exciting summer science camp titled 'Adventure in Microbiology'. This initiative, held in collaboration with IN-YAS and the Indian National Science Academy (INSA), was specifically designed for school students. The camp aimed to offer a unique hands-on learning experience, where students engaged in fun and

educational experiments that delved into the fascinating world of microbiology. The camp was meticulously structured to ignite curiosity and foster a deeper understanding of scientific principles among young minds. Participants had the opportunity to perform various microbiological experiments, observe microbial life through microscopes, and learn about microbes' vital roles in our environment and health. By providing this immersive experience, Dr. Sharma and his team hoped to inspire the next generation of scientists and innovators. The 'Adventure in Microbiology' summer camp successfully ignited scientific curiosity and enthusiasm among young students, providing hands-on experience and a deeper appreciation for microbiology.



---

**Event: Demystifying Science Olympiad**

**Date: June 6-7, 2024**

**Venue of the event: IIT Bombay, Mumbai**

**Co-ordinators: Shobhna Kapoor and Arnab Dutta**

**No. of Participants: 24**

Science Olympiad has been an excellent platform over the past few decades for nurturing the natural knack of school students towards fundamental science. Even though India is one of the leading countries in this global event, the knowledge of this program has seldom penetrated the student community beyond the major cities. To address this issue, we have designed this introductory program to expose school kids at an early stage. Additionally, we



planned hands-on science experiments to promote interactive learning of basic principles. These experiments were performed with the help of several student clubs in IITB, including Chemistry Club, ChemE-TL, Rocket Team, iGeM Bio team, and Tinkerer Lab. Such experiments are a part of the Science Olympiad program. Prof. Shobhna Kapoor, the INYAS member and lead of this program, inaugurated the program while she introduced INYAS and IIT Bombay to the students and the accompanying science teachers. Prof. Ruchi Anand, Head and Professor, IITB, welcomed the students and encouraged them to explore options in science while following their curiosity. Next, the student Olympians Aditya and Rohinee introduced the Astronomy, Astrophysics, and Mathematics Olympiad program to the participants. Later, the students and teachers visited the IITB campus after their visit to multiple labs and learned about cutting-edge research programs. Prof. Ankush Gupta initiated the discussion with the students. At the same time, he provided an interactive overview of the Science Olympiad, including its brief history, eligibility criterion, sample questions, preparation, and success stories of a few participants. Next day, the students visited the Chemistry Club and ChemE-TL labs and engaged with the student leaders enthusiastically. Later, the students interacted with the iGeM biology team and learned biological CO<sub>2</sub> removal activities. INYAS alumni Dr. Vivek Parkar also participated in this program and helped us immensely in coordinating this program. The students learned the details of the science Olympiad through this program. They were also exposed to cutting-edge research and scientific programs at IITB



## Event: Poetry Writing & Painting Competition for School Kids of Classes VI - X

**Date: July 13, 2024**

**Venue of the event: IISER Thiruvananthapuram**

**Co-ordinator: Shabnam Iyyani**

**No. of Participants: 30**

The poetry writing and painting competitions for students from classes VI to X were organised with the theme "What Science Means to Me?" The program was targeted for school children in Thiruvananthapuram. The event aimed to inspire students to reflect on the significance of science in their lives and to creatively express their ideas. A key takeaway of the program was to encourage young minds to engage with scientific concepts in a meaningful way. Additionally, students and their accompanying parents were given a brief introduction to the Indian National Young Academy of Sciences (IN-YAS), its various initiatives, and an overview of the IISER education system. This provided them with valuable insights into the opportunities and resources available within the scientific community. The event was not only a platform for creative expression but also a step towards fostering a deeper appreciation of science among the younger generation. The enthusiasm and talent displayed by the participants highlighted the importance of nurturing scientific curiosity from an early age. In conclusion, the poetry and painting competitions allowed students to creatively express their understanding of science. Their enthusiasm was inspiring, highlighting the blend of art and scientific inquiry. Participants appreciated the opportunity to visit IISER and we hope this event sparks their curiosity to pursue science. We thank IISER TVM administration and Crucible, A Science Exploratorium of IISER TVM for their support and the student volunteers of IISER TVM, for making this event a success.



---

**Event: Career Guidance for Government School Students on Higher Studies**



**Date: July 15, 2024**

**Venue of the event: S.S.V.Hr.Sec.School, Kodumudi (A Govt. School)**

**Co-ordinator: Sakthivadivel D**

**No. of Participants: 110**

In order to inspire rural students to pursue higher education on their own, a brief discussion of higher education prospects, a list of science, engineering and technology and other related institutions, their corresponding entrance exams, and the admissions process was discussed at the event. This event aims to provide the insights into the fee structure, admission process, their national level eligibility tests such as JEE, NEET, BITSAT, VITEEE etc., including the preparation opportunities and challenges where introduced. Hence, the main purpose of the event was to impart knowledge and provide the self-motivation and career guidance to the school students for their higher education options and related processes. The program came to an end when school children, particularly self-driven girls, asked specific questions concerning the UPSC exam process, the MBBS admissions process, and the potential for law practice for female students. The management and teachers of the school gave a brief congratulatory speech to wrap up both the morning and evening sessions.



---

**Event: Discover Your Path; Career Exploration in Science**

**Date: July 19 2024**

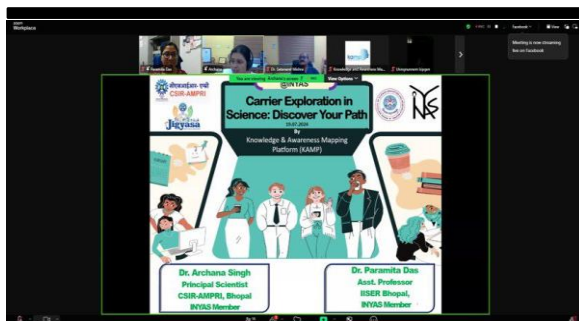
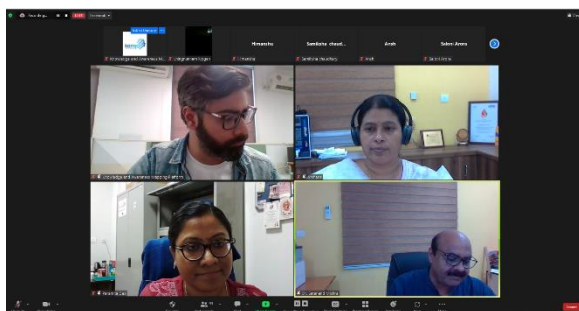


**Co-ordinator: Archana Singh**

**Name of Zone (in case zonal event): Central Zone**

**No. of Participants: 100**

A workshop on Career Opportunities in Science was conducted for the school students pursuing science by the INYAS members, Dr. Archana Singh, CSIR-AMPRI, and Dr. Paramita Das, by online mode in collaboration with Knowledge and Awareness Mapping Platform (KAMP) and CSIR- AMPRI Jigyasa. The teachers, and about one hundred school students from 9th to 12th standard attended the workshop. The students were introduced to defining and redefining the careers and professional development phases so that they get a clear vision of their future careers and look for appropriate opportunities. They were introduced to the career guidance kit prepared by the INYAS Team. During the session, various opportunities for jobs, internships, higher studies, PhD, and postdoctoral options both in India and abroad have been discussed. The students also received guidelines on how to write an application, a CV, and an SOP to apply for job or research positions. An overview of Indian and international grants that allow students to study M.Sc. and PhD have also been discussed. The students and teachers interacted with the speakers and asked questions about fellowships, internships, and other possibilities. An overwhelming response was received from the students and teachers. The event was concluded with a vote of thanks by the officials of KAMP. The students were informed of various opportunities to pursue the research career in Science. The motive of the workshop is to guide the students about various fellowships available in India and abroad to have PhD and postdoctorate. Students were really benefitted from the talk.



**Event: Futuristic School Education in India**

**Date: 17<sup>th</sup> July, 2024**

**Venue of the event: IIT(BHU)**

**Co-ordinator: Sanjay Singh**

**No. of Participants: 62**

The workshop "Futuristic School Education in India" emphasized the transformative potential of integrating technology and personalized learning into the education system. Key discussions revolved around the use of digital tools like AI, VR, and AR to create more interactive and engaging learning environments. There was a strong focus on skill-based learning, highlighting the importance of critical thinking, problem-solving, and emotional intelligence to prepare students for future challenges. Additionally, the concept of personalized learning paths was explored, advocating for the adaptation of curricula to meet the unique needs and pace of each student, thus fostering a more customized and effective educational experience. The workshop highlighted the need for integrating technology and personalized learning in Indian education. Embracing innovations like AI and adaptive learning will equip students with essential skills for the future, fostering creativity and emotional intelligence, and ensuring they are well-prepared for the challenges of a rapidly evolving world.



---

**Event: Significance of Science and Technology Projects in Rural Areas for Empowering the Tribal Community of India**

**Date: 14<sup>th</sup> August, 2024**

**Venue of the event: Govt. Hr. Sec. School, Athanavur, Yelagiri hills**

**Co-ordinator: Sakthivadivel Duraisamy**

**No. of Participants: 429**

This event has been organized in association with the Department of Science and Technology (DST) to commemorate the tenth anniversary of INSA-INYAS as Flagship event "RuSETUP" in order to teach the significance of Science and Technology based

projects in the livelihood improvement of the local people to the students in the Scheduled Tribal area of Athanavur village, Yelagiri hills. This even was focussed on the explaining about the different technologies and science involved creating the facilities and its importance to the people as well as to the student fraternity for the welfare, through skill development, sustainability that leads to better livelihood. The science and technology based trainings though lecture and field visits with hands on training empowered 429 tribal government school students. The program begun with a lecture on Science and Technology based systems installed at the project site with the support of DST to the students of Govt. Hr. Sec. School, Athanavur, focusing on the applications front and its importance in the livelihood improvement of tribal community. This helps students understand the role of Science and Technology based projects in their personal growth and future opportunities followed by a field visit to biomass-driven trigeneration system.



---

**Event: Rural Science Education Training Utility Program (RuSETUP 2024) on Ancient Indian Mathematics and Applications of Computational Vedic Mathematics**

**Date: August 21-22 2024**

**Venue of the event: CCSHAU COA Bawal, Haryana**



**Co-ordinator: Sharanjeet Dhawan**

**No. of Participants: 25**

Under the abled guidance of Hon'ble Vice-Chancellor Prof. B.R. Kamboj and visionary mind Dr. Naresh Kaushik, Principal, COA Bawal, two days Rural Science Education Training Utility Program (RuSETUP 2024) was organised at CCSHAU COA Bawal in collaboration with Indian National Young Academy of Sciences (INYAS) and VIBHA Haryana. Dr. Gajendra Pratap Singh, School of Computational and Integrative Sciences, Jawaharlal Nehru University, New Delhi was the expert during the two days training programme. Major focus of this training programme is on Ancient Indian Mathematics and Applications of Computational Vedic Mathematics. Starting with the introduction to notable Ancient Indian Mathematicians and some glimpse of their work, Dr Singh discussed the Biography of Swami Bharti Krishna Tirtha ji and use of Sixteen Vedic Sutra in Algebra, Geometry and Trigonometry. Emphasising on traditional knowledge system, he discussed the Acharya Piṅgala's work (Binary number System and Meru Prastara), Ramanujan's Biography and notable works etc. Further, he discussed the Pythagorean theorem, which states that in a right triangle, the square of the hypotenuse equals the sum of the squares of the other two sides. This concept has parallels in ancient Indian mathematics, particularly in the Sulbha Sutras, which outline methods for constructing right angles and demonstrate an understanding of the theorem through specific geometric constructions. Being flagship event of INYAS, Rural Science Education Training Utility Program (RuSETUP 2024), Math Teachers from 25 different Govt Schools of district Rewari participated in this two days training on Ancient mathematics. Participants thanked the organizing team for hosting the training sessions and highlighted the importance of offering similar programs in the future for students and teachers in rural areas with limited resources. All teachers from various schools found the ancient calculation methods fascinating and suggested extending the duration of these training programs.




**TWO-DAY TRAINING ON VEDIC MATHEMATICS**

Rewari: A two-day training on Vedic mathematics started at CCSHAU College of Agriculture, Bawal, in collaboration with Indian National Young Academy of Sciences (INYAS) and VIBHA Haryana. On the occasion, Vidyarthi Vign Manthan (VVM) launched brochure in presence of Dr Rashmi Pundir, VIBHA Rewari coordinator and Dr Sharanjeet Dhawan, VVM district coordinator. Dr Jawaharlal, VIBHA president, congratulated the team on this occasion. Dr Gajendra Pratap Singh from Jawaharlal Nehru University, New Delhi, was the keynote speaker during the programme. Major focus of this training programme is on ancient Indian mathematics and applications of computational Vedic mathematics. Dr Singh discussed the biography of Swami Bharati Krishna Tirtha and the use of 16 Vedic sutra in algebra, geometry and trigonometry. Emphasising on traditional knowledge system, he discussed Acharya Pingala's work (binary number system and Meru Prastara), along with Ramanujan's biography and notable works. Teachers from 25 different government schools of Rewari participated in programme. The goal of this training was to foster science-based innovative ideas and inspire students and teachers from the rural areas towards ancient knowledge system. Faculty members Dr Charan Singh Sekhon, Dr Abhishek, Dr Alisha and others were present during the programme. All the participants appreciated the lecture content.

## गणित शिक्षकों को दिया गया वैदिक गणित का प्रशिक्षण



वैदिक गणित पर प्रशिक्षण शिविर में कुलपति बीआर कम्बोज व अन्य । श्रोत: कॉलेज

**संवाद न्यूज एजेंसी**

**बावल।** भारतीय राष्ट्रीय युवा विज्ञान अकादमी और विज्ञान भारती हरियाणा के सहयोग से बावल कृषि महाविद्यालय में वैदिक गणित विषय पर चल रहे प्रशिक्षण के दूसरे दिन डॉ. गर्जेंद्र प्रताप सिंह ने द्विआधारी संख्या प्रणाली पर विस्तार से चर्चा की।

उन्होंने आचार्य पिंगला के योगदान पर प्रकाश डाला। कहा कि आचार्य पिंगला देश के बड़े विद्वान थे, जिन्हें अपने काम छंदसूत्र में सबसे पहले ज्ञात द्विआधारी संख्या प्रणाली का श्रेय दिया जाता है। इस समापन सत्र के दौरान, प्रशिक्षण कार्यक्रम में भाग लेने वाले जिले के 25 सरकारी स्कूलों के गणित शिक्षकों को प्रमाणपत्र दिए गए।

प्राचार्य प्रो. नरेश कौशिक ने कुलपति प्रो. बीआर कम्बोज को धन्यवाद दिया। प्रो. कम्बोज ने ग्रामीण क्षेत्रों में विज्ञान शिक्षा के बारे में जागरूकता बढ़ाने के उद्देश्य से संकाय और छात्रों को ऐसे प्रशिक्षण और कार्यशालाएं आयोजित करने के लिए प्रेरित किया। उन्होंने आश्वासन दिया कि सीसीएस. हरियाणा कृषि विश्वविद्यालय के कृषि महाविद्यालय बावल में भविष्य के प्रशिक्षण कार्यक्रमों के लिए उनके सभी सुझावों पर विचार किया जाएगा। प्रो. कौशिक ने प्रतिभागियों से ग्रामीण क्षेत्रों के छात्रों के लाभ के लिए सभी सत्रों के दौरान एकत्र की गई जानकारी को अपने स्कूलों के छात्रों और अन्य संकाय सदस्यों तक पहुंचाने का आग्रह किया। प्रशिक्षण का समापन डॉ. शरणजीत धवन के औपचारिक धन्यवाद ज्ञापन से हुआ। उन्होंने बावल क्षेत्र के ग्रामीण क्षेत्रों के छात्रों के लिए ग्रामीण विज्ञान शिक्षा प्रशिक्षण उपयोगिता कार्यक्रम (रिसेट अप 2024) संचालित करने के लिए प्रेरणा और समर्थन के लिए भारतीय राष्ट्रीय युवा विज्ञान अकादमी (आईएनवाईएस) के प्रति आभार व्यक्त किया।

### Event: RuSETUP-2024 “Next Generation Science Standards: Learning by Doing”

**Date: August 24-25 2024**

**Venue of the event: ICAR-Indian Agricultural Research Institute, New Delhi**

**Co-ordinators: Subhash Babu, Veda Krishnan, Kalpana Nagpal, Chhama Awasthi, Ashwani Kumar Tiwari and Sandhiya Lakshmanan**

**Name of Zone (in case zonal event): NCR Zone**

**No. of Participants: 21**

The INYAS NCR Zone, in collaboration with the renowned Division of Agronomy, ICAR-Indian Agricultural Research Institute, New Delhi organized two days programme on 24-25 August, 2024 the programme was dedicated to skill-building for high school and intermediate science teachers. This transformative event was centre around the theme: "Next Generation Science Standards: Learning by Doing," and included an exclusive exposure visit to a cutting-edge laboratory. The program was attended by 21 Participants from various universities across India. The programme was coordinated by Drs Subhash Babu, Veda Krishnan, Kalpana Nagpal, Chhama Awasthi, Ashwani Kumar Tiwari and Sandhiya Lakshmanan.



### **Event: World Ozone Day 2024**

**Date: September 12-13, 2024**

**Venue of the event: Central University of Jammu**

**Co-ordinator: Shweta Yadav**

**No. of Participants: 281**

Under the patronship of Hon'ble Vice-Chancellor Prof. Sanjeev Jain, the Department of Environmental Sciences, Central University of Jammu, observed World Ozone Day 2024 in collaboration with J&K Pollution Control Committee (JKPCC), Indian National Young Academy of Science (INIAS) & EcoClub, Office of Dean Students' Welfare, Central University of Jammu. The Ozone Day celebration focussed on Montreal Protocol: Advancing Climate Actions. On this occasion, various events like quiz competition, poster making competition etc. were organized in Central University of Jammu and Kendriya Vidyalaya of the university. A technical symposium was also held, which brought together experts and scholars to discuss the ongoing and upcoming challenges posed by ozone layer depletion and its conservation. Prof. Gufran Beig [Sir Ashutosh Mukherjee Chair Professor, NIAS, Indian Institute of Science (IISc), Bengaluru], in his keynote address spoke on the topic 'Ozone for life: Discovery to Recovery'. Prof. Beig got Shanti Swarup Bhatnagar award in 2006 for his seminal work on stratosphere-mesosphere structure and ozone column. Prof. Sunil Dhar (Chair & Dean, School of Life



Sciences, CUJ) delivered an expert talk on ‘State of Himalayan climate: challenges and future perspectives’ and Dr. Ankit Tandon (Convener & Faculty, Environmental Sciences, CUJ) spoke on the topic ‘Ozone dynamics and climate change: current issues’. Chief Guest Sh. Vasu Yadav (IFS), Chairman, JKPCC shared various facts on Ozone for Life: 35 years of Global Cooperation” and encouraged students to be inquisitive on topics of national and international interest. Sh. Ghansham Singh (JKAS, Member secretary JKPCC), Ms. Shaveta Jandial (Regional Director, JKPCC) and other JKPCC officials were also part of the symposium. Various representatives from industries joined the program.



**Event: Science for Society****Date: October 4, 2024****Venue of the event: ICT Mumbai****Co-ordinators: Neetu Jha and Hitesh Pawar****Name of Zone (in case zonal event): West zone****No. of Participants: 54**

The "Science for Society" program, held on 04/10/2014 in the Institute of Chemical Technology Mumbai, brought together a diverse group of researchers, scientists, students, and stakeholders to explore the vital intersection of scientific research and its impact on society. This premier event provided a unique platform for experts from various disciplines to share their knowledge, ideas, and experiences on how science can address pressing societal challenges and improve the human condition. Under the theme "Science for Society," the conference aimed to foster innovation, highlighting the critical role of science in informing policy, driving economic growth, and enhancing quality of life. Three talks were arranged, which delved into cutting-edge research and best practices in sustainability and technology. Here are the keynote speakers and their topics: 1) Dr. Arindam sarkar (IIT Bombay) Topic – Decoupled Zn air rechargeable battery 2) Dr. Mohanapriya K (Manager in design and development Godrej & Boyce Mfg. Co. Ltd) Topic – Next generation Non-lithium based green battery technology: Advancing safe and sustainable energy transition. 3) Dr. R R Deshmukh (Institute of chemical technology Mumbai) Topic – Plasma: The fourth state of matter and its applications Conference overview: The first speaker was Dr Arindam Sarkar, who shared their expertise on Decoupled Zn air rechargeable battery. Arindam's research interests span the areas of fuel cells and electrochemical electrolyzers, electrochemical energy storage technologies (metal-air and redox-flow batteries), efficient reduction of atmospheric carbon dioxide to fuel, and electroanalytical techniques. A common thread in his research and academic interests is the development of efficient and clean energy conversion and storage technologies, and mitigation of greenhouse gases through electrochemical means. At the conference, he was talking about Rechargeable metal-air batteries and how to conjure metal-air batteries. He briefly explained about the rechargeability and challenges in zinc air battery, Zn air in alkaline media which has been successfully demonstrated in his lab. He also explained about the Decoupling reactions like each allows a separate electrolyte connected electrically and electrochemically coupled via third redox couple that is auxiliary electrode. The second keynote speaker was Dr. Mohanapriya K who shared her expertise on next generation Non-lithium based green battery technology: Advancing safe and sustainable energy transition. She talked about the huge demand in energy transition. She mentioned that 2025 COP21 Paris agreement saw 196 nations agree to reach carbon neutrality by the middle of this century with calls to limit global warming to well below 2 °C, preferably 1.5 °C compared to pre-industrial level. She also mentioned the challenges of sustainable energy transition, like high initial costs, technological limitations, infrastructure limitations, and policy and regulatory hurdles. She spoke about the involvement of Godrej & Boyce in developing a ZN-MnO<sub>2</sub> alkali rechargeable battery she stated that it is game changer in clean energy transition. The third speaker was Dr R



R Deshmukh, who shared their expertise on Plasma: The fourth state of matter and its applications. Firstly, he cleared what plasma is along with different types of plasma. He talked about Plasma surface modification that is limited to the top few molecular layers, bulk properties remain unaffected, excellent film thickness control, and a wide range of surface chemistry. The program was huge successful due to the increased interaction between participants and speakers. This program witnessed a lot of enthusiasm in the new generation students.



**Event: RuSETUP- “Fostering Curiosity: Science for Young Minds”**

**Date: 21<sup>st</sup> -25<sup>th</sup> October, 2024**

**Venue of the event: University of Ladakh**

**Co-ordinator: Sharanjeet Dhawan**

**Name of Zone (in case zonal event): NA**

**No. of Participants:**



\Celebrating 10th anniversary of INYAS, RuSETUP – “Fostering Curiosity: Science for Young Minds” was organised in Ladakh by CCS Haryana Agricultural University, Hisar,

## Fostering scientific curiosity: Weeklong Workshop 'RuSETUP 2024' kicks off at UoL



EARTH NEWS SERVICE

**LEH:** The week-long science workshop, “RuSETUP 2024 - Fostering Curiosity: Science in Young Minds of the Ladakh Region”, was officially inaugurated today at the Leh Campus of the University of Ladakh. This workshop is designed to nurture scientific thinking, inspire innovation, and promote interdisciplinary research among students in the Ladakh region.

The workshop received significant support from the Vice Chancellor of the University of Ladakh, Professor S.K. Mehta, whose leadership and dedication to enhancing scientific education

have been pivotal in shaping the event.

Dr. Subrat Sharma, Dean of Research at the University of Ladakh, graced the occasion as the Chief Guest. He was joined by Dr. Sonam Wangmo, In-charge of the Mountain Research Institute, as well as guest speakers Dr. Sharanjeet Dhawan, Assistant Professor at CCSHAU Haryana, Dr. Paramananda Barman, Scientist at CSW-NIScPR, and Moumita Mazumdar, Research Scholar at CSIR-NIScPR. Faculty members from various departments of the Leh campus and students from the Departments of Zoology, Mathematics, Geology, and Forensic Science were also

pre-sent.

The event commenced with a traditional lamp-lighting ceremony, followed by opening remarks from Dr. Anjad Hussain, Assistant Professor in the Department of Zoology, who introduced the speakers. Ms. Stanzin Dular from the Department of Mathematics delivered a warm welcome, and Dr. Mohd Hassan provided an overview of the workshop.

In his keynote address, Chief Guest Dr. Subrat Sharma emphasized the importance of deepening scientific curiosity and exploring scientific phenomena.

While Dr. Mohd Hussain, Dean of Science and the Convenor of the workshop,

was unable to attend, his contributions were acknowledged by all.

The inauguration concluded with a group photo and a vote of thanks from Dr. Basharat Ali, Assistant Professor in the Department of Zoology.

The sessions kicked off with a presentation by Dr. Paramananda Barman on “Interactive and New Approaches to Communicate Science: SVASTIK as a Case Study.” Dr. Barman taught students how to write science stories and stressed the value of traditional knowledge in everyday life. Moumita Mazumdar followed with insights into new trends in science, engaging students with hands-on activities.

Dr. Sharanjeet Dhawan concluded the series of talks with her presentation, “Mathematics Mat-ters: Uncovering the Magic in Our Daily Lives.” She highlighted the pervasive role of mathematics, using examples such as the Fibonacci series found in nature.

The day's session concluded with a vote of thanks by Mr. Mohsin Ali, Assistant Professor in the Department of Zoology. The workshop promises an exciting week of scientific exploration for students of the Ladakh region.

CSIR NIScPR & University of Ladakh. The event aimed to spark curiosity and inspire a passion for science among young students. Participants engaged in expert talks on diverse scientific topics, which led to fruitful discussions about the challenges faced by students and practical solutions provided by experts. The workshop included hands-on mathematical activities designed to enhance logical thinking and problem-solving skills among participants. Sessions took place at various remote locations, including the University of Ladakh and several local schools. A key feature of the

workshop was the career guidance kit developed by INYAS, which was well-received by students and is intended to help them navigate their educational and career choices. Faculty members from the participating schools praised INYAS for its efforts to inspire students toward science education, recognizing the workshop as a valuable initiative that can positively influence the future of young minds in Ladakh.



### **Events on Women in Science**

#### **Event: International Day of Women and Girls in Science**

**Date: February 9 2024**

**Co-ordinator: Neha Sardana**

**No. of Participants: 700**

IN YAS in collaboration with IIT, Ropar, organized the International Day for Women and Girls in Science on 9th February. Special talks were delivered by role models like Dr. Bhavneet Bharti, Director Principal of Dr. BR Ambedkar State Institute for Medical Sciences, SAS Nagar Punjab; Dr. Anindita Bhadra, Professor, IISER Kolkota Founding Chairperson, IN YAS; Ms. Vaishakha Poundarik, a former National Tennis layer, Dr. Shweta Jain, Head, AI center, IIT, Ropar and Dr. Neha Sardana, Chair women's forum IIT Ropar. They presented various career paths for students in medicine, science, sports and engineering. It was attended by more than 700 students from the Punjab region.



#### **Event: Online poster competition on the themes "Role of women and girls in water management" and "Science for peace" to mark and celebrate the International Day of Women and Girls in Science 2024.**

**Date: February 11, 2024**

**Venue of the event: Online**

**Co-ordinators: Sriparna Chatterjee and Chirasree RoyChaudhuri**

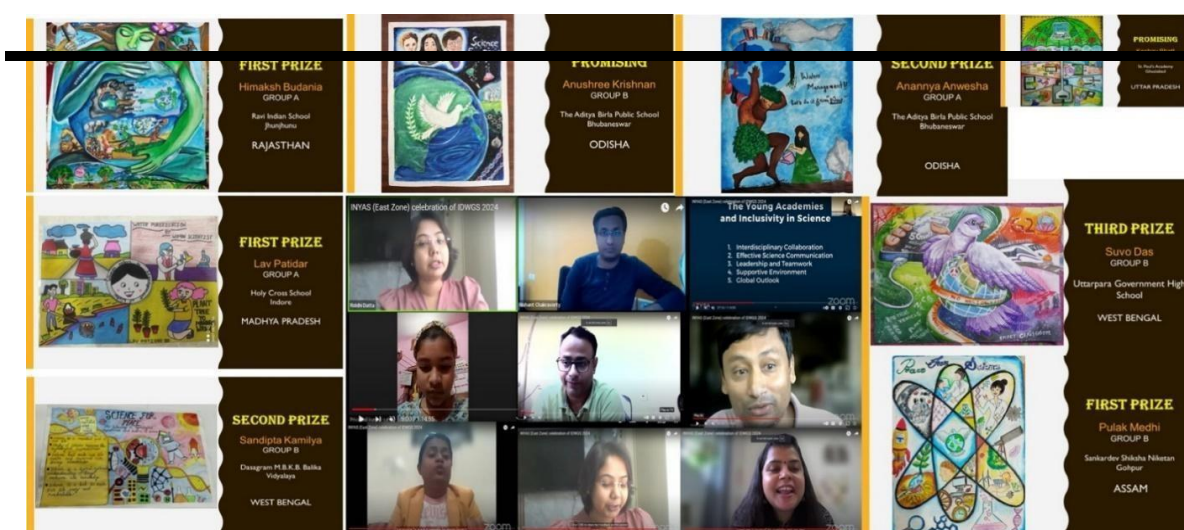
**Name of Zone (in case zonal event): East Zone**

**No. of Participants: 64**

On behalf of IN YAS East zone, Dr. Sriparna Chatterjee (IN YAS member) and Dr. Chirasree RoyChaudhuri (IN YAS member) organized an online poster competition on the themes



"Role of women and girls in water management" and "Science for peace" to mark and celebrate the International Day of Women and Girls in Science 2024. This event invited posters from school children from classes 6 to 12 where they expressed their fantastic imagination using any art medium. A total of 67 posters were received from the participants. The posters were evaluated by relevant experts and 09 posters were awarded. All participants were encouraged with participation certificates and a career guidance kit prepared by INYAS. The results were announced on 11th February 2024 accompanied by online lectures by renowned speakers. The interactive session was moderated by Dr. Riddhi Dutta (INYAS member) and Dr. Totan Adak (INYAS member) in the gracious presence of Dr. Srisawadi, Research Team Leader at the National Metal and Materials Technology Center, Thailand. Dr. (Mrs) Monalisha Pramanik who is a Senior Scientist at Centre Water Technology Centre, ICAR-Indian Agricultural Research Institute, New Delhi was also a speaker of the event. Third speaker was Dr. Nishant Chakravorty from IIT Kharagpur. Dr. Pooja Devi, Dr. Vishal Mishra, Dr. Shib Sankar Ganguli, Dr. Namisha Sharma, Dr. Sonu Gandhi and Dr. Riddhi Dutta were the evaluators of the poster competition. Prizes and certificates were sent to respective postal addresses provided by the participants over e-mail.



### **Event: International Day of Women and Girls in Science**

**Date: 12 February, 2024**

**Co-ordinator: Kiran Bala**

**No. of Participants: 90**

The event was organized for college students to celebrate the spirit and valuable contribution of female scientists, and to create awareness in society regarding the participation and role of women in shaping society through their perseverance and inventions. The event was conducted at IIT Indore with the support from INYAS. Professor Pritee Sharma, IIT Indore inspired the audience by discussing the importance of discipline, consistency, networking, and resilience in achieving success. She highlighted how women and girls can thrive both professionally and personally by striking a balance between the two. Following this, Dr. Neha Sardana from IIT Ropar, elucidated how fundamental scientific inquiry can spark



curiosity and lead to ground breaking inventions beneficial to humanity. She emphasized that by simply questioning the world around us, individuals can become problem solvers and drive innovation. Students were provided with hands-on experience in the AETS (Algal EcoTechnology and Sustainability) Lab. They were given demonstrations on media preparation, autoclaving, microscopy, as well as culturing methods and the use of instruments such as GC, centrifuge, water bath, and UV- Visible spectrophotometer. Additionally, students had the opportunity to visit the Polyhouse Facility, where they observed large-scale cultivation of algae. This educational excursion offered students a captivating and enriching glimpse into the dynamic realm of science and research.



---

**Event: International women's day**

**Date: March 4-5, 2024**

**Co-ordinator: Neha Sardana**

**Name of Zone (in case zonal event): North Central**

**No. of Participants: 250**

INYAS, in collaboration with the Women's Forum of IIT Ropar, organized a program to engage students in thought-provoking poster, slogan, and rangoli competitions. Inspirational talks were delivered by the esteemed Padma Shri Janak Ji on “Sustainability” and by former DST Scientist Dr. S.K. Varshney on Gender Equality, leaving us all inspired. This was followed by heart- warming prize distributions. On March 5th, the day began with a welcome note from the Director of IIT Ropar. This was followed by a talk on zero waste living by Padma Shri Janak Paltana McGilligan, a discussion on Creating Gender-Sensitive Environments in Higher Education Institutions by advocate Rajesh Gill, and a session on stress management techniques by Dr. D. Basera. The celebration of women and the promotion of inclusion concluded with a vote of thanks from Dr. Neha Sardana, Chair of the Women's Forum and member of INYAS.



---

**Event: Women's Day- Women in Science and Technology**

**Date: March 13, 2024**

**Co-ordinator: Meena Krishania**

**Name of Zone (in case zonal event): North Central**

**No. of Participants: 75**

Sri Guru Gobind Singh College, in collaboration with INYAS, was thrilled to organize an event centered on the theme "Women in Science and Technology" on March 13, 2014. This event celebrated the remarkable achievements of women who defied conventional boundaries, showcasing their unwavering brilliance in driving breakthroughs across research, innovation, and discovery. The workshop began with remarks from the Principal and a compelling lecture on "Prototype/Process Design and Development," delivered by Dr. Meena Krishania from CIAB, Mohali. Dr. Krishania emphasized the crucial aspects of bringing ideas to a product or prototype with examples and shed light on the strategies involved in advancing innovative processes. Another speaker, Dr. Ritu Mahajan, conducted a session on commercializing products and prototypes. She shared her entrepreneurial journey and strategies for bringing products to market. In the subsequent competition segment, 11 teams presented their business proposal ideas, each brimming with creativity and potential. Among these, three outstanding teams were honored with the prestigious "Best Idea" award, recognizing their ingenuity and forward-thinking approach. This event served as a platform to acknowledge women's invaluable contributions in science and technology and inspire future generations to pursue their passions fearlessly, transcend perceived limitations, and propel innovation forward.



---

**Event: Inspire Inclusion- International Women's Day**

**Date: March 15, 2024**

**Co-ordinator: Kiran Bala**

**No. of Participants: 119**

The event was organized by IIT Indore in collaboration with INYAS, for college students. Its primary objective was to commemorate International Women's Day, centering on the theme of "Inspire Inclusion." This overarching theme is aimed at acknowledging and celebrating the diverse experiences, voices, and contributions of women globally. Through a series of thought-provoking discussions and engaging activities, the celebration underscored the essence of inclusivity, fostering dialogue, understanding, and collective action toward achieving a more equitable future. Approximately 119 students from diverse colleges in Indore, namely Chameli Devi Group of Institutions, SAGE University, and IIT Indore, enthusiastically participated in the event. The proceedings began with a gracious welcome from Professor Kiran Bala, who introduced the students to the event's theme and activities. Professor Bala also underscored the significance of women in STEAM (Science, Technology, Engineering, Arts, and Mathematics) fields, encouraging active participation and urging students to show appreciation for the women in their lives and support their professional endeavors. Following that, Dr. Pritam Sangwan (Scientist E, DRDO, New Delhi) led an insightful and interactive session. She delved into the topic of women in leadership roles, highlighting their exceptional contributions across various sectors. Dr. Sangwan also addressed the involvement of women in the defense sector. Additionally, she engaged in a dialogue with students, discussing the challenges they encounter and offering guidance on how to overcome them and excel. After this, Mr. Hemant Gupta (Head at Tata Steel Adventure Foundation, Mountaineer) carried on with the session. He recounted his remarkable journey to the summit of Everest. Subsequent to this, the event featured a series of two-minute flash talks covering topics such as "Women in STEAM (Science, Technology, Engineering, Arts, & Mathematics)" and "Gender equality today for a sustainable tomorrow." Participants enthusiastically shared their thoughts and received prizes and certificates for their accomplishments.



Additionally, the event comprised an interactive science quiz session, during which students eagerly participated, showcasing their knowledge, and winners were recognized and rewarded. At the conclusion note Ms. Monika Gupta (Member, Women Cell, IIT Indore) thanked all the guests, participants, and students. The event not only celebrated the achievements of women but also motivated collaborative endeavors to foster a more inclusive and equitable society.

IIT Indore organized the event for college students in collaboration with INYAS. Its primary objective was to commemorate International Women's Day, focusing on the theme of "Inspire Inclusion." This theme aimed to acknowledge and celebrate women's diverse experiences, voices, and contributions globally. Through a series of thought-provoking discussions and engaging activities, the celebration emphasized the essence of inclusivity, fostering dialogue, understanding, and collective action toward achieving a more equitable future. Approximately 119 students from various colleges in Indore, including Chameli Devi Group of Institutions, SAGE University, and IIT Indore, enthusiastically participated in the event. The proceedings began with a warm welcome from Professor Kiran Bala, who introduced the students to the event's theme and activities. Professor Bala also highlighted the significance of women in STEAM (Science, Technology, Engineering, Arts, and Mathematics) fields, encouraging active participation and urging students to appreciate and support the women in their lives and their professional endeavors. Following this, Dr. Pritam Sangwan, Scientist E at DRDO, New Delhi, led an insightful and interactive session on women in leadership roles, emphasizing their exceptional contributions across various sectors. Dr. Sangwan also addressed the involvement of women in the defense sector, engaged in dialogue with students about the challenges they face, and offered guidance on how to overcome these challenges and excel. Next, Mr. Hemant Gupta, Head of Tata Steel Adventure Foundation and mountaineer, shared his remarkable journey to the summit of Everest. Following his talk, the event featured a series of two-minute flash talks on topics such as "Women in STEAM (Science, Technology, Engineering, Arts, & Mathematics)" and "Gender Equality Today for a Sustainable Tomorrow." Participants enthusiastically shared their thoughts and received prizes and certificates for their contributions. Additionally, the event included an interactive science quiz session, during which students eagerly participated, showcasing their knowledge. Winners were recognized and rewarded for their achievements. In closing, Ms. Monika Gupta, a member of the Women's Cell at IIT Indore, gave thanks to all the guests, participants, and students. The event not only celebrated the achievements of women but also motivated collaborative efforts aimed at fostering a more inclusive and equitable society.



**Event: Inspire Inclusion- International Women's Day**

**Date: March 15, 2024**

**Co-ordinators: Archana Singh and Paramita Das**

**Name of Zone (in case zonal event): Central**

**No. of Participants: 100**

A workshop on Career Opportunities in Science was conducted for the UG and PG students pursuing science by the INYAS members, Dr. Archana Singh, CSIR-AMPRI, and Dr. Paramita Das, IISER Bhopal at Sri Sathya Sai College for Women, Bhopal on March 15, 2024. The Director, Principal, teachers, and about one hundred UG/PG students attended the workshop.





The students were introduced to defining and redefining the careers and professional development phases so that they get a clear vision of their future careers and look for appropriate opportunities. They were introduced to the career guidance kit prepared by the INYAS Team. During the session, various job opportunities, internships, higher studies, PhD, and postdoctoral options in India and abroad were discussed. The students also received guidelines on how to write an application, a CV, and an SOP to apply for job or research positions. An overview of Indian and international grants that allow students to study M.Sc. and PhD have also been discussed. The students and teachers interacted with the speakers and asked about fellowships, internships, and other possibilities. An overwhelming response was received from the students and teachers. The event was concluded with a vote of thanks by the Head of the Chemistry Department.

---

**Event: International Women's Day 2024: 'Invest in women: Accelerate progress'**

**Date: March 11, 2024**

**Co-ordinator: Shweta Yadav**

**No. of Participants: 100**

The Office of International Affairs, Central University of Jammu and Indian National Young Academy of Science commemorated the International Women's day on 11th March, 2024. Aligning with the theme "Invest in Women: Accelerate Progress", Dr. B.K. Sapra, Outstanding Scientist and Head of, Radiological Physics and Advisory Division, Bhabha Atomic Research Centre, Mumbai, delivered a talk on "Equitable and Inclusive Environments". Dr. Ritu Bakshi, Dean of Student Welfare, emphasized that the world is facing multiple crises that are putting immense pressure on communities, and that's why achieving gender equality is more vital than ever. Ensuring women's and girls' rights across all aspects of life is the only way to secure prosperous and just economies and a healthy planet for future generations. Prof. Vinay Kumar said that one of the key challenges in achieving gender equality by 2030 is an alarming lack of financing, with a staggering USD 360 billion annual deficit in spending on gender-equality measures. Dr Yadav thanked all for joining.





**Event: Slogan writing competition (Bengali, English, Hindi, Oriya and Urdu) and photography competition on the occasion of International Women's Day 2024**

**Date: May 4, 2024**

**Venue of the event: Online**

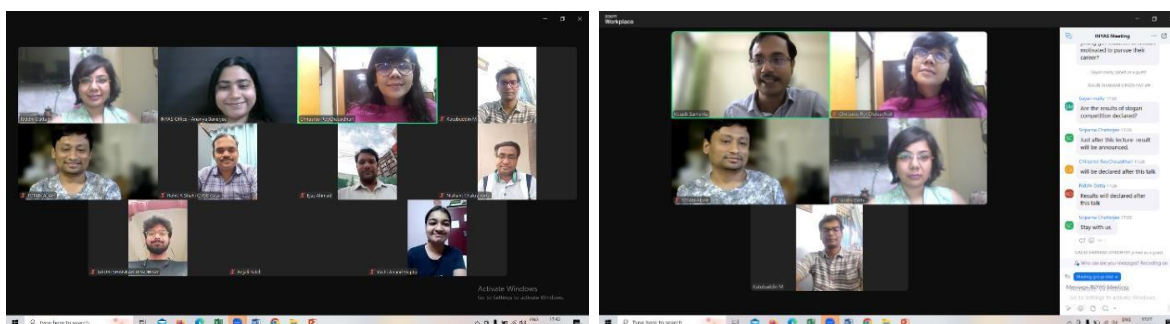
**Co-ordinators: Chirasree Roy Chaudhuri and Riddhi Datta Name of Zone (in case zonal event): East zone**

**No. of Participants: 28 students participated in a slogan writing competition, and 21 participants in a photography competition**

Gender inclusivity is one of the sustainable development goals, as proposed by the United Nations. "Sustainable society with gender equality" was the theme where both school and college students came forward to submit their innovations by penning creative slogans. Further, the students represented their thoughts through lenses for "When she rises, we all rise". The results were declared on 4th May, along with two enriching lectures by Dr. Koushik Samanta,



Associate Professor of IIT Bhubaneswar, and Dr. Gitanjali Yadav, Scientist V at NIPGR, New Delhi. Eight members evaluated the slogans and the photographs by four jury members. Participants were illuminated with inspiring views on the role of women in breaking the techno patriarchy and how catalyzing gender equality can strike harmony in society. Participating in these pan- India competitions for a social cause helps raise awareness and support through creativity. Students across the nation participated. The quality of the slogans and the photographs was highly appreciated by the jury members and also the speakers. The winning slogans conveyed the message through compact and powerful rhyming words and the winning photographs portray the rise of women not only in urban areas but also covered captures from remote locations of the country.



### *National Science Day Celebration*

**Event: Science Day Celebration - 2024**

**Date: February 28, 2024**

**Co-ordinator: Subbiah Nagarajan**

**No. of Participants: 200**

The National Science Day celebration was held on 28-02-2024. INYAS and Raman Schools, Hanumakonda, Telangana State, organized the event. INYAS member, Dr. S. Nagarajan from the National Institute of Technology Warangal, along with the Director, Principal, teachers, and around 200 students, came together to celebrate the contributions of science and technology to our society. The celebration took place at Raman High School and featured a range of exciting exhibits and activities. Interactive sessions showcased the latest advancements in science and technology. The events included:

- Essay Writing: "Advancement of Science and Technology in India"
- Elocution: "Dr. M.S. Swaminathan and the Green Revolution"
- Drawing: "Science for the Welfare of Planet Earth"
- Quiz: "National Science Day, Sir C.V. Raman, and the Raman Effect"



Additionally, a science popularization lecture by Dr. S. Nagarajan from the National Institute of Technology Warangal on “Science for Society” and "Indigenous Technologies for Viksit Bharat.” This expert lecture motivated the students and provided an overview of cutting-edge scientific research for the holistic development of our nation. A highlight of the event was the speech by Raman High School Director and Correspondent R. Rajesh Kumar and Principal M. Sravanthi on the importance of science education and research in shaping our future. Their inspiring speeches motivated the students to continue exploring the fascinating



world of science. Overall, the National Science Day celebration was an excellent opportunity for students to learn and engage with the scientific community.

---

**Event: National Science Day**

**Date: February 28, 2024**

**Co-ordinator: Rohit R Shahi**

**No. of Participants: 65**

On 28th February 2024, the Indian National Young Academy of Sciences (INyas) and the Department of Physics of the Central University of South Bihar (CUSB) jointly organized a science camp in the university for the school students of Senior Secondary School Tapa Gaya. Dr. Rohit Ranjan Shahi (the INyas member) introduced the objective of the INyas and it's role in the country's development. Dean School and Physical Chemical Sciences and Head Department of Physics, CUSB Gaya, inaugurated the event and welcomed the school students and teachers.



On this occasion, Prof. Venkatesh Singh, Head, Department of Physics delivered a Popular Science lecture on “Indigenous Technology for Viksit Bharat”. Around 65 meritorious students of higher secondary school Tapa were invited to participate in the camp. The event was based on the theme ‘Indigenous technology for Viksit Bharat’. Dr. Shahi also interacted with the students and delivered a Popular Science Lecture on “Relevance of Renewable Energy for Viksit Bharat”. He described a sustainable source of energy to run vehicles without emitting any greenhouse gas. Students also learned about the renewable and non-renewable energy, the importance of renewable energy and how to use hydrogen efficiently as a fuel which is not only cost-effective but clean and green energy as well. After lunch session Students visited various laboratories of Physics where they performed some basic

interesting experiments. They also see some exiting general chemistry experiments and observed production of hydrogen through the electrolysis of water. Students asked some questions to the speakers which prove that the students are serious towards their education as well as their goal Also students were awarded with prizes during question answer session. The children were encouraged to become the future scientist.

---

**Event: National Science Day Celebration**

**Date: February 28, 2024**

**Co-ordinators: Neetu Jha and Hitesh Pawar**

**Name of Zone (in case zonal event): West**

**No. of Participants: 44**

The program was conducted in Don Bosco from 11:00 am to 1:00 pm which was attended by the students of grade 7 and grade 8. The program started by introducing the reasons behind the celebration of National science day by Prof. Jyotsna Waghmare from ICT Mumbai. This was followed by giving examples of everyday physics by Dr. Neetu Jha. She spoke about the scattering effects, which lead to blue colour of the sky and change in the spectral effect when radiations travel more distance during morning and evening. She also spoke about the microwave cooking and why it is not harmful. Some examples, where basic physics understanding comes into picture were explained like swimming in dense water system, why white colour leads to cooling effect, Capillary effect, longitudinal sound waves from alarm and large distance requirement between hinges and handles. This was followed by an explanation on everyday chemistry by Dr. Hitesh Pawar, ICT Mumbai. There, he spoke about hydrogen bonding, why ice floats on water and doesn't sink. He also spoke about the reasons behind tears when we peel/cut onions along with the chemistry in food and cosmetics. Different types of esters which are synthesized synthetically were also explained, along with their usage. This was followed by a very long discussion among the students and professors. The program concluded by distributing the book titled "World's Greatest Scientists and Innovators: Biographies of Inspirational Personalities for Kids" by Wonder House.



### **Event: National Science Day Celebration 2024**

**Date: February 29, 2024**

**Co-ordinators: Nishant Chakravorty and Budhaditya Mukherjee**

**Name of Zone (in case zonal event): East**

**No. of Participants: >250**

National Science Day was celebrated jointly by INYAS East Zone and Gopali Indranarayan Memorial High School, Kharagpur with Vivekananda Vigyan Mission (West Bengal Chapter of Vijnana Bharati) on the 29th of February, 2024. The event saw active participation and engagement from students, teachers, and esteemed guests from different schools and institutes around Gopali Indranarayan Memorial High School. Around 250 school kids participated in the event. The event commenced with the ceremonial lighting of the lamp, followed by an inaugural song that set the tone for the day's proceedings. Mrs. Arpita Pariya Das, the school's headmistress, commenced the program with opening remarks, setting a welcoming and inclusive atmosphere for all attendees. Prof. Somnath Ghosal initiated the proceedings with an enlightening address, which was followed by an insightful speech on "Science for Technology" by Prof. Arijit Dey from IIT Kharagpur. Prof. Titas Mondal captivated the audience with a presentation on the remarkable achievements of Indian scientists in utilizing and advancing modern technology in the domain of rural healthcare.

Following a refreshing lunch break, the event resumed with Prof. N.C. Das from IIT Kharagpur delivering an inspiring speech, motivating students to pursue careers in science. Prof. Nishant Chakravorty then took the stage to discuss the power of interdisciplinary learning and the significance of exploring diverse fields. Prof. Budhaditya Mukherjee concluded the series of speeches with an engaging talk on understanding parasitic diseases



and their impact on health, leaving the audience with much food for thought. The event concluded with an interactive session, allowing students to engage with the speakers and delve deeper into the topics discussed. A Vote of Thanks was delivered, expressing gratitude to all participants, organizers, and sponsors for their contributions to the event's success. The celebration of National Science Day at Gopali Indranarayan Memorial High School served as a platform for inspiring young minds, fostering a passion for science, and highlighting the importance of scientific advancements in addressing societal challenges.



---

**Event: Science Sparks: Igniting Curiosity (National Science Day)**

**Date: February 29, 2024**

**Co-ordinators: Kiran Bala**

**Name of Zone (in case zonal event): Central Zone**

**No. of Participants: 50**

The event was organized for college students at IIT Indore with support from INYAS. The event was aimed to celebrate the essence of National Science Day while acknowledging the significant contributions of Indian scientists, paying homage to the revered figure, Sir CV Raman. Around 50 students representing various colleges in Indore, including Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore Professional Studies Academy, and IIT Indore, actively took part in the event. The event commenced with a warm welcome from Prof. Kiran Bala, who introduced the theme for National Science Day 2024 as "Indigenous Technologies for Viksit Bharat." She highlighted the significance of fostering public appreciation for the country's achievements in Science, Technology, and Innovation, emphasizing the importance of addressing challenges through locally developed technologies for comprehensive development. Prof. Bala also urged science enthusiasts to learn, grow, and contribute towards shaping the future of our nation. In the subsequent segment of the event, Dr. Archana Singh, Principal Scientist at CSIR-Advanced Materials and Processes Research, Bhopal, delivered a detailed discourse on the topic of "Drinking Water Quality Assessment and Regulatory Standards." Dr. Singh meticulously elucidated various water treatment methodologies, offering profound insights into the prevailing conditions of Fluoridation in Water and the corresponding techniques for its mitigation. Her presentation provided invaluable knowledge concerning the assessment of drinking water quality, underlining the importance of adhering to prescribed regulatory standards for

ensuring public health and environmental sustainability. The event also included an engaging science quiz session, where students actively took part and were rewarded with prizes for their achievements. Later, participants were given hands-on experience in the ABTS (Algal Eco Technology and Sustainability) Lab, where they learned about microscopy techniques and culturing methods. Additionally, they had the chance to visit the Polyhouse Facility, witnessing the large-scale cultivation of algae. This, educational journey provided students with an immersive and enlightening insight into the vibrant world of science and research.



---

### **Event: National Science Day-2024 Celebration**

**Date: March 2, 2024**

**Co-ordinators: Dr. Brindaban Modak & Dr. Mohit Tyagi**

**Name of Zone (in case zonal event): West**

**No. of Participants: 93**

IN-YAS-West Zone chapter organized the National Science Day Program on March 02, 2024, at K. J. Somaiya College of Science and Commerce, Mumbai. Mr. S. K. Malhotra, former Head, & Spokesperson of the Public Awareness Division of DAE, Raja Ramanna Fellow and Secretary, Atomic Energy Education Society, has delivered a popular lecture on 'Atmanirbharta as Pursued in Department of Atomic Energy', which is very much align with the topic of science day celebration 'Indigenous Technologies for Viksit Bharat' as decided by the Union Ministry of Science and Technology. Mr. Malhotra shared vision of Dr. Homi Jahangir Bhabha and Dr. Vikram Sarabhai and discussed the landmark achievements of DAE to make India self-reliant in the atomic energy program. He also discussed important contribution of DAE towards national importance, in particular to the area of energy, food, security and health. The event sensitized young minds for 'Atmanirbhar Bharat' through science. We have conducted quiz event based on the lecture. IN-YAS members gave short presentation on National Science Day, IN-YAS activities and motivational talk to inspire students.




---

**Event: National Science Day**

**Date: February 27-28, 2024**

**Co-ordinators: Shweta Yadav**

**No. of Participants: 200**

Central University of Jammu in collaboration with the Indian National Young Academy of Science (INYAS) celebrated National Science Day with theme 'Indigenous Technologies for Viksit Bharat' on February 27- 28, 2024. The esteemed speakers were Dr. S.K. Vasudeva, Principal Scientific Adviser Fellow, Office of the Principal Scientific Adviser, Govt. of India and Prof. C. Raman Suri, Ex-chief Scientist at Institute of Microbial Technology (IMTech Chandigarh) and Professor at IIT Ropar, Prof. Sanjeev Jain, Vice- Chancellor, CUJ and coordinator of the event Prof. Deepak Pathania, Dean Research Studies, CUJ. Dr. S. K. Vasudev delivered a talk on indigenous technologies for Viksit Bharat. He mentioned the five pillars of Atmanirbhar Bharat: Economy, Infrastructure, technology-driven system, Vibrant demography, and Demand. He also mentioned about agricultural revolutions in India i.e. from Green Revolution, in 1969 to self-sufficient food in today's time. Other subtopics were the purple revolution of Jammu, Covaxin as an indigenous vaccine, Bioeconomy, Nuclear power, indigenous missile: TEJAS and aircraft: INS VIKRANT. In his presidential remarks, Prof. Sanjeev Jain stressed the importance of Industry-Academic linkage for quality research in line to achieve Indigenous Technologies for Viksit Bharat. Afterward, Guest of Honor Prof. C. Raman Suri., Ex- Chief Scientist, CSIR-Imtech, &



Visiting Professor, IIT Ropar, delivered a talk on the possibilities of Indigenous Technologies for Viksit Bharat. He mentioned about the ancient Indian discoveries by Aryabhata, Bhaskaracarya, and Nagarjuna to today's discoveries by S. N. Bose, Vikram Sarabhai, Har Gobind Khurana, Ramachandran, the father of Indian missile technology: APJ Abdul kalam and M. S. Swaminathan. Students enthusiastically participated in Oral and poster presentation competitions, model making and Hackathon events on Indigenous technologies for Viksit Bharat. The event ended with formal vote of thanks.



### **Event: Enhancing Pedagogy through Practical Inquiry**

**Date: 29<sup>th</sup> June, 2024**

**Venue of the event: BITS Pilani Hyderabad**

**Co-ordinator: Kirtimaan Syal**

**Name of Zone (in case zonal event): NA**

**No. of Participants: 60**

The key takeaway from the organized event was the importance of interactive learning, showcasing how hands-on experiments could transform abstract concepts into understandable lessons for students. The workshop hosted by Prof. Kirtimaan Syal, featured distinguished speakers, including Prof. Ch. Mohan Rao (Ex-Director, CCMB), Prof. Mudrika Khandelwal (IIT Hyd), Prof. M Muthamilarasan (University of Hyderabad), Prof. Shilpaa Anand (BITS Pilani), Prof. Shib Sankar Ganguli (CSIR-NGRI, Hyderabad), and Prof. Kirtimaan Syal (BITS Pilani). The event also included 12 turbo talks from the participants. The techniques to increase student engagement, with a focus on incorporating real-world problems, were discussed. Additionally, the event underscored methods to spark student's curiosity,

**Enhancing Pedagogy through Practical Inquiry**

"Learning is a process where knowledge is presented to us, then shaped through understanding, discussion and reflection". Paulo Freire

**JUNE 29, 2024**  
Saturday  
09.15 AM- 05.30 PM  
Registration is FREE  
Participation by Selection

**Organized By:**  
GEMM Laboratory  
Dept. of Biological Sciences  
BITS Pilani Hyd Campus  
and  
Indian National Young Academy  
of Science (INAYAS), Delhi

Registration link  
<https://forms.gle/YtCfcRzH4m5gKHj7>

encouraging them to ask questions and delve deeper into their subjects, thereby promoting a more profound understanding. By integrating these practical inquiry approaches into their teaching methods, participants were better equipped to create a dynamic and effective learning environment. Overall, the event was a resounding success, offering valuable insights and practical methodologies for enhancing pedagogy through practical inquiry. These practical inquiry approaches promise to create a more dynamic and effective learning environment, equipping educators and researchers with the tools necessary to promote deeper understanding and lifelong learning in their students. The insights gained from this event will undoubtedly have a lasting impact on their teaching practices.



## **Event: Science Camp on Experiential AgriAnalytics: Field-to-Lab Knowledge Pathways**

**Date: July 1-5, 2024**

**Venue of the event: ICAR-CMFRI, Kochi**

**Co-ordinator: Reshma Gills**

**No. of Participants: 21 Students for 5 days and 30 Farmers for one day**

The Science Camp on 'Experiential AgriAnalytics: Field-to-Lab Knowledge Pathways' provided a transformative experience for all attendees, fostering a profound grasp of agricultural science and fisheries through interactive learning and data analysis. Set against a picturesque backdrop that focused on field-based learning, the camp aimed to bridge the gap between field observations and laboratory analysis, emphasising the integration of technology in contemporary agriculture. The camp covered a wide array of topics including data management, urban farming, seaweed culture, waste management, nutraceuticals, and their significance, alongside advanced techniques for weather data collection. It included field and laboratory visits to familiarize participants with modern scientific equipment and procedures. Participants actively engaged in activities designed

to replicate real-world agricultural scenarios, with sessions facilitating farmer interactions to underscore the importance of data-driven decision-making in agricultural practices. The Science Camp on 'Experiential AgriAnalytics: Field-to-Lab Knowledge Pathways' was a transformative experience, significantly enhancing participants' comprehension of agricultural science and fisheries. Through immersive field-based learning, the camp successfully connected field observations with laboratory analysis. Participants actively participated in activities simulating real-world agricultural challenges, gaining crucial insights into data-driven decision-making, further reinforced by interactive sessions with experienced farmers.



---

**Event: PhD in Europe with MSCA doctoral network program**

**Date: July 11, 2024**

**Venue of the event: Online**



**Co-ordinator: Ashwani KUMar Tiwari**  
**Name of Zone (in case zonal event): NA**  
**No. of Participants: 30+**

The talk was organized to guide master degree students who want to pursue their PhD studies in Europe via MSCA doctoral programs. The talk answered questions that students have, in addition to some questions they haven't yet thought of about carrying out doctoral research in Europe. The talk delved into several topics, such as the selection procedure for doctoral candidates, the importance of MSCA fellowships for master students, some success stories of previous applicants who have succeeded in securing a PhD position abroad, some tips and suggestions, and the speakers experience of a PhD degree in Europe. The speaker also summarized the findings of his PhD thesis and how students can benefit from research data and its comparisons with field observations. The talk was mainly for aspiring Ph.D. students. Further, practical tips about the importance of having some publications during a master's thesis, foreign training and industry experience, and internships with industry experience were also highlighted in the talk. The talk is primarily intended for those considering pursuing a PhD in Europe through MSCA doctoral programs. For this, award criteria such as excellence, impact, quality, and efficiency of the implementation were summarized. If one is in the process of applying for a PhD degree in Europe, then the lecture has many learnings too, from which you can upgrade yourself a little more, for sure. The talk was concluded by the famous quote of Marie Curie: "Nothing in life is to be feared; it is only to be understood. Now is the time to understand more, so that we may fear less."



## **Event: Scientific writing, peer reviewing and publishing landscape**

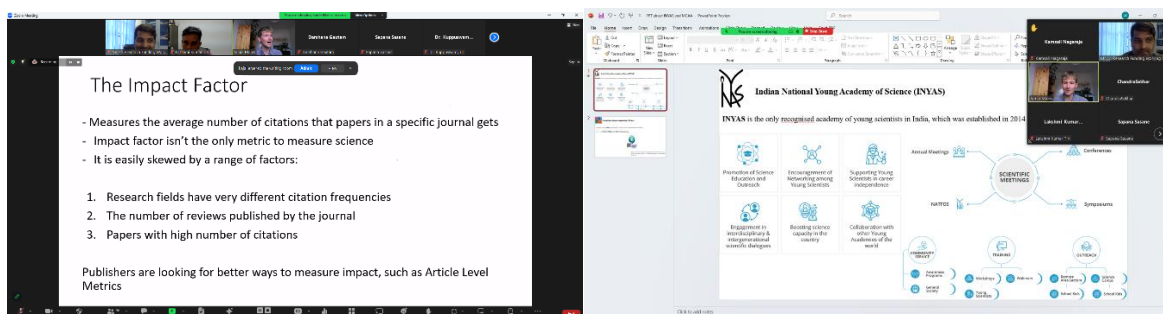
**Date: August 24, 2024**

**Venue of the event: Online**

**Co-ordinator: Ashwani Kumar Tiwari**

**No. of Participants: 100**

Training on scientific writing of articles provides the aspirants, a comprehensive way forward in professionally presenting the research findings to the scientific community. Various technical aspects of scientific writing such as the credentials of authorships, inclusion of data sources, acknowledging the non-author contributors will be dealt with. Further the learning of the peer reviewing processes will enable the scientific experts / researchers to know the various steps such as review without any bias, making the recommendations on the publication of the manuscripts. The publishing landscape caters the vast information on the different appropriate avenues to publish the manuscripts which will help to bring the limelight for the manuscripts and the authors in the scientific and research community. Knowing the importance of the above, the School of Environmental Sciences, Jawaharlal Nehru University, India, organized an Online Session on Scientific Writing, Peer Reviewing and Publishing Landscape” on 27th Aug 2024 from 3.00 pm to 4.30 pm IST. This event has been associated with the Research Funding Working Group – Marie Curie Alumni Association (RFGW-MCAA) and the Indian National Young Academy of Science (INYNAS). The speaker of the session is Dr. Jamie Males, Executive Editor of PLOS Climate Journal. The registrations of the webinar are 229 from seventeen (17) countries. The session enlightened the participants on the various aspects of the topic, with numerous examples and illustrations. The session was highly interactive, and the participants thoroughly enjoyed the session and the topic.



## **Event: School teacher's enrichment workshop**

**Date: 3<sup>rd</sup> September, 2024**

**Venue of the event: IIT Madras**

**Co-ordinator: Anuj Jakhar**

**No. of Participants: 30**

The event aimed to enhance the mathematical understanding of government school teachers

from Tamil Nadu and included several key components: Engaging Lectures: We had insightful sessions led by Dr. Srinivas Kotyada (IMSc, Chennai), Dr. Vijay Kodiyalam (IMSc, Chennai), Dr. Anuj Jakhar (IIT Madras), and Dr. G. Arunkumar (IIT Madras), covering various topics in Mathematics. Heritage Centre Visit: The participants visited the Heritage Centre at IIT Madras, which was a highlight of the day. The visit was well-received and added a unique dimension to the workshop. Interactive Sessions: Throughout the day, there were opportunities for the participants to engage in discussions and ask questions, fostering a collaborative learning environment. All participants completed the feedback form and agreed that such events are highly beneficial for them. They also expressed that these events should be held on regular intervals.



### **Event: Awareness on Electron Accelerators for Societal Welfare**

**Date: 3<sup>rd</sup> September, 2024**

**Venue of the event: Electron Beam Centre, Bhabha Atomic Research Centre  
Kharghar, Navi Mumbai**

**Co-ordinator: Krishna Kumar Singh**

**No. of Participants: 65**

A one day outreach event was organized at the Electron Beam Centre (EBC) of the Bhabha Atomic Research Centre (BARC), Mumbai by the INYAS members. It was targeted for the



under and post graduate students of two local colleges to make them aware of the research and development activities being carried out in the vibrant field of electron beam technology at BARC. More than 60 students from Mahatma Phule Science, Arts and Commerce College, Panvel and C. K. Thakur College, New Panvel, participated in this one-day event held on September 03, 2024. Event started with a welcome address by the Project Manager of EBC followed by an introduction to the activities and scopes of INYAS by Dr. Brindaban Modak. A senior official associated with the EBC, an endeavor for the electron beam technology for industrial accelerators, gave a detailed presentation on various aspects of the accelerator facility and explained the basics to the students. A group of researchers from the EBC showed each and every part of the 10 MeV Radio Frequency Linear accelerator and 1 MeV DC accelerator to all the participants divided in two teams. The applications of these electron accelerators were explained in details which cater different fields including food, medical, agriculture, research, security, industry and waste managements. Students were very enthusiastic and excited by the technologies developed at the EBC. All participants extended sincere thanks to the INYAS team for organizing such event focused on visiting the facilities of national importance for technical awareness.



---

**Event: Igniting Young Minds – An Interaction Program on Science and Career Awareness**

**Date: 11<sup>th</sup> September, 2024**

**Venue of the event: Army Public School Tezpur, Assam**

**Co-ordinator: Pankaj Barah**

**No. of Participants: 100**

On 11th September, the Indian National Young Academy of Sciences (INYAS) organized an inspiring outreach event at Army Public School, Tezpur, Assam. Coordinated by Dr. Pankaj Barah of Tezpur University, the event engaged 100 students from classes 9 to 12. Dr. Barah delivered a session on recent career trends in STEM, providing insights into future opportunities in science and technology. Dr. V. Ramanathan (INYAS Alumni, IIT-BHU Varanasi) delivered a motivational speech and led hands-on science experiments, encouraging students to actively explore scientific principles. The event was further

enhanced by the participation of Mrs. Banani Hazarika (Principal, APS Tezpur), Dr. Nayanmoni Gogoi (Tezpur University), and Mr. Ankeet Ghosh (APS Tezpur), creating a dynamic and motivating atmosphere for the students. The outreach event at Army Public School, Tezpur, organized by INYAS, successfully ignited curiosity and excitement among the students about the vast possibilities in STEM fields. Through insightful sessions, engaging experiments, and motivational guidance from esteemed speakers, the event fostered a spirit of exploration and learning, inspiring the next generation to pursue careers in science and technology.

**Event: Science Camp “Biology Beyond Books: Hands-On Experience with Advanced Zoology Tools and Techniques in Modern Biology”**

**Date: November 28, 2024**

**Venue of the event: Central University of Jammu**

**Co-ordinator: Shweta Yadav**

**Name of Zone (in case zonal event): NA**

**No. of Participants: 60**

Department of Zoology, Central university of Jammu on 28th of November 2024 organized SCIENCE CAMP on “Biology Beyond Books: Hands-On Experience with Advanced Tools and Techniques in Modern Biology” in collaboration with Indian National Young Academy of Science (INYAS) in Commemoration of 10th Year Celebration of Indian National Science Academy (INSA). The camp was attended by 12th class students of Govt. Higher Secondary School, Marheen, Kathua, Jammu and Kashmir. Science camps inspire students to pursue careers in science, technology, engineering, and mathematics (STEM). The camp was attended by around 55 students along with their teachers. The students were exposed to the High-End Labs in the Department of Zoology and also paid a visit to Satish Dhawan Research Centre, Central University Jammu where they observed the launch of Radio Sonde, a weather balloon launched to measure atmospheric parameters which transmits the signals from radio to ground receivers. This science camp provided an excellent opportunity to the students from rural area for hands-on experience with scientific concepts and experiments for students. Not only this fostered curiosity, creativity, and critical thinking but also helped the students in developing problem-solving skills and analytical thinking. Students got a good opportunity to interact with scientists and experts.



---

**Event: Lab In A Box**

**Date: December 1, 2024**

**Venue of the event: Ranjit Singh Rozi Shiksha Kendra, IIT Kanpur**

**Co-ordinator: Sudhanshu Shekhar Singh**

**Name of Zone (in case zonal event): NA**

**No. of Participants: 30**

Indian National Young Academy of Sciences (INYAS) and Ranjit Singh Rozi Shiksha Kendra (RSK) at IIT Kanpur organized “LAB IN A BOX” event on December 1, 2024. Students from class XI and X of Ramjanki Inter College Bithoor, Kanpur visited RSK at IIT Kanpur. Students were first shown demonstrations of different science (predominantly physics) experiments which are related to their course work. Later, students carried out a few experiments by themselves. Students enjoyed a lot as they were able to correlate the theory, they have learnt in the text book. Students from class XI and X of Ramjanki Inter College Bithoor (Kanpur) enjoyed the session on hands-on science experiments at Ranjit Singh Rozi Shiksha Kendra at IIT Kanpur.






---

**Event: World Nuclear Energy Day**

**Date: Dec 2, 2024; Dec. 9 and 10, 2024**

**Venue of the event: VJTI, SIES and Satheye College, Mumbai**

**Co-ordinators: Neetu Jha, Hitesh Pawar, Vivek Parkar**

**Name of Zone (in case zonal event): West Zone**

**No. of Participants: 192**

In all the three colleges program started by introducing the INYAS members and speakers. The members briefed the audience about INYAA followed by the talk on nuclear energy. Mr. Uday shared the actual facts about nuclear energy and its status in India with the students and explained how nuclear energy will benefit the nation in the future. He also spoke about different types of reactors and presented an educational video on the NPCL Tarapur reactors, which was very fascinating. Additionally, he compared coal and nuclear energy, highlighting that carbon emissions are the lowest in nuclear energy compared to other energy sources. Using examples, he demonstrated how nuclear power is clean and green, making it an essential energy source for sustainable development. Following the presentation, many students asked questions to clarify their doubts. For instance, one student asked how nuclear

waste is managed. A total of 140 students from different departments of VES College attended the event. The session was highly interactive and informative for all participants. This event was one of the most successful events due to the high level of enthusiasm observed among the students. This talk is also apt, taking a look at the present scenario where availability of renewable energy requirement is talk of the town due to its high significance. This completely affects our life style and basic requirements. This talk also took care of the safety aspect of nuclear energy.



## *Conferences/Seminars/Webinars*

### Conferences/Seminars/Webinars, Workshop

#### **Event: One-day Workshop on High school Teachers Training for Effective Teaching methods**

**Date: 13 January, 2024**

**Co-ordinators: Vinayak Kamble**

**No. of Participants: 7**

A one-day workshop on "High School Teachers Training for Effective Teaching Methods" was conducted at IISER Thiruvananthapuram on January 13, 2024. It was organized with the support of INYAS and the IISER TVM Science Activity Centre. The program was inaugurated by Prof. S. Sreenivasula Murthy, Deputy Director of IISER TVM. Dr. Veda Krishnan, Secretary and CC member of INYAS, gave a presentation on INYAS activities, mandates, and objectives. The event was attended by seven high school teachers out of the 20 registered, primarily those teaching science or geography at the high school level. Dr. Shamin Padalkar from TISS Mumbai demonstrated how to address misconceptions and teach concepts related to planetary motion, astronomy, earth, and geography. She discussed topics such as three-dimensional space, the notion of absolute north, the concept of up and down relative to the Earth's surface, motion on the surface, moon phases, and Earth-Moon relative motion, using demonstrations with a globe and role plays. Her session was very well received, with active participation from the attendees in the role plays and demonstrations. In the afternoon session, two talks were scheduled to educate the teachers about the concept of space in the universe, sky observation, space missions, and ISRO activities. Dr. Shabnam Iyyani and Dr. Ankush Bhaskar delivered these talks. Both lectures involved the audience through questions and discussions.





**Event: Days National Workshop on “Multidisciplinary Approaches on Recent Trends and Emerging Opportunities in Career Growth”**

**Date: 24-31 January, 2024 Co-ordinator: Vishal Mishra No. of Participants: 400+**

The holistic approach helps students transfer knowledge and cross-learn multiple subjects simultaneously. It helps students revamp critical thinking time management, upscale their communication skills, and improve their research methods. The perspective on multidiscipline is related to a postmodern approach of learning for fluctuating market conditions and transferrable job skills. It focuses on building a cohesive relationship between academics, the relevant industry, and government institutes so that students do not face any challenges when they enter the business world. This also helps them reinforce the growth of environmental science and technology in their respective industries. The multi-disciplinary approaches also train students in areas like natural resource management, socio-economics, public policy and entrepreneurship, keeping the principles of sustainable development in mind.



**Event: 2nd Aerosol Winter School MANTHAN (Minds on Air quality human health & climate Nexus) – 2024**

**Date: Feb 26 – March 1, 2024**

**Co-ordinator: Shweta Yadav**

**No. of Participants: 80**

Hon'ble L.G. UT of J&K Shri Manoj Sinha Ji inaugurated the 2nd Aerosol Winter School MANTHAN (Minds on Air quality human health & climate Nexus) – 2024 in Central University of Jammu on 26th February 2024. The 5 days intensive program was organized by CU Jammu in collaboration with Sindhu Central University, UT of Ladakh, and Indian National Young Academy of Science (INYAS-INSAs). In his inaugural speech, the Hon'ble L.G. stressed upon the participation of all the stakeholders for better air quality in the UT and he congratulated the Vice Chancellor Prof. Sanjeev Jain and the Aerosol Research Group at the Department of Environmental Sciences, Central University of Jammu

for imparting technical knowledge, intensive training, awareness and an opportunity for capacity building, multi-institutional as well as cross-sectoral collaboration & coordination by organizing 2nd Aerosol Winter School. In all, fourteen subject experts: Prof. A.P. Dimri (IIG, Mumbai), Prof. Sachin Gunthe (IIT, Madras), Dr. Manish Joshi (BARC, Mumbai) Prof. Shubha Verma (IIT, Khragpur), Dr. Ashwini Kumar (NIO, Goa), Dr. Narendra Singh (ARIES, Nainital), Prof. Sagnik Dey (IIT Delhi), Dr. G. Pandithurai (IITM, Pune), Prof. Vinoj V. (IIT Bhubaneshwar), Dr. Sumit Mishra (NPL, New Delhi), Prof. Kiranmayi (IIT Bhubaneshwar), Prof. Gufran Beig (NIAS, Bengaluru), Dr. Ankit Tandon (CU Jammu), and Dr. Shweta Yadav working in various domains of Atmospheric Sciences viz. field measurements, laboratory analysis, and statistical/climate modelling etc. delivered expert lectures on the fundamentals of atmospheric aerosols and their implications on Air Quality, Human Health and Climate. Apart from students & scholars from different institutions in Jammu region, participants from around 10 different institutes and universities (viz. IIT Delhi, IITM, Pune, BHU, PRL Ahmedabad, Central University of Allahabad, Central University of Punjab, Central University of Himachal Pradesh, Kashmir University, Pune University and Jammu University etc.) and scientists from Pollution Control Committees participated and completed this winter school successfully.



### **Event: Workshop on Food Innovation, Analysis and Patenting for Start-ups**

**Date: April 9, 2024**

**Co-ordinator: Meena Krishania**

**Venue of the Event: Govt. Home Science College, Chandigarh**

**No. of Participants: 75**

Workshop on Food Innovation, Analysis and Patenting for Start-ups held on 9th April 2024 at Govt. Home Science College, Chandigarh. The workshop organized by IEP Cell and



Indian National Young Academy of Science (INYAS), gave insights to students about product development, sources of finance available for entrepreneurs, how to get your business registered and patented. Approximately total 75 students of Graduate and Postgraduate from various disciplines of Home Science participated in the workshop. The workshop witnessed engaging sessions led by two speakers, Dr. Meena Krishania and Dr. Vipasha Sharma. Dr. Krishania explained the intricacies of idea generation, product development, analytical analysis techniques, and the critical patenting process, captivating the audience with insightful presentations. shared my expertise knowledge and experience in Chemical engineering, Food Processing, Bioprocessing, and Industrial Biotechnology. Dr. Vipasha Sharma, founder of startup Mkelly and Mushfit and Professor from Chandigarh University, took the audience through her entrepreneurial endeavors. She shared her experiences in manufacturing various highly nutritive food products and other items from cordysep milletaries. Dr. Sharma also shed light on various startup schemes and incubator centres, empowering students with the knowledge and resources to kick start their entrepreneurial journey. The workshop culminated with a heartfelt expression of gratitude from the Principal of the College and INYAS member, encouraging the students to utilize this newfound insight in their research endeavours and entrepreneurial pursuits.

---

**Event: Century of Raman Effect- Science and Technology by Prof. handrabhas Narayana**

**Date: May 16, 2024**

**Venue of the event: IIT Jammu**

**Co-ordinator: Jayaramulu Kolleboyina**

**No. of Participants: 100**



The Indian National Young Academy of Science (INyas) and the Department of Chemistry at IIT Jammu jointly hosted the seminar "Century of Raman Effect: Its Impact on Research in Physics, Chemistry, Biology, and Materials Science" to commemorate Raman spectroscopy's profound influence across scientific disciplines over the past century. Featuring Prof. Chandrabhas Narayana, Director of Rajiv Gandhi Institute of Petroleum Technology, as the keynote speaker, the event highlighted Raman spectroscopy's pivotal role in addressing fundamental challenges in condensed matter physics and its interdisciplinary applications in health sciences and engineering. Nearly 100 attendees, including undergraduate, postgraduate, and doctoral students, participated, reflecting widespread interest in Raman spectroscopy's potential across academia and industry. Prof. Narayana provided historical context on the Raman Effect's discovery by Sir C.V. Raman and discussed its evolution, emphasizing its diverse applications in studying molecular structures and advancing fields such as materials science and biology. The seminar concluded with an engaging discussion on future research directions and practical applications of Raman spectroscopy, facilitated by enthusiastic audience participation. INyas and the Department of Chemistry at IIT Jammu expressed appreciation to Prof. Narayana and all participants for their contributions to the seminar's success. Prof. Chandrabhas Narayana's insightful address underscored the transformative potential of this technique in both theoretical research and practical applications, inspiring a diverse audience of students and researchers. As we reflect on the discussions and insights shared today, it is evident that Raman spectroscopy continues to be a cornerstone of innovation in fields ranging from fundamental physics to cutting-edge biomedical and materials research. Let us harness this momentum to explore new frontiers and collaborations that will further propel scientific discovery and technological advancement. We extend our heartfelt thanks to Prof. Narayana for his enlightening presentation and to all attendees for their active participation, making this seminar a resounding success.



**Event: Multidisciplinary Science Symposium (MSS)**

**Date: June 14 2024**

**Venue of the event: NGSM Institute of Pharmaceutical Sciences Paneer,  
Mangalore, Karnataka**

**Co-ordinator: H S S Ramakrishna Matte**

**Name of Zone: South Zone**

**No. of Participants: 65**

One Day Multidisciplinary Science Symposium (MSS) was jointly organized by Nitte University and Indian National Young Academy of Science (INYAS) by the Department of Pharmaceutical Chemistry, NGSM Institute of Pharmaceutical Sciences, Mangaluru, on 14th June 2024 at Seminar Hall of NGSM Institute of Pharmaceutical Sciences, Paneer, Deralakatte, Mangalore. The symposium has covered under various disciplines like nanotechnology, material science, physics, astrophysics, bio-inorganic chemistry, Perovskite Semiconductors was a resounding success, bringing together experts, researchers, and students from various institutions to discuss latest developments and key issues in the field. The symposium received a very good response, with a total of 64 registrations from reputed colleges from the neighbouring districts of Mangalore. Delegates from 15 institutions from Mangalore has participated in the event. After a rigorous selection process, 50 research scholars/academicians/ were selected for the symposium. On 14th June 2024, the conference commenced with an inauguration function graced by Dr. Harishkumar Madhystha, University of Miyazaki, Japan as Chief Guest of the function. Prof. Dr. M.S. Moodithaya, Vice-Chancellor, Nitte Deemed to be University, presided over the function. Prof. (Dr.) C.S. Shastry, Principal, NGSM Institute of Pharmaceutical Sciences welcomed all the INYAS members. Dr. M.S. Santosh, INYAS-Member, has highlighted about the INYAS with its objectives, selection of the members, outreach programmes. Dr. B.C. Revanasiddappa, Coordinator has given some insights about the symposium. The scientific sessions were enlightening, with Dr. Aditya Sadhanala, delivering an informative lecture on Perovskite Semiconductors activities in India, followed by H S.S. Ramakrishna Matte emphasizing Inorganic Materials and their Applications. The other sessions also featured sessions by Dr. Vinayak Kamble, Dr Shabnam Iyyani, Dr. Reshma Gills, Dr. Amit Vernekar, Dr. Sakthivadivel Duraisamy, Dr. M. S. Santosh, Ms. Rasmi Morajkar. The Valedictory function was graced by the presence of Prof. (Dr.) C.S. Shastry, Principal, NGSM Institute of Pharmaceutical Sciences, presided over the function. Some of the delegates and INYAS members expressed their feedback about the symposium. Through insightful discussions, informative and engaging presentations, the symposium provided a platform for attendees to explore the latest trends, challenges, and opportunities in this rapidly evolving field.



## **Event: National Research Workshop on “Mastering the Art of Science Research Proposal Writing: Expert Insights for Securing Funding”**

**Date: July 27 2024**

**Venue of the event: Sacred Heart College, Thevara Kochi**

**Co-ordinator: Vinayak Kamble**

**Name of Zone (in case zonal event): South Zone**

**No. of Participants: 75**

The grant writing workshop was conducted on 27th July 2024 at S.H. college Thevara, Kochi, for research scholars and college teachers, focusing on key aspects of successful grant applications. The workshop highlighted the importance of understanding the



funding agency's mission and aligning proposals with their priorities. Experts provided insights into crafting compelling narratives, emphasizing clarity, coherence, and the significance of a well-structured budget. Participants were guided through the process of identifying suitable funding opportunities, and they engaged in interactive sessions that included proposal writing exercises and peer review. Emphasis was placed on the importance of presenting a strong rationale for the proposed research, demonstrating its impact, and ensuring feasibility. The workshop also covered common pitfalls in grant writing, such as overlooking guidelines or failing to address the review criteria comprehensively. Through real-life examples and case studies, participants learned strategies to enhance the competitiveness of their proposals. The workshop was attended by 75 participants



from Kochi and around 100 km radius, the large fraction of them were PG teachers in colleges and PhD students registered in CUSAT or MG university Kottayam, Kerala. The workshop provided tips on effectively communicating with funding agencies and responding to reviewers' comments. By the end of the workshop, attendees were equipped with practical tools and knowledge to increase their chances of securing research funding.

### **Event: To Know About MSCA Doctoral Network**

**Date: August 7, 2024**

**Venue of the event: online**

**Co-ordinator: Ashwani Kumar Tiwari**

**Name of Zone (in case zonal event): NCR Zone**

**No. of Participants: 104**

### **Major key takes away from the organised event**

The key context of lecture was –

- Different dimensions of MSCA working
- Different levels of the Doctoral networks (DN)
- Expected outputs for Doctoral candidates and participating organisations
- Strategies of Doctoral networks a bottom-up scheme
- Mode of implementation
- Eligibility of Participants and countries
- Funding mechanism

- Criteria of award
- Procedure to apply
- Important resource link

### Concluding remarks of the event

The program was highly participatory, informative, and successful. The Speaker presented comprehensive information on the MSCA doctorate network and its global importance, including details on the application guidelines, the scholarship, and other available facilities. Additionally, the Speaker discussed the opportunity for a collaborative academic and industrial PhD through this call.

The screenshot displays a Zoom meeting in progress. The main window shows a presentation slide titled "Eligible participants" which lists criteria for who can apply (Any Legal Entity worldwide, But not all applicants are eligible for funding) and consortia (Academic and non-academic sectors). Below this, it mentions "Min. 3 entities from 3 ~ MS/AC of which 1 from a MS as beneficiary" and "No minimum / maximum number of Associated Partners". The slide also lists eligible sectors: Universities, research institutions and research infrastructures; Businesses including SMEs; and Other socio-economic actors.

The next slide, "MSCA-DN Strategic Value", features a diagram showing the network's structure and lists benefits: Structuring Effects (Positive impact lasting beyond the lifetime of the project, Structuring the European Higher Education Area and the European Research Area, Ripple effect catalysing institutional culture), Being a Trend-setter (Emphasis on transferable skills, Emphasis on integrating non-academic sector, Career development plan, Guidelines on supervision, Green Charter), and Attractiveness of European Programmes (Wider access to courses, expertise and infrastructure, Skills for innovation and long-term employability, International and interdisciplinary experiences widening career prospects, Better visibility of European doctorate programmes).

The bottom section of the screenshot shows a presentation slide for the "Indian National Young Academy of Science (INYAS)" with its logo, address (Bahadur Shah Zafar Marg, New Delhi – 110002), and a photo of a group of people. The slide also mentions "Initiatives of INYAS towards science promotion and empowering young scientists" and "Pankaj Kumar Alumni INYAS and Scientist F- IUAC Delhi". A chat window is open in the bottom right corner with the message: "From Naveen Raja to everyone. Viswas Sir Can We get your mail id".

**Event: National Symposium On Futuristic Green Energy Technology**

**Date: July 23 2024**

**Venue of the event: Virtual**

**Co-ordinator: Manoj Kumar Gupta**

**No. of Participants: 300**

The Department of Physics and CSIR-Advanced Materials Processes Research Institute (CSIR-AMPRI) in association with INYAS have jointly organized “NATIONAL SYMPOSIUM ON FUTURISTIC GREEN ENERGY TECHNOLOGY” under CSIR – Jigyasa -Skill India program on 23-07-2024 through ZOOM platform for school students, faculty members, diploma Students and research scholars. Dr. A. Senthil, Associate Professor, Physics and Convener of the Program welcomed the gathering. Dr. Avanish Kumar Srivastava, Director, CSIR-AMPRI has delivered a keynote address for Skill India Program. Dr. T.Beena, Assistant Professor (SG), Department of Physics has introduced the resource person Dr. Manoj Kumar Gupta, INYAS Member, Scientist, CSIR-AMPRI, Bhopal and Chaired the first Session. Dr. Manoj Kumar Gupta has delivered the lecture on the topic “Next Generation Green Energy Technology for Powering Portable Devices”. He discussed about Nanomaterials to Nanodevices and elaborately explains the fundamental concepts of Nanomaterials, Nanocomposites, Piezoelectric Nanogenerators and its applications. Dr. A. Nataraj, Assistant Professor (SG), Department of Physics, introduced our second resource person Dr. S. Sudhakar, Principal Scientist, CSIR-CECRI, Karaikudi and chaired the second session. Dr. S. Sudhakar has delivered the lecture on the topic “Science and Technology for Sustainable Development”. He explained elaborately about Fuel cells, capacitors and its working concepts. Dr. A. Senthil, Associate Professor, Department of physics introduced our third resource person Dr. Archana Singh INYAS Member, Principal Scientist, CSIR-AMPRI, Bhopal and chaired the third session. Dr. Archana Singh has delivered lecture on the topic “Carbon Free Energy: Hydrogen towards Sustainable Future organic Light Emitting Diodes with improved Electron Injection”. She discussed about carbon free energy sources and hydrogen sources for future technology. She clearly explained about working concepts of hydrogen storages and its Applications. We have received overwhelming registrations, 300 participants including faculty from all over India, research scholars and school students attended the Skill India program. The participants gave very good feedback. The resource persons thanked the management and organizers for arranging the Skill India program. Dr. Satanand Mishra, Senior scientist and Jigyasa coordinator proposed the vote of thanks. The Convener of the Symposium Dr. A. Senthil thanked the resource persons, Management, Directors (Ramapuram Campus), Dean (E&T), Dean (Academic), Dean (Admin), VP (Admin), HoDs, Faculty members, participants and other officials for their active support for making this program to be successful.





---

**Event: Addressing Chemical Complexity through Molecular Simulations for Engineering Applications**

**Date: October 17, 2024**

**Venue of the event: IIT Jammu**

**Co-ordinator: Jaya Ramulu Kolleboyina**

**No. of Participants:100**

A distinguished seminar titled "Addressing Chemical Complexity through Molecular Simulations for Engineering Applications" was successfully held on 17th October 2024 at IIT Jammu. The event, organized by the Indian National Young Academy of Science (IN-YAS), the Indian Concrete Institute (ICI), and the Department of Chemistry at IIT Jammu, featured an exceptional talk by Prof. Balasubramanian Sundaram from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore. Prof. Sundaram, an acclaimed expert in computational modeling, provided an in-depth exploration of molecular simulations, discussing cutting-edge techniques such as coarse-graining, enhanced sampling, and machine-learned potentials. His presentation addressed crucial engineering challenges, with case studies focusing on water harvesting, gas storage and separation, ethylene glycol solutions, and simple transmembrane molecules. Around 100 students from various disciplines, including physics, chemistry, and civil engineering, attended both in-person and online via Google Meet. Prof. Sundaram's insightful discussion was highly engaging, providing valuable knowledge on the role of molecular simulations in solving chemical complexities for engineering applications. Prof. Balasubramanian Sundaram's seminar on "Addressing Chemical Complexity through Molecular Simulations for Engineering Applications" provided an enriching overview of advanced computational methods in physical chemistry. His presentation effectively demonstrated how molecular simulations, particularly enhanced sampling and machine-learned potentials, are key to addressing engineering challenges such as water harvesting, gas storage, and transmembrane processes. The real-world case studies, especially on salt solutions and glass formation, highlighted the practical impact of these techniques. The talk offered valuable insights to students and professionals alike, fostering a deeper understanding of the molecular-level approaches that can transform engineering applications.





**Event: Igniting Curiosity: A One-day Symposium on Advanced Science for Young Researchers**

**Date: November 8, 2024**

**Venue of the event: School of Chemical Sciences, Goa University**

**Co-ordinator: Amit Ashok Vernekar**

**Name of Zone (in case zonal event): NA**

**No. of Participants: 135**

The symposium "Igniting Curiosity: A One-day Symposium on Advanced Science for Young Researchers" was successfully held at the School of Chemical Science, Goa University, Goa, on 8th November 2024. The event aimed to promote science among young researchers by providing students with exposure to advanced research through talks delivered by emerging scientists, including INYAS members from leading institutes across the country. The symposium covered cutting-edge topics in therapeutics, sustainability, sensors, and energy, which sparked participants' curiosity and inspired them to gain new insights. This exposure empowered them to develop advanced solutions and envision ideas for sustainable development. Furthermore, the symposium provided an excellent platform to explore diverse fields of expertise, enhancing participants' ability to engage in interdisciplinary research and discussions that could lead to new ideas and applications. It also offered a valuable opportunity for young scientists, including M.Sc. and research students, as well as faculty members, to connect with peers and established researchers. These interactions facilitated discussions on scientific concepts, research challenges, and potential collaborative opportunities, ultimately helping participants build a supportive network for future interdisciplinary initiatives. The symposium successfully achieved its goal of promoting scientific curiosity among the next generation of researchers. In addition to INYAS, this symposium was also supported by several leading organizations like TFL, Riviera Glass Pvt. Ltd., Pharmbioz Healthcare Pvt. Ltd., Shree Chemicals, Jay Chem and SRL-India. Through insightful talks and networking opportunities, participants gained valuable knowledge and inspiration, promoting interdisciplinary research with a newer look into existing problems. The symposium also presented collaboration opportunities among the faculty members of Goa University and affiliated institutes with the speakers.





### Logo Design Competition for 10th year celebration of INYAS

The Competition was open only to INYAS members and alumni. The participant must be the same person who has designed the logo and the tag-line, and any plagiarism was not allowed. Entries were judged on creativity, originality, composition, technical excellence, simplicity, artistic merit and visual impact and how well they communicate the ethos of INYAS' 10th year celebration.

Some of the received entries are given below.



## **INyas Flagship Event “PRAYOJAN”**

**Date: April 27- 28, 2024**

**Venue of the event: Online**

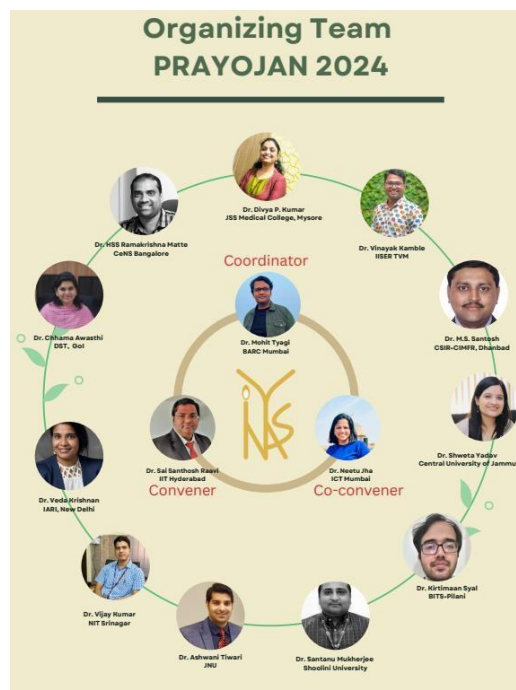
**Convenors: Sai Santosh Kumar Raavi and Neetu Jha Core Committee coordinator:**

**Mohit Tyagi**

**INyas Flagship Event**

**No. of Registered Participants: 303**

Post-PhD: Research, Academia, and Industry Opportunities, science Journalism, grant writing and Networking (PRAYOGAN) is a flagship event of INyas (Indian National Young Academy of Science), INSA, New Delhi. The event targets post-doctoral and early career researchers to provide awareness about career opportunities post-Ph.D. in academic, industrial, academic publishing, and science communication domains. This year we have introduced two new topics. (One) is on the *Career Opportunities in Entrepreneurship and Startup*, and (Two) *Self Development*. This year the number of registered participants is 303 a significant increase from the earlier edition proving the importance of PRAYOJAN in shaping the thought process of the participants



The program consisted of eight sessions spread over 2 days. And 27 eminent speakers. The Inaugural address was delivered by Dr. Sanjay Kumar Mishra, Scientist H, Dept. of Biotechnology, New Delhi and the Valedictory address was delivered by Dr. Srinu Kaveri, Director, CNRS Bureau in India, Embassy of France, New Delhi. Below are the details of the technical sessions:

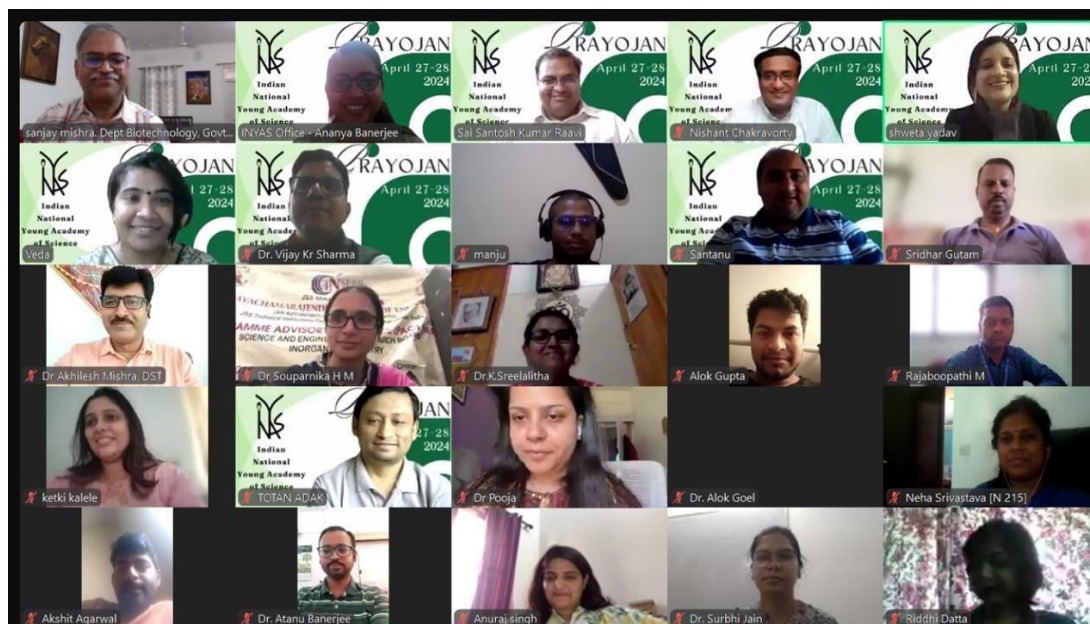
Session 1	National Post-Doc Opportunities
Session-2	International Research Opportunities
Session-3	Experience Sharing by Fellowship Recipients
Session-4	CV Building & Self Development
Session-5	Career Opportunities in Academic Publishing and Science Communication
Session-6	Career Opportunities in Entrepreneurship and Startup
Session 7	Career Opportunities in Industry and Academia
Session 8	Grant Writing

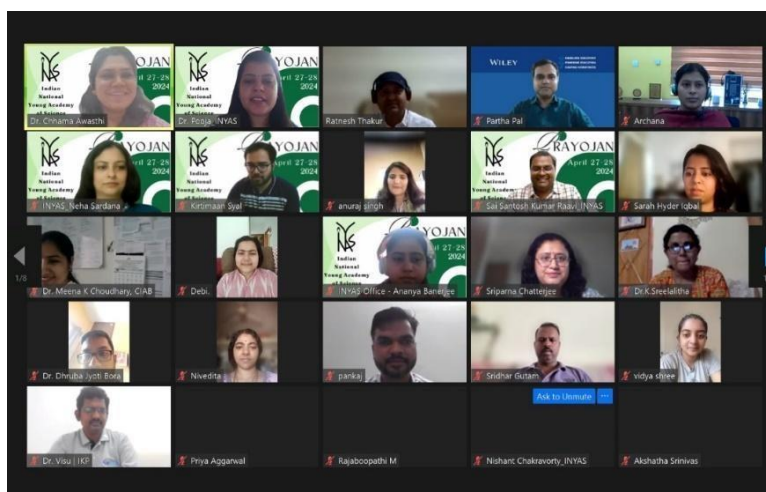




The most important takeaway for participants who have attended are.

1. Information on Career
2. Clarity on non-traditional post-PhD career paths
3. Contacts and networking
4. Various possible opportunities in areas like science communication etc.
5. Funding opportunities for post-PhD research in academia and industries.







### **INyas Flagship Event “WISDOM”**

**Event:** Work and Industry Neutral Growth Skills (WINGS) 2024 Capacity Building Workshop

**Date:** 08-10 August, 2024

**Venue of the event:** Victor Menezes Convention Centre (VMCC), IIT Bombay

**Co-ordinators:**

*Dr. Veda Krishnan (Secretary, INyas and Convenor, WINGS-2024)*

*Dr. Shobhna Kapoor (Convenor, WINGS-2024)*

**Name of Zone (in case zonal event):** National Event

**No. of Participants:** ~200

#### **Major key take away from the organised event**

1. Bridging the Gender Gap in Science, Technology, Engineering, Arts, and Mathematics (STEAM); empowering women through targeted capacity-building initiatives.
2. Launch of Pioneering Publications
  - A comprehensive report on Women in Scientific Domain (WiSDom) 2024 initiatives that included WINGS, NAARI, GIRL Programme, and HER Story.
  - The release of the WINGS-2024 Brochure that detailed the event's vision, mission, themes, and profiles of participants and facilitators.
  - A retrospective report on WiSDom 2023, showcasing impactful discussions from the "STEAM Gap" initiative at IIT Gandhinagar.
3. Visionary Sessions and Panel Discussions

The workshop shed light on themes such as ethical leadership, intellectual property rights, and sustainability while addressing critical challenges like the "Leaky Pipeline" and "Imposter Syndrome." The speakers and esteemed panelists across institutions in India shared their valuable insights and strategies to enhance inclusivity and leadership opportunities for women in STEAM fields. Additionally, the event featured interactive activities, including SWOT analysis and personality assessments, aiming for self-awareness and encouraging participants to identify and build on their strengths for personal and professional growth.

4. Keynote moment and recognitions

In this, Dr. Parvinder Maini emphasized the value of emotional intelligence and shared key leadership principles, including the "3 R's" – Realisation, Recognition, and Repetition followed by a panel discussion on how institutions can support women in STEM and ways to empower women to take on leadership roles. The organizing committee received gratitude hampers, and participants were awarded certificates for their active participation.

#### **Concluding remarks of the event**

WINGS-2024 ended on a positive and hopeful note with an encouragement of meaningful discussions. The platform provided participants opportunities to connect, learn, and grow, with ideas that can bring lasting changes in academia and industry. During the valedictory session, Prof. Pratibha Sharma, Dean (Academic Programmes), IIT Bombay, praised INyas for promoting gender equality and leadership in STEAM. Dr. Nishant Chakravorty, Chair, INyas, thanked everyone involved, followed by a group photo to celebrate the teamwork. The success of WINGS-2024 sets a strong foundation for future initiatives to empower women and promote inclusivity in STEAM fields.





Other events under WISDOM are planned as depicted below



## **Awards, Recognitions, and Achievements by INYAS members**

**Ashwani Kumar Tiwari:** Has been honored with the “**Best Lightning Talk Award in the category Environmental Science and Environmental Sustainability at the Marie Curie Alumni Association (MCAA) Annual Conference, Milan, Italy, 2024**” by Marie Curie Alumni Association. Has been honored with the “**Young Scientist Award in Groundwater Investigation and Management 2022**” by the Indian National Chapter - International Association of Hydrogeologists (INC-IAH) in January 2024



**Divya P. Kumar:** Has been honored with the “**Young Investigator Award 2024**” by the Indian National Association for Study of the Liver (INASL). She has been honored with the “**Research Excellence Award 2024**” JSS Medical College, JSS AHER, Mysore- May 2024.



**H S S Ramakrishna Matte:** Has achieved the “**Research Stays for University Academics and Scientists, 2024**” by DAAD.

**Jiban Jyoti Panda:** Has been honored with the “**INSA-lectureship Award 2024**” by the Indian National Science Academy- 2024.

**Kiran Bala:** Received “**NASI membership, 2024**” by the National Academy of Sciences, India

**Krishna Kumar Singh:** Recognised as the “**Member of the International Astronomical Union (IAU)**” by the International Astronomical Union- June, 2024.

**Nisha Singh:** Has received “**SERB-Women Excellence Research Grant 2024**” by the Department of Science and Technology, Science and Engineering Research Board, GoI- March,



2024. She has also been honored with the “**Best Scientist Award in Agriculture Science for outstanding contribution in the field of Bioinformatics on the occasion of the 9th International Conference on CAABASSD-2024, 3rd March 2024.**” by the National Environmental Science Academy. Has been honored with the “**Best Young Scientist Award in Bioinformatics-2024**” by the National Environmental Science Academy- April 2024.



**Nagarajan Subbiah:** Has been honored with the “**Best Young Researcher Award (Sciences) [In recognition of outstanding contribution to the Institute as a teacher, researcher, trainer, and an educational administrator 2023]**” by NIT Warangal and Alumni Association of NIT Warangal.

**Pooja Devi:** Has received membership of “**Global Young Academy**” - January, 2024. Has been honored with the “**Distinguished Young Alumnus Award IIT Roorkee**” by IIT Roorkee- August, 2024.



**Prashant Kumar:** Has been honored with the “**Vigyan Yuva Shanti Swarup Bhatnagar award**” by Rashtriya Vigyan Puraskar (RVP)- August 2024. Has been honored with the “**Rashtriya Vigyan Puraskar-2024: Vigyan Yuva - SSB**” by the National Academy of Sciences India- August, 2024



**Rishemjit Kaur:** Has received “**NASI membership, 2024**” by the National Academy of Sciences, India.

**Sakthivadivel Duraisamy:** Has been honored with the “**Fellow Award 2024**” by The Academy of Sciences, Chennai- March, 2024. Has also been honored with the “**ISTE-Sayed Sajid Ali Memorial National Award**” for Outstanding Research Work in the field of Renewable Energy in India” by the Indian Society for Technical Education (ISTE)- June, 2024.



**Sai Santosh Kumar Raavi:** Recognised as a “**Fellow, Royal Society of Chemistry (FRSC) 2024**” by the Royal Society of Chemistry, UK. Also recognized as the “Fellow of Telangana Academy of Sciences (FTAS) 2024” by the Telangana Academy of Sciences (TAS). He has also been honored with the “**Faculty Research Excellent Award 2024**” by IIT Hyderabad.



**Santanu Mukherjee:** Has received “**NASI Membership-2024**” by the National Academy of Sciences, India. Has achieved “**Chancellor Fellowship for Outstanding Faculty-2024**” by Shoolini University- July, 2024.

**Santosh Kumar Gupta:** Selected as “**Member of the prestigious Global Young Academy (GYA)**” for outstanding research contributions and societal outreach activities. Also selected as “**Fellow of the Maharashtra Academy of Sciences (FMASc)**” by the Maharashtra Academy of Science, Pune for exceptional Contribution in Chemical Sciences. Recognized as “**Fellow of the Royal Society of Chemistry (FRSC)**” by the Royal Society of Chemistry, London.

**Shweta Yadav:** Recognised as the “**Member of the International Commission on Clouds and Precipitation (ICCP) Executive Committee.**” by the International Commission on Clouds and Precipitation (ICCP)- July, 2024

The ICCP is a Commission of the International Association of Meteorology and Atmospheric Sciences (IAMAS).

**Tarun Sharma:** Recognised as the “**INSA Distinguished Lecture Fellow 2024**” by the Indian National Science Academy. Also recognized as the “**Fellow of the Royal Society of Biology (FRSB) 2024**” by the Royal Society of Biology (FRSB).

**Mohit Tyagi:** Conferred the most prestigious DAE Homi Bhabha Science and Technology Manpatra 2024.



**Veda Krishnan:** Recognised as the “**INSA - young associate in the field of Agriculture, 2024**” by the Indian National Science Academy. Has also received membership in the “**Global Young Academy**” by the Global Young Academy- 2024. Was also recognised as the “**NASI member in Biochemistry 2024**” by the National Academy of Sciences, India.

**Veerendra Kumar Sharma:** Recognised as the “**INSA Distinguished Lecturer Fellow (2024)**”



by the Indian National Science Academy

**Vinayak Kamble:** Selected as “**Editorial board member of Discover Applied Sciences journal (Springer Nature)**” by Springer Nature- August, 2024.

**H S S Ramakrishna Matte:** Has been honored with the “**The World Academy of Sciences Young Affiliate (2024–2029)**” by TWAS , also presented with **Best Innovator from Republic of India – 7th BRICS Young Innovator Prize, Sochi, Russia**” by BRICS and also **Commonwealth Professional Fellowship (UK)** “ by Government of UK.

**Jai Prakash:** Has been honored with the “**IAPT-Dinabandhu Sahu Memorial Award-2024**” by the Indian Association of Physics Teachers, 2024. He was also honoured by “**ILCS Bronze Medal Award**” by the Indian Liquid Crystal Society.



**Jiban Jyoti Panda:** Selected for **ASEAN-INDIA Women Scientists Conclave (AIWSC), 24-26 April, 2024 Singapore**, by the ANRF, India and ASTAR, Singapore, 2024.

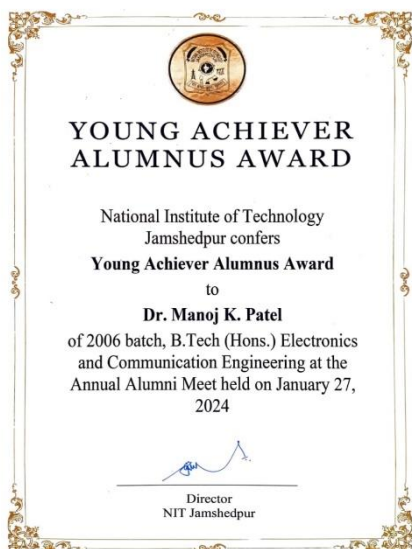
**Kutubuddin Molla:** Has received “**Prof. Sushil Kumar innovation Award-2024**” by the Flora and Fauna Science Foundation at the CSIR-National Botanical Research Institute (CSIR-NBRI), Lucknow.



**Manil T. Mohan:** Has been honored with the “**A.M. Mathai Award-2024, instituted by the Indian Mathematical Society for best research paper (single author) published in the year 2023 and Prof. Bal Krishna `Outstanding Teacher Award (2024)**” by Indian Mathematical Society and IIT Roorkee



**Manoj K Patel:** Has been awarded the prestigious “**D Young Achiever Alumnus Award 2024**” by the alma mater National Institute of Technology (NIT), Jamshedpur. He has also been awarded the “**CSIR Raman Research Fellowship for the 2024-2025 to visit the Polytechnic of Leiria, Portugal**” by the CSIR, Ministry of Science and Technology, Govt. of India. He was also appointed as the “**Secretary, the Electrostatics Society of America (ESA), USA**” by the The Electrostatics Society of America (ESA), USA



**Manoj Kumar Gupta:** Has been honored with the “**Council of Scientific and Industrial Research (CSIR) – St. Petersburg State University (SPBU), Russia Joint Research Funding Program 2024**” for one month in area of Laser-fabricated nanocomposite flexible nanogenerator for energy and self-powered sensors applications. He will jointly develop the new and innovative laser induced nanostructure to develop the new energy harvesting devices and advanced flexible sensors with Professor Dr. Sci. Alina Manshina, SPBU Russia.

**M S Santosh:** Selected for the **Scientific High Level Visiting Fellowships (SSHN)** programme of the French Institute in India (IFI), Embassy of France in India 2024.

**Neha sardana:** Recognised as “**Outstanding Researcher, Metallurgical and Materials Engineering category**” **VENUS INTERNATIONAL RESEARCH AWARDS – VIRA.**

**Neetu Jha:** Selected as “**Young Associate of Maharashtra Academy of Sciences**” by the Maharashtra Academy of Sciences.



**Nishant Kumar:** Was awarded “**BRICS Young Scientist**” felicitated by the DST, Govt. of India to represent India in 9th BRICS Young Scientist Forum (held in Russia, Sochi, 25-29 November 2024), he also received the “**Young Researcher Award**” IIT Jodhpur, Aug. 2024, as well as he received “**Researcher Excellence Award**” IIT Jodhpur, Aug. 2024.



**Pankaj Barah:** Has been awarded the prestigious “**Dr. J.N. Baruah Science Award in Biological Sciences for 2024**” by the Dr. J.N. Baruah Trust, Assam Science Society (Jorhat Branch), and CSIR-NEIST, Jorhat.

**Paramdeep Singh:** Recognised as the “**National Best Medical Teacher Award**” by the Indian Medical Association (IMA).





**Sai Santosh Kumar Raavi:** Has been honoured by the “**JSPS Invitational Fellowship for 2025**” by Japan Society for Promotion of Sciences (JSPS).



**Sanjay Singh:** Has been recognised as the “**Emerging Leaders, in applied physics (2022)**” by the **Journal of Physics D: IOPScience**.

**Santanu Mukherjee:** Has received “**IBI-ITALY study tour scholarship**” by the IBI and has also received the “**JSPS Invitation Fellowship-2025**” by JSPS and was also selected as the “**Nature-Scientific Report Editorial Board Member**” by the Nature- Scientific Report.

## **New Membership 2024**



**Aijaz Ahamad Dar (In)**

Our group is working in the area of Crystal Engineering with focus on the development of functional materials.

Some of the thrust areas of our interest are: i) Understanding the role of intermolecular interactions on crystal growth ii) Development of multi-stimuli responsive functional materials (sensors and devices) iii) Development of solid state organic luminescent materials with scope of practical applications iv) Development of pharmaceutical cocrystals.

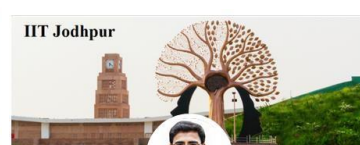
Assistant professor  
Department of Chemistry, University of Kashmir.



**Anuraj Singh**

Mathematical Biology, Nonlinear Dynamical Systems, Control Theory, Information Security, Machine Learning

Associate Professor  
ABV-Indian Institute of Information Technology and Management Gwalior



**Dr. Nishant Kumar**

Power System Optimization and Control; Renewable Energy Generation; Control of Microgrid & Smart Grid; Electric Vehicle; Cybersecurity for Electric Power Infrastructure  
Assistant Professor  
Indian Institute of Technology (IIT) Jodhpur



**Divya Kumar**



**Ashwani Kumar Tiwari**

Hydrogeochemistry, Aquifer vulnerability, Water quality and health, Mining, Water resources management and GIS

Assistant Professor  
Jawaharlal Nehru University (JNU), New Delhi



**Archana Singh**

Electrochemistry, catalysis, material development, hydrogen, CO<sub>2</sub> reduction

Principal Scientist  
CSIR-Advanced Materials and Processes Research Institute, Bhopal



**Brindaban Modak**

Solar Energy Conversion, Catalyst for CO<sub>2</sub> conversion, Energy Storage with Li/Na-ion Batteries, Optoelectronics Applications.

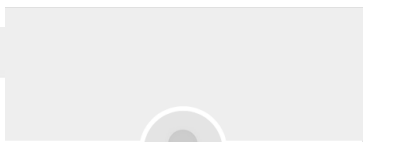
Scientific Officer (F)  
Theoretical Chemistry Section, Chemistry Division, BARC. & Assistant Professor, Homi Bhabha National Institute



**Dr. Reshma Gills**

Governance, Innovative Extension Models, Value Chain Analysis, Gender Mainstreaming

Scientist  
ICAR-Central Marine Fisheries Research Institute, Kochi, Kerala



**Amit Vernekar**

1. Metalloenzyme inspired and mimetic chemistry, 2. Materials chemistry for the development of advanced nanocatalysts, 3. Materials for hydrogen storage and generation

Scientist  
CSIR-Central Leather Research Institute



**Meena Krishania Choudhary**

Valorization of Agri-residues, Bioprocessing, Food Processing, Biomanufacturing, Down stream Scientist  
Center of Innovative and Applied Bioprocessing (DBT-CIAB), Mohali



**Krishna Kumar Singh**

Very High Energy Astrophysics and Astronomy, Radiative Processes and Particle Acceleration in Active Galactic Nuclei, Gamma Ray Pulsars and White Dwarf Binary Systems, Gamma Ray Propagation Effects, Indirect Searches of Dark Matter.  
Scientific Officer - F  
Bhabha Atomic Research Centre, Mumbai



**Manoj Kumar Patel**

Instrumentation, 3D Food Printing, Food Safety, Green Energy, Environment, Healthcare, UAVs, Robotics  
Principal Scientist  
CSIR-Central Scientific Instruments Organisation, Chandigarh



**Manjil Saikia**

Combinatorics, Number Theory  
Assistant Professor  
Ahmedabad University



**Paramita Das**

Functional Nanocomposites, Polymer Composites, Materials for Environmental Sustainability  
Assistant Professor  
IISER Bhopal, Madhya Pradesh



**Ramu Adela**

Biomarkers Discovery, cardiometabolic diseases  
Associate Professor  
National Institute of Pharmaceutical Education and Research Guwahati



**Sandeep Rawat**

Plant biotechnology, Conservation biology and Bioprospecting  
Scientist  
Sikkim Regional Centre, G.B. Pant National Institute of Himalayan Environment



**Shabnam Iyyani Syamsunder**



**Vineet Vashista**

Human-robot physical interaction, rehabilitation robotics, wearable robotics, and collaboration.  
Associate Professor



**Sakthivadivel Duraisamy**

Biomass Gasification, Green Hydrogen, Rural Electrification, Solar Dryer  
Associate Professor  
Vellore Institute of Technology, Vellore



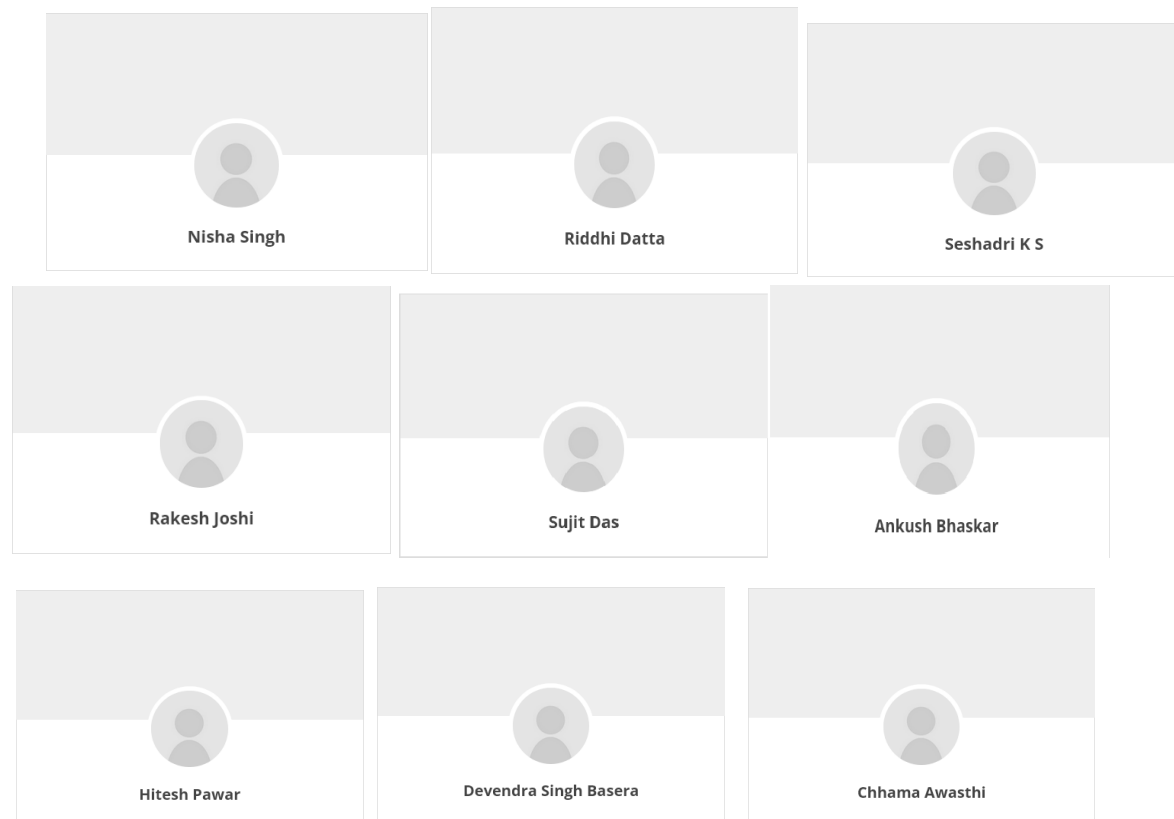
**Sandhya Lakshmanan**



**Totan Adak**

Agricultural Chemistry  
Senior Scientist  
ICAR-National Rice Research Institute, Cuttack, Odisha





2024

भारतीय राष्ट्रीय युवा विज्ञान अकादमी (इन्यास)  
भारतीय राष्ट्रीय विज्ञान अकादमी,  
बहादुर शाह जफर मार्ग, नई दिल्ली - 110002, भारत

Indian National Young Academy of Science (INYAS)  
Indian National Science Academy  
Bahadur Shah Zafar Marg, New Delhi-110002, India



<https://www.facebook.com/INYAS-1662728413946122/>

[@INYAS\\_INSA](https://www.youtube.com/c/INYASYouTube)

<http://inyas.in/>

[inyas@insa.nic.in](mailto:inyas@insa.nic.in) ; [inyasindia@gmail.com](mailto:inyasindia@gmail.com)

# Indian National Young Academy of Science (INYAS)

Indian National Science Academy,  
Bahadur Shah Zafar Marg,  
New Delhi-110002, India



<https://www.facebook.com/INYAS-1662728413946122/>



<https://www.youtube.com/c/INYASYouTube>



@INYAS\_INSA



<http://inyas.in/>



[inyas@insa.nic.in](mailto:inyas@insa.nic.in) ; [inyasindia@gmail.com](mailto:inyasindia@gmail.com)

