

INSA News Letter



Issue 218 April - June 2023



INDIAN NATIONAL SCIENCE ACADEMY, NEW DELHI

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Important Events/ Meetings

The 1st meeting of Search Committee was held online on 8th April, 2023 for recommending names for election of INSA Fellowship under New Category (I-Scientists Working in Technology Missions of National Importance, II-Scholars in the History and Philosophy of Science) to the Council.

The 2nd meeting of the Sectional committees, SC-I to SC-X was held in person except SC-IV and SC-V in hybrid mode at Academy premises on 25th April, 2023 for recommending names for election of INSA Fellowship to the Council.

The following lectures were delivered:

- Golden Jubilee Commemoration Medal Chemical Sciences (2022) Lecture on Natural Products, Our Body, Mind and Well-being by Professor TK Chakraborty, FNA at Mount Carmel College, Bengaluru on 3 April, 2023 under the aegis of Bengaluru Local Chapter.
- Professor Darshan Ranganathan Memorial Lecture (2022) on Computational Mining for Secondary Metabolite-Producing Enzymes within Genomes and Transcriptomes of Medicinal Plants by Professor Ramanathan Sowdhamini, FNA at Ramaiah University, Bengaluru on 21 April, 2023 under the aegis of Bengaluru Local Chapter.

The 2nd meeting of the Search Committee for consideration of New Category Fellowship nominations was held on 4 May, 2023 and the committee's recommendation was placed during the Council meeting on 8 May, 2023.

INSA Council and General Body meeting was held on 8th and 9th May, 2023 respectively. The following activities / announcements were organized on 9th May, 2023.

During the presentation of award ceremony, 28 Young Scientists received the INSA Medal and 2 Professor Har Swarup Memorial Award 2022 from President INSA. In addition, 15 INSA Teachers Awardees received the INSA Teachers award from President INSA.

President, INSA announced the new Constitution of INSA Council 2024:

One President

Six Vice-Presidents (Fellowship Affairs; Science Promotion; Resource Generation and Management, International Affairs, Publications/Informatics, and Science and Society.

And 20 other Fellows making a total of 27.

In addition, Additional Members, one each to be nominated by the

The National Academy of Sciences (India), Allahabad, The

Indian Academy of Sciences, Bengaluru (IASc), The Indian National Academy of Engineering, New Delhi (INAE), National Academy of Agricultural Sciences, New Delhi (NAAS) and National Academy of Medical Sciences, New Delhi (NAMS). The nominees should be the fellow of their respective academies and one nominee from the Government of India (Department of Science and Technology) from among the Fellows of the Indian National Science Academy.

(Total 33 Council members)

Additional Members nominated by bodies other than INSA will not have voting rights in the Council decisions.

The modifications in the New Category Fellowship:

President announced modifications in the New Category Fellowship named:, the new category (i) was renamed as *Science in Translation*. The components of this category are as follows:

- (a) Scientific leadership in Science-Based Innovation
- (b) Scientific leadership in Industrial R & D
- (c) Scientific leadership in Technology Missions of National importance and
- (d) Scientific leadership in the Management of Scientific Institutions

Similarly, Category Two (ii) has been renamed as 'Science for Society' and some of its components/themes will be deliberated by a newly constituted committee.

The New Initiatives in INSA: President, INSA informed about the following new initiatives to be taken up by the Academy.

- a) INSA Associate Fellows
- b) INSA Distinguished Lecture Series
- c) National Centre for Good Governance (NCGG) INSA Leadership in Science Collaborative program.
- d) 4th Royal Society Yusuf Hamied Bilateral Workshop on 24-25 July 2023. The main theme of the meeting is "Artificial intelligence and our world".
- e) Policy Centre will be established in INSA
- f) Strengthening Science Journalism in India (Global trends, regional media and the science-society connect)
- g) American Chemical Society (ACS) INSA Joint Programme
- h) G20 Engagement Group Science20 India 2023 (Science 20 Meetings and Webinars)

Science20 India 2023: The Science20, one of the Engagement group summits of G20 under India's presidency in the year 2023 is coordinated by Indian National Science Academy (INSA) as the Knowledge partner. The Science-20 (S20) Engagement Group supports G20 by fostering an official dialogue with scientific community of member states. The overarching theme is "Disruptive Science for Sustainable Development". The Subthemes are: "Clean Energy for Greener Future", "Universal Holistic Health", and "Science for Society & Culture".

- The First Science Thematic Conference on the theme "Clean Energy for greener Future" was held in Agartala, the capital of the state of Tripura, on 3-4 April 2023.
- The Second Science Thematic Conference on the theme "Universal Holistic Health" was held in Bangaram Island, Lakshadweep on 1-2 May, 2023.
- The Third Science Thematic Conference on the theme "Connecting Science for Society and culture" was held in Bhopal on 16-17 June, 2023.

The 4th INSA-Royal Society Yusuf Hamied Bilateral Meeting is proposed to be held in-person in the Academy premises in New Delhi on July 24-25, 2023. The main theme of the meeting this year is 'Artificial intelligence'. For this purpose, the President INSA has constituted a working group of following members to design the program.

- i. Prof. Uday Desai, FNA, Chair
- ii. Prof. Sanghamitra Bandopadhyay, FNA, Member
- iii. Dr. Santanu Chaudhury, Director, IIT Jodhpur, Member
- iv. Prof. V. Kamakoti, Director, IIT Madras, Member
- v. Prof. Sunita Sarawagi, IIT Bombay, Member

Professor Narinder K Mehra, Vice President (international affairs) delivered keynote address on 'Health Equity' at the Civil 20 (C20) meeting held in-person at Mata Amritanandmayi Institute of Medical Sciences, Faridabad on April 9, 2023.

Professor Narinder K Mehra, Vice President (international affairs) attended the Think 20 (T20) meeting on 'Sustainable consumption and production, climate crises and one health; (online) on March 31, 2023.

Professor RK Kohli, FNA, has been elected to the Executive Committee of the International Union of Biological Sciences (IUBS) for a term of 3 years (2023-2026)



Science 20 School Outreach Program



Science20 School Outreach event

Professor Narinder K Mehra, Vice President (international affairs) attended the AASSA SHARE Communication special Committee Meeting held virtually on 12 May 2023.

Professor Narinder K Mehra Vice President INSA participated in the preparatory meeting held virtually on May 16, to discuss the agenda for the forthcoming Yusuf Hamied Workshop to be jointly organized by INSA and the Royal Society (UK) on the theme of 'Artificial intelligence".

Professor Narinder K Mehra Vice President (International affairs) INSA participated virtually in the Eleventh Session of the India Slovakia Joint Economic Committee (JEC) on Economic and Commercial Cooperation held in Bratislava on June 14-15, 2023. The JEC was co-chaired by Mr. Anant Swarup, Joint Secretary, Department of Commerce, Ministry of Commerce and Industry of the Republic of India and Ms. Andrea Krajčíková Director General, Section of Foreign Trade Policy and European Affairs, Ministry of Economy of the Slovak Republic. Prof. Mehra suggested for an early consultation between INSA and Slovak Academy of Sciences for renewal of INSA-SAS agreement.

Professor Narinder K Mehra, Vice President (international affairs) and member AASSA SHARE Communication special Committee delivered a talk during the AASSA-IAP-AIPI hybrid Seminar on "Science Literacy in the Digital Era", at AIPI Premises, Jakarta on 20-21 June 2023.

The 19th Project Investigators' (PI's) meet and the Joint meeting of Research Council and National Commission (RC&NC) for History of Science was organized at INSA during 19th-21st May 2023. Annual Progress Reports of the work done by the PI's in different areas of Science during the year 2022-23 was presented by 20 Project Investigators of the on-going projects and 28 new PIs presented and defended their project proposals for financial support for the year 2023-24. The National commission in its meeting on 21st May recommended 13 new projects and renewed 20 on-going projects for support during the year 2023-24.



Professor Ashutosh Sharma, President INSA with members during RC&NC meeting, 21st May 2023



RC&NC members along with the History of Science Project Investigators during 19th PI's Meet, 19-21 May 2023 at INSA, New Delhi

Outreach Activities

As a part of the S20 outreach activity, the Academy organized a joint webinar in conjunction with the Department of Pharmaceutical (DoP), Govt of India and NIPER Guwahati, on the topic of, "An integrated approach to combat neo infections: a way forward through vaccines, therapeutics and diagnostics' (online) on April 18, 2023. Professor Ashutosh Sharma, President and Ms S Aparana Secretary DoP gave the inaugural addresses. Prof Narinder K. Mehra, Vice President (international affairs) chaired the Fireside chat session and gave a lecture on S20 activities and health equity.

INSA Science20 Webinar Series: As a part of the S20 outreach activity, INSA has launched a Science20 Webinar Series where the eminent scientists and policymakers will

answer the emerging questions on Science, Technology, and Innovations through panel discussion. First webinar in the series was organized on 24th May with distinguished panelist Professor Abhay Karandikar, Director, IIT Kanpur, and Professor Ashutosh Sharma, Science20, Co-Chair & President, INSA. The webinar was conducted live on INSA YouTube Channel.

Science20 outreach activities under the G20 Presidency of India at Amity University: Professor Narinder K Mehra, Vice President INSA, delivered a lecture, "India's Science20 thrust during the G20 Presidency" at Amity University Haryana during a G20 University Connect Program on 31 st May 2023.

Science20 School Outreach Program at Shiv Nadar School, Faridabad: A panel discussion on emerging

technologies, science and Innovation for sustainable development held at the Shiv Nadar School, Faridabad as a part of Science 20 School outroach activity on 26th May

development held at the Shiv Nadar School, Faridabad as a part of Science20 School outreach activity on 26th May 2023. The talk series/panel discussion was attended by approx.800 students of grades 9-12 from Shiv Nadar and neighbouring schools. The students were addressed by Professor Ashutosh Sharma, President, INSA and Prof Narinder K Mehra, Vice President (international affairs).

International Innovation and Creativity Conclave (I2C2) Version - 2.0: World Forum for Education in association with Bharatiya Engineering Science and Technology Innovation University BESTIU organized an International Innovation and Creativity Conclave (I2C2) Version - 2.0 on 28th -30th May 2023 in Radisson Blu, Visakhapatnam. Professor Ashutosh Sharma, Co-Chair Science20 delivered the keynote address in a special session on Science20 organised during the conclave.

Science 20 University Connect Program at Amity University, Haryana Campus: Amity University Haryana organized a Science 20 University Connect Program on 31st May 2023 at Amity University, Haryana campus. Professor Narinder K Mehra, Vice President (International Affairs) INSA gave a keynote lecture on "India's Science 20 Thrust during the G20 Presidency" to sensitise the students about the theme and sub-tracks of the Science20 Engagement Group.

Summer Research Workshop at Jawaharlal Nehru University, New Delhi: School of Life Sciences, Jawaharlal Nehru University, New Delhi organized a Summer Research Workshop on 1st June 2023 on the theme "Molecules, Metabolism and Biological Systems" under the auspices of DBT BUILDER (C2MOD) Program. A special session was organised on Science20 where the Keynote Address was given by Professor Narinder K. Mehra, Vice president, Indian National Science Academy on the topic "India's Science 20 thrust during the G20 Presidency".

Science and Tech for Heritage: In conversation: INSA and UK Science & Innovation Network in India jointly organised a Science20 webinar on 8th June 2023 on the theme "Science and Technology for Heritage". Eminent speakers in the field of science communication and science museum from UK and India joined during the webinar. Professor Ashutosh Sharma, President INSA and Co-chair Science20 and Professor Narinder K Mehra, Vice President (International Affairs) INSA gave insights on Science20 theme and subthemes during the webinar.

Global Indian Scientists and Technocrats Forum (GIST) Meet 2023: Professor Ashutosh Sharma, President INSA and Co-chair Science20 and Prof. Narinder K Mehra, Vice President (International Affairs) INSA gave insights on Science20 theme and subthemes during the GIST Meet 2023 organized by GIST at the National Agricultural Science Complex (NASC) Campus, New Delhi, India on May 29-30, 2023

DST-India Science and Research Fellowship (ISRF) Program

The ISRF Selection committee meeting for the Award of fellowship for the year 2022-2023 was held on 20 February 2023. The result has been announced by the department (DST) and Fellowship has been offered to 50 candidates from different countries.

Financial assistance by INSA for participation in international conferences abroad

Twelve Indian scientists were supported by the Academy for attending the Non ISC (International Science Council) sponsored conferences abroad.

Recent Publications of the Academy

Proceedings of the Indian National Science Academy: Vol 89 No. 2 (June 2023 issue): Published.

Indian Journal of Pure and Applied Mathematics, Vol 54 No. 2 (June 2023 issue): Published.

Indian Journal of History of Science, Vol 58 No. 2 (June 2023 issue): Published.







The Indian National Science Academy established Indian National Young Academy of Science (INYAS) in December 2014. Following outreach activities have been carried out by INYAS members

Ed-Vantage career workshop - The twoday career workshop by MetSoc held during April 1,2023 and April 2,2023 was a huge success! The workshop was designed to help individuals identify their strengths, set career goals, and develop the skills and confidence needed to succeed in their chosen fields. The twoday career workshop featured speakers from diverse career fields including the Army, software engineering, industrialist, professor and entrepreneurship. The workshop aimed to provide participants with insights and guidance on career planning and development, as well as opportunities to network with professionals from different fields. The day started with an inspiring keynote speech from a successful industry leader Mr. Sachit Jain (Managing Director, Vardhman Special Steels) who shared his own career journey and offered valuable insights into the current job opportunities in core engineering field. This was followed by a series of interactive sessions by influential personalities like Dr. Manish Kumar Hooda (Head Technology Development Division at SCL), Professor BS Murty (Director, IIT Hyderabad), Dr Dinesh Pal (Scientist & and Technology Director TBRL DRDO), Dr Vijavendra (CEO, Yourpedia Global). Interactive session of 2nd day was started with IRS officer Mr. Kumar Gaurav Dhawan (Deputy Director, PGIMER Chandigarh) followed by Dr Ashish Sahani (Assistant Professor IIT Ropar), Dr Balwinder Sodhi (Assistant











ED-Vantage FOR U.G. PG & PHD SCHOLARS

1ST 2ND APRIL

10 AM - 5 PM



CAREER WORKSHOP LOCATION: SENATE HALL IIT ROPAR

ED-Vantage is an interactive and informative event designed to help individuals gain insights and develop strategies for achieving their professional goals. Participants can expect to engage in activities, receive expert advice, and network with peers to enhance their career prospects.

SPEAKERS:



MR. SACHIT JAIN
MANAGING DIRECTOR
VARDHMAN SPECIAL
STEELS



PROF B.S MURTY DIRECTOR, IIT HYDERABAD



DR . MANISH HOODA HEAD TECHNOLOGY DEVELOPMENT DIVISION AT SCL MOHALI



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DR. DINESH KUMAR PAL SCIENTIST G, TECHNOLOGY DIRECTOR AT TBRL DRDO



MR. KUMAR GAURAV DHAWAN IRS, DEPUTY DIRECTOR PGIMER



DR . ASHISH SAHANI
ASSISTANT PROFESSOR
CBME , IIT ROPAR
CO-FOUNDER OF EPILEPTO



DR . BALWINDER SODHI ASSISTANT PROFESSOR CSE , IIT ROPAR



DR .VIJAYENDER SINGH CEO, YOURPEDIA



MR. ASHISH KAUSHIK SDE AT MICROSOFT CORPORATION

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ED-Vantage Career Workshop for UG, PG and PhD Students

Professor IIT Ropar), Mr. Ashish Kaushik (SDE at Microsoft), and Col. Prabir Sengupta (Honoured by VSM by President of India). Each speaker shared their career journey, challenges they faced, and key lessons learned. The Army speaker talked about the skills and values that the military teaches, such as leadership, teamwork, and discipline, which are transferable to any career field. The software engineer shared insights on the growing demand for tech skills and the importance of continuous learning and upskilling in the field. The entrepreneur speakers shared their experiences of starting and growing a business, the challenges they faced, and how they overcame them. Following the panel discussion, there was a Q&A session where participants had the opportunity to ask the speakers specific questions related to their career fields.

Sustainability lecture series (bimonthly & online) :

The sustainability lecture series (bimonthly & online) was initiated by INYAS -NCR chapter in collaboration with Department of Microbiology, Institute of Home Economics, Delhi University and MBSI (Microbiologist Society, India). The theme of the series was the "Role of Science in Sustainable development: An Indian Perspective". The audience for the talk was the Post graduate and undergraduate students of related disciplines. In this series the fourth talk was delivered by Dr Sanjay Singh Rathore, Principal Scientist, Division of Agronomy, ICAR-IARI, New Delhi who is also the National Coordinator of National Agricultural Higher Education Project (NAHEP), ICAR, New Delhi 110 012. The title for his talk was 'NAHEP- A Revolutionary Tool for Strengthening Agricultural Education in India. The talk was delivered on 8th April at 11 am onwards. The total participants were around 50. The talk was also broadcasted on YouTube channel.

"Aahar Kranti" Lecture - This lecture was to sensitize students about the intake of appropriate diet in their routine under theme Unnat Bharat Abhiyan (UBA), Government of India. The workshop was jointly organized by INYAS, UBA, Government of India and National PG College, Lucknow. This lecture will also impact positively on the socio-economic status of farmers as it will boost the selling and purchasing of locally grown vegetables, fruits, cereals and other natural products rather than packed and processed food.



Aahar Kranti Lecture for students



Sustainability Lecture initiated by INYAS

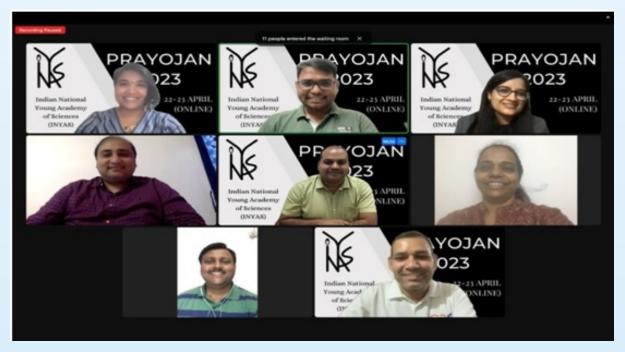
Plenary session on "Empowering Young Scientists in Governance" at Y20 - INYAS was happy to conduct the plenary session on "Empowering Young Scientists in Governance" at the #Y20_Consultation at KIIT, Bhubaneswar. The session was moderated by Sriparna Chatterjee and Kutubuddin Molla. Distinguished panelists were Dr KC Bansal from NAAS, New Delhi, Dr Chandra Sharma from IIT Hyderabad, Dr Rajendra Dhaka from IIT Delhi, Dr Nishant Chakravorty from IIT Kharagpur, and Dr Anindita Bhadra from IISER Kolkata. The session was attended by Mrs Meeta Rajivlochan, Secretary, Youth Affairs, Govt. of India and more than 200 participants from different parts of the country. The Panel discussed about status of Young Scientists in India, roadblocks to empower, assessment criterias, initiatives of INYAS for empowering young scientist, and best practices to adopt.





Planery Session during Y20 Consultation

INYAS Flagship event "PRAYOJAN" - INYAS flagship program named 'PRAYOJAN' (Post-PhD: Research, Academia, and Industry Opportunities, Science Journalism, Grant Writing, and Networking) was organised in online mode this year on 22nd and 23rd April 2023. This event has created a new platform to explore diverse opportunities for PhDs, Postdocs and Early Career Researchers and attracted huge participation across the country. The zoom link has been shared with all the registered participants. Dr Akhilesh Gupta, Senior Adviser at the Department of Science and Technology (DST) and Secretary of the Science and Engineering Research Board (SERB), Gol, and Prof. T. G. Sitharam, Chairperson of AICTE graced the inaugural and valedictory sessions, respectively. Professor Ashutosh Sharma IITK, President, INSA and Professor Rajendra Dhaka Chair, INYAS conceptualised and nurtured the very idea of PRAYOJAN [post-Phd: Research, Academia and industry Opportunities, science Journalism, grant writing and Networking].



INYAS organized the flagship event "PRAYOJAN"

Youth20/G20 Pre Summit at Leh - INYAS organized a

youth20/G20 Pre Summit at Leh - INYAS organized a session on the theme: "Health, Wellbeing and Sports: Agenda for Youth "Youth20/G20 Pre Summit at Leh during April 26-28, 2023. Y20 delegates are from Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the U.K. and the U.S., as well as the European Union. India's special invitee guest countries are Bangladesh, Egypt, Mauritius, Netherlands, Nigeria, Oman, Singapore, Spain and UAE. G-20's invited international organisations are UN, IMF, World Bank, WHO, WTO, ILO, FSB, OECD, AU Chair, NEPAD Chair, ASEAN Chair, ADB, ISA and CDRI. Dr Rajendra Dhaka, Dr Kalpana, Dr Shalini, Dr Dhiraj, Dr Pankaj Barah on behalf of Indian National Young Academy of Sciences (INYAS) represented India.



Session on the theme: "Health, Wellbeing and Sports" at Y20/G20 Pre Summit

Micro Scale Energy Systems Lecture - The lecture was for students of the of the Integral University for educating them about the implementation of microbial fuel cells in the pastoral parts of the country.

Science Camp titled "Enlightening Young Minds" - On April 28, 2023, Under the motivation and support of Chairperson INYAS Dr Rajendra Dhaka, Indian National Young Academy of Science (INYAS) organised Science Camp "Enlightening Young Minds" at Kendriya Vidyalya, Leh-Ladakh. Dr Sharanjeet Dhawan, University of Ladakh was Convenor of the event. Targeted students during this science camp were students from Class 9th to 12th. Around 100 students participated in the camp. A team of 6 resource persons of INYAS: Dr Rajendra



Science Camp organized at KendriyaVidyalya, Leh-Ladakh

Dhaka, IIT Delhi (Chairperson INYAS), Dr Pankaj Barah, Tezpur University, Assam, Dr Kalpana Nagpal, Amity University, Noida, Uttar Pradesh, Dr.Dhiraj Bhatia, IIT Gandhinagar, Dr Shalini Arya, Institute of Chemical Technology in Mumbai were present. Being in a cold desert with a fragile environment students face many issues and feel lack of guidance towards higher studies. Keeping in view all these difficulties, team INYAS interacted with the students and discussed various career opportunities for them. Along with this, various aspects related to their health and wellbeing were also discussed. All the students participated enthusiastically in the day long discussion.

Science20 Thematic Conference on Universal Holistic Health - This was a Science20 Thematic Conference on "Universal Holistic Health" held in Lakshadweep from May 1-2, 2023. Experts on Health Sciences deliberated and explored various aspects of disruptive science and how it can interact with the healthcare ecosystem to better serve the society. Dr Rakesh Kumar Pilania attended the conference as Guest Invitee and represented INYAS.



S20 conference on Universal Holistic Health

Workshop on Characterization of Coating Materials - The workshop was on mechanical characterization techniques for the development and quality control of coated materials. A brief introduction about Indian National Young Academy of Science (INYAS) was given to the audience. Dr Ankit Jain, Mr. Jitendra Singh and Mr. Abhishek Singh (industry experts) were invited from Anton Paar for the workshop. They conducted presentations to introduce the researchers to the X-ray diffraction spectroscopy equipment and the related solutions to combat different challenges related to various sample conditions for XRD



Workshop on mechanical characterization techniques

analysis. The session provided participants with the opportunity to interact with industry experts and gain practical experience. It featured practical training with a variety of cutting-edge surface characterization tools, including Calotest testers, nano-indentation, scratch testers, and tribometers. There was also an online training for handling extremely complicated tribometer and scratch testing equipment. The session was attended by 40 research students. The participants found the workshop very useful and informative for their research work.

Opportunities in Nuclear Science (ONuS-2023) - The outreach activity on "Opportunities in Nuclear Science (ONuS)" was organized on 13th May 2023, Saturday, to celebrate the National technology Day, in collaboration with Indian Nuclear Society (INS) and Nehru Science Centre. The event focused to spread the awareness of the role of nuclear science in daily human life and to give the information about various career opportunities in the field of nuclear science. More than 500 students from all over India registered for this event. About 200 students from various universities attended the offline session in Nehru Science Center, Mumbai auditorium. Chief guest Sh. Mukesh Singhal, Ex Director, Human Resources Department, Nuclear Power Cooperation India Ltd., briefed about the various peaceful use of nuclear energy. Dr AK Dureja, Head, Human Resources Development Division, Bhabha Atomic Research Centre, explained various facilities available in the Department of Atomic Energy (DAE) and about the procedure of various selction procedures in the DAE for various posts. Sh. Sanjeev Sharma and S. S. K. Yaday . Scientific Officer G. NPCIL delivered invited talks about the "Nuclear Energy; Green energy source"and " Generation 1 to Generation 4 Nuclear Reactors". Prof. B. N. Jagtap, President, Indian Nuclear Society presented concluding remark and describe it one of the best event



organized by the young team.

Workshop on "Opportunities in Nuclear Science"

An Awareness camp on World Hypertension Day Theme 'Measure Your Blood Pressure Accurately, Control It, Live Longer' - The Indian National Young Academy of Science (INYAS) conducted an awareness camp on World Hypertension Day, jointly organized with RKGIT College of Pharmacy, Ghaziabad, at Composite School MilakRawli, Rawli Road, Muradnagar, on May 19, 2023, aimed at educating young students about



Workshop on World Hypertension Day

hypertension and healthy lifestyle choices. The camp included interactive presentations and activities, including a drawing competition where the winners were distributed with exciting science kits. Students actively participated in discussions and demonstrations, gaining a basic understanding of hypertension and the importance of maintaining optimal blood pressure. The event successfully raised awareness, instilled healthy habits, and empowered students to make informed choices for their cardiovascular health.

Advanced B. Sc. (Physics) Program 2023 for rural students of Gujarat - Amongst the students who opt for doing a Bachelor's in Science there are a few who want to go to the depth of their area of specialization and are motivated to challenge themselves further if given the opportunity. The aim of the Advanced B.Sc. Program in



Advanced B.Sc. Physics Program organized for rural students

Physics is to provide such students with a curriculum that can be challenging, interesting and inspiring. The Advanced B.Sc (Physics) Program ran during 6-23 May 2023. More than 30 second Year (SEM-IV) B.Sc. students participated in it. It included weekly lectures in Physics, visits to research institutes, career guidance and summer projects. The course consisted of lectures on Electromagnetism, Quantum Mechanics and laboratory sessions for performing experiments. The program was conducted as a residential program. This allowed students from outside Ahmedabad and Gandhinagar to also participate in the program. The program is coordinated by a committee consisting of scientists, college lecturers and science educators of institutions of Ahmedabad and Gandhinagar.

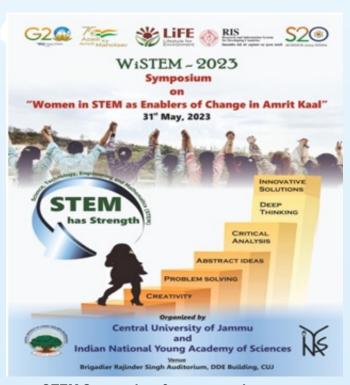
National Workshop on "Waste Literacy and Management" - The event was organized by Central University of Jammu and Indian National Young Academy of Science (INYAS) in online mode. In Session I, renowned



Waste Literacy & Management Workshop organized by INYAS

expert Dr Arup Kr Mishra, Chairman, Assam PCB discussed the Best Practices for Sustainable Waste Management. In Session II, INYAS members Dr Nikhil Dhawan from IIT Roorkee gave a wonderful lecture on Electronic waste recycling. In Session III, INYAS member Dr Ejaz Ahmad from IIT (ISM) Dhanbad talked about Understanding Low and High Temperature Technologies for Solid Waste Management and In Session IV, INYAS member Dr Vishal Mishra from IIT BHU discussed the application of Solid waste based Microbial Fuel cells in waste management. In this program, CUJ faculty members moderated the sessions and the experts suggested innovative waste management strategies. Convener Dr Shweta Yadav thanked all the speakers and participants.

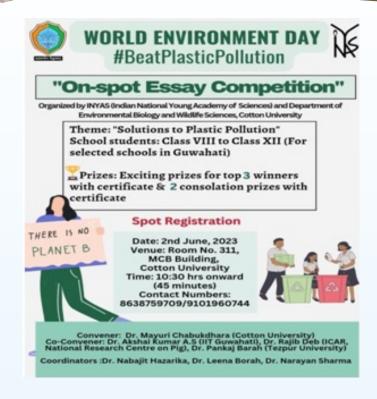
Symposium on "Women in STEM as Enablers of Change in Amrit Kaal" - With a goal to motivate, encourage and actualize the women participation in (Science, Technology, Engineering and Mathematics) STEM disciplines, Central University of Jammu and Indian National Young Academy of Sciences (INYAS) organized a National Symposium on "Women in STEM as Enablers of Change in AmritKaal" on 31st May, 2023 in the campus of Central University of Jammu, J&K. Convener Dr Shweta Yadav moderated the discussions and Co-conveners (Dr Neha Sardana, Dr Vijayk Kr Sharma, Dr Jayaram Kolleboyina and Dr Sharanjeet Dhawan) introduced the speakers and moderated the respective sessions. In this



STEM Symposium for empowering women

event, women achievers from six countries: Professor Ulrike Lohmann (Switzerland), Prof. Vera Sergeeva (Russia), Dr FridaSidik (Indonesia), Dr Alma Oracevic (UK), Dr Raaga (Egypt), Dr Dulce M. Morales (Netherlands) alongwith Dr Sudha Bhattacharya, INSA senior scientist, Ashoka University, India shared their story and encouraged the audience to choose and sustain in STEM (Science, Technology, Engineering and Mathematics) disciplines. Apart from this INYAS members also shared their encouraging stories.

Awareness campaign for single use plastic free campus - The Department of Environmental Biology and Wildlife Sciences in association with Indian National Young Academy of Science (INYAS) celebrated World Environment Day, 2023 on 5th June 2023 at Room No. 311, MCB Building, Cotton University. The event was celebrated for two days i.e 2nd and 5th of June 2023, wherein students from four Government schools of Guwahati were invited for participation. The main aim of the event was to raise awareness among young students regarding plastic pollution and single use plastic free campus. The first day of the event was marked by on "On-Spot essay Competition" among students of groups- class 8th to 10th and class 11th to 12th. The topic of the essay was "Solution to Plastic Pollution". Students from Government schools of Kamrup Metro district namely: GopalBoro Girls Higher Secondary School, Cotton Collegiate Government Higher Secondary School, Bengali Higher Secondary School, Kamrup Academy Higher Secondary School participated in the competition. All the students along with their accompanying teachers, other attendees were given tea and refreshments afterwards. The 2nd day of the event was organized on 5th June 2023. All the participatory students and the teachers were present during the event. The faculty, students, and research scholars of the University were also present in the event. Prominent speakers, Prof. (Retd.) Kaliprasad Sarma, Department of Environmental Science, Tezpur University and Dr Akshai Kumar A. S. (INYAS Member and Associate Professor, IIT Guwahati) talked about plastic pollution and solution. Announcement of the essay winners and prize distribution was done on the same day. Afterwards there was a documentary screening, followed by an open quiz competition. The event ended with the vote of thanks. Overall, more than 100 participants including teachers and students from four schools and our University attended the event.





Essay competition & Quiz competition along with guest lecture on World Environment Day

Demystifying Science Olympiad- Science Olympiad has been an excellent platform over the past few decades for nurturing the natural knack of school students towards fundamental science. Despite the fact that 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, Professor Arnab Dutta (INYAS member from IITB) developed this program titled "Demystifying Science Olympiad: An Interactive Session with Hands-on Experiments" along with Professor Ankush Gupta from Homi Bhabha Center for Science Education. This interactive program was initiated with an overview of the Science Olympiad, including its brief history, eligibility criterion, sample questions, preparation, and success stories of a few participants. Next, the resource persons exhibited candle flame and redox chemistry experiments while discussing the underlying chemistry. In this interactive session, the students participated in the experiment and displayed their inquisitive minds with multiple interesting queries.



Workshop on enlightening students regarding science Olympiads and examinations

National Workshop on Molecular Docking & Electroanalytical Techniques (MDET -2023) - Dr Ramakrishna Matte, a scientist from Bengaluru, emphasized the importance of societal accountability in finding constructive solutions. Speaking at the National Workshop on Molecular Docking & Electroanalytical

Techniques (MDET-2023), he stressed that scientists have a responsibility to communicate their work and apply scientific methodologies to solve immediate social problems. According to Dr. Matte, scientific research should extend beyond the confines of laboratories and encompass various aspects of daily life to provide



National Workshop on Molecular Docking & Electro analytical Techniques

meaningful solutions to societal crises. Dr Satheeshchandra S., the Secretary of SDM Educational Society, inaugurated the program and highlighted the significance of molecular docking and electroanalytical techniques in addressing health, climate, and food production challenges. Dr B A Kumara Hegde, the Principal of the college, emphasized the importance of curiosity and its role in scientific advancements. The workshop featured a keynote address by Dr. Matte, two technical sessions, and hands-on training sessions conducted by Dr Manjunatha J G and Dr Ramith Ramu. The event concluded with a valedictory session addressed by Dr Ramu, where opinions were shared by delegates from different institutions.

Science 20 Thematic Conference on "Connecting Science to Society & Culture" - It was an excellent event where representatives from different countries kept their views on how science connects with society. Role of Al and new technologies in progression of society was discussed and appreciated. However, most delegates agreed that we should set up the accountability and regulations before launching a new technology. This event successfully hosted a platform for international collaboration, cooperation, and knowledge sharing to address global challenges, to enhance collective capacity, harmonize policies, and share best practices for the responsible development and deployment of disruptive science and technology in pursuit of SDGs.



S20 conference on "Connecting Science to Society"

A working group online meeting on Peer-Reviewed **Preprints: Benefits and Limitations for Young Indian** Researchers - The scientific publishing industry is undergoing rapid transformations, with Open Access (OA) publishing gaining traction over the subscription model. The extremely high costs charged by many scientific journals are causing problems for academic institutions. Motivated by profit, these journals increase prices faster than the inflation rate. This drains library budgets, leaving very little money to improve the systems and services that support researchers. The exploration of technical solutions to modernize scientific publishing has gained prominence. Initiatives like peer-reviewed preprints are gaining momentum. In response to these evolving dynamics, INYAS, in partnership with the International Science Council (ISC) and the Department of Science and Technology's Centre for Policy Research (DST-CPR), conducted an online workshop titled "Peer-Reviewed



Workshop for PhD scholars for Publishing

Preprints: Benefits and Limitations for Young Indian Researchers" on 9 June 2023 between 14.00 HRS to 16.30 HRS. The workshop commenced with an introduction by Rajendra Dhaka, INYAS Chair and Professor, Indian Institute of Technology, Delhi. Following this, Ludo Waltman, Professor and Deputy Director of Centre for Science and Technology Studies (CWTS), Leiden University, delivered a lecture on "Preprinting and Preprint Peer Review- An opportunity to reshape scholarly publishing." Next in line were eight parallel panel discussion sessions in breakout rooms, where participants who are INYAS members discussed the potential benefits of preprints and challenges in broader adoption. A moderator guided the discussions in each breakout room. In the final segment of the workshop Sridhar Gutam, Senior Scientist, ICAR-Indian Institute of Horticultural Research, Bangalore, gave a lecture on the current status of preprint usage in India.

High-End Workshop on "Leveraging molecular laboratory skills on development of molecular gadgets for diagnosis and prevention of livestock diseases" - The ICAR-National Research Centre on Pig in Guwahati, Assam, has scheduled a two-week High-End Workshop on "Leveraging molecular laboratory skills on development of molecular gadgets for diagnosis and prevention of livestock diseases" from June 15th to June 28th, 2023. The Workshop was co-organized by the Science and Engineering Research Board (SERB), Department of Science and Technology, Government of India, as part of the KARYASHALA Scheme, a SERB Initiative in conjunction with the Indian National Young Academy of Sciences. Dr Rajib Deb, Senior Scientist & INYAS Member acted as Event organizer for the event. The "KARYASHALA" is solely dedicated to boosting the research output of promising Post-Graduate and Ph.D. students from Universities and Colleges through high-end seminars on specialised topics. The Hands-on High-End Workshop Programme on Molecular Tools and Techniques aims to provide opportunities for selected 25 students (Masters and Ph.D. Level) from various disciplines, primarily from Agricultural Universities including IVRI and NDRI and state veterinary colleges from different parts of India, to acquire specialised research skills and gain hands-on experience. The programme was aimed to provide participants with handson experience with modern molecular biology tools and methodologies for the development of diagnostics, including point-of-care technologies, for livestock diseases. Students also had the opportunity to practise utilising several bioinformatic tools used in the creation of diagnoses. They also learned about additional common laboratory procedures used in conjunction with basic molecular biology research tools. The trainees were subjected to pre- and post-evaluation examinations. The selection committee devised numerous criteria for awarding the best team and best trainee. Participation and achievement certificates were distributed during the valedictory session on June 28, 2023. All of the participants provided their feedback reports.



High-End workshop organized by INYAS

International Yoga Day Celebration organized by INYAS - The Indian National Young Academy of Science (INYAS) organized an event to celebrate the International Day of Yoga in association with Sankardeva Mahavidyalaya and Vedavyasa Yoga Niketon, Lakhimpur district of Assam. The event witnessed participation from over 250 students, teachers from various schools and colleges, as well as villagers. The event featured scientific seminars, yoga demonstrations, and yogasana competitions among school children. Dr Pankaj Barah from Tezpur University, and Dr Akshai K. A. S. from IIT Gandhinagar, coordinated the event.



International Yoga Day Celebration

INYAS in collaboration with IIT Hyderabad and Ministry of Education organized Model G20 - Indian National Young Academy of Science in collaboration with IIT Hyderabad and Ministry of Education, Government of India organized the magnanimously successful event of Model G20 Initiative. The event spanned over months conducting 3 stages of competition for graduate and post graduate students. Stage 1 included essay writing competition followed by stage 2 of debate competition at zonal level and stage 3 of elocution competition at national level. All these activities play a crucial role in the development of budding students and their contributions to nation building. In stage 1 out of more than 3,500 entries received, total 123 winning entries were shortlisted for the upcoming stage. The stage 2 which included debate competition was organized in person at the zonal level, wherein the participants were invited in the zonal venues for conducting the debate tournament and evaluation. The North Zone was



Model G20 Initiative at IIT Delhi for stage 2 debate competition

coordinated by Prof. Rajendra Singh Dhaka and Dr Veda Krishnan at IIT Delhi. The East Zone was coordinated by Dr Sriparna Chatterjee at IIT Bhubaneswar. The West Zone was coordinated by Dr Mohit Tyagi at IIT Bombay. The South Zone was coordinated by Professor Chandra Shekhar Sharma and Dr Priyanka Bajaj at IIT Hyderabad. The Central Zone was coordinated by Dr Kiran Bala at IIT Indore. The North-East zone was coordinated by Dr Akshai Kumar A.S. at IIT Guwahati.



Obituary Notes

Fellows

SUNIL KUMAR MUKHERJEE

SK Mukherjee (*b* 05 January, 1950, *d* 30 March, 2023) obtained PhD from Calcutta University with specialization Biophysics. He joined the International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi where he continued his work in the field of DNA replication and RNA silencing. Most recently, he was INSA Senior Scientist at the Advanced Centre of Plant Virology, Division of Plant Pathology, Indian Agricultural Research Institute. Dr Mukherjee's work on pea chloroplast DNA replication led to the identification of replication factors that showed an interesting mix of prokaryotic and eukaryotic features.

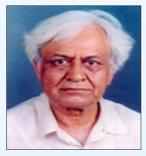


Dr SK Mukherjee was elected to the Fellowship of Indian National Science Academy in 2007.

RAMESH CHANDRA SACHAR

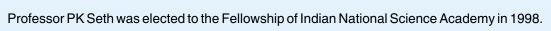
RC Sachar (*b* 24 August, 1929; *d* 04 March, 2023) obtained PhD from Delhi University. He worked as Biochemist at Indian Agricultural Research Institute, New Delhi and also as Professor, Department of Botany, University of Delhi. Professor Sachar contributed molecular mechanisms in the control of gene expression at the post-transcriptional and post-translational level by phytohormones in higher plants.





PRAHLAD KISHORE SETH

PK Seth (*b* 15 June, 1943; *d* 22 December, 2022) obtained PhD KG Medical College, Lucknow in the field of biochemical pharmacology. Professor Seth had joined CSIR-IITR and served as its director. He had been an adjunct professor, Department of Elementology and Toxicology, Jamia Hamdard University, New Delhi; and honorary professor of biochemistry, Department of Biochemistry, Lucknow University, Lucknow. Professor Seth made notable contributions to molecular biology and biotechnology related to health sciences, particularly understanding the effect of chemicals and drugs on the nervous system.





MAHENDRA PAL SINGH

MP Singh (b 15 June, 1931; d 26 January, 2023) obtained his PhD in Mathematics from University of Maryland. He joined IIT Delhi. He led the initiative to set up the Centre for Atmospheric Sciences. Professor Singh made pioneering contributions in fluid mechanics modelling, monsoon dynamics and atmospheric dispersion research.

Professor MP Singh was elected to the Fellowship of Indian National Science Academy in 1986.





KRITYUNJAI PRASAD SINHA

KP Sinha (*b* 05 July, 1929; *d* 23 January, 2023) obtained his PhDs in Solid State and Theoretical Physics from Poona University and Bristol University. He served as Senior Professor at Indian Institute of Science, Bengaluru. He was the Director at Institute of Fundamental Research on Complex System, Shillong. Professor Sinha made the pioneering researches on the quantum theory of reaction mechanism in the solid state, the discovery and the first statistical theory of cooperative Jahn-Teller effect induced structural phase transition and the origin of ferroelectricity.





KUPPUSWAMY NAGARAJAN

K Nagarajan (*b* 15 August, 1930; *d* 8 April, 2023) obtained PhD from University of Madras for his studies on aporphine alkaloids. He held various positions including as Head, Medicinal Chemistry, Ciba Research Center, Director, R&D of Searle India, Bombay and Advisor, R&D Center, Alkem Laboratories Ltd, Bangalore. Dr Nagarajan worked on drug discovery program where more than 20 compounds were taken to clinical stage. Five were given marketing permission by the Drug Controller of India. Two of these, Sintamil and Satranidazole later became available in the Indian market.



Dr K Nagarajan was elected to the Fellowship of Indian National Science Academy in 1977.

Foreign Fellows

NICHOLAS AVRION MITCHISON

Nicholas AvrionMitchison (*b* 5 May 1928; *d* 28 December 2022) obtained D.Phil from Oxford University, UK with specialization of Immunology. He served as Scientific Director, Deutsches Rheuma Forschungszentrum, Berlin, Head Division of Experimental Biology, National Institute of Medical Research Head of Zoology Department, University College, London and Professor Emeritus at University College London. Dr Mitchison discovered the transference of transplantation immunity by sensitised cells, thereby providing evidence relating transplantation immunity to hypersensitivity reactions of the 'delayed' type.



Dr Nicholas AvrionMitchison was elected as a Foreign Fellow of the Indian National Science Academy in 1990.

HR ACTIVITY

Retirement of INSA Staff

Expressing Gratitude for the Superannuation of Sh. Tara Chand, M.T.S, from the Services of the Academy on 31.05.23 after serving for 37 Years in the Academy.



World Environment Day

The Staff of INSA took Pledge on Mission Lifestyle for Awareness (LiFE) on World Environment Day on 5th June 2023 including e-waste collection, water conservation, minimization of food waste and similar activities.

International Day of Yoga

The 9th International Day of Yoga was celebrated at Indian National Science Academy (INSA) 21st June 2023. The staff members of the Academy took an active interest in the celebrations. A one-hour yoga demonstration involving various asanas falling under the Common Yoga Protocol was performed by Himanshu Sahu, a yoga guru from Morarji Desai National Institute of Yoga (MDNIY). Around 50 staff members of the Academy performed various yoga asanas under his guidance.



Appointment of Executive Director

Dr Brajesh Pandey, has been joined as Executive Director in the Academy w.e.f. 26th June, 2023.

