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अणुविद्या

HBNI NEWSLETTER

होमी भाभा राष्ट्रीय संस्थान

Homi Bhabha National Institute

(परमाणु ऊर्जा विभाग की एक सहायक संस्था और यूजीसी अधिनियम 1956 की धारा 3 के तहत विश्वविद्यालय माना जाता है)

(An aided institution of the Department of Atomic Energy and a Deemed-to-be University under section 3 of the UGC Act. 1956)

authored by HBNI faculty members was released on the occasion by Shri K.N. Vyas and he praised the initiative taken by HBNI central office for publishing books in the field of nuclear science and engineering. In his address, Shri Vyas lauded the enormous efforts taken by HBNI to ensure smooth functioning of various academic processes during the pandemic times and organizing several value added online courses. He remarked that the research activities of HBNI encompass a wide range of domains and the outcome leads to furthering the frontiers of knowledge in reactor technologies, accelerators, lasers, robotics, health physics, fuel recycling, waste management, applications of radiation technology in the field of agriculture, healthcare, food preservation and many other associated disciplines. He also congratulated all the award winners and their mentors on their achievement. He further remarked that modern day science education and research requires the integration of knowledge and information across multiple disciplines to be able to make meaningful and path breaking contribution. He suggested that to further grow and enhance its educational reach, HBNI should formulate uniquely blended multi disciplinary courses which cannot be offered by any other conventional university and offer online courses in the subject areas in which its CIs specialize.



Prof. P.R. Vasudeva Rao delivering his address on the occasion of HBNI Foundation Day



Shri K.N. Vyas releasing the book titled "Physics of Nuclear Reactors"



Shri K.N. Vyas delivering presidential address on the occasion of HBNI Foundation Day

Prof. B.K. Dutta, Institute Chair Professor and Chairman of Selection Committee for outstanding student awards, gave a briefing on awards. Prof. P.D. Naik, Dean, HBNI and Chairman, Selection Committee for Prof. J.B. Joshi Research Foundation Innovation Awards gave a briefing on innovation awards. Shri K.N. Vyas conferred the outstanding /innovation awards on the students who were physically present at HBNI and remaining awards were presented online. HBNI congratulates the students on their achievement and wish all of them a great success in their careers ahead.

Prof. Jean-Marie Lehn delivered the J.B. Joshi Research Foundation Endowment Lecture on the topic “Steps towards Life: Chemistry.” His talk began with the evolution of the Universe which involved a seamless merging of Physics into Chemistry into Biology along the time axis – right after the Big Bang ! According to Prof. Lehn, mankind is a point in space and time and endowed with the ability to ‘think’. It is with this ability that mankind has evolved towards gradually increasing complex entities. Evolution has been considered to be purely chemical. “Self-organisation is the process by which steps towards life and thought have emerged.” he said. Prof. Lehn discussed how molecular assemblies could function as various molecular devices. He highlighted the lock and key arrangement which forms the basis of molecular recognition, reactivity and transport. He went on to the development of biologically active substances, which involve molecular recognition between a synthetic molecule and a biological target. He also emphasised on ‘biomaterials’ and their importance. He concluded with a quote from the great German mathematician, David Hilbert “We must know and we will know”- an amazing realization! The important take away from his lecture is that – Science shapes the future of humanity!



Outstanding Student Awardees receiving awards from Shri K.N. Vyas

National Technology Day at BARC

National Technology Day was celebrated in BARC on May 11, 2021. The program was organized by Physics Group, BARC and highlighted the achievements of BARC in the field of Synchrotron Technology. The inaugural address was given by Shri K.N. Vyas, Secretary DAE and Chairman, AEC. Prof. A.K. Mohanty, Director, BARC gave welcome address. Prof. S.M. Yusuf, Associate Director, Physics Group gave Introductory Remarks. Dr. R. Chidambaram, Homi Bhabha Chair Professor, delivered Keynote Address on the occasion. Shri K. Jayakumar, Head P&CD, and Controller, BARC announce the names of recipients of DAE awards on the occasion.



National Technology Day Function at BARC

International Women's Day Celebration at IGCAR

The International Women's Day was celebrated in IGCAR, Kalpakkam at Sarabhai Auditorium. Special speeches were given by Smt. Adhilakshmi Logamurthy Advocate, High Court, Chennai on "Awareness of Laws & Accessibility of the Courts to women in India"; by Dr. S.A. Jemima Kingsley Director, Orbito Asia Diagnostics, Coimbatore on the topic "Courage or Comfort – Choice is yours" and by Smt. Ananthi Raghupathy, Founder and Director, Happy Motherhood, Chennai on the topic "Balancing a Healthy and Happy Life." Faculty and students participated in large numbers and had excellent interaction with the speakers during the programme.



International Women's Day Celebration at IGCAR

Awards and Honors

1. **Dr. (Smt.) Sanoli Gun**, Prof. Mathematical Sciences, IMSc, Chennai, has been elected as fellow of Indian Academy of Sciences.
2. **Dr. Dimple Dutta**, BARC has been selected for CRSI bronze medal for the year 2021.
3. **Prof. Archana Sharma**, BARC has been elected as fellow of The Institution of Engineering and Technology (IET), UK.
4. **Dr. Sharmistha Dutta Choudhury**, BARC has been selected as Fellow, National Academy of Sciences (NASI).
5. **Dr.R. Balasubramaniam**, BARC has been elected as Fellow of National Academy of Engineering (FNAE) in November 2020.
6. **Dr. Prasenjit Mal**, NISER has been awarded CRS (Chirantan Rasayan Sanstha) Bronze Medal for 2021.
7. **Dr. V. Sudarsan, BARC, Dr. (Smt.) J. Mohanty, BARC, Dr. J.K. Chattopadhyay, BARC, Dr. S. Dhara, IGCAR, Dr. Sumit Som, Director, VECC**, all Faculty of HBNI have received the prestigious Homi Bhabha Science and Technology Award for the year 2019.
8. **Dr. Sunil Verma**, RRCAT has received “Prof. P. Ramasamy National Award for Crystal Growth” for his significant contributions in crystal growth and applications for the year 2020.
9. **Dr. Amit Kunwar**, BARC has been awarded Farha Deebea Haq Award by Indian Academy of Biomedical Sciences for his outstanding contributions in the field of Cancer Research.
10. **Dr. Jhilam Sadhukhan**, VECC has been awarded Buti Foundation Award 2020 by the Indian Physics Association.
11. **Dr. Mohd. Saleem**, NISER has been awarded the DBT/Wellcome Trust Intermediate Fellowship in the area of Basic Biomedical Research by the India Alliance.
12. **Dr. Subrata Mukherjee**, IPR has been inducted as a member of “Governing Council of Indian Institute of Geomagnetism, a DST Institute, Navi Mumbai”.
13. **Dr M. Vasudevan**, IGCAR has been selected as the Editorial Board member, International Journal of Pressure Vessels and Piping. He has also been selected as Editor Transactions of the Indian Institute of Metals.
14. **Dr. (Ms.) Debarati Bhattacharya**, BARC has achieved IOP trusted reviewer status in recognition of an exceptionally high level of peer review competency.
15. **Dr. R.N. Singh**, BARC has been appointed as Council Member of Indian Institute of Metals.
16. **Dr. C. Gunanathan**, NISER has received Thieme Chemistry Journals Award for the year 2020.
17. **Dr. Arvind Ingle**, ACTREC, TMC has received Outstanding Contribution to Animal Science Award-2020 of the Dr. B Vasantharaj David Foundation, Chennai. He has been selected as Chairman, Education and Training Committee, International Council for Laboratory Animal Science (ICLAS), Brussels, Belgium, 2020-23. He has also been selected as Member, Asia Regional Committee, ICLAS, Brussels, Belgium, 2020-23, Member of Board of Studies in Veterinary Pathology, MAFSU, Nagpur 2020-23 and Member, College Council, Indian College of Veterinary Pathologists, 2020-23. He is also Founder President, Indian College of Laboratory Animal Medicine, 2020.
18. **Dr. Shailesh V. Shrikhande**, TMC has received COVID-19 Yoddha Award by “Dadasaheb Phalke Icon Award Films- DPIAF- 2020”, Mumbai. He was appointed as the Indian on the Steering and Program Committee of American Society of Clinical Oncology (ASCO), for the ASCO GI Meeting in 2020.
19. **Dr. Gaurav Malhotra**, RMC has been conferred fellowship Indian College of Nuclear Medicine in 2020.
20. **Dr. P.B. Wagh**, BARC has received Special Contribution Award in 2020 for excellence in work in development of Laboratory at EHPPL, Kalyan for year 2019.

21. **Dr. Shishir P. Deshpande**, IPR has been appointed on the Board of Editors of the Journal “Nuclear Fusion” until December 2023.
22. **Ms. Ayushi Vashistha**, IPR received Best Presentation Award at the 15th Kudowa Summer School “Towards fusion energy”, Virtual Edition, Institute of Plasma Physics and Laser Microfusion, Poland, 29 June-3 July 2020 for her paper, “Absorption of laser energy by generation of an electrostatic mode in plasma.”
23. **Shantanu Kumar Karkari**, IPR received an appreciation award (USD 250) for his invited Talk titled, “Negative Ion Research in Laboratory Devices: Physics and Modeling” presented at the e-Conference: 4th Asia-Pacific Conference on Plasma Physics (AAPPS-DPP2020) on 27 October 2020
24. **Mainak Bandyopadhyay**, Jervis R Mendonca and Shantanu Kumar Karkari were Awarded IOP Trusted Reviewer Award. It indicates a high level of peer review competence and the ability to constructively critique scientific literature to an exceptional standard.
25. **Dr. Devendra Sharma**, IPR has been recognized as an Outstanding Reviewer for the IOP Journal “Plasma Research Express” for the year 2019.

Obituary



Prof. Arun Mallojirao Jayannavar

22 July, 1956 - 22 November, 2021

Prof. Arun Mallojirao Jayannavar was born in Belgaum, Karnataka on 22nd July 1956. He obtained his PhD degree from Indian Institute of Science (IISc), Bangalore in 1982 under the supervision of late Prof. N. Kumar. After completing his post-doctoral work at International Centre for Theoretical Physics (ICTP), Italy and University of Ulm (as an Alexander von Humboldt Fellow), he joined Institute of Physics (IoP), Bhubaneswar as a faculty member in 1991.

He made significant scientific contributions in the field of mesoscopic systems, disorder physics, non-equilibrium statistical mechanics and stochastic processes. He has supervised around 10 graduate students who are now faculty members of notable Indian academic institutes like SNBNCBS, HRI, NISER, BITS etc. For his substantial contribution in the field of theoretical condensed matter physics, he had been awarded prestigious ICTP Prize (1996), Shanti Swarup Bhatnagar Prize (1998), and G. D. Birla Award (2004). He was also the recipient of prestigious J. C. Bose Fellowship and had been elected the fellow of all three major Indian science academies (INSA, NASI and IASc). He was also the editorial board member of Current Science and Pramana. He held the Director position of IoP from November 2009 to May 2013. After spending around 30 years at IoP with his scientific legacy, he retired from the institute in July 2020 as a Senior Professor. He passed away on 22nd November 2021.

Prof. Jayannavar was among the eminent faculty members of HBNI. As the Director of IoP, he was also a member of Academic Council of HBNI during November 2017 to May 2013. He was a very friendly and approachable person to the students and his other colleagues. He contributed immensely to the academic and administrative matters at the IoP and beyond. His sudden demise is a great loss to the scientific community in India and worldwide and particularly to IoP & HBNI.



Glimpses of Engineer's Day celebration at HBNI. Prof. PRV Rao, VC, HBNI addressing the online gathering (top) and Prof. S. Chaturvedi, Director, IPR delivering his talk (bottom).

Dr. Sekhar Basu Memorial Program

HBNI organized a Memorial Program in honor of Dr. Sekhar basu, Former Secretary, Department of Atomic Energy and Former Chairman, Council of Management, HBNI on October 1, 2021. Dr.V.K. Saraswat, Member, NITI Ayog (Science & Technology) & Chancellor, Jawaharlal Nehru University, Delhi was the chief guest on the occasion. Eminent personalities present on the occasion included, Shri K.N. Vyas, Secretary, Department of Atomic Energy (DAE), Chairman, Atomic Energy Commission and Chairman, Council of Management, Prof. R.B. Grover, Emeritus Professor, HBNI, Shri A.K. Anand, Former Director Reactor Projects Group and Technology & International Relations, BARC, Shri K.V. Ravi, Chief Executive, Nuclear Recycle Board and Dr. Sujoy Bhattacharyya, Director, RPG, BARC. The program was also attended by Mrs. Basu, who has helped HBNI to institute awards in the memory of late Dr. Sekhar Basu.

Dr.V.K. Saraswat delivered Dr. Sekhar Basu Memorial lecture giving an overview of nuclear power in India including the path so far, nuclear and renewable penetration, SMR technology and long term energy strategy. During the program, Dr. Sekhar Basu Memorial awards were also presented to the outstanding young engineers who have shown excellent performance in the Training School and in M.Tech program and also made exemplary contributions to the DAE projects.



Dignitaries present on the occasion of Dr. Sekhar Basu Memorial Program



Shri K.N. Vyas welcoming Mrs. Basu on the occasion of Dr. Sekhar Basu Memorial Program



Shri Soubhagya Karmakar, DCSEM



Ms. Riya Dey, BARC



Shri Shivam Agarwal, BARC



Shri N.L. Nidhin, RRCAT



Ms. Bharti Hariramani, BARC



Shri Sushmanth Upalancha, VIZAG

Shri K.N. Vyas presenting Dr. Sekhar Basu Memorial award to the awardees

Events at CIs/OCC

Founder's Day Celebration at BARC

The 112th birth anniversary of Dr. Homi Jehangir Bhabha was celebrated as Founder's Day on October 29, 2021 at BARC. Shri S.A. Bhardwaj, Former Chairman, Atomic Energy Regulatory Board was the Chief Guest on the occasion.

Dr. A.K. Mohanty, Director, BARC welcomed the gathering. In his address, he highlighted the recent achievements of the centre in several sectors which are core as well as spin off areas of nuclear energy applications. In his address, Shri K.N.Vyas, Chairman Atomic Energy Commission and Secretary, DAE gave a detailed account of the recent achievements of the Department in nuclear energy sector, health care sector, mega science projects as well as basic science and engineering. He also highlighted the contributions made by Tata Memorial Centre, a CI of HBNI in cancer research and cancer care. Shri S.A. Bhardwaj, Chief Guest on the occasion addressed the gathering and gave away the DAE (Excellence in Science, Engineering & Technology) Awards for the year 2019.



Founder's Day Celebration at BARC. Dignitaries on dais (top left); Shri K.N. Vyas giving Founder's Day address (top right); Prof. A.K. Mohanty giving Founder's Day address (bottom left); DAE Homi Bhabha Science and Technology Award winners posing with their awards (bottom right)

Awards and Honors

1. Dr. R.A. Badwe, Director, TMC, Mumbai has been conferred Nelson Mandela Noble Peace Prize 2021 and Honorary Doctorate of Philosophy for Humanitarian Services.
2. Dr. Saket Saurabh, Institute of Mathematical Sciences, Chennai has been awarded Shanti Swaroop Bhatnagar award in Mathematical Sciences for 2021.
3. Prof. Bedangadas Mohanty, School of Physical Sciences, NISER has been awarded Infosys prize for Physical Sciences for the year 2021.
4. Dr. Satyaprasad Senanayak, School of Physical Sciences, NISER has become an Associate of the Indian Academy of Sciences (IASc).
5. Dr. Najmul Haque, School of Physical Sciences has been awarded INSA Medal for Young Scientists, 2021.
6. Prof. A.K. Tyagi, Chemistry Group, BARC has been elected as a fellow of World Academy of Ceramics.
7. Dr. H.N. Ghosh, BARC has been selected to receive Chemical Research Society of India (CRSI) silver medal for the year 2022.
8. Dr. R.S. Ningthoujam, BARC has been selected to receive Chemical Research Society of India (CRSI) bronze medal for the year 2022.
9. Dr. U. Lourderaj, School of Chemical Sciences, NISER has been selected to receive the Chemical Research Society of India (CRSI) Bronze Medal for the year 2022.
10. Dr. Prasun K. Mukherjee, BARC has been elected as a fellow of Indian National Science Academy (INSA).
11. Dr. V. Sudarsan, BARC has been elected as a fellow of National Academy of Sciences (NASI).
12. Prof. P.R. Vasudeva Rao, VC, HBNI was invited to deliver the prestigious Dr. H.L. Roy Memorial Lecture - 2021 by the Indian Institute of Chemical Engineers (IChE) during the CHEMCON conference held at IMMT, Bhubaneswar during Dec. 26-30, 2021. He delivered the lecture on the topic, "Separations Science and Nuclear Energy".
13. Prof. Venkatraman, Director, IGCAR has been conferred the Degree of Doctor of Science, Honoris Causa, in recognition of his outstanding contributions in Nuclear Science and Technology, by Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai.
14. Prof. Sandip Kumar Dhara, Materials Science Group, IGCAR has been elected as a Fellow of the Institute of Physics, England.
15. Prof. Anish Kumar, Head, NDED, IGCAR has been selected as the Editorial Board member of journal Research in Nondestructive Evaluation (American Society for Nondestructive Testing).
16. Dr. Chandrima Das, SINP has been selected for the prestigious Central Drug Research Institute (CDRI) Awards 2021 for Excellence in Drug Research in Life Sciences category.
17. Dr. Shamik Banerjee, IOP has been awarded Swaranajayanti fellowship by DST, Govt. of India in Physical Sciences for the year 2020-21.
18. Dr. G. Sainath and Assoc. Prof. A. Nagesha, IGCAR have been awarded Best Poster Award for their poster, "Atomistic simulations of twin boundary effect on the crack growth behaviour in BCC Fe" in the 8th International Conference on Creep, Fatigue and Creep-Fatigue Interaction (CF-8) held during August 24-27, 2021 at Indira Gandhi Centre for Atomic Research, Kalpakkam.
19. The essay titled "Application of laser, plasma and accelerator techniques during Covid pandemic" by Mr. Santosh Sourav Sahoo, Student, Integrated MSc, School of Physical Sciences, NISER has been selected as one of the best 10 essays from all over India in the 33rd DAE essay contest-2021.