



Annual Report
2022-23

High Size Reduction Ratio”, South African Patent No. 2022/09557 dated August 26, 2022.

5. Dr. Kaushik Sengupta, Ms. Duhita Sengupta (SINP), Mr. Sk Nishan Ali, Mr. Aditya Bhattacharya, Mr. Joy Mustafi (MUST Research Trust, Hyderabad) & Dr. Asima Mukhopadhyay (Chittaranjan National Cancer Institute, Kolkata), “System for Executing Nuclear Morphology based Analytics for Accurate Diagnosis / Prognosis of Cancer including Ovarian Cancer”, Indian Patent No. 202231061023.0 dated October 26, 2022.
 6. Dr. Indira Priyadarshni (BARC), Prof. M. K. Unikrishnan, Dr. Prabhakar K. R., Dr. Veeresh V. P., Dr. Piya Paul, and Dr. Punit Bansal (Manipal University), “Innovative, inexpensive and viable method for the isolation of novel antioxidant flavonoids from the weed, *Coronopus Didymus*”, Indian Patent No. 410220 dated October 28, 2022.
 7. Dr. Amit Kunwar, Dr. Manoj K. Pal, Dr. Vishwa V. Gandhi, Dr. Sandip Dey, Mr. Ram P. Das, Dr. Beena G. Singh, and Mr. Amey P. Wadawale, “Deuterated-3-3'-Diselenodipropionic Acid (D-DSePA) and Its Use as an Anticancer or Radioprotective Agent”, USA Patent No. 18/087427 dated December 22, 2022.
 8. Mr. M. Balamurugan, Dr. N. K. Pandey, Mr. Shekhar Kumar (from IGCAR) and Prof. J. B. Joshi (HBNI), “Annular Centrifugal Extractor with Solid Separation Part to Separate Solid Particles Present in Solvent Extraction Fluid and A Process for the Same”, European Patent No. 21851859.5 dated December 14, 2022.
 9. Dr. Ramkrishna Rane, Dr. Akshay Vaid, Dr. Alphonsa Joseph, Dr. Nirav Jamnapara, Institute for Plasma Research (IPR), “A Plasma based System for Generating Antibacterial Coating on Flexible Polymeric Substrates and Process Thereof”, Indian Patent No. 202321003767.0 dated January 19, 2023.
 10. Mr. M. Balamurugan, Dr. N. K. Pandey, Mr. Shekhar Kumar (from IGCAR) and Prof. J. B. Joshi (HBNI), “Annular Centrifugal Extractor with Solid Separation Part to Separate Solid Particles Present in Solvent Extraction Fluid and A Process for the Same”, Japanese Patent No. 2023-513891 dated February 24, 2023.
 11. Mr. M. Balamurugan, Dr. N. K. Pandey, Mr. Shekhar Kumar (from IGCAR) and Prof. J. B. Joshi (HBNI), “Annular Centrifugal Extractor with Solid Separation Part to Separate Solid Particles Present in Solvent Extraction Fluid and A Process for the Same,” USA Patent No. 2023-513891 dated February 24, 2023.
- **Recognitions, Awards and Honours Received by HBNI Faculty**
 1. Prof. Sudhakar Panda, NISER has been conferred the coveted, “Biju Patnaik Award for Scientific Excellence” for the year 2020, in recognition of his outstanding life-time contribution in the field of Science and Technology, by Odisha Bigyan Academy, Govt. of Odisha
 2. Prof. B. Venkataraman, has been conferred the Honorary Fellowship of the Indian Society of Analytical Scientists, Mumbai.

13. Prof. Arup Dasgupta, IGCAR, has been elected as a Fellow of IIM for the year 2022. He has also received “The above and beyond appreciation for Editorial Leadership” award from Springer for the year 2022.
14. Dr. Sudip Chakraborty, HRI has been appointed as a member Editorial Advisory Board of Energy Advances, a journal of Royal Society of Chemistry (RSC), UK.
15. Prof. Shikha Verma, IoP, has become Endowment Chair Professor of Dr. K. C. Patel Research & Development Center (KRADLE), CHARUSAT, Gujarat.
16. Dr. Ajit C. Balram, IMSc., has been elected as an Associate of Indian Academy of Sciences.
17. Dr. Sangram Bagh, SINP, has been elected as a Fellow of the Royal Society of Chemistry.
18. Dr. Sugam Kumar, BARC, has been selected as an Associate of Indian Academy of Sciences (IASc), in 2022 and a Member of The National Academy of Sciences, India. He has also been awarded DAE-SSPS Young Achiever Award-2022.
19. Dr. Dirtha Sanyal, VECC, has been elected as a Fellow of the Royal Society of Chemistry.
20. Dr. Sharmistha Dutta Choudhury, BARC, has been elected as a member of Maharashtra Academy of Sciences.
21. Dr. Veerendra K. Sharma, BARC, received Buti Foundation Award 2022 from Indian Physics Association.
22. Dr. Shamik Banerjee, IoP, has been awarded the INSA Young Scientist Award 2022.
23. Dr. K. R. S. Chandrakumar, BARC, has been awarded CRSI Bronze Medal by Chemical Research Society of India.
24. Prof. V. Sudarsan, BARC, has been awarded Society for materials Chemistry (SMC) Silver Medal.
25. Dr. V. G. Gupta, Dr. B. P. Mandal, and Dr. Jitendra Bahadur, BARC, have been awarded Society for materials Chemistry (SMC) bronze medal.
26. Dr. Amit Kunwar, BARC, has been elected as a Fellow of Maharashtra Academy of Sciences in 2022.
27. Prof. T. Som, IoP, has become a member of the Review Committee for the IEST Solar PV Hub at IEST, Shibpur.
28. Prof. Sanjib Kumar Agarwalla, IoP, has been appointed as an Honorary Fellow of the Physics Department, University of Wisconsin-Madison, Madison, USA.

29. Dr. Pratap Roy, VECC, has been awarded the IPA "Aswini Kumar Rath Memorial Award" in Nuclear Physics for the year 2022. He has also received Young Achiever Award at the DAE Symposium on Nuclear Physics -2022.
30. Dr. Ponneri C. Ravikumar, NISER, has been awarded with CRSI Bronze Medal, 2022. He is also recognized by American Chemical Society (ACS) as Top 3% highly cited ACS Author from India.
31. Dr. Amaresh Jaiswal, NISER, has received Young Achiever Award, at the DAE Symposium on Nuclear Physics 2022.
32. Dr. B. B. Lahiri, IGCAR, has received Young Achiever Award, at the DAE Symposium on Nuclear Physics 2022.
33. Dr. R. S. Ningthoujam, BARC, has been awarded MRSI medal for the year 2022.
34. Prof. Ranjan Mittal, BARC, has received MRSI Materials Science Annual Prize for the year 2021. He has also been awarded Society for Materials Chemistry (SMC) silver medal, 2022.
35. Dr. M. Vasudevan, IGCAR is a co-recipient of W. H. Hobart Memorial Award from the American Welding Society National Award for the year 2021. Dr. Vasudevan has also been selected as a Fellow of Indian Institute of Metals (FIIM) and as an Editorial Board Member of Engineering Failure Analysis Journal from Elsevier Publishers.
36. Dr. Rubel Chakravarty, BARC, has received SMC Bronze medal for the year 2022.
37. Dr. Shiba Prasad Acharya, SINP, received "International Best Researcher Award" in the field of nonlinear dynamics and plasma physics. The award has been instituted by ISSN International Science & Technology Awards and Congress (IISTAC-2022) in association with World Research Council (WRC).
38. Dr. Sunita Sonawane, RMC-BARC, has won Women Researcher Award in the International Scientist Award on Engineering, Science and Medicine, held during October 7-8, 2022, organised by VDGOOD Professional association.
39. Dr. Kinshuk Dasgupta, BARC has received distinguished alumnus award, ICT from UAA-ICT.
40. Prof. B. N. Pandey, BARC, has become Vice President, Asian Association for Radiation Research.
41. Prof. Venkatesh Raman, IMSc. Has been elected President of ACM India for the year 2022.
42. Prof. Arnab Pal, IMSc has been awarded SERB Start-Up Research Grant (2022-24) by DST SERB to work on applications of first passage processes in natural sciences.
43. Dr. Subhankar Bedanta, NISER, has been appointed as Associate Editor for the journals Frontiers in Physics and Frontiers in Nanotechnology.

44. Dr. Kirtiman Ghosh, IOP, has received prestigious MATRICS (Mathematical Research Impact Centric Support) grant funded by the Science and Engineering Research Board (SERB) for the theoretical research and development of some specific new variants of Extra dimensional model
45. Prof. Manimala Mitra, IoP, has received Subham Memorial Award, 2022 by the NGO AWTE, Bhubaneswar.
46. Dr. Debasish Chaudhuri, IoP was invited to visit LPTM CY Cergy Paris University, Paris, France with a Visiting Professorship from 26 September to 7 October, 2022.
47. Dr. Kishore Kanti Mishra and Dr. Mainak Bandyopadhyay, IPR, received the IOP 2021 Outstanding Reviewer Award for the year 2021 for the journal Plasma Physics and Controlled Fusion.
48. Dr. Sarveshwar Sharma, IPR, received the IOP 2021 Outstanding Reviewer Award for the year 2021 for the journal Plasma Science and Technology. (Notified in the Month of May 2022).
49. Dr. Himansu Sekhar Biswal, NISER, has become an affiliate member of the Royal Society of Chemistry, UK. He also holds post of Member, Board of Studies, Chemistry, HBNI, Member Project Assessment Committee, DST, Govt. of Odisha, Member, Board of Studies, Chemistry, CET, Odisha, Member, Board of Studies, Chemistry, Berhampur University, Odisha.
50. Dr. Palok Aich, NISER, has been elected as Editor-in-Chief, *Microenvironment and Microecology Research*, TMR publishing Group, New Zealand and as Guest Editor, Special issue on Role of Microbial Metabolites in the Regulation of Host Immunity and Metabolism, *Metabolites*, MDPI, Basel, Switzerland.
51. Dr. Asima Bhattacharyya, NISER has been appointed Editorial Board Member, *Current Research in Physiology* (Elsevier), Guest Editor, *Frontiers in Microbiology* (Frontiers) and Handling Editor, *Frontiers in Oncology* (Frontiers).
52. Dr. Manjusha Dixit, NISER, has been appointed as Guest Editor, *Journal of Visualized Experiments*, Cambridge.
53. Dr. Debasmita P. Alone, NISER has become a Co-opted Member, *Expert committee in Life Sciences on SRG, NPDF & ECRA* schemes in SERB, New Delhi, India.
54. Dr. Sutanu Roy, NISER, has been selected as a CNRS visiting researcher, *Laboratoire de mathématiques de Besançon*, France.
55. Dr. Anandkumar, Surdharshan, Mr. T. Nandakumar, Ravishankar and J. Philip, IGCAR received the Best Poster Award for their poster titled “Development of silane-based epoxy hybrid coating on water transporting pipeline materials for enhanced

A9 Targeting HER2-receptors in breast cancers”, at 1st HBNI interaction meeting in Chemical Sciences, NISER, Bhubaneswar, 18-20 Jan, 2023. He also received Best Poster award given by American Chemical Society (ACS) for his poster titled, “Electrochemical and Spectroscopic Investigation of HER2-Targeting Peptide”, in the Conference on Electrochemistry for Industry, Health and Environment, Mumbai, 7-11 Feb, 2023.

11. Shri K. Sandeep Rao, BARC received Best Poster Award for his poster titled, “Iron oxide modified separator for enhanced performance in lithium sulphur battery”, in the Interdisciplinary Symposium on Materials Chemistry held at DAE Convention Centre, Mumbai during December 7-10, 2022.
12. Shri Atanu Jha, BARC received Best Poster Award for his poster titled, “Breathable water repellent cotton fabric using radiation technology” in the Interdisciplinary Symposium on Materials Chemistry held at DAE Convention Centre, Mumbai during December 07-10, 2022.
13. Miss Debarati Das, BARC received Best Poster Award for her poster titled, ‘Defect and valence engineering in CeO₂ through aliovalent ion doping for enhanced activity towards ORR catalysis”, in the Conference on Electrochemistry for Industry, Health and Environment, Mumbai, 7-11 Feb, 2023.
14. Miss Sudipa Manna, BARC received Best Poster Award for her poster titled, “BiVO₄ and 3D graphene nano composite photoanodes for improved photoelectrocatalytic splitting of water,” at 1st HBNI interaction meeting in Chemical Sciences, NISER, Bhubaneswar, 18-20 Jan, 2023. She also received ACS Best Oral Presentation Award for her paper titled, “Catalyst-carbon nanocomposites for enhanced electrochemical & photoelectrochemical water splitting”, in the Conference on Electrochemistry for Industry, Health and Environment, Mumbai, 7-11 Feb, 2023.
15. Miss Swarnima Rawat, Ph.D. (Chem. Sci.), BARC has been selected as one of the winners of Popular Science Stories-Ph.D. Category Award by AWSAR-DST (Department of Science and Technology) in March 2023.
16. Miss Sanchita Ghosh, BARC received Best Oral Presentation Award for her paper titled, “Gum Arabic Coated Ga₂O₃:69Ge nanoparticles as an intrinsically radiolabeled PET probe”, in the International Conference on “Emerging Smart Materials in Applied Chemistry” held at KIIT Deemed to be University, Bhubaneswar during December 20-22, 2022.
17. Shri Meghnath Sen, BARC received Best Poster Award for his poster titled, “Development of Al₅BO₉:Ce³⁺ for high intensity thermal neutron dosimetry applications,” in the Interdisciplinary Symposium on Materials Chemistry held at DAE Convention Centre, Mumbai during December 7-10, 2022.
18. Dr. Geetisubhra Jena, IGCAR, received the Best Thesis Award by NACE International India Section – during CORCON 2022, held at Udaipur during September 19-22, 2022 for her thesis titled “Development of graphene oxide based composite coating with improved corrosion resistance and antibacterial properties”.