



Issue No. 07 | June 2022

अणुविद्या

HBNI NEWSLETTER

होमी भाभा राष्ट्रीय संस्थान

Homi Bhabha National Institute

(परमाणु ऊर्जा विभाग की सहायता प्राप्त 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)

Location of HBNI Central Office, Constituent Institutions & Off Campus Centre



HBNI Newsletter



Homi Bhabha National Institute

An Aided Institution of the Department of Atomic Energy and
a Deemed-to-be University Under Section 3 of the UGC Act, 1956

Core Values of Homi Bhabha National Institute



Council of Management



Shri K. N. Vyas

*Secretary DAE &
Chairman, AEC
Chairman*



Prof. P. R. V. Rao

*Vice Chancellor, HBNI
Member*



Prof. A. K. Mohanty

*Director, BARC
Member*



Shri Tallen Kumar

*Member (Finance), AEC
Member*



Shri S. V. Nakhe

*Director, RRCAT
Member*



Prof. R. A. Badwe

*Director, TMC
Member*



Prof. V. Ravindran

*Director, IMSc
Member*



Prof. G. Bhattacharyya

*Director, SINP
Member*



Prof. M. Barma

*Professor Emeritus, TIFR Centre
for Inter-Disciplinary Sciences,
Hyderabad
Member*



Shri R. Ranjan

*Additional Secretary (TE)
Dept. of Higher Education,
Min. of Education
Member*



Prof. S. Prasad

*Former Director, IIT, Delhi
Member*



Prof. P. D. Naik

*Dean, HBNI
Member*



Dr. P. C. Selvin

*Registrar, HBNI
Secretary*

Academic Council



Prof. P. R. V. Rao
Vice Chancellor, HBNI
Chairperson



Prof. A. K. Mohanty
Director, BARC
Member



Prof. B. Venkatraman
Director, IGCAR
Member



Prof. R. A. Badwe
Director, TMC
Member



Prof. S. Panda
Director, NISER
Member



Shri S. V. Nakhe
Director, RRCAT
Member



Prof. Sumit Som
Director, VECC
Member



Prof. S. Chaturvedi
Director, IPR
Member



Prof. K. K. Nanda
Director, IOP
Member



Prof. P. Majumdar
Director, HRI
Member



Prof. V. Ravindran
Director, IMSc
Member



Prof. G. Bhattacharyya
Director, SINP
Member



Prof. Indranil Manna
IIT Kharagpur
Member



Prof. J. B. Udgaonkar
IISER, Pune
Member



Prof. E. D. Jemmis
IISc, Bangalore
Member



Prof. Ujjwal Baruah
Director, ITER - IPR
Member



Prof. V. Kain
BARC
Member



Prof. P. D. Naik
Dean, HBNI
Member



Prof. R. B. Grover
Convenor, BoS
(Applied System Analysis)
Member



Prof. S. M. Yusuf
Convenor, BoS
(Physical Sciences)
Member



Prof. A. P. Tiwari
Convenor, BoS
(Engineering Sciences)
Member



Prof. Meena Mahajan
Convenor, BoS
(Mathematical Sciences)
Member



Prof. S. D. Banavali
Convenor, BoS
(Medical & Health Sciences)
Member



Prof. P. Venkatraman
Convenor, BoS
(Life Sciences)
Member



Prof. S. Kannan
Convenor, BoS
(Chemical Sciences)
Member



Prof. B. Mohanty
Convenor, BoS
(Int. Master's Programme)
Member



Dr. P. C. Selvin
Registrar, HBNI
Secretary

(ii)

Planning & Monitoring Board



Prof. P. R. V. Rao
Vice Chancellor, HBNI
Chairperson



Prof. A. K. Mohanty
Director, BARC
Member



Prof. P. D. Naik
Dean, HBNI
Member



Prof. R. B. Grover
Professor Emeritus, HBNI
Member



Prof. B. Venkatraman
Director, IGCAR
Member



Prof. S. Chaturvedi
Director, IPR
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Prof. G. Bhattacharyya
Director, SINP
Member



Prof. Devang Khakhar
Dept. of Chemical Engineering,
IIT Bombay
Member



Prof. Praveen Chaddah
Former Director, UGC - DAE
Consortium for Scientific Research
Member



Prof. S. Ramakrishnan
Director, TIFR
Member



Dr. P. Christopher Selvin
Registrar, HBNI
Secretary



From the Vice Chancellor's Desk

It gives me great pleasure to meet you all through the Anuvidhya Newsletter.

During the last six months, HBNI had continued to pursue the mission of organising special lectures and courses for its faculty and students, exploiting the recent learnings from conduct of online programs, forced upon us by the pandemic. For the first time, HBNI Central Office organised a course on research methodology for all its students across the eleven campuses; a course on French language for the research scholars of IGCAR; and a foundation course on management for the senior executives of DAE organisations. To commemorate the International Year of Basic Sciences for Sustainable Development, HBNI brought together, in a discussion meeting, faculty from across all its CIs/OCC to provide an overview of the research programs and research infrastructure available in their respective institutions. The meeting witnessed very enthusiastic participation from the faculty and has led to the planning of discipline-specific meetings on Condensed Matter Physics at SINP, Kolkata and on life sciences at RRCAT. This augurs well for the growth of unique academic programs and active collaborations in the constituent units. In the coming months, HBNI will also offer unique courses on the NPTEL platform.

The Foundation Day of HBNI saw excellent participation from faculty and students. The august presence of Dr. A. V. Rama Rao, Former

Director, IICT, Hyderabad and Shri Somanath, Chairman, ISRO, and their address to the gathering, were inspiring elements of the Foundation Day program.

The celebration of the Azadi ka Amrut Mahotsav has given an excellent opportunity to HBNI to organise special programs and events that promote excellence. HBNI has put together in the form of a book, a set of articles by eminent specialists on the achievements of DAE since independence and we hope to release the book in the next few months.

The easing of the pandemic is a matter of great solace to our students who had to face many constraints in pursuing their academic activities. It is a matter of happiness to find that the total number of PhDs awarded during the year 2021-2022 bounced to 253 from the figure of 194 for the last year. We hope that the “recovery” process will continue in the months ahead and the conduct of all academic activities will soon return to normal.

We keenly look forward to your comments and suggestions for further improving the newsletter.

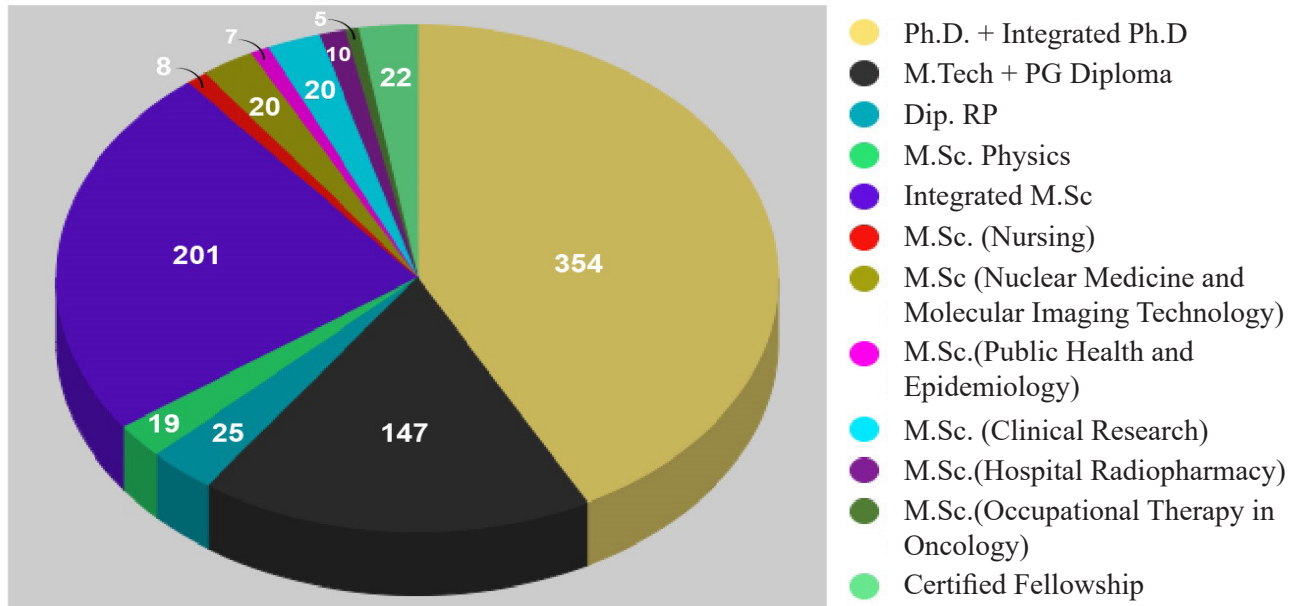
P. R. Vasudeva Rao
Vice Chancellor, HBNI

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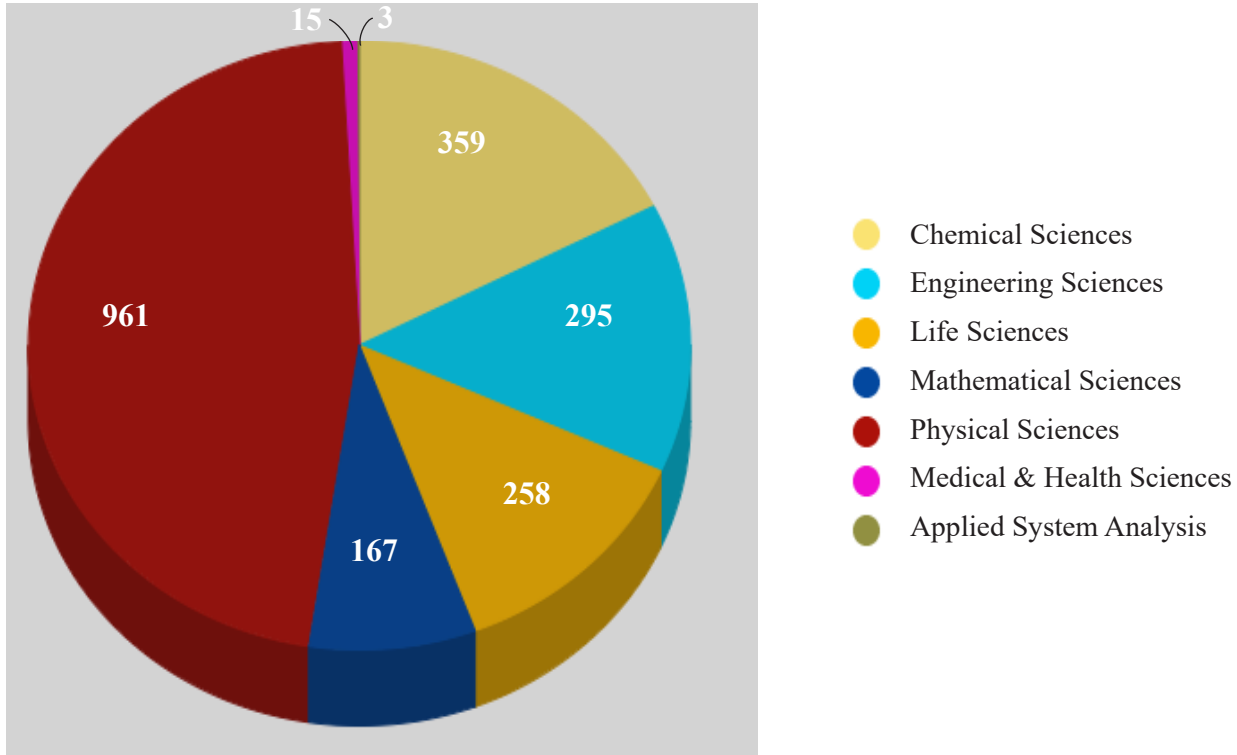
Institute at a Glance

Programmewise admission details during 2021-22
(Total = 838)



Academic Programme	BARC	IGCAR	RRCAT	VECC	SINP	IPR	TMC	IoP	IMSc	HRI	NISER	Total
Ph.D. + Integrated Ph.D	118	4	18	15	19	15	21	12	31	17	84	354
M.Tech + PG Diploma	119	20	-	-	-	8	-	-	-	-	-	147
MD	-	-	-	-	-	-	-	-	-	-	-	0
Dip RP	-	-	-	-	-	-	-	-	-	-	-	25
DM/MCh	-	-	-	-	-	-	-	-	-	-	-	0
M.Sc. Physics	-	-	-	-	-	-	-	-	-	19	-	19
Integrated M.Sc.	-	-	-	-	-	-	-	-	-	-	201	201
M.Sc. (Nursing)	-	-	-	-	-	-	8	-	-	-	-	8
M.Sc. (Nuclear Medicine and Molecular Imaging Technology)	10	-	-	-	-	-	10	-	-	-	-	20
M.Sc. (Public Health and Epidemiology)	-	-	-	-	-	-	7	-	-	-	-	7
M.Sc. (Clinical Research)	-	-	-	-	-	-	20	-	-	-	-	20
M.Sc. (Hospital Radiopharmacy)	10	-	-	-	-	-	-	-	-	-	-	10
M.Sc. (Occupational Therapy in Oncology)	-	-	-	-	-	-	5	-	-	-	-	5
Certified Fellowship	-	-	-	-	-	-	22	-	-	-	-	22
Total	282	24	18	15	19	23	93	12	31	36	285	838

Discipline wise distribution of Total (2058) Ph.D results declared



CI/OCC wise declared total PhD results since inception

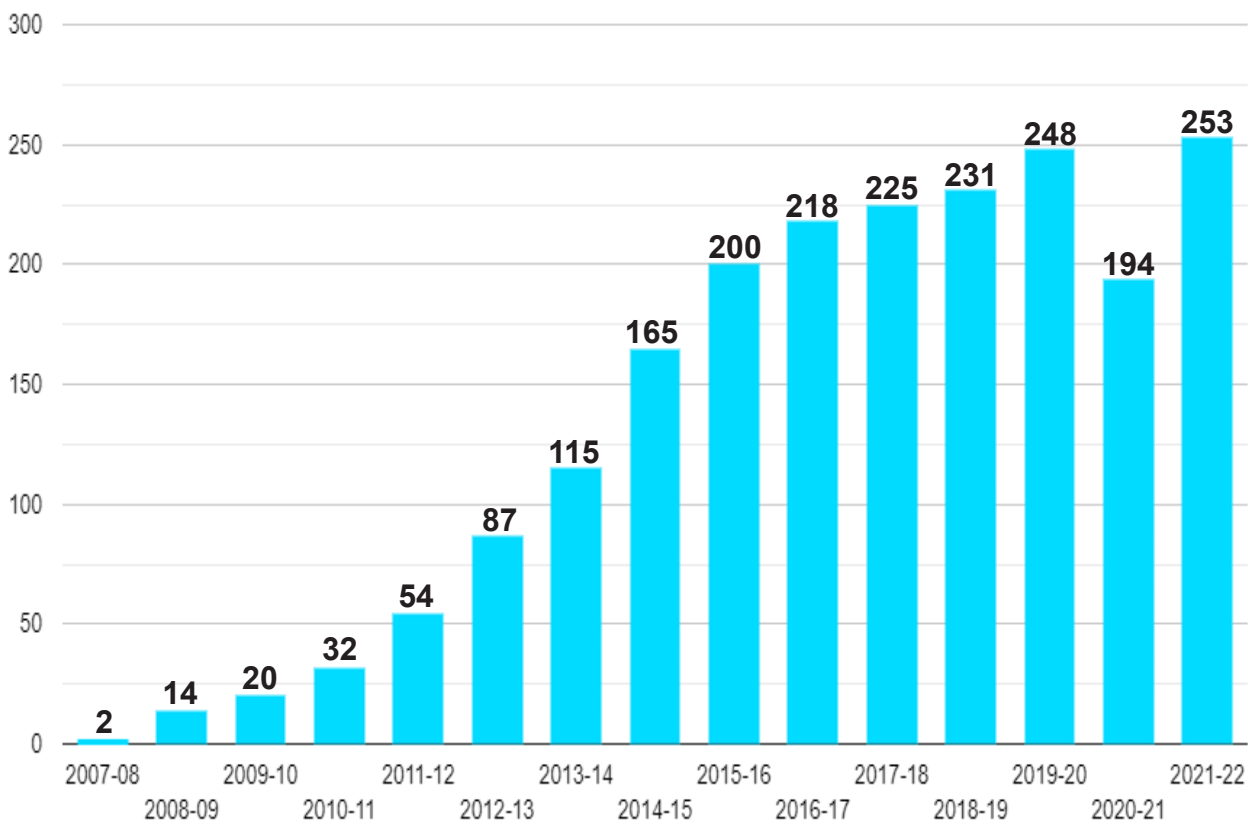
YEAR	BARC	IGCAR	RRCAT	VECC	SINP	NISER	IPR	IOP	HRI	TMC	IMSc	TOTAL
2007-08	-	-	-	-	-	-	-	2 #	-	-	-	2
2008-09	-	-	-	-	1	-	-	4	2	-	7	14
2009-10	-	-	-	-	1	-	-	2	7	-	10	20
2010-11	5	-	-	-	2	-	-	6	9	-	10	32
2011-12	15	2	2	-	1	-	5	3	9	-	17	54
2012-13	45	7	4	8	2	-	3	4	5	4	5	87
2013-14	34	23	2	7	6	-	8	9	4	6	16	115
2014-15	62	33	15	6	8	-	1	8	5	14	13	165
2015-16	86	29	13	7	13	-	5	10	11	18	8	200
2016-17	71	33	5	10	11	16	7	5	14	23	23	218
2017-18	71	27	10	11	18	16	13	8	16	15	20	225
2018-19	75	30	16	10	13	27	8	10	15	11	16	231
2019-20	68	39	14	16	15	22	12	8	21	13	20	248
2020-21	57	24	12	3	21	23	9	4	10	14	17	194
2021-22	75	42	13	9	25	30	7	3	10	15	24	253
TOTAL	664	289	106	87	137	134	78	86	138	133	206	2058

#Includes NISER Results till 2015-16

CI/OCC & Discipline wise PhD results declared during 2021-22

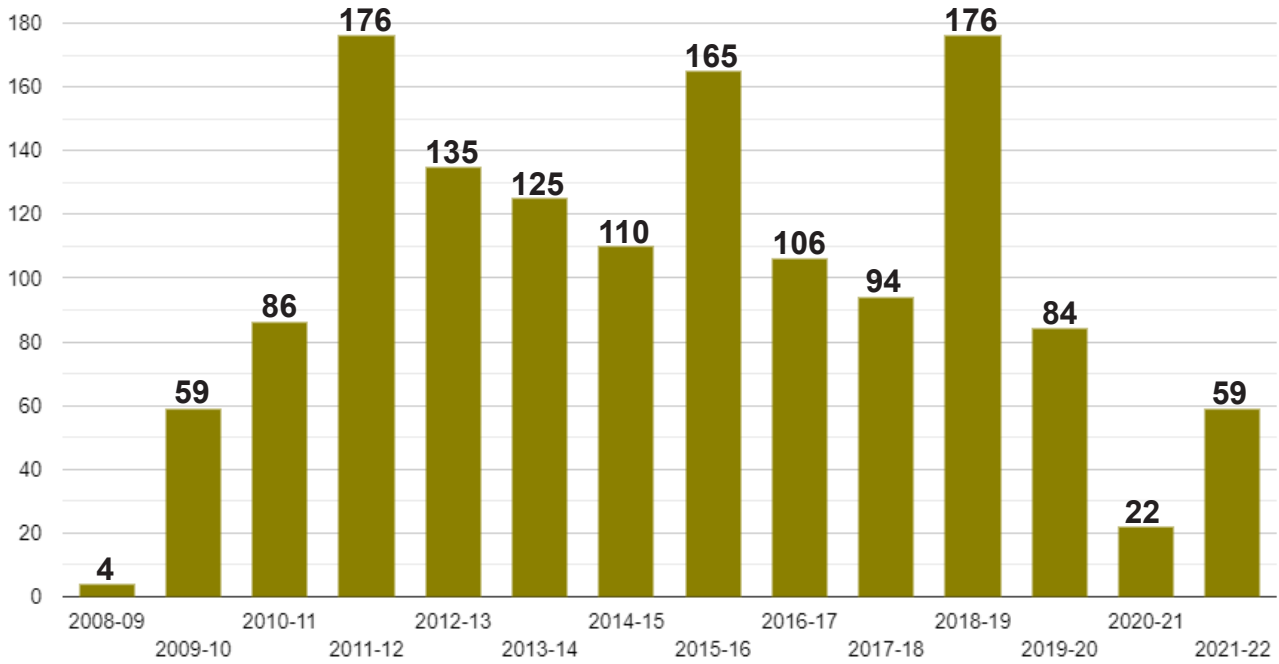
Academic Program	BARC	IGCAR	RRCAT	VECC	SINP	NISER	IPR	IOP	HRI	TMC	IMSc	Total
Chemical Sciences	18	11	-	-	-	7	-	-	-	-	-	36
Engineering Sciences	18	11	1	-	-	-	3	-	-	-	-	33
Medical & Health Sciences	-	-	-	-	-	-	-	-	-	1	-	1
Life Sciences	14	-	-	-	5	6	-	-	-	13	-	39
Mathematical Sciences	-	-	-	-	-	6	-	-	2	-	12	20
Physical Sciences	25	20	12	9	20	10	4	3	8	-	12	123
Applied System Analysis	-	-	-	-	-	1	-	-	-	-	-	1
Total	75	42	13	09	25	30	07	03	10	15	24	253

Year wise Ph.D. results declared

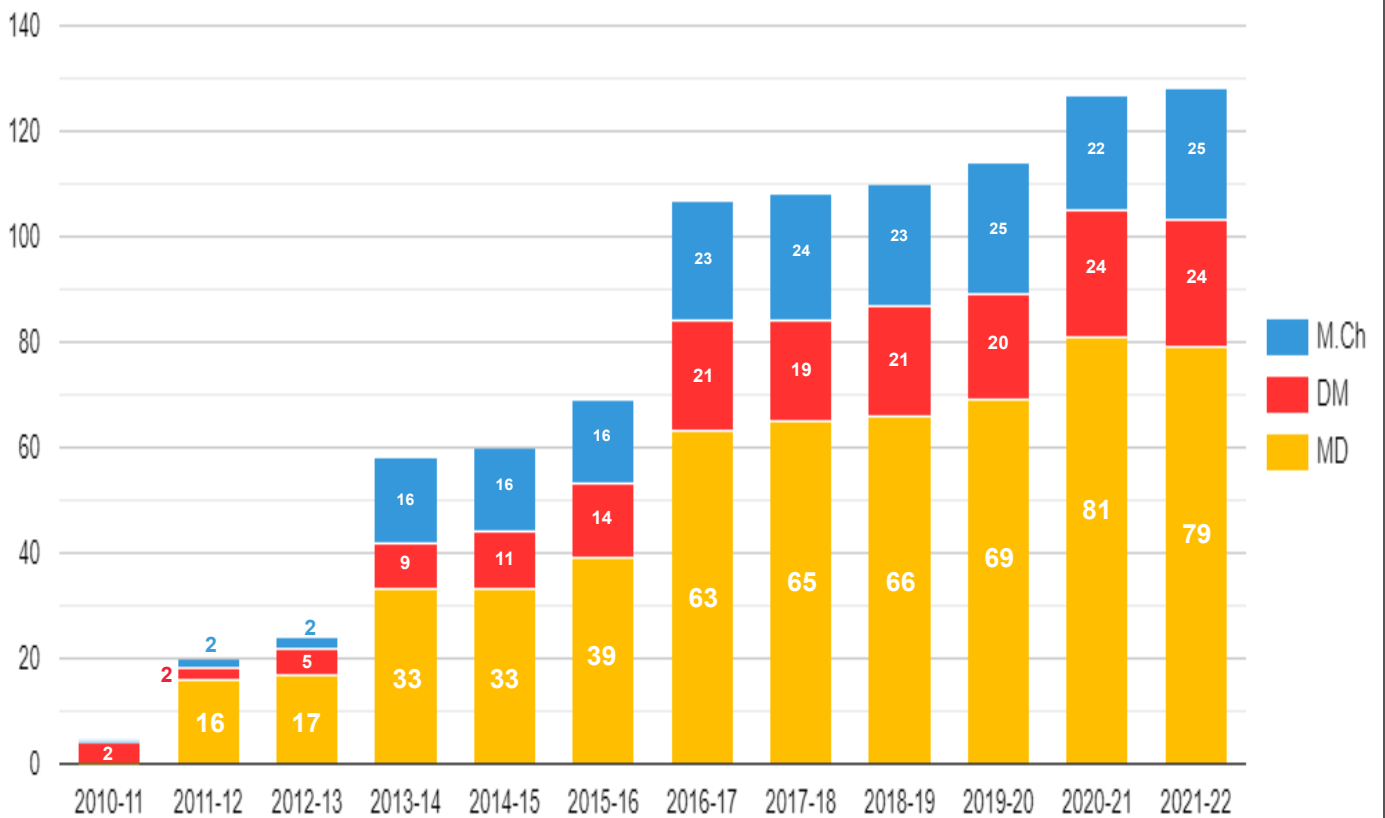




Year wise M.Tech results declared



Year wise MD/DM/M.Ch results declared



Events at Central Office

Republic Day Celebration

The 73rd Republic Day was celebrated at HBNI on January 26, 2022 adhering to all protocols due to Covid-19 pandemic. Prof. P. D. Naik, Dean, HBNI unfurled the National Flag followed by singing of National Anthem by HBNI functionaries and staff present on the occasion. In his address to the staff, Prof. Naik presented a glimpse of the HBNI achievements and also talked about the important initiatives taken by the institute for implementation of National Educational Policy-2020. The important among them is HBNI-Industrial linkage policy which will enable students to have a taste of industrial research through collaboration and internship schemes.

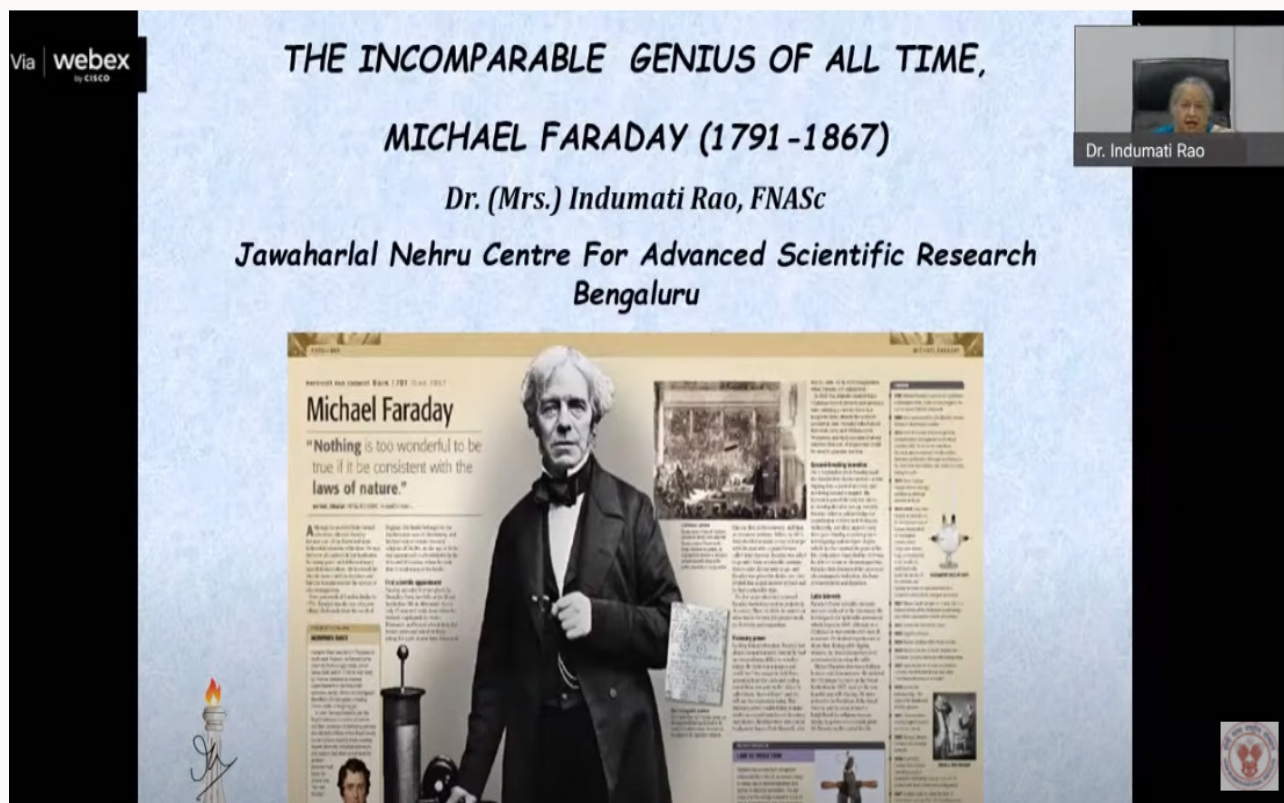


Prof. P. D. Naik, Dean HBNI saluting the National Flag after unfurling it

National Science Day Celebration

“National Science Day” is celebrated in India to commemorate the discovery of the Raman effect by Sir C. V. Raman on February 28, 1928, for which he was awarded the Nobel Prize in Physics in 1930. HBNI celebrated National Science Day on February 28, 2022 by organizing a webinar by Prof. (Mrs.) Indumati Rao, FNASc, Educational Technology Unit, JNCASR on the topic, “The Incomparable Genius of All Time, Michael Faraday (1791-1867).” Michael Faraday was one of the great pioneers of chemistry who contributed new knowledge and

created new directions. In her Talk, Prof. Rao covered the incredible journey of Faraday from a boy with a minimal formal education of just three years to becoming one of the most prolific and wide-ranging experimental scientists elaborating on his important experimental discoveries such as benzene (1825), electro-magnetic induction (1831), electro-chemistry (early 1830s), the magneto-optical effect and diamagnetism (both 1845).



Prof. Indumati Rao delivering her talk online on the occasion of National Science Day Celebration at HBNI

International Women's Day Celebration

The Women Cell of HBNI organized International Women's Day on March 8, 2022 at the central office by organizing a webinar titled "Adventures of a particle physicist and why should I care," by Prof. Archana Sharma, Senior Scientist, CERN Geneva, Switzerland. The webinar was organized in hybrid mode and attended by a large no. of students, staff and faculty of HBNI. Smt. Bharati Suvarna, Assistant Registrar and Convener, Women's Cell, HBNI welcomed the gathering. Prof. Vasudeva Rao, VC, HBNI gave introductory remarks. Prof. Umasankari Kannan, Chairperson, Women's Cell, HBNI introduced the guest speaker of the day, Prof. Archana Sharma, who is globally recognised for her work on gaseous detectors for research in High Energy Physics, which explores what the world is made of.

She is an avid supporter of women pursuing careers in science, technology, engineering and mathematics (STEM) and also runs an NGO called Life Lab Education and Research Foundation with the main objective to create partnerships with educational institutions for the benefit of the underprivileged: www.lifelab.org.in. In her talk, Prof. Sharma gave insights into the fascinating world of particle physics and how it impacts human lives. She also highlighted the role played by Indian and international women scientists in the research activities being carried out at CERN.



**Glimpses of International Women's Day Celebration at HBNI:
HBNI Women's cell members and HBNI staff present on the occasion.
Prof. Vasudeva Rao, VC, HBNI and Prof. Umasankari Kannan, Chairperson,
HBNI Women's, Cell addressing the gathering (from left and right)**



**Prof. Archana Sharma delivering her talk online on the occasion
of International Women's Day**

Discussion Meeting on Basic Sciences (DiMBS-2022)

The year 2022 has been declared by the United Nations as the International Year of Basic Sciences for Sustainable Development. Towards commemorating the International Year, a Discussion Meeting on Basic Sciences (DiMBS -2022) was organized by HBNI in hybrid mode during April 6-8, 2022 at the DAE Convention Centre, Anushaktinagar. The meeting saw participation from Directors, Dean Academics, Dean-students affairs and faculty members of Constituent Institutions/Off-Campus Centre of HBNI both in online mode and physically.

In the inaugural session of the meeting, Prof. P. D. Naik, Dean, HBNI welcomed the gathering and the invited speakers. In his address, Prof. Vasudeva Rao, VC, HBNI elaborated on the main objective behind conducting the meet which was to provide a platform for interaction and to catalyze the academic/research collaborations between faculty members and students of different Constituent Institutions (CIs)/Off-Campus Centre (OCC) of HBNI. Prof. A. K. Mohanty, Director, BARC complimented HBNI for organizing the discussion meeting, the first of its kind, allowing discussion of research activities and research facilities present in all CIs/OCC of HBNI at a common platform. In his address, he emphasized on the importance and relevance of curiosity driven research which not only leads to the advancement of one's knowledge of nature, but also to applied science and technology breakthroughs leading to important contributions to society. He remarked that basic science and applied science are intimately connected and basic research has played a major role in initiating and strengthening applied research since time immemorial. He also elaborated on the efforts of DAE to strengthen the cause of fundamental research in nuclear energy and areas of science. He concluded by saying that "Sustaining and supporting basic research activities is of crucial importance as future basic research programs can contribute towards solving national and global issues such as hunger, poverty, universal health care, climate change and biodiversity which are all critical to sustainable future of mankind".

The Chief Guest, Dr. R. Chidambaram, Former Principal Scientific Advisor to GoI and Former Secretary, DAE, in his talk titled "Importance of Basic Sciences", gave an overview of contribution of fundamental research in solving most of the problems of mankind be it in the field of medicine, healthcare, communication & electronics, nuclear energy etc.

Dr. Anil Kakodkar, Chancellor, HBNI gave an inspiring talk in which he shared his vision for HBNI and discussed the roadmap for the growth of HBNI as an institute of national and international importance in the coming years.

During the ten technical sessions over a period of three days, Dean-Academics and faculty members in the disciplines of Chemistry, Engineering, Life Sciences, Physics, Mathematics and Medical & HealthSciences from various constituent institutions and off campus centre of HBNI gave presentations on the research activities, research facilities and research infrastructure in their institutions.

The meeting was well received by all the participants and all agreed that the meeting was unique and useful and will pave the way for useful collaborations among different CIs/OCC of HBNI. In his valedictory address Prof. R. B. Grover, Emeritus Professor and Founder Director, HBNI remarked that HBNI as a conglomeration of eleven premier institutions has a vital role to play in the national development and for this purpose HBNI should ensure a multi-disciplinary research environment in its CIs/OCC which helps to create not only new high impact knowledge but technology as well.



Dignitaries on the dais during the inaugural session of DiMBS-2022



Prof. P. D. Naik, Prof. Vasudeva Rao, Prof. A. K. Mohanty and Dr. R. Chidambaram delivering their addresses in the inaugural session of DiMBS-2022 (from left to right)



Prof. Anil Kakodkar, Chancellor, HBNI delivering his talk (left) and interacting with audience during DiMBS-2022 (right).



Faculty from different CIs/OCC of HBNI giving their presentations during the technical sessions of DiMBS-2022



Dignitaries on the dais during the valedictory session of DiMBS-2022



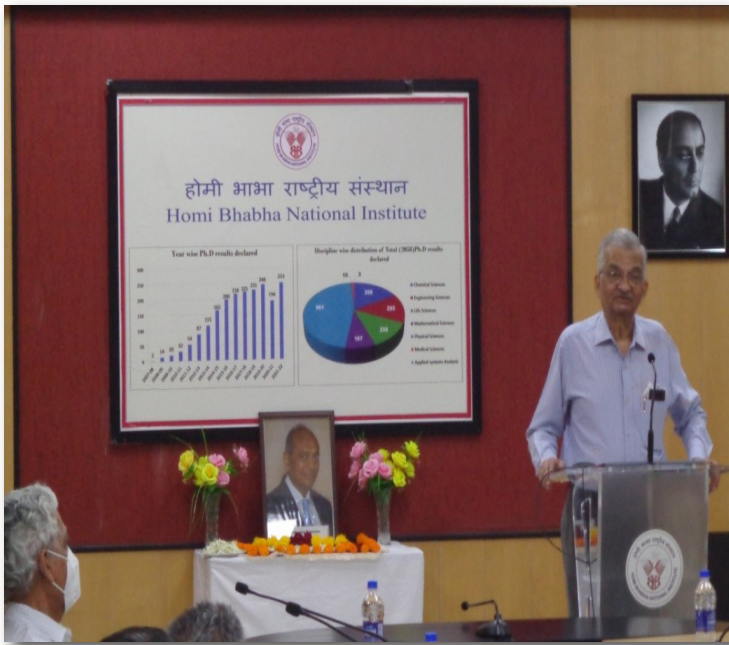
Prof. Srikumar Banerjee Memorial Programme

A Memorial Program in honour of Prof. Srikumar Banerjee, Former Chancellor, HBNI was organised on May 10, 2022 by HBNI. Prof. (Dr.) Indranil Manna, JC Bose Fellow & Vice Chancellor, BIT Mesra, Ranchi was the chief guest on the occasion. Eminent personalities present on the occasion included, Prof. Anil Kakodkar, Chancellor, HBNI, Shri K. N. Vyas, Secretary, Department of Atomic Energy (DAE), Chairman, Atomic Energy Commission and Chairman, Council of Management, Prof. J. B. Joshi and Prof. R. B. Grover, Emeritus Professors, HBNI. Dr. N. Sai Baba, Former CE, Nuclear Fuel Complex, attended the program online.

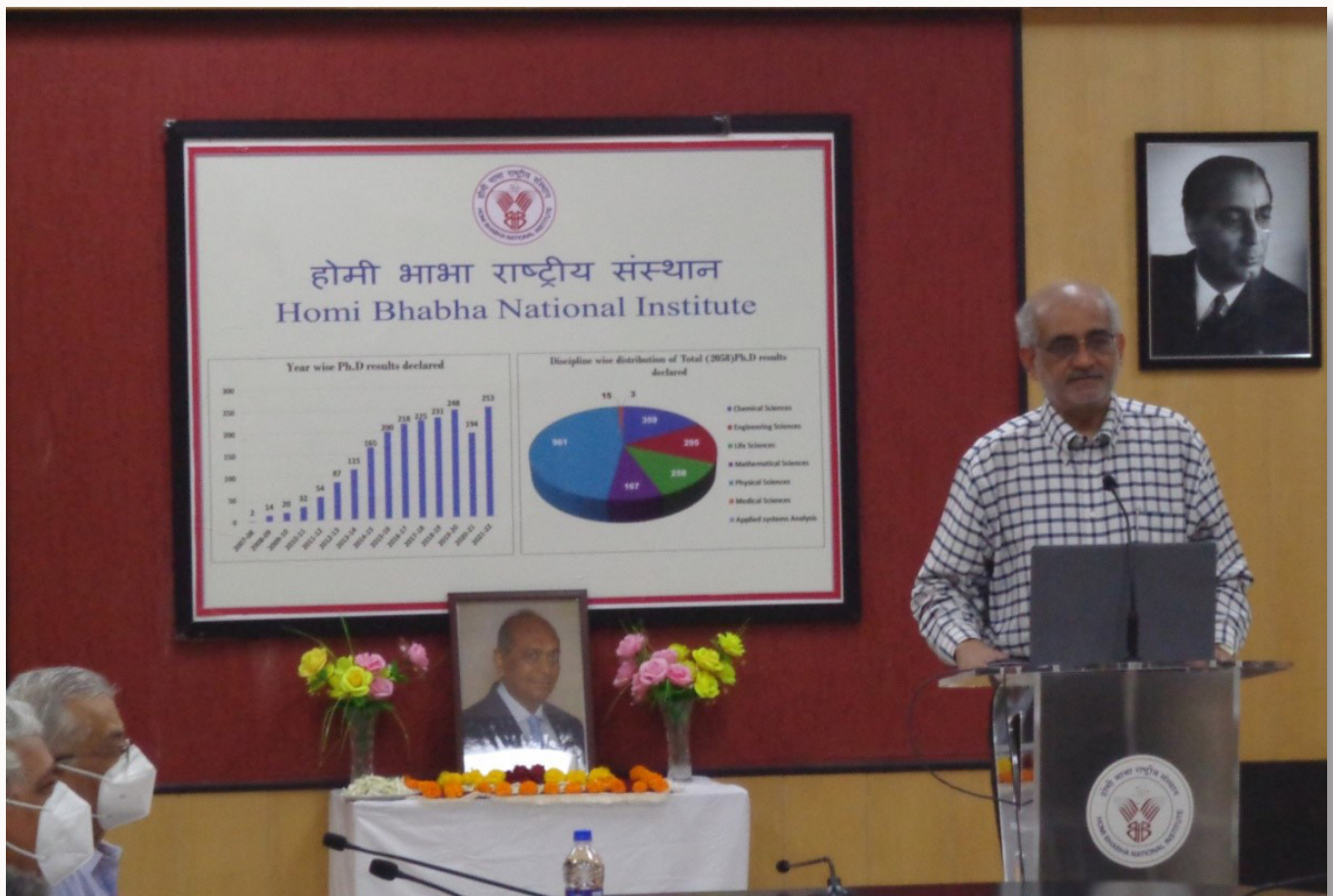
All the dignitaries present on the occasion paid humble tributes to Prof. Banerjee who was a great metallurgical scientist, academician par excellence, outstanding mentor and an institution builder. Prof. Indranil Manna gave an informative talk on the topic “Microstructure: The Key to Designing and Developing Engineering Solids”. In his Talk, he elaborated on the influence of microstructural modifications on the properties of the engineering materials.



Dignitaries Present on the occasion of Prof. Srikumar Banerjee Memorial Program



Prof. Anil Kakodkar, Chancellor, HBNI (left) & Shri K. N. Vyas, Chairman, Council of Management, HBNI and Secretary DAE (right) delivering their address



Prof. Indranil Manna delivering his talk

Foundation Day Celebration

The Foundation Day of the Homi Bhabha National Institute (HBNI) was celebrated in hybrid mode at the DAE Convention Centre in Anushaktinagar, Mumbai on June 3, 2022. Shri S. Somanath, Secretary, Department of Space and Chairman, Indian Space Research Organization (ISRO) was the chief guest on the occasion. Dr. A. V. Rama Rao, Founder & Director, Avra Labs (Pvt.) Ltd. and Former Director, IICT was invited to deliver Prof. J. B. Joshi Research Foundation Endowment Lecture. Prof. A. K. Mohanty, Director, BARC and Member, Council of Management, HBNI presided over the function. Chancellor, HBNI, Prof. Anil Kakodkar, functionaries of HBNI at various CIs/OCC and Central Office, and a large number of faculty, alumni and students of HBNI participated in function in both online and offline mode. Outstanding students of the institute in various academic programs and winners of Prof. J. B. Joshi Research Foundation innovation awards for the year 2021 were also honoured on the occasion.

Prof. P. D. Naik, Dean, HBNI welcomed the gathering. Prof. Vasudeva Rao presented the annual report of HBNI for the period 2021-22. He highlighted the progress of HBNI in various domains and informed the gathering about the new academic programmes introduced by HBNI, value added courses conducted and high value webinars conducted as part of celebration of “Azadi Ka Amrit Mahotsav”.

Prof. P. D. Naik, Dean, HBNI welcomed the gathering. Prof. Vasudeva Rao presented the annual report of HBNI for the period 2021-22. He highlighted the progress of HBNI in various domains and informed the gathering about the new academic programmes introduced by HBNI, value added courses conducted and high value webinars conducted as part of celebration of “Azadi Ka Amrit Mahotsav”.

Dr. A. V. Rama Rao presented J. B. Joshi Innovation awards. He delivered an inspiring lecture titled, “Reflections from a Personal Journey as Scientist, Technologist and Entrepreneur”, providing a detailed account of his journey from a world class academic researcher to a successful Entrepreneur running a multi-million-dollar pharmaceutical company (Avra Laboratories).

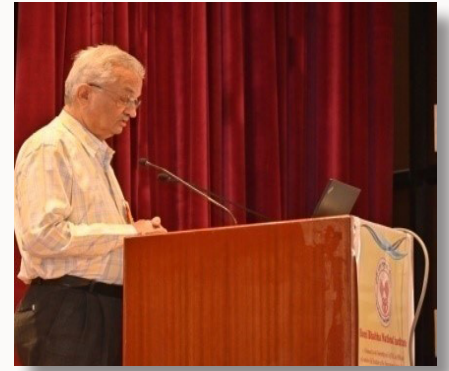
Shri S. Somanath distributed degree certificates and also presented awards to outstanding students of PhD, M.Tech, MD, DM and MCh programmes. He delivered an address on the topic “Technology Disruptions in Space Sector - Our Opportunities”. He also talked about the space start-up companies in India which are contributing in building & launching rockets and satellites, space-based applications development, RS data processing and propulsion systems development.

In his presidential address, Prof. A. K. Mohanty remarked that HBNI is one of the country's great institutions of higher education and acts like a Centre of Excellence bringing together eleven premier DAE institutions which provide degrees of highest standard in India. He further remarked that the research carried out at different constituent institutions of HBNI is highly contemporary resulting in sustainable development in India. He said that HBNI is doing well and fulfilling its mandate but still there are challenges ahead not only in the nuclear sector towards design of next generation reactors but also towards solving the socio-economic problems of the country. To meet these challenges and deliver significant outcomes requires strong research and innovation culture, creative and critical thinking in addition to the accelerated pace of research and HBNI ecosystem is well geared to provide the environment needed to carry out the cutting edge as well as goal-oriented research.

Following the formal program, a colourful cultural program was presented by the students of HBNI.



Prof. P. D. Naik welcoming the gathering



Prof. A. K. Mohanty, Prof. Vasudeva Rao and Prof. Anil Kakodkar addressing the gathering (from left to right)



Dr. A. V. Rama Rao delivering Prof. J. B. Joshi Endowment lecture



Shri S. Somanath delivering his address



J. B. Joshi Innovation award winners receiving their awards from Dr. A. V. Rama Rao



Outstanding student award winners receiving their awards from Shri S. Somanath



Glimpses of the Cultural program presented by HBNI students

Outstanding Student Awards for the Year 2021

Ph.D (Physical Sciences)



Dr. Binaya Kumar Sahu

PHYS02201504020

Thesis Title: Growth and Applications of Low Dimensional SnO₂



Dr. Gopinath Sahoo

PHYS02201504023

Thesis Title: Surface Modification and Polymer-Free Transfer of Vertical Graphene Nanosheets for Electrochemical Capacitor Applications



Dr. Mohammad Soharab

PHYS03201604006

Thesis Title: Growth and Investigations of Rare Earth doped Orthovanadate Laser Host Single Crystals



Dr. Soumen Nandi

PHYS04201504014

Thesis Title: Experimental Study of Shape Evolution in Nuclei near Z=82



Dr. Avik Banerjee

PHYS02201504020

Thesis Title: Composite Higgs and Physics Beyond the Standard Model

Outstanding Student Awards for the Year 2021

Ph.D (Chemical Sciences)

**Dr. Milan Pramanik**

CHEM11201604021

Thesis Title: Reactivity Control of Alkenes, Alkynes and Alcohols for C-S Bond Formation Reactions

**Dr. Beatriceveena T.V.**

CHEM02201504003

Thesis Title: Investigations on AgInO₂ and PbS: Preparation, Characterization and Gas Sensing Behavior of Thick and Thin Films

Ph.D (Engineering Sciences)

**Dr. Pooja Sahu**

ENGG01201604002

Thesis Title: The Dynamics and Thermodynamics of Fluid Transport through Hydrophobic Channels of Carbon Nanotubes

**Dr. Matcha Nani Babu**

ENGG02201504004

Thesis Title: Fatigue Crack Growth Behaviour of Nitrogen Bearing Austenitic Stainless Steel and its Weld: Analysis using Unified Approach

Outstanding Student Awards for the Year 2021

Ph.D (Life Sciences)



Dr. Vanshika Adiani

LIFE01201504004

Thesis Title: Biochemical Markers as a Tool for Rapid Detection of Microbial Spoilage in Minimally Processed Fruits



Dr. Aniketh Bishnu

LIFE09201504006

Thesis Title: A Study on Understanding the Modulation in MAP ERK and PI3KCA Akt Signaling during Acquirement of Drug Resistance

Ph.D (Mathematical Sciences)



Dr. Souvik Pal

MATH08201704005

Thesis Title: On Level Zero Integrable Modules Over Extensions of Lie Tori

M.Tech



Mantosh Mandal

ENGG01201901061

Thesis Title: Kinetics of Microstructural Changes in P92 Steel due to Thermal and Mechanical Processes during Manufacturing



Jay Madan Vivarekar

ENGG01201801035

Thesis Title: Study Design and Simulation of Wireless Routing Protocol for Mobile Ad-Hoc Networks

Outstanding Student Awards for the Year 2021

Medical and Health Sciences



Dr. Akhil R

HLTH09201810033

D.M. (Medical Oncology)



Dr. Natarajan R.

HLTH09201810019

M.Ch. (Head & Neck Surgery)



Dr. Shah Prarthna Sunil

HLTH09201809027

M.D. (Pathology)



Dr. Jyothsna Kuriakose

HLTH09201809038

M.D. (Palliative Medicine)

J. B. Joshi Innovation Awards for the Year 2021



Dr. M. Sarvajith

LIFE01201604006

Innovation Research: Development of
**Granules-based Methodology for
Waste-Water Treatment**



Dr. Arunsinh B Zala

ENGG06201504007

Innovation Research: Development of
**Methodology for Weldability of Aluminide
Coated 9Cr Steels for Liquid Metal Corrosion**

Online lectures Organized by HBNI in Collaboration with Indian Society for ElectroAnalytical Chemistry (ISEAC)

(a). Online Lecture by Dr. N. Kalaiselvi, Director, Central Electrochemical Research Institute (CECRI), Karaikudi, Tamilnadu, India

The online lecture by Dr. Kalaiselvi was jointly organized by HBNI, BARC and ISEAC on February 11, 2022. The title of the talk was “Overview of Electrochemical Power Systems”. The talk broadly covered the perspective of different alternate power systems, several technology developments on the Li ion battery and supercapacitor being carried out in CECRI. The research and development components of the high-end materials of electrodes, electrolytes were also discussed. The lecture was attended by over 130 participants from different parts of the country.

(b). Online Lecture by Dr. V. Kaliginedi, Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore

The online lecture by Dr. V. Kaliginedi was jointly organized by HBNI, BARC and ISEAC on March 31, 2022. The title of the talk was “Charge transport at electrode/molecule interface: From molecular electronics to energy research applications.” The talk focused on the selective attachment of molecular moiety to the electrode terminals and the preferential transport of electrons through the molecular moiety, which has been investigated using specially designed tunneling current measurements. The investigation has applications in the field of energy storage as supercapacitors. The lecture was attended by around 119 participants from institutes all over India.

Webinars conducted by HBNI

(January 2022 to June 2022)

S. No.	Webinar Topic	Speaker	Date
1.	Serotonergic Psychedelics : From Mitochondria to Mood	Prof. Vidita Vaidya, Department of Biological Sciences, TIFR, Mumbai	14.01.2022
2.	Relevance of Small Modular Reactors for a De-carbon Energy Sector	Dr. A.K. Nayak, Head, RTD, BARC and Sr. Professor, HBNI	27.01.2022
3.	Accelerators and Science with Accelerators in India (Talk as part of HBNI Eminent Lecture Series celebrating Aazadi Ka Amrut Mahotsav)	Prof. Bikash Sinha, INSA Senior Scientist & Former Homi Bhabha Chair Professor, DAE, Former Director, SINP & VECC	04.02.2022
4.	Demystifying Diabetes	Dr. Manoj Chadha, Consultant Endocrinologist, P. D. Hinduja Hospital, Mumbai	16.02.2022
		Dr. Anjali Kulkarni, Former Head, Medical Division, BARC	
5.	Post-Doctoral Research Possibilities through Alexander von Humboldt Foundation	Prof. Mala Pandurang AvH Ambassador Scientist & Principal, Dr. BMN College of Home Science, Mumbai	19.05.2022

HBNI webinars are streamed live on its YouTube channel, (HBNI Webinar) and recordings of webinars are available on the channel for the benefit of students/faculty across all educational institutions in India and abroad.

Glimpses of Events at CIs/OCC



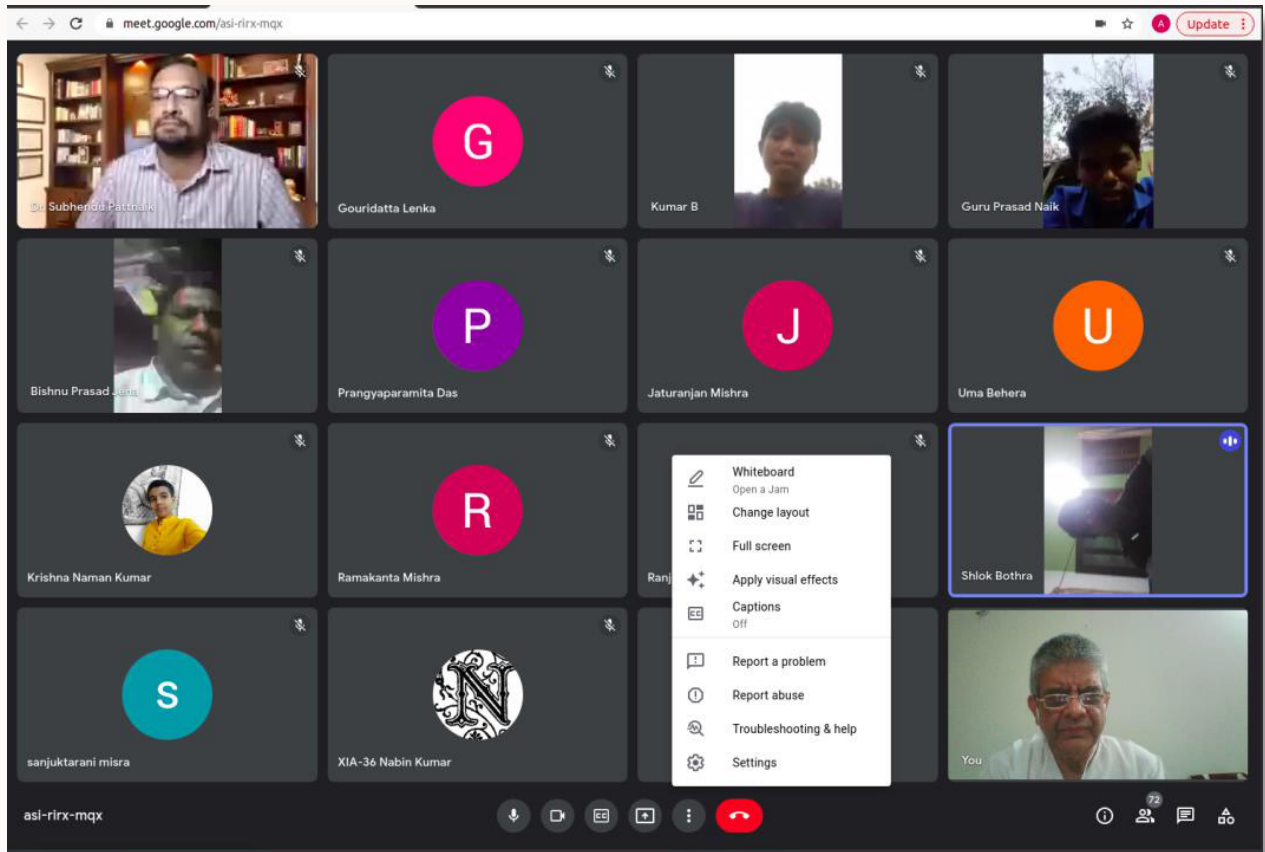
Republic Day 2022 Celebrations at RRCAT, Indore



Foundation Day 2022 Celebration at IGCAR, Kalpakkam



National Science Day 2022 at RRCAT, Indore



**Scientists-School Students online interaction program:
Physics Open Discussion (POD) online session on YouTube at
IoP Bhubaneswar**



National Science Day 2022 Celebration at IoP, Bhubaneswar

Awards and Honours received by HBNI Faculty and Students

1. Prof. Shailesh V. Shrikhande. Has been awarded the Honorary Fellowship of the American Surgical Association (ASA) in 2021. He is the First Indian Cancer Surgeon and the only second Indian ever to be awarded the Honorary Fellowship of the American Surgical Association (ASA) in its 141-year-old history
2. Dr. Subhankar Mishra, NISER has been awarded Fulbright-Nehru Academic & Professional Excellence Award by United States- India Educational Foundation.
3. Dr. M. Vasudevan, IGCAR has been elected as a Fellow of Indian Institute of Metals in 2021.
4. Dr. Oishee Chakrabarti, SINP has been elected as a Fellow of the National Academy of Sciences.
5. Prof. Sanoli Gun, IMSc, has been elected a member of the Asia-Pacific association for Women in Mathematics.
6. Prof. Meena Mahajan, IMSc, has been elected as a Fellow of Indian Academy of Sciences.
7. Dr. C. Murali Krishna, TMC has been elected as a Fellow of Royal Society of Chemistry (FRSC) in 2021.
8. Prof. Aditi Sen De, HRI has been elected a Fellow of the Indian Academy of Sciences. She has been also awarded Rupa Chakravarty Memorial Silver Medal as a distinguished ex-Bethunite from Bethune College for the year 2021.
9. Dr. Vinita Gupta, BARC has been elected as a Fellow of Maharashtra Academy of Sciences.
10. Dr. Santosh Gupta, BARC has been elected as a Young Associate of Maharashtra Academy of Sciences.
11. Dr. Brindaban Modak, BARC has been elected as a Young Associate of Maharashtra Academy of Sciences.
12. Dr. A. Guleria, BARC has been elected as a Young Associate of Maharashtra Academy of Sciences.
13. Dr. Sunita Sonavane, RMC-BARC has been awarded European Fellowship in Nuclear Medicine in the year 2021.
14. Prof. A. K. Tyagi, BARC has been selected for the prestigious A V Rama Rao Foundation Lecture Award in Chemistry for the year 2022 by Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru. He has also received N R Dhar Memorial Award from National Academy of Sciences in 2021.
15. Prof. P. A. Hassan, BARC has received Prof. J. N. Mukherjee Memorial Award from Indian Chemical Society.
16. Dr. S. N. Achary, Dr. R. Tripathi, and Dr. Deb Mukhopadhyay, BARC, all faculty of HBNI have received the prestigious Homi Bhabha Science & Technology Award for the year 2020.

17. Dr. Manimala Mitra, IoP has been awarded Institute for Particle Physics Phenomenology (IPPP) DIVA Award 2022-2023.
18. Prof. Vijay Kodiyalam, IMSc has received V. Ramaswamy Aiyer Memorial Award Lecture by the Indian Mathematical Society.
19. Prof. Sitabhra Sinha, IMSc, has been awarded P. C. Mahalanobis National Award for the year 2021, by the Government of India's Ministry of Statistics Programme Implementation.
20. Prof. Amritanshu Prasad, IMSc. was recognized in the Book "75 under 50: Scientists Shaping Today's India" published by VigyanPrasar, Department of Science and Technology, Government of India
21. Dr. Shantanu Kumar Karkari, IPR has been awarded JaiduttSaraswatiSodha PSSI Plasma Award 2021 by Plasma Society of India for "Laboratory Experiments and Modelling of Low Temperature Magnetized Plasmas."
22. Dr. Mainak Bandopadhyay and Dr. Sarveshwar Sharma, IPR have received IOP Outstanding Reviewer Award.
23. Prof. C. S. Pramesh, TMC has been elected the Board of Directors, Union for International Cancer Control (UICC). He has also received Lifetime Achievement award for clinical research by Indian Society of Clinical Research, Inspiring Healthcare Leaders of India award and Rachel Pearline Global Cancer Research Humanitarian award by National Cancer Institute, USA
24. Prof. Shripad D. Banavali, TMC has received "Dr. GS Bhattacharyya Memorial Oration" from Carcinogenesis Foundation, India. He has also been elected as President of Indian Society of Pediatric Hematology-Oncology.
25. Dr. Rohan Jayant Khadilkar, TMC has received Har Gobind Khorana-Innovative Young Biotechnologist Award for 2021. He has also been awarded prestigious Ramalingaswami Re-entry Fellowship by the Department of Biotechnology, Government of India
26. Prof. Sharmila Banerjee, TMC has received Marie Curie Memorial Award by The Indian Chemical Society in 2021.
27. Dr. Vibhuti Bhushan Tiwari, Dr Alok Dube, Dr. P. K. Mukhopadhyay, Prof. K. S. Bindra, Prof. S. R. Mishra and Prof. J. A. Chakera, RRCAT were awarded Best Poster Awards in the National Laser Symposium held at RRCAT in January 2022.
28. Mr. Vivek Singh, PhD (Engg. Sci.), RRCAT has been awarded Best Poster Award in the National Laser Symposium held at RRCAT in January 2022.
29. Dr. Abhishek Chaterjee, PhD (Engg. Sci.), RRCAT has been awarded Best Thesis Award by Indian Laser Association during the National Laser Symposium held at RRCAT in January 2022.
30. Dr. A. N. Jinoop, PhD (Engg. Sci.), RRCAT has been awarded Best Thesis Award by Indian Laser Association during the National Laser Symposium held at RRCAT in January 2022.
31. Ms. Samruddhi Deolekar, HBNI Student from TMC, Mumbai has won the overall Gold Medal (435 kg) along with Gold Medal in squat (180 kg), Silver Medal in bench press (90 kg) and Gold Medal in deadlift (165 kg) in the Junior National Powerlifting Championship held at Udaipur, Rajasthan during January 2 to January 6, 2022.



HRI



VECC



RRCAT



IPR



HBNI



SINP



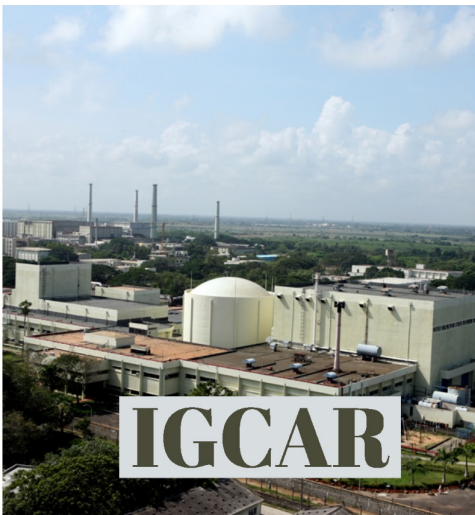
IoP



BARC



TMC



IGCAR



NISER



IMSc



होमी भाभा राष्ट्रीय संस्थान

Homi Bhabha National Institute

(परमाणु ऊर्जा विभाग की सहायता प्राप्त 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)