

**Collaborated Publications of HBNI and institutes with whom HBNI has MoU
published in 2020**

Institute with whom MoU signed	No. of HBNI Collaborated papers	No. of individual HBNI Faculty collaborated
Chennai Mathematical Institute	12	12
ICT	28	20
IIT Bombay	76	71
IIT Kanpur	13	21
IIT Kharagpur	13	19
IIT Madras	92	13
Indian Institute of Science	10	10
Jadavpur University, Kolkata	8	10
Jawaharlal Nehru University	2	3
Panjab University	34	16
The Commis+14:16sariat a l'energieatomique et aux energies alternatives, France (CEA / INSTN France)	Could not be identified	
Ghent University,Belgium	5	3
Tata Institute of Fundamental Research, Mumbai	41	47
IIT Indore	22	20

Source of Data: Scopus

For relevant supporting documents visit: www.hbni.ac.in/aqar/2021/C3/m3_7_2/

3.7.2 Number of functional MoUs with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research during the year

Organisation with which MoU is signed	Name of the institution/ industry/ corporate house	Year of signing MoU	Duration	List the actual activities under each MOU year wise	Number of students/teachers participated under MoUs
Canostix GmbH, Germany	NISER	2021	2 + 1 year extension	Yr-1: optimizing the Raman spectroscopy parameters for different blood cells (cancer and non-cancerous), Yr-2 :Optimizing the Surface Enhanced Raman spectroscopy (SERS) activities on those cells, Yr-3: Development of algorithm to know early stage of cancers using the machine learning App	4 (PI- Dr. Pratap Kr. Sahoo, SPS, Co-PI- MUDr. Thaddäus Hocotz, Research Scientist: Dr. Binay K. Sahu)
CSIR NML Jamshedpur	BARC	2019	2 years	Exchange of information amongst two national laboratories vide methodology of geopolymer product preparation and characterization of materials for waste recycling. NML provided procedures for utilization of industrial wastes while BARC provided information on characterization vide radio assay, neutron methods and x-ray tools for assaying the monolith.	8
ONGC-Gandhinagar	BARC	2020	2 years	shock plasma tool qualification for well (2km below the ground surface)	2 (Dr.Archana Sharma and Dr.Rohit Shukla(PPEMD-V))
Andhra University Vizag	BARC	2020	3 years	Magnetic pulsed welding for SS/Ti metals and characterisation	5 (Dr. Surender K.Sharma, two stdents and two faculties)
IIPE, Vizag	BARC	2021	3 years	Shock pulse generator characterisation and optimisation for various medium/rock conditions	5 (Dr. Rohit Shukla,(PPEMD-V)two students and two faculties)
RVSKVV, Gwalior	BARC	2019	till 2024	Development and evaluation of chickpea lines for thermotolerance and nutritive traits	5
AAU, Asssam	BARC	2021	2024	Evaluation of trombay chickpea genotypes suitable for NE region	5

Compilation of data as received from Dean - Academic of various NIS/OCs of
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MGM medical College Indore	RRCAT	2021		To enhance the collaborative research	50
IIT-Indore	HBNI	2020	2019-20	To enhance the collaborative research	20
International Advanced Research Centre for Powder metallurgy and new materials (ARCI), Hyderabad	IPR, Gandhinagar	2021	2 years 6 months	Development of tungsten fiber reinforced tungsten composites (Wf/W) having fracture toughness atleast 2 times that of pure W for use as plasma facing material. Phase 1 of MoU (involves optimization of experiments & characterization) will be completed in 18 months while Phase 2 (involves characterization, fatigue testing & analysis) will be completed by end of 30 months. Refer MoU for more details.	2
Centre for cellular and molecular platforms (CCAMP), Bengaluru	IPR, Gandhinagar	2021	5 years	Year 1: to identify societally relevant techs. Out of these, to conceive commercializable technologies for deployment in society. Year 2: Market assessment & societal impact evaluation. Identify steps required for chosen technology to convert to innovative market ready solution. Year 3: develop and optimize / modify technology based on translational inputs. Year 4: raise funds to carryout translational work. Year 5: Create & secure IP rights for developed innovations; commercialize technology to relevant industry.	2
Indian Council of Medical Research, National Institute for research in Tuberculosis	IPR, Gandhinagar	2020	5 years	Phase 1 having a tenure of 18 months will involve optimization trials using available data of normal and abnormal chest x-rays. Subsequently the Phase 2 will involve validation trials of the developed DeeCXR tool at different locations/hospitals.	2
Chennai Mathematical Institute	HBNI	2015	5 years	Course work & credit transfer, part of research work, joint guideship	20

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HBNI

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ICT	HBNI	2018	5 years	Course work & credit transfer, part of research work, joint guideship	20
IIT Bombay	HBNI	2017	5 years	Course work & credit transfer, part of research work, joint guideship	75
IIT Kanpur	HBNI	2018	5 years	Course work & credit transfer, part of research work, joint guideship	21
IIT Kharagpur	HBNI	2017	5 years	Course work & credit transfer, part of research work, joint guideship, Academic /computing facility	19
IIT Madras	HBNI	2018	5 years	Course work & credit transfer, part of research work, joint guideship	13
Indian Institute of Science	HBNI	2010	10 years	Course work & credit transfer, part of research work, joint guideship	10
Jadavpur University, Kolkata	HBNI	2016	5 years	Course work & credit transfer, part of research work, joint guideship	10
Jawaharlal University	HBNI	2017	5 years	Course work & credit transfer, part of research work, joint guideship	3
Panjab University	HBNI	2017	5 years	Course work & credit transfer, part of research work, joint guideship	16
Ghent University, Belgium	HBNI	2019	5 years	Course work & credit transfer, part of research work, joint guideship	3
Tata Institute of Fundamental Research, Mumbai	HBNI	2018	5 years	Course work & credit transfer, part of research work, joint guideship	47
INSTN, France	HBNI	2018	3 years	Exchange of faculty, research scholars, students, Joint course work, Exchange of educational/ research material & academic information	120

Compilation of data as received from Dean - Academic of various IITs / Occ of Mumbai

Centre for Academic Research, Sri Sathya Sai Instt. Of Higher Learning, Prasanthi Nilayam, AP	BARC	2018	3 years	Design and development of gamma-florescence dual imaging sentinel lymph node navigation surgery IO probe	2
Govt. VYT PG Autonomous College, Durg	BARC	2018	3 years	Radiation induced modification of Chitosan for adsorptive removal of Textile Organic Dyes	2
Indian Agricultural Research Instt., Nilgiris, TN	BARC	2018	3 years	Study of biological effect of alpha irradiation in comparison with gamma rays on pollen of some field crops	2
Tamilnadu Agricultural Univ., Coimbatore	BARC	2018	3 years	Study of behaviour of radolabelled 14-C Gliotoxin in soil and plants	2
University of Kashmir, Srinagar	BARC	2018	3 years	Estimation of Diffuse Extra Galactic Background Light through VHE Gamma ray Observation of Blazars	2
Institute of Genetics & Hospital for Genetic Diseases, Osmania University, Hyderabad	BARC	2019	3 years	Radio Sensitizing Effect of Inositol Hexaphosphate in Colon Cancer Cells by Targeting ErbB Signalling Pathway	2
Vikram Sarabhai Space Centre, Thiruvananthapuram, Kerala, India, Pin Code:695022, Phone: 0471- 2564292	IPR, Gandhinagar	2019	1.5 years	Development of plasma erosion measurement facility and conducting experiments to study erosion rate of BN/Silica composite specimens	2
National institute of technology, Meghalaya	BARC	2018	2 years	Post-processing of NQR signals in digital domain in FPGA	2
Siksha O Anushandhan university, Bhubaneswar, Odisha	BARC	2019	2 years	Synthesis of Metal ferrite modified MCM-41 (FMMCM) composites as adsorbent for remediation of Cr(VI)	2
Birla institute of technology and science Pilani, KK Birla Goa campus, Zuarinagar, Goa	BARC	2019	2 years	Design and synthesis of smart supramolecular dyes based on TPE modified PDI cucurbituril conjugates	2
Division of cancer research, Regional cancer care centre, Medical college, Thiruvananthapuram, Kerala	BARC	2019	2 years	Development of antimicrobial porous polymeric bandage for skin tissue regeneration	2
Birla institute of technology, Mesra, Ranchi, Jharkhand.	BARC	2019	2 Years	Development of Bismuth based materials for piezoelectric Microsystem in Robotic	2
BHU Varanasi	BARC	2019	3 years	Role of LexA in radiation and cadmium tolerance in cyanobacterium Anabaena	2

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(Signature)

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