

N.16: Awards and Honours
N.16.1: Award of Doctor of Philosophy (Ph. D.) Degree

The Homi Bhabha National Institute (HBNI), a Deemed University has awarded Ph. D. Degree to following employee / students of RRCAT:

1. Dr. Megha was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled “Theoretical investigations on reactivity of pure and mixed nanoclusters towards some environmentally important gases”, which was supervised by Dr. Arup Banerjee.



2. Dr. Preeti Pokhriyal was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled “Study of structural and physical properties of transition metal and rare earth based multiferroic oxides”, which was supervised by Dr. Archana Sagdeo.



3. Dr. Rijul Roychowdhury was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled “Spectroscopic investigations on MOVPE grown gallium phosphide epi-layers integrated on polar and non-polar substrates”, which was supervised by Dr. Vijay Kumar Dixit.



4. Dr. Durga Prasad Khatua was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled “Ultrafast photoexcited carrier dynamics in two-dimensional molybdenum disulfide”, which was supervised by Dr. Jesumony Jayabalan.



5. Dr. Tirtha Mandal was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled “Investigation on intense, ultra-short laser foil interaction through fast electron generation, characterization and x-ray studies”, which was supervised by Dr. Anand Moorti.


N.16.2: Best Thesis Awards

1. Dr. Tirtha Mandal, SO/E, Laser Plasma Division, Laser Group, RRCAT received Best Thesis Award sponsored by the Indian Laser Association (ILA), during 31st DAE-BRNS National Laser Symposium (NLS-31) held at IIT



Kharagpur during December 3-6, 2022. The title of the thesis was “Investigation on intense, ultra-short laser foil interaction through fast electron generation, characterization and x-ray studies”. The award carries a certificate and a cash prize of ₹ 5000.

2. Dr. Chiranjit Debnath, SO/E, Laser Biomedical Applications Division, Materials Science and Advanced Technology Group, RRCAT received Best Thesis Award sponsored by the Indian Laser Association (ILA), during 31st DAE-BRNS National Laser Symposium (NLS-31) held at IIT Kharagpur during December 3-6, 2022. The title of the thesis was “Synthesis and characterization of lithium niobate nanoparticles and nanocomposites for optical applications”. The award carries a certificate and a cash prize of ₹5000.


N.16.3: Best Poster / Paper Awards

1. One paper of RRCAT received the Best Poster Award sponsored by Material Research Society of India (MRSI) in International Union of Materials Research Societies-

International Conference in Asia-2022 (IUMRS-ICA-2022) held at Indian Institute of Technology Jodhpur during December 19-23, 2022. The award carries a certificate. The details of the paper are given below:



Title: Electronic and Magnetic Properties of a 2D van der Waal Ferromagnetic Semiconductor CrGeTe₃
Authors: Kritika Vijay, D. S. Vavilapalli, A. Arya, K. Kumar, and Soma Banik.

Ms. Kritika Vijay, HBNI Ph.D. Scholar, Accelerator Physics and Synchrotrons Utilization Division, RRCAT working under the guidance of Dr. Soma Banik, presented the poster and received the award.

2. One paper of RRCAT received the Best Poster Award in 66th DAE-Solid State Physics Symposium held at Birla Institute of Technology Mesra, Ranchi (Jharkhand), during December 18-22, 2022. The award carries a certificate and a trophy. The details of the paper are given below:



Title: Study of Higher Harmonic Contamination in Indus-2 Soft X-ray Reflectivity Beamline
Authors: Raj Kumar Gupta, Shruti Gupta, Praveen Kumar Yadav, Mohammed H. Modi.

Shri Raj Kumar Gupta, SO/D, Soft X-ray Applications Lab, Accelerator Physics and Synchrotrons Utilization Division, Electron Accelerator Group has received best poster award. The poster was presented by Ms. Shruti Gupta, SO/C.

3. One paper of RRCAT received the Best Paper Award in 28th National Symposium on Cryogenics and Superconductivity (NSCS28) held at IIT Kharagpur during Oct. 18-21, 2022. The award carries a certificate and a cash prize of ₹ 5000. The details of the paper are given below:



Title: PLC based control system for LN₂ based reefer SHIVAY
Authors: S. C. Patidar, C. Gupta, P. Khare, A. Tiwari, H. K. Patel, S. G. Gilankar, G. Agrawal, D. Sinnarkar

Shri Suresh Chandra Patidar, SO/E, Cryomodule Development & Cryoengineering Application Section, Proton Accelerator Group, RRCAT, who presented the paper, received the award.

4. Six posters of RRCAT received the Best Poster Awards sponsored by the Indian Laser Association (ILA), during 31st DAE-BRNS National Laser Symposium (NLS-31) held at IIT Kharagpur during December 3-6, 2022. The award carries a certificate and a cash prize of ₹ 2000. The details of the posters are given below:

4.1 *Title:* Programmable versatile fast high voltage pulse generator with matched rise-fall times for Paul trap experiments
Authors: Jankee Upadhyay, Sudhir Kumar, P. Saxena, R. Arya



Smt. Jankee Upadhyay, SO/G, Laser Electronics Division, Laser Group, RRCAT, presented the poster and received the award.

4.2 *Title:* Tilted fiber Bragg grating cut-off mode based highly sensitive refractive index sensor
Authors: P. K. Saini, J. Kumar, R. Mahakud, S. Kumar, O. Prakash, S.V. Nakhe



Shri Pankaj Kumar Saini, SO/E, Fibre Sensors & Optical Spectroscopy Section, Materials Science and Advanced Technology Group, RRCAT, presented the poster and received the award.

4.3 *Title:* Preparation and evaluation of a light activable drug loaded composite film for antimicrobial photodynamic therapy application



Authors: Sourabrata Chakraborty, Khageswar Sahu, Shivangi, Shovan Kumar Majumder

Shri Sourabrata Chakraborty, SO/C, Laser Biomedical

Applications Division, Materials Science and Advanced Technology Group, RRCAT, presented the poster and received the award.

4.4 *Title:* Development of underwater laser cutting tool and technique for removal of central cobalt pin from 19-pin PHWR fuel bundle

Authors: R. K. Jain, Rajpal Singh, M. K. Bairwa, Pawan Kumar, Ranveer Singh Meena, Sunil Kumar Sharma, Vijay Shukla, B. K. Saini, Dhruvdeep Narwat, B. N. Upadhyaya, R. Arya, K. S. Bindra.



Shri R. K. Jain, SA/G, Industrial Lasers & Applications Section, Laser Electronics Division, Laser Group, RRCAT, presented the poster and received the award.

4.5 *Title:* Laser cladding of tungsten carbide on SS 304 steel using LDED process

Authors: C. H. Prem Singh, Upendra Kumar, A. K. Rai, G. K. Mishra, C. P. Paul, S. K. Dixit and K. S. Bindra



Shri C. H. Prem Singh, SA/E, Laser Technology Division, Laser Group, RRCAT, presented the poster and received the award.

4.6 *Title:* High precision measurement of effective thermal expansion coefficients of low-coefficient of thermal expansion (CTE) materials using low-coherence interferometry

Authors: K. K. Malakar, S. Chakraborty, B. C. Pant, T. S. Reddy, Y. Verma, Sendhil Raja S.



Shri K. K. Malakar, Ph. D. Scholar, Advanced Electro-Optics Systems Section, Laser Group, RRCAT, presented the poster and received the award.