

N.17: Awards and Honours

N.17.1: DAE Excellence in Science, Engineering and Technology Awards 2018

N.17.1.1: Homi Bhabha Science and Technology Award

1. Shri Prashant Khare, SO/H and Head, Cryomodule Development & Cryoengineering Applications Section, Proton Accelerator Group, RRCAT has been conferred with "Homi Bhabha Science and Technology Award" for the year 2018 for his contributions in "Developing a novel technology for refrigerated transportation of fruits & vegetables, for Indian farmers". The award carried a cash prize of ₹ 5 Lakh, a citation and a medal.



N.17.1.2: Scientific and Technical Excellence Award

Dr. Manoj Kumar Tiwari, SO/G, Synchrotrons Utilization Section, Materials Science Group, RRCAT has been conferred with "Scientific and Technical Excellence Award" for the year 2018 for his contribution in "Development of microprobe x-ray fluorescence beamline on Indus-2". The award carried a cash prize of ₹ 1 Lakh, a citation and a medal.



N.17.1.3: Young Scientist Award

Dr. Shailesh Kumar Khamari, SO/F, Materials Science Section, Materials Science Group, RRCAT has been conferred with "Young Scientist Award" for the year 2018 for his contribution in "Development of Gallium Arsenide based optoelectronic devices". The award carried a cash prize of ₹ 50000, a citation and a medal.



N.17.1.4: Young Engineer Award

Shri Alok Singh, SO/F, Switch Mode Power Converter Section, Accelerator Power Supplies Division, Electron Accelerator Group, RRCAT has been conferred with "Young Engineer Award" for the year 2018 for his contribution in "Design and development of indigenous, high-stability and efficient power converters for various specialized applications". The award carried a cash prize of ₹ 50000, a citation and a medal.



N.17.1.5: Young Applied Scientist/Technologist Award

Shri Sachin K. Agrawal, SO/F, Laser Electronics and Controls Section, Laser Controls and Instrumentation Division, Laser Group, RRCAT has been conferred with "Young Applied Scientist/Technologist Award" for the year 2018 for his contribution to the "Development and commissioning of machine vision based metrology system". The award carried a cash prize of ₹ 50000, a citation and a medal.



N.17.1.6: Meritorious Technical Support Award

Shri Swapan Kumar Dey, Sr. Techn/J, Laser Technology Division, Laser Group, RRCAT has been conferred the "Meritorious Technical Support Award" for the year 2018 for his "Contributions to the fabrication and refurbishment of specialized optical components required for lasers and accelerators". The award carries a cash prize of ₹ 20000, a citation and a medal.



N.17.1.7: Meritorious Service Award

Shri Poonam Kallu, Sr. Work Asst-A, Indus Operations Division, Electron Accelerator Group, RRCAT has been conferred the "Meritorious Service Award" for the year 2018 for the "Services in housekeeping, maintaining cleanliness and supporting material handling activities at Indus complex RRCAT". The award carried a cash prize of ₹ 20000, a citation and a medal.



N.17.1.8: Group Achievement Awards

1. A group comprising of 122 members was conferred the Group Achievement Award for the year 2018 for their excellent team work for successfully accomplishing the activity titled "Development, installation and commissioning of new injector microtron and transport line-1". The award carried a cash prize, citation and medals. The award was received by the Group Leader, **Shri A. C. Thakurta**, OS and Director, Electron Accelerator Group, RRCAT.



2. A group comprising of 78 members was conferred the Group Achievement Award for the year 2018 for their excellent team work for successfully accomplishing the activity titled "Development, supply of RF components for the novel accelerator technology projects under India-CERN collaboration". The award carried a cash prize, citation and medals. The award was received by the Group Leader, **Shri Purushottam Shrivastava**, OS and Director, Proton Accelerator Group, RRCAT.



3. A group comprising of 50 members was conferred the Group Achievement Award for the year 2018 for their excellent team work for successfully accomplishing the activity titled "Development and deployment of novel optical techniques for refurbishment of Indian nuclear power reactors". The award carried a cash prize, citation and medals. The award was received by the Group Leader, **Dr. K. S. Bindra**, OS and Associate Director, Laser Group, RRCAT.



4. A group comprising of 64 members was conferred the Group Achievement Award for the year 2018 for their excellent team work for successfully accomplishing the activity titled "Indigenous development of cold filament driven multi-cusp H⁻ ion source for proton linac". The award carried a cash prize, citation and medals. The award was received by Shri Purushottam Shrivastava, OS and Director, Proton Accelerator Group, RRCAT on behalf of **Dr. V. K. Senecha** (retd.) and PAG team.



5. A group comprising of 15 members was conferred the Group Achievement Award for the year 2018 for their excellent team work for successfully accomplishing the activity titled "Machine vision based metrology system for SS components of FBTR fuel pin". The award carried a cash prize, citation and medals. The award was received by the Group Leader, **Shri Viraj P. Bhanage**, SO/H and Head, Laser Controls and Instrumentation Division, Laser Group, RRCAT.



N.17.2: Raman Bhagat Memorial Award of Excellence 2019

Dr. Shovan K. Majumder, SO/H and Head, Laser Biomedical Applications Division, Laser Group, RRCAT received "Raman Bhagat Memorial Award of Excellence 2019" of Cancer Care India for innovation in oncology during the biennial joint conference of Indian Society of Oncology (ISO) and Indian Society of Medical & Paediatric Oncology (ISMPO), "ISO-ISMPO 2019 Conference", held at RRCAT Convention Centre and Hotel Sayaji, Indore, during November 1-3, 2019, under the aegis of the Cancer Society of MP and Indian Laser Association (ILA). The award carries a citation and memento.



N.17.3: IACG Prof. P. Ramasamy National Award for Crystal Growth 2019

Dr. Sunil Verma, SO/G, Laser and Functional Materials Division, Materials Science Group, RRCAT received the "IACG Prof. P. Ramasamy National Award for Crystal Growth 2019" for his significant contributions in the field of crystal growth and applications. The award, sponsored by the Indian Association for Crystal Growth (IACG), was conferred on him during the 24th National Seminar on Crystal Growth and Applications (NSCGA-2020) held at Periyar University, Salem, Tamil Nadu during February 3-5, 2020. The award carries a citation, memento and cash prize of ₹ 10000.



N.17.4: Seva Samman 2019 of Cancer Care India

Shri Vishwamitra Sharma, SA/F, Laser Biomedical Applications Division, Laser Group, RRCAT received the award "Seva Samman 2019" of Cancer Care India for his outstanding technical assistance in making OncoDiagnoScope during the biennial joint conference of Indian Society of Oncology (ISO) and Indian Society of Medical & Paediatric Oncology (ISMPO), "ISO-ISMPO 2019 Conference", held at RRCAT Convention Centre and Hotel Sayaji, Indore, during November 1-3, 2019, under the aegis of the Cancer Society of MP and Indian Laser Association (ILA). The award carries a citation and memento.



N.17.5: 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. Prasanta Kumar Sahani was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled "Radiation dosimetry studies for synchrotron radiation beamlines", which was supervised by Dr. A. K. Sinha.



2. Dr. Y.B.S.R. Prasad was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled "Optical probing of laser produced plasmas", which was supervised by Dr. P. A. Naik.



3. Dr. Akash Deep was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled "Studies of longitudinal and transverse electron beam parameters of the Indus accelerator", which was supervised by Dr. M. H. Modi.



4. Dr. Ravi Shanker Verma was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled "Development of techniques for generation of multiple optical traps and utilization of these traps for different applications", which was supervised by Dr. M. P. Joshi.



5. Dr. Hemant Krishna was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled "Optical spectroscopy and imaging for diagnosis of oral cavity neoplasia", which was supervised by Dr. Shovan K. Majumder.



6. Dr. Khan Mohammad Khan was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled "Depth-sensitive Raman spectroscopy of layered turbid media", which was supervised by Dr. Shovan K. Majumder.



7. Dr. Nageswararao Pothana was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled "Thermal stability, structure and interface study of x-ray multilayers for EUV and soft x-ray applications", which was supervised by Dr. Tapas Ganguli.



8. Dr. Sudheer was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled "Fabrication and characterization of nanostructured metallic thin films and periodic structures for plasmonic applications", which was supervised by Dr. Arvind Kumar Srivastava.



9. Dr. Usha Chakravarty was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled "Investigation of ytterbium doped fiber laser", which was supervised by Dr. K. S. Bindra.



10. Dr. Riyasat Husain was awarded Doctor of Philosophy in Physical Sciences on the dissertation, titled "Optimization and modelling of storage ring lattices: A case study of Indus-2 storage ring", which was supervised by Dr. Vinit Kumar.



N.17.6: Best Thesis Awards

1. Dr. Khan Mohammad Khan, SO/E, Laser Biomedical Applications Division, Laser Group, RRCAT received the "Best Thesis Award" of the Cancer Care India and Indian Society of Oncology (ISO) - Indian Society of Medical & Paediatric Oncology (ISMPO) at the biennial joint conference of ISO and ISMPO held at RRCAT Convention Centre and Hotel Sayaji, Indore, during November 1-3, 2019, under the aegis of the Cancer Society of MP and Indian Laser Association (ILA). The title of the thesis was "Depth-sensitive Raman spectroscopy of layered turbid media". The award carries a citation and memento.



2. Dr. Hemant Krishna, SO/F, Laser Biomedical Applications Division, Laser Group, RRCAT received the “Best Thesis Award” of the Cancer Care India and Indian Society of Oncology (ISO) - Indian Society of Medical & Paediatric Oncology (ISMPO) at the biennial joint conference of ISO and ISMPO held at RRCAT Convention Centre and Hotel Sayaji, Indore, during November 1-3, 2019, under the aegis of the Cancer Society of MP and Indian Laser Association (ILA). The title of the thesis was “Optical spectroscopy and imaging for diagnosis of oral cavity neoplasia”. The award carries a citation and memento.



3. Ms. Dipanjana Hazra, SRF, HBNI, received Best Thesis Award sponsored by the Indian Society for Particle Accelerators (ISPA), during 9th DAE-BRNS Indian Particle Accelerator Conference (InPAC) - 2019 organized at Inter-University Accelerator Centre (IUAC), New Delhi during November 18-21, 2019. The title of the thesis was “Laser driven plasma based electron acceleration, applicable mechanisms and its applications”. The award carries a certificate and a cash prize of ₹ 10000.



4. Dr. Mohammad Tayyab, SO/F, Laser Plasma Division, received Consolation Prize for Best Thesis Award sponsored by the Indian Society for Particle Accelerators (ISPA), during 9th DAE-BRNS Indian Particle Accelerator Conference (InPAC)- 2019 organized at Inter-University Accelerator Centre (IUAC), New Delhi during November 18-21, 2019. The title of the thesis was “Studies on ion acceleration in ultrashort ultra-high intensity laser matter interaction”. The award carries a certificate and a cash prize of ₹ 2500.



5. Dr. Mukund Kumar, SO/E, Laser Plasma Division, received Best Thesis Award sponsored by the Indian Laser Association (ILA), during 28th DAE-BRNS National Laser Symposium (NLS-28) held at VIT, Chennai during January 8-11, 2020. The title of the thesis was “Studies on characterization and application of ultrashort higher harmonic radiation”. The award carries a certificate and a cash prize of ₹ 5000.



N.17.7: Best Poster/Paper Awards

1. Two posters from Laser Biomedical Applications Division, RRCAT received the best poster awards at the biennial joint conference of Indian Society of Oncology (ISO) and Indian Society of Medical & Paediatric Oncology (ISMPO), “ISO-ISMPO 2019” held at RRCAT Convention Centre and Hotel Sayaji, Indore, during November 1-3, 2019, under the aegis of the Cancer Society of MP and Indian Laser Association (ILA). The award carries a citation and memento. The details of the poster are given below:

1.1 Title: Evaluation of Raman spectroscopy for breast cancer diagnosis: A preliminary study on formalin fixed breast tissue

Authors: Khageswar Sahu, Khan Mohammad Khan, Ameya Vaze, Rashmi Shrivastava, Jyoti Kumawat, Nitin Kumar, Ashok Panchonia, Hemant Krishna, Sukhvinder Singh Nayyar and S.K. Majumder



Dr. Khageswar Sahu, SO/F, Laser Biomedical Applications Division, who presented the poster, received the award.

1.2 Title: Clinical validation of optical fluorescence spectroscopy for screening of oral cancers and precancers : A cross-over study

Authors: Ameya Vaze, Khan Mohammad Khan, Hemant Krishna, Amrita Srivastava, Vijay Kumar, Anita, Khageswar Sahu, S. S. Nayyar and S. K. Majumder



Dr. Ameya Vaze, a dentist and a Postgraduate student of AIIMS, Jodhpur working on clinical validations of OncoDiagnoScope at Laser Biomedical Applications Division, presented the poster and received the award.

2. Two posters of RRCAT received the best poster awards sponsored by the Indian Society for Particle Accelerators (ISPA), in the 9th DAE-BRNS Indian Particle Accelerator Conference (InPAC)-2019, organized at Inter-University Accelerator Centre (IUAC), New Delhi during November 18-21, 2019. The award carries a certificate and a cash prize of ₹ 5000. The details of the poster are given below:

2.1 Title: Design and development of flange integrated beam position monitor for Indus-1 storage ring and infrared free electron laser setup

Authors: L. K. Babbar, Mukesh Kumar, D. P. Yadav, B. N. Upadhyaya, V. K. Bhatnagar, Brahmanand Sisodia, Balkrishna Sindal, S. K. Tiwari, Y. Tyagi, A. C. Holikatti, Surendra Yadav, Ajay Kumar Soni, Deepjwalit Vaishnav, Yogendra M. Sheth and T. A. Puntambekar



Shri L.K. Babbar, SO/E, Beam Diagnostics & Coolant Systems Division, who presented the poster, received the award.

2.2 Title: Installation of cryostat for horizontal test stand facility at RRCAT for testing 650 MHz SCRF cavities

Authors: Rupul Ghosh, S. G. Gilankar, P.Khare, H. Patel, A. Lakshminarayanan, A. Jain, A. Shukla, A. Tiwari, D. Arzare, D. Sinnarkar, L. Singh, D. Sharma, M. Kushwaha, Manoj Kumar, Y. Lambhate, S. Raghavendra, G. Parchani, P. Shrivastava, J. P. Ozelis



Shri Rupul Ghosh, SO/G, Cryomodule Development and Cryoengineering Applications Section, who presented the poster, received the award.

3. Following paper of RRCAT received the best paper award at 2019 IEEE 9th International Conference on Advanced Computing (IACC 2019) held at M.A.M. College of Engineering and Technology, Tiruchirappalli, Tamilnadu, India during Dec. 13-14, 2019.



Title: Robust algorithms for counting and detection of moving vehicles using deep learning

Authors: G. Saxena, A. Gupta, D.K. Verma, A. Rajan, A. Rawat

Shri Gaurav Saxena, SO/F, Advanced Applications and Scientific Computing Section, Computer Division, who presented the paper, received the award.

4. Three posters of RRCAT received the Best Poster Awards sponsored by the Indian Laser Association (ILA), during 28th DAE-BRNS National Laser Symposium (NLS-28) held at VIT, Chennai during January 8-11, 2020. The award carries a

certificate and a cash prize of ₹ 2500. The details of the posters are given below:

4.1 Title: An interrogator unit for FBG based single point temperature measurement

Authors: V.K. Dubey, P. Saxena, Kasturi Bhattacharyya, Inderjeet Singh, Jitendra Kumar, Pankaj Saini, Om Prakash, S.K. Dixit, Rajesh Arya, S.V. Nakhe



In the absence of **Shri V.K. Dubey**, the poster was presented by Shri Inderjeet Singh, SA/G, Laser Electronics Division, who also received the award on Shri Dubey's behalf.

4.2 Title: Development of narrow linewidth all-fiber multistage amplifier at 1064 nm and its second harmonic generation

Authors: Bhuvnesh, C.P. Singh, P.K. Gupta, P.K. Mukhopadhyay, K.S. Bindra



Shri Bhuvnesh, SO/C, Laser Development and Industrial Applications Section, LTD, who presented the poster, received the award.

4.3 Title: Study on multi-rod resonator for sine and square wave modulated CW Nd:YAG laser

Authors: Vijay Shukla, Aswathy D.K., Rajpal Singh, V. Bhardwaj, M.K. Bairwa, Dipen M. Vachhani, Ashutosh Sharma, V. Bhawsar, C.B. Panwar, K.K. Pant, B.N. Upadhyaya, R. Arya, K.S. Bindra



Shri Vijay Shukla, SO/F, Laser Development and Industrial Applications Section, LTD, who presented the poster, received the award.

N.17.8: MP Young Scientist fellowship

Mr. Jinoop A.N., SRF, HBNI was conferred with Young Scientist Award in Mechanical Engineering during Madhya Pradesh Young Scientist Congress held during February 28 – March 1, 2019. As part of the above, he received Fellowship for Training of Young Scientist (FTYS) from Madhya Pradesh Council of Science



and Technology. He underwent FTYS at Vikram Sarabhai Space Centre, Thiruvananthapuram, Kerala from 18 November 2019 – 17 January 2020 in the area of “Hot deformation behaviour of laser additive manufactured Hastelloy-X”. He received a fellowship of ₹ 10000 per month for a period of three months and contingency grant of ₹ 5000 as part of the award.

N.17.9 Annual Rose Show awards

RRCAT bagged 15 prizes including 3 Trophies in the 33rd Annual Rose Exhibition organized by Malwa Rose Society, Indore under the aegis of Department of Horticulture, Govt. of M.P. during 1st February to 2nd February, 2020 at Yashwant Club, Race Course Road, Indore. The participation was made under institutional category.

RRCAT bagged the highest award of the show, 'All Round Championship Trophy', for the quality of landscape work in the campus, 'Best Large Rose Garden Trophy' for the recently developed rosery near Diamond Jubilee Guest House, 'Queen of the Show Trophy' for a Floribunda Rose variety 'First Edition' and other prizes under different categories of cut flowers displayed in the Rose Show.

The prize and award consist of Trophies and certificate of appreciation. The prize distribution ceremony was held on 2nd February at Town Hall and on behalf of RRCAT, Shri G. Parchani, Head, Construction and Services Division and his colleagues received the prizes & awards.



N.18: New Recruits

RRCAT welcomes the following personnel who have joined during July 2019 to June 2020.

- Shri Sachin Rathi, SOC, RFSD
- Shri Suraj Prakash, SOC, APS
- Shri Ujjwal Yadav, SOC, APSD
- Shri Azim Uddin Siddiqui, SOC, LCID
- Shri Sushil Kumar Sharma, SOC, UHVTS
- Shri Satish Sahu, SAC, LTD
- Shri Aritra Mondal, SAC, IOD
- Kum. Karishma Sinha, SAC, UHVTS
- Shri Amrit Ghosh, SAC, SUS
- Shri Deepak Waghmare, SAC, IOD
- Shri Saranjeet Singh, SAC, DMTD
- Shri Lakshman Dhar Dubey, SAC, IAD
- Shri Jitendra Singh, SAC, CSD
- Shri Jitendra Singh, SAC, SUS
- Shri Amit Kumar, SAC, PLDD
- Shri Pawan Kumar, SAC, LTD
- Shri Kandipalli Gopi, SAC, APSD
- Shri Yogesh Kumar, SAC, CSD
- Shri Ranjan Kumar, SAC, CD
- Shri Bheemireddi Madhu, SAC, APSD
- Shri Mahesh Kumar Singh, SAC, ACSD
- Kum. Vineeta Ahirwar, SAC, LCID
- Kum. Hemlata Nilkanth Sidam, SAC, FES
- Kum. Pallavee Sharma, SAC, UHVTS
- Shri Deepak Kumar, Techn/B, LED
- Shri Manikandan M., Techn/B, RFSD
- Shri Surya Prakash Sah, Techn/B, APSD
- Shri Lalit, Techn/B, LTD
- Shri Rupesh Soni, Techn/B, SUS
- Shri Rahul, Techn/B, CDCAS
- Shri Shailesh Maratha, Techn/B, SCDD
- Shri Shankar Kumar Vishwakarma, Techn/B, APSD
- Shri Bahadur Soren, Techn/B, BDCSD
- Shri Kaila Gari, Techn/B, LTD
- Shri Balsingh Uikey, Techn/B, DMTD
- Shri Gopi Ram Neti, Techn/B, LCDFS
- Shri Santosh Dhondiba Zore, Techn/B, DMTD
- Shri Manoj Prasad, Techn/B, DMTD
- Shri Jiten Murmu, Techn/B, LCDFS
- Shri Suman Raj, Techn/B, DMTD
- Shri Dinesh Vaskel, Techn/B, SCCCS