

N.5: HBNI organizes a mini-marathon “Rivers - Lifeline of India” at RRCAT

HBNI, RRCAT organised a mini-marathon on 17th September, 2017 in RRCAT premises. The theme of mini-marathon was “Rivers – Lifeline of India” to sensitize the Ph. D. scholars, project trainees, CISF personnel, RRCAT employees and their dependents about the conservation of rivers in India.



Participants of mini-marathon “Rivers – Lifeline of India” with Dr. P. A. Naik, Director, RRCAT along with Dr. S. M. Oak and Shri H. S. Vora.

Dr. S. M. Oak, Former Head, Solid State Laser Division, RRCAT was the Chief Guest and Shri H. S. Vora, Former Head, Laser Electronics Support Division, RRCAT was the Guest of Honour for the event. The event was presided by Dr. P. A. Naik, Director, RRCAT. In his inaugural speech, Dr. Oak reiterated the importance of rivers in our lives and praised the efforts of HBNI-RRCAT in bringing Ph. D. and M. Tech. scholars, CISF security personnel, RRCAT employee and their dependents together on such thematic and important event. This year mini-marathon started from BARC Training School at RRCAT along two routes: longer route for CISF personnel which was flagged off by Dr. Oak and a shorter one for the other participants which was flagged off by Shri Vora.

There were 142 participants including 48 CISF personnel. The prizes were given away in five different categories: CISF personnel, boys, girls, RRCAT employee and dependents. The names of winner in each category were – Mr. Ram Singh, CT/GD in CISF category, Mr. Rajeev Dutt in boys category, Ms. Rashmi Gangwar in girls category, Mr. Sanjay Kumar in RRCAT employee category and Mr. Anish Kumar Rawat in dependents category. These prizes were distributed during HBNI Scholars' Day.

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N.6: Residential campus of RRCAT bags top position in 'Swachh Survey' by Indore Municipal Corporation (IMC) in 2017

It was indeed a proud moment for RRCAT community when IMC declared this centre's residential area as the cleanest among all residents' associations in the city which itself had been declared as the cleanest city in the country during year 2016-2017. IMC had carried out 'Best among the Best' Swachh Survey in year 2017 for different categories through Quality Council of India (QCI). The results were published on January 01, 2018, in all leading newspapers.



Newspaper coverage of the declaration of the cleanest colony in Indore to RRCAT.

Our centre started clean campus activities in year 2011 by forming an Advisory Committee for Clean and Green Campus (ACCGC) consisting of senior scientists and officials from administration and security. The key to the implementation was larger public participation. So far, eleven such campaigns have been held successfully in the campus. These cleanliness drives receive wide participation from the employees of RRCAT, CISF, their families, and the students and teachers of the campus school (AECS). Apart from this, seven tree plantation programmes were also organized. The greener is the campus, the more are the efforts needed to keep the surroundings clean.

The ACCGC proposed various measures to sustain cleanliness in the campus. These include: i) Banning of polythene carrier bags in the shopping complex of RRCAT; ii) Door-to-door collection of segregated waste; iii) Installation of dustbin at various locations in the colony for collecting dry, wet and e-waste; iv) Disposal of wet waste gainfully by producing bio-gas which is used in guest house kitchen thus reducing the consumption of LPG by about 50%; v) Local needs of the manure is met by the vermi-compost produced

in-house using the garden waste generated in the campus; and vi) Use of plastic gifts and mementos has been discouraged in the school programmes.

Many public awareness programmes were also arranged to educate and motivate the community, like: i) Special exhibitions by students on various environmental themes as 'Stop using Plastic'; ii) Organization of seminar on waste management with focus on 'Reduce, Reuse, and Recycle' by eminent personalities; iii) Workshop for domestic maids on personal hygiene; iv) Felicitation of cosmetic workers; v) Display of attractive awareness posters on cleanliness at various locations; vi) Short-films highlighting the importance of cleanliness were shown to the school students, the public gathering during 'Durga Puja', cosmetic workers, and to the audience of cultural programmes conducted by HBNI scholars.

Earlier the solid wastes had to be land filled in the RRCAT campus which is now being sent to IMC for their proper disposal.



Some of the pictures from the public awareness events and the cleanliness campaigns held during year 2017.

The Construction and Services Division and Horticulture Cell have provided essential support for the implementation of cleanliness initiatives to make the campus a wonderful living place. The guiding light throughout all these cleanliness campaigns has been Dr. P. A. Naik, Director, RRCAT, who has been participating in almost every campaign. It is now our responsibility to inculcate good cleanliness practices and adopt newer technological means to take this work ahead.

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N.7: RRCAT Seminars during July-December 2017

National Nanofabrication Centre: facilities and collaboration opportunities: *Dr Y. P. Prabhakar Rao, Chief Operating Officer, National Nanofabrication facility, CeNSE, IISc, Bangalore, July 11, 2017.*

National Nanofabrication facility (NNfC), is a state of the art Micro and Nano fabrication facility open to the nation. The facility is capable of realizing micro and nanoscale devices on various substrates that include Si, GaN, SiC, quartz, Glass, Graphene, and III-V. The facility houses industry standard tools geared to realize a wide variety of Semiconductor Devices, MEMS/NEMS, Photonics, Photovoltaics, Microfluidic and Biosensors. The national facility is open to public and private academic institutes, private industries, public sector undertaking and Indian strategic sector. The NNfC is a part of the Center for Nano Science and Engineering (CeNSE), which is an academic unit at Indian Institute of Science (IISc), Bangalore. CeNSE strive to support cutting-edge research as well as products of national relevance. To support this endeavor, in addition to NNfC, two unique state-of-the-art Micro and Nano Characterization Facility (MNCf) and Packaging facility render characterization and prototyping all under one roof. This is a unique facility not just in India but anywhere else in any academic institution. In this talk, an outline was given for the NNfC facility and capability, facility access model and mode of collaboration with strategic laboratories.



Structural and magnetic characterization of magnetic nanoparticles and thin films: *Dr. Durgamadhhab Mishra, Professor, Ruhr University, Bochum, Germany, Aug 23, 2017.*

Magnetic nanomaterials, thin films and nanoparticles are at the forefront of research in nanoscience. They have proved their potentials in the field of nanoelectronics, spintronics, energy, catalysis, bio-medicine and many more, and continue to show a lot of promise for future novel applications. Therefore, it is necessary to develop advanced, cost effective and scalable synthesis processes and modern characterization tools to realize desired application. Synchrotron and neutron radiation play an important role during characterization process as they are routinely used for structural and magnetic characterization. Dr. Mishra explored

