

Transitions".

The members of the Low Temperature Physics Laboratory took this occasion for introspection as individuals, team members and as a group, and experienced the satisfaction about what they have achieved while doing the scientific experiments in the lab or having discussions openly or privately and thinking on the future directions. In the end of the conference a memento was presented to Dr. P. Chaddah by Dr. P. D. Gupta on behalf of the group.

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## **N.7: DAE (Excellence in Science, Engineering & Technology) Awards 2012**

The DAE awards scheme was instituted in the year 2006 to recognize outstanding accomplishments and exceptional achievements of the DAE staff, who are engaged in scientific research, technology development, engineering/project implementation, teaching, health-care and support services. These awards are given annually. The awards for the year 2012 were given on the eve of Founder's Day on October 30, 2013 in BARC. These were presented to the winners by the Chief Guest, Dr. Srikumar Banerjee, Former Chairman, Atomic Energy Commission. The following scientists/engineers from RRCAT bagged the DAE awards for the year 2012:

Homi Bhabha Science & Technology Award carries a Citation, a Medal and a Cash Award of Rs 5 Lakh. There were nine award winners: Eight from BARC and one from RRCAT. Dr. Shovan K Majumder was the award winner from RRCAT.



**Dr. Shovan K. Majumdar**, SO/G & Head, Optical Spectroscopy & Diagnostic Lab, Laser Biomedical Applications and Instrumentation Division, RRCAT was conferred the Homi Bhabha Science & Technology Award for the year 2012 for his exceptional contribution in the development and evaluation of optical spectroscopy techniques for cancer diagnosis. His work has helped in improving the understanding of fluorescence and Raman scattering from human tissue and established the potential of optical spectroscopy for noninvasive diagnosis of cancer. A particularly noteworthy contribution of Dr. Majumder has been the development of state of art statistical pattern recognition based diagnostic algorithms that have significantly improved the classification accuracy. Dr. Majumder has also made use of his extensive experience of

clinical evaluation of the use of optical spectroscopy systems for diagnosis of the cancer of oral cavity to come up with a very compact, USB powered, LED based diagnostic system equipped with a very user friendly software having potential usage as a standalone automated cancer screening tool for screening population at risk in remote areas.

Scientific & Technical Excellence Award carries a Cash award of ` 1 Lakh, a Citation and a Medal. There were twenty eight award winners: Twenty from BARC and Two each from IGCAR and VECC, three from RRCAT and one from BRIT. Following were the award winners from RRCAT:



**Shri Pravin Fatnani**, SOH & Head, Accelerator Control Section, Accelerator Control & Beam Diagnostics Division received this award for his excellent contributions in the field of Controls and Instrumentation for Particle Accelerators Indus-1 and Indus-2 and associated systems. He has immensely contributed to various important activities leading to design, development, commissioning, reliable operation and maintenance of various subsystems of Indus Accelerators. His efforts have played a major role in achieving major milestones for the Accelerator Programme at RRCAT, Indore and successful round the clock operation of the national facility.

**Shri Avinash M Puntambekar**, SO/G & Head, SCRF Cavity Development Lab, Proton Linac & Superconducting Cavities Division received this award for his contributions in the field of development of 1.3 GHz superconducting cavity technology at RRCAT. The major contribution made by him is towards successful development of SCRF cavity manufacturing technology and demonstration of cavity performance at 1.8 K. The successful testing of 1.3 GHz single cell SCRF cavities have attained the rated performance of accelerating gradient (Eacc) of 37.5 MV/m with quality factor (Q) > 1.5E10 at 2 K & Eacc of 40 MV/m with Q > 1.5E10 at 1.8K during its testing at Fermilab, USA.



**Dr. Mangesh Balkrishna Borage**, SO/G Power Supplies and Industrial Accelerator Division was awarded with the Scientific and Technical Excellence Award (S&TEA) for the year 2012 for his contributions in the field of Resonant Imittance Converters (RICs), high frequency soft-switching power converters and their applications in various areas of particle accelerators and

lasers. He contributed significantly in identification of a family of RICs with detailed analytical treatment, modeling, design and demonstration as an promising alternative for the development of compact, efficient and rugged power converters for demanding applications in accelerators, lasers and industry, development of -20kV/1A crowbar less high voltage dc power supply for sensitive and expensive loads like klystrons using multi-phase RICs featuring, development and technology transfer of a modular and scalable constant-current charger for ultra-capacitors using RICs, development of 150 kVA ac source for High Power Industrial Accelerator, development of 25kW/25kHz induction heating power supply for MOVPE system using RICs, development of pulsed and dc Laser Diode Drivers and development of a large number of high-stability magnet power supplies various applications using switch-mode soft-switching power converters.

Young Engineers Award carries a Cash award of Rs 50,000/-, Citation and a Medal. There were eighteen award winners: eleven from BARC, 1 each from NFC and VECC, 2 from RRCAT and 3 from IGCAR. Following were the award winners from RRCAT:



**Shri Rishipal Yadav, SO/F,** Accelerator Control & Beam Diagnostics Division was awarded for his excellent contributions in the field of Orbit Feedback Control Systems for Indus-2. He has immensely contributed to various important activities leading to design and development of Global Slow Orbit Feedback Control System for Indus-2 and Local Fast Orbit Feedback Control System on BL-8 of Indus-2. His efforts have played a major role in achieving major milestones for the Accelerator Programme at RRCAT, Indore.



**Shri Deepak Kumar Sharma, SO/E,** Radio Frequency Systems Division was awarded for his contributions in the field of RF systems for particle accelerator. He has made laudable contributions for the development of high power solid state RF amplifiers for Indus-2. He was actively involved in the design and deployment of two 50 kW modular and scalable solid state RF amplifiers for Indus-2 synchrotron radiation source. He has also developed distributed control, logging, monitoring and interlock system. The deployment of these amplifiers has helped in achieving the major milestone of 100 mA beam current at 2.5 GeV energy in Indus-2.

Meritorious Technical Support Award carries a Cash award of Rs 20,000/-, Citation and a Medal. There were twenty nine award winners; 20 from BARC, 5 from IGCAR and 2 each from RRCAT and GSO, Kalpakkam. Following were the award winners from RRCAT:



**Shri M S Ansari, Technician 'G'** Cryo-Engineering and Cryo-Module Development Section, was awarded for his immense contribution in the indigenous development of 10K and 30 K cryocoolers, especially in modification of compressors for helium gas. He has played an important role in operation and in-house maintenance of liquid helium and liquid nitrogen plants. His contribution is also significant in the 2K set-up for cryogenic temperature sensor calibration and in the indigenous development of Helium liquefier. He has also played a pivotal role in installation and commissioning of 7K Cryocooler at Indus-2 beamline and other six numbers of 30 K Cryocoolers in different user labs.



**Mahendra M. Vadgama, Technician 'G'** Ultra High Vacuum Technology Section, was awarded for his immense contribution on development of UHV systems of all the accelerators developed at RRCAT. His sincere and meticulous contributions have rendered high reliability to UHV systems of accelerators at Indus complex, RRCAT Indore. Mr Vadgama also contributed in developing large infrastructure needed for UHV qualification of UHV chambers supplied to CERN for TL-2 of CLIC test facility at CERN Switzerland.

Meritorious Service Award carries a cash prize of Rs. 20,000/-, a citation and a medal. There were 23 Award winners. Eighteen were from BARC, 2 from DAE, 1 each from RRCAT, GSO Kalpakkam and IGCAR. Shri Hari Vaswani was the award winner from RRCAT.



**Shri Hari Vaswani, UDC,** Director's office was awarded for his contributions in the field of administrative functioning for outstanding performance. He has made laudable contributions to efficient functioning of Apex office at Raja Ramanna Centre for Advanced Technology with his excellent



professional knowledge, skillful communication and organizational abilities. He has carried out multi-administrative tasks with extra-ordinary zeal and total commitment to duty.

Group Achievement Award winners received a medal, a Citation and suitable cash awards for each group commensurate with the group size and its overall achievement. A total number of fifty five Groups received these awards. Out of these, 29 were from BARC, 8 from IGCAR, 5 from RRCAT, 5 from NFC, 2 from BRIT, 3 from VECC and 1 from AMDER, 2 from HWB. The following four teams from RRCAT were awarded with Group achievement awards, while the contributions of six RRCAT officers were recognized in the Group award given to BARC:

1. *Optical tweezers development and utilization:* A team of seven members was awarded with "Group achievement award for the year 2012" in recognition of outstanding contributions Optical tweezers development and utilization. Dr. P K Gupta, DS & Head Laser Biomedical Applications and Instrumentation Division received the award on behalf of the team. The cash prize for this award was Rs. 40,000.
2. *Development of Streak Camera:* A team of nine members was awarded with "Group achievement award for the year 2012" in recognition of outstanding contributions in the development of Streak Camera. Sh. C P Navathe, Head Laser Electronics Support Division received the award on behalf of the team. The cash prize for this award was Rs. 40,000.
3. *40 Terawatt Nd: Glass laser system:* A team of twenty three members was awarded with "Group achievement award for the year 2012" in recognition of outstanding contributions in Terawatt Nd:Glass laser system. Dr. P A Naik, Head Laser Plasma Division received the award on behalf of the team. The cash prize for this award was Rs. 75,000.
4. *Design, development, installation and commissioning of x-ray and visible diagnostic beamlines on Indus-2:* A team of thirty four members was awarded with "Group Achievement Award for the year 2012" in recognition of outstanding work on design, development, installation and commissioning of x-ray and visible diagnostic beamlines on Indus-2. Shri Tushar Puntambekar, Head Beam Diagnostic Section, Accelerator and Beam Diagnostic Division received the award on behalf of the team. The cash prize for this award was Rs. 1,00,000.

5. *Development of Bose Einstein Condensation setup for 87Rb Atoms:* A team of eleven members was awarded with "Group achievement award for the year 2012" in recognition of outstanding contributions in the development of Bose Einstein Condensation setup for 87Rb Atoms. Dr. S R Mishra, SO/G Laser Physics Applications Section received the award on behalf of the team. The cash prize for this award was Rs. 50,000.
6. *Development and installation of Protein Crystallography Beam:* The contributions of 6 members from RRCAT were also recognized in the group achievement award given to BARC for the development and installation of Protein Crystallography Beam on Indus-2. Dr. S M Sharma, DS & Director Physics Group BARC received the award on the behalf of the team. The cash prize for this award was Rs. 1,00,000.

### **N.8: RRCAT bags two Best Poster Awards during Plasma-2013**

Following three papers from Laser Plasma Division of RRCAT, presented at 28th National Symposium on Plasma Science & Technology (Plasma-2013), held at KIIT University, Bhubaneswar from December 3-6, 2013, received Best Poster Awards.

One award went to "Oscillator model for nano-tube plasma interacting with intense few cycle laser pulses" by U. Chakravarty, P. A. Naik, J. A. Chakera, and P. D. Gupta.

The second award was shared by two papers from RRCAT: "Laser wake-field acceleration in high-Z gas jets" by B. S. Rao, A. Moorti, R. A. Khan, J. A. Chakera, P. A. Naik and P. D. Gupta, and "Mono-energetic electron acceleration from 3 TW - 45 fs laser pulses" by A. Upadhyay. Each award carries a certificate and a cash prize of Rs. 5,000.

### **N.9: RRCAT scientists get "Best Thesis Awards" of the Indian Society for Particle Accelerators (ISPA)**

Mr. Bobbili Sanyasi Rao of Laser Plasma Division of RRCAT, won the "Best Thesis Award (First Prize)" of the Indian Society for Particle Accelerators (ISPA) during the Sixth Indian Particle Accelerator Conference (InPAC-13) held from November 19-22, 2013 at the Variable Energy