CONTENTS

DAE AWARDS 2014

DAE Homi Bhabha Science & Technology Award [2014]

1 Development of New Formulations for Mitigation of Radiation Injury and Improving the Outcome of Radiotherapy
Santosh Kumar Sandur
Radiation Biology & Health Sciences Division

2 Targeting G-quadruplex Structures with Extrinsic Probes: Prospect of Selective and Efficient G-quadruplex Inducers in Therapeutics
A. C. Bhasikuttan
Radiation & Photochemistry Division

3 Design and Development of Magnetic Lenses for Proton Accelerators
Vikas Teotia, Elina Mishra, Prashant Kumar and Sanjay Malhotra*
Accelerator Control Division

4 Setting up of In-situ X ray Absorption Spectroscopy measurement facility at Indus-2 SRS & Indigenous development of thin film multilayer neutron supermirrors
D.Bhattacharyya*, C.Nayak, A. Biswas, S.N. Jha and N.K. Sahoo
Atomic & Molecular Physics Division

5 Design of AHWR with Passive Systems: Challenges and Accomplishments
Reactor Engineering Division

* Recipient of the award
DAE Scientific & Technical Excellence Award [2014]

6 Prediction of Materials for Hydrogen Storage: Quantum Chemical Methods and Materials Modeling are Indispensable Tools
K.R.S. Chandrakumar
Theoretical Chemistry Section, Chemistry Group

7 Mechanical Design and Development of DC, RF Accelerator and ECR Ion Source Programme of APPD, BARC
Electron Beam Centre, Accelerator & Pulse Power Division

8 Improvements to Gang Type Spent Fuel Chopper at TRP, Tarapur
Abhishant*, A.K. Jha, K. Agarwal
NRPSED, NRB, Mumbai

9 Augmentation of Blood Transfusion Services through Blood Component Therapy
Susan Cherian
Medical Division

10 Suspendable Servo Manipulator for Hot Cell Application
B. Sony*, P.V. Sarngadharan*, K. Jayarajan, and D.N. Badodkar
Division of Remote Handling & Robotics

11 Design and Development of Radiation Detectors for Nuclear Reactors
Mary Alex
Electronics Division

12 Development of Technologically Important/Special Glasses and Glass-Ceramics for Various Strategic Applications
Madhumita Goswami
Glass & Advanced Materials Division

* Recipient of the award
13 Experimental and Analytical Study for Safety of Nuclear Research Reactors
Samiran Sengupta*, Aniruddha Ghosh and S. Mammen
Research Reactor Design & Projects Division
C. Sengupta
Research Reactor Maintenance Division
S. Bhattacharya
Reactor Group

14 Theory of electronic structure and optical properties of graphene nanoribbons
Kondayya Gundra
Theoretical Physics Section
Multidisciplinary Research Group

DAE Young Applied Scientist / Technologist Award [2014]

15 Growth of Single Crystal Scintillators and Development of Nuclear Radiation Detectors
Mohit Tyagi
Technical Physics Division

16 Recovery of Uranium from Tummalapalle Leach Solution Using Novel Precipitating Method
Sujoy Biswas
Uranium Extraction Division

17 Design of a Permanent Magnet Based Focusing Lens for a Miniature Klystron
Kumud Singh*, Janvin Itteera and Sanjay Malhotra
Applied Physics Division

18 Augmented Reality Assisted Telerobotics System for Autonomous Pick and Place Operations
Pritam Prakash Shete*, Abhishek Jaju, Prabir Pal and Surojit Kumar Bose
Computer Division

19 An Insight into the Effect of Ternary Alloying on Hydrogen Isotope Storage Properties of ZrCo Based Alloys
Ram Avtar Jat
Product Development Division

* Recipient of the award
DAE Young Scientist Award [2014]

20 Development of Novel Radionuclide Generators for Use in Nuclear Medicine
Rubel Chakravarty
Isotope Production and Applications Division

21 Speciation and Binding of Uranyl Ion in Different Environments
Mahesh Sundararajan
Radiation Biology & Health Sciences Division

22 Computational Modeling of Novel Materials for Hydrogen Energy Related Applications
K. Srinivasu
Theoretical Chemistry Section, Chemistry Group

DAE Young Engineer Award [2014]

23 Design and Development of Precision Scientific Instruments and Parallel Manipulators
Centre for Design and Manufacture
Mala N.Rao and Saibal Basu
Solid State Physics Division

24 Design and Development of High Power Ultra Wideband Systems
Sandeep Kumar Singh*, S. Mitra, Senthil K., Ranjeet Kumar, Archana Sharma, K.C. Mittal and R.K. Rajawat
Accelerator and Pulse Power Division

INSA Award

25 Reaction Dynamics Around Coulomb Barrier with Weakly Bound Nuclei
Vivek Vijay Parkar
Nuclear Physics Division

Author Index

* Recipient of the award