

## INDIAN PHYSICS ASSOCIATION

### ANNUAL GENERAL BODY MEETING Multipurpose Hall, BARC Training School Hostel, Anushaktinagar, Mumbai - 400094 July 13, 2016.

#### GENERAL SECRETARY'S REPORT

Distinguished IPA members and colleagues, it gives me great pleasure to present the report on IPA activities. I am reporting for the period between the last AGBM held on April 11, 2014 to till date.

#### 1) Membership

During the period of this report, IPA has enrolled 165 life members, 38 annual members and 27 student members. IPA heartily welcomes all its new members. Till date we have total of 4010 life members.

#### 2) IPA Elections

The biennial elections of IPA Office Bearers for the term 2016-18 were conducted by the returning officers, Dr. Dinesh V. Udupa, BARC, Mumbai and Prof. Sadhana Dash, IIT Bombay, Mumbai. The election results were declared on and the following members of IPA Executive Committee have been declared elected:

President	- Prof. D. Kanjilal, IUAC New Delhi
Vice-President	- Dr. N. K. Sahoo, BARC, Mumbai
General Secretary	- Dr. S. M. Yusuf, BARC, Mumbai
Joint Secretary	- Dr. Samit Kumar Mandal, University of Delhi
Member	- Prof. Ashok B. Mody, RKB International School, Mumbai
Member	- Shri Suhas Naik Satam, Nehru Planetarium, Mumbai

Dr. Dinesh V. Udupa was co-opted as Treasurer in Executive Committee meeting held today.

#### 3) Physics News

During the period April 2014 to July 2016, 7 issues (Vol. 43 No. 3-4, Vol.44 No. 1-2, Vol. 44 No.3-4, Vol. 45 No. 1-2, Vol. 45 No. 3, Vol.45 No. 4 and Vol. 46 No. 1& 2 ) of Physics News have been published with the support of BRNS grant under the editorship of Prof. Dipan Ghosh, Prof. S. Kailas and Dr. S. Krishnagopal.

#### 4) Lectures and Seminars

##### DAE – C. V. Raman Lecture Series:

IPA continues to receive the financial support from BRNS, DAE for conducting four DAE - C V Raman Lectures across the country every year for the benefit of young researchers and physics teachers. I am happy to inform you that all the four lectures for the year 2013-14 were successfully conducted with the active support from various IPA local chapters. The details are as follows:

- The first DAE – C V Raman lecture – 2014 was organized by IPA Bangalore Chapter on January 23, 2015, in Mount Carmel College, Bangalore. It was delivered by Prof. Rohini Godbole, Centre for High Energy Physics, Indian Institute of Science, Bangalore. Prof. Godbole gave a lecture titled “Physics beyond the Standard Model” in which she discussed the history of the standard model and its limitations.

- (b) The second DAE – C V Raman lecture – 2014 was organised by IPA Kolkata Chapter and Kalpana Chawla Centre for Space and Nano Sciences, Kolkata Chapter on 20th February 2015 at Meghnad Saha Hall, Calcutta University, Razabazar Campus, 92 A P C Road, Calcutta. The lecture was delivered by Prof. D. K. Srivastava, Director, Variable Energy Cyclotron Centre, Kolkata on the subject “Discovery of Quark – Gluon Plasma-Role of Thermal Photons”.
- (c) The third DAE – C V Raman lecture - 2014 was organized by the Mumbai Chapter of IPA at St. Xavier's College, Mumbai on February 21, 2015. The lecture was delivered by Prof. Mustansir Barma, Distinguished Professor & Former Director, Tata Institute of Fundamental Research, Mumbai on "Contradictory Coexistence: Order from Disorder.
- (d) The fourth DAE – C V Raman lecture - 2014 was organized by IPA Vadodara Chapter on March 25, 2015 at Prof. S S Merh Auditorium, Faculty of Science, The M.S. University of Baroda, Vadodara. The lecture was delivered by Prof. Abhijit Sen, S. Chandrasekhar Chair, IPR, Gandhinagar on “Waves and crystals in a dusty plasma bowl”.

On behalf of IPA, it is my pleasure to put on record our thanks to BRNS (DAE) for supporting the DAE - C V Raman lectures and the annual grant of Rs. 1.0 lakh sanctioned for this purpose. I would also like to thank all the lecturers, the organizers (local chapters) and the host institutions for the successful conduct of these lectures.

#### IPA – IOP Biennial Exchange of Lecturers:

Under the IPA-IOP exchange of programme, Professor Sheila Rowan, Director of the Institute for Gravitational Research University of Glasgow, UK visited Inter University Accelerator Center, Delhi, IIT, Mumbai, IIT Madras, Raja Ramanjan Centre for Technology, Indore during Oct.-November 2015 and gave talks under Cockcroft Walton lecturer series. I would like to thank Prof. Samit Kumar Mandal, Prof. B. K. Nandi, Prof. Anil Prabhakar and Prof. Sendil Raja for organizing this lecture.

## **5) IPA Awards**

#### R D Birla Award in Physics:

The R D Birla Award – 2014 was conferred on Prof. M. Lakshmanan, Bharathidasan Univ, Tiruchirapalli at the IPA Awards function, held at Multi-Purpose Hall, BARC Training School Hostel, Anushaktinagar, Mumbai on 13<sup>th</sup> July 2016.

Murli M Chugani Memorial Award for Excellence in Applied Physics: Decision is pending.

#### Buti Foundation Award for Excellence in Theoretical Physics, Astrophysics and Biophysics:

The Buti Foundation Award – 2014 was given to Dr. Sudarshan Ananth, IISER, Pune at the IPA Awards function, held at Multi-Purpose Hall, BARC Training School Hostel, Anushaktinagar, Mumbai on 13<sup>th</sup> July 2016.

#### P. K. Iyengar Memorial Award in Experimental Physics:

The P. K. Iyengar Memorial Award in Experimental Physics – 2014 was given to Dr. Arindam Ghosh, IISc., Bengaluru at the IPA Awards function, held at Multi-Purpose Hall, BARC Training School Hostel, Anushaktinagar, Mumbai on 13<sup>th</sup> July 2016.

#### S. N. Seshadri Memorial Instrumentation Award in Physical Sciences:

The S N Seshadri Award – 2014 was given to Dr. Kaushik Banerjee, VECC, Kolkata, at the IPA Awards function, held at Multi-Purpose Hall, BARC Training School Hostel, Anushaktinagar, Mumbai on 13<sup>th</sup> July 2016.

#### N. S. Satyamurthy Award in Physics for Young Scientists:

The N S Satyamurthy Award – 2014 was given to Dr. R. Ganapathy, JNCASR, Bengaluru at the IPA Awards function, held at Multi-Purpose Hall, BARC Training School Hostel, Anushaktinagar, Mumbai on 13<sup>th</sup> July 2016.

Aswini Kumar Rath Memorial Award in Nuclear Physics:

The Aswini Kumar Rath Award – 2014 was given to Dr. Deepak Pandit, VECC, Kolkata at the IPA Awards function, held at Multi-Purpose Hall, BARC Training School Hostel, Anushaktinagar, Mumbai on 13<sup>th</sup> July 2016.

IPA- Prof. C. V. K. Baba Best Thesis Award in Nuclear Physics: For the year 2014, this award was given to Dr. P. K. Srivastava, Banaras Hindu University, Varanasi during the Nuclear Physics Symposium, held at Banaras Hindu University, Varanasi, during December 8-12, 2014.

For the year 2015, this award was given to Dr. A. K. Rhine Kumar, IIT Roorkee during Nuclear Physics Symposium, held at Amity University UP, Noida, Uttar Pradesh during December 21-25, 2015.

Anil K. and Bharati Bhatnagar Best Ph.D. Thesis Award in Solid State Physics : For the year 2014, the award was given to Ms. K. S. Bhargavi, Karnatak University, Dharwad during Solid State Physics Symposium held at VIT University, Vellore (Dec 16-20 , 2014).

For the year 2015, the award was given to Dr. Sugamkumar during Solid State Physics Symposium held at AMITY University, Noida (Dec. 21-25, 2015).

Rahul Basu Memorial Award in High Energy Physics: This Award was instituted in the year 2012 by Dr. Neelima Gupte, in memory of her late husband Dr. Rahul Basu. The award is to be given for the best thesis presentation in High Energy Physics during the DAE Symposium in High Energy Physics.

For the year 2014, the award was jointly given to Dr. Pratishruti Saha and Dr. Nikhil Karthik during the DAE Symposium in High Energy Physics, DAE Symposium on High Energy Physics December 8-12, 2014.

C. L. Bhat Memorial Award (Astronomy Olympiad Orientation – cum - Selection Camp):

For the year 2014, the awards was given to Mr. Anand Iyer for Astronomy Olympiad (Junior group) and to Mr. Sheshansh Agarwal for Astronomy Olympiad (Senior group).

For the year 2015, the awards was given to Mr. Aditya Pal for Astronomy Olympiad (Junior group) and to Mr. Ameya Patwardhan, for Astronomy Olympiad (Senior group).

For the year 2016, the awards was given to Mr. Mulinti Shaik Wajid for Astronomy Olympiad (Junior group) and to Mr. Ameya Patwardhan for Astronomy Olympiad (Senior group).

Indian National Physics Olympiad: The award for “Best Solution to a Challenging Problem” award was given to Mr. Sreekar Garlapati for 2014. The award for the “Best Performance in Experimental Programme” was given to Mr. Chitrang Murdia for 2014.

The award for “Best Solution to a Challenging Problem” award was given to Mr. Anuj Shripad Apte for 2015, the award for the “Best Performance in Experimental Programme” was given to Mr. Gowtham Amirthy Neppoleon for 2015.

The award for “Best Solution to a Challenging Problem” award was given to Mr. Divyansh Garg for 2016. The award for the “Best Performance in Experimental Programme” was given to Mr. Gowtham Amirthy Neppoleon for 2016.

I congratulate all the awardees. I would like to thank all the Selection Committee Members of various IPA Awards.

## **6) Interaction with Overseas Physics Associations / Societies**

IPA – IOP Annual Exchange of Lecturers: As mentioned above, under this exchange programme Prof. (Sir) Michael Pepper visited Indian in May 2013 to deliver Cockroft Walton lectures and Prof. T. Padmnabhan visited U.K. in March 2014 to deliver Homi Bhabha Lectures. IPA’s arrangement with IOP for electronic affiliate membership continues.

Association of Asia Pacific Physical Societies: IPA continues to be a member of the Association of Asia Pacific Physical Societies.

## 7) Activities of IPA Chapters

Presently, IPA has 44 chapters, some of which have been quite active. I present below a brief report on the activities of these chapters.

Mumbai Chapter: Indian Physics Association Mumbai Chapter in association with St. Xavier's College, Mumbai, organised the Department of Atomic Energy- C. V. Raman Lecture on Saturday, February 21, 2015 at St. Xavier's College, Mumbai. The lecture was delivered by Prof. Mustansir Barma, Distinguished Professor & Former Director, Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba Mumbai 400 005 on "Contradictory Coexistence: Order from Disorder".  
Indian Physics Association Mumbai Chapter in association with Guru Nanak College of Arts Science and Commerce, Mumbai, organised Nobel Prize for Physics 2015 on Saturday, February 20, 2016 at Guru Nanak College Auditorium. The lecture was delivered by Prof. Vivek. M. Datar, India-based Neutrino Observatory Cell, Tata Institute of Fundamental Research, Homi Bhabha Road, Mumbai – 400 005.

Pilani Chapter: The chapter organized essay competitions on different topics among science students for motivation for science subjects. IPA Pilani Chapter also organised several invited Talks from eminent Professors / Scientist working abroad or premier academic institutions on advance physics topics as below:

- i) Periodic surface lattice source of mm wave / THz radiation by Prof. ARD Phelps, University of Glasgo,UK
- ii) Role of plasma sheath in biological cells by Prof. C. B. Dwivedi, IPR, Gandhinagar
- iii) Radio frequency MEMMS design, technology and applications, by Dr. K. J. Rangra, chief scientist, CEERI, Pilani
- iv) Auger electron spectroscopy for surface characterization by Dr R. S. Raju, chief scientist, CEERI, Pilani
- v) Visit of students from engineering colleges and different schools organised to create interest in physics all over the year.
- vi) Science Day celebrated at CSIR – CEERI Pilani.

Bangalore Chapter : The chapter organized a special DAE C. V. Raman lecture on “**Higgs Boson: Discovery and beyond**” delivered by Prof. Rohini Godbole of the Centre for High Energy Physics at the Indian Institute of Science (IISc), Bangalore at Mount Carmel College, Palace Road, Bangalore on 23/01/2015.

A lecture on “**Relativity today**” delivered by Prof RajaramNityananda of Azim Premji University, Bangalore at the Department of Physics, Bangalore University, Bangalore on 11/04/2015.

The Bondade Memorial Lecture Competition for Post Graduate Students in Physics held at Vijaya College, Bangalore on 22/04/2016.

Varanasi Chapter: IPA Varanasi Chapter organised several invited Talks from eminent Professors / Scientist as below:

- i) Sept. 19, 2014 Matter under extreme conditions by Prof. Hiranamaya Mishra, Physical Research Laboratory, Ahmedabad
- ii) Sept. 23, 2014, “LED lighting, state of the technology and future for University research” Prof. J. Norman Bradsley Univ. of Dundee, US
- iii) Oct. 10, 2014, Mangalyaan: Mars Orbiter Mission, Prof. A.K. Singh, BHU
- iv) November 7, 2014, Simple Radiation Detectors for Complex Applications - Prof. Amos Breskin, Weizmann Institute of Science (ISRAEL)
- v) December 16, 2014 Alpha cluster states in Nuclei, Dr. Suresh Kumar, BARC, Mumbai
- vi) March 12, 2015, "LHC: the unbelievable pursuit for the unthinkable" Prof. Kazari Mazumdar, TIFR, Mumbai

- vii) March 13, 2015, Ultra short Laser Pulse Generation: Characterization & Application - Prof. P. K. Datta, IIT, Kharagpur
- viii) April 1st, 2015, Development in Electronics since 1947 (Birth of Micro-computer) - Prof. P.C. Srivastava BHU
- ix) Oct 6, 2015, Study of phase diagram of QCD through high energy nuclear collisions - Prof. Bedangdas Mohanty, NISER, Bhubneshwar
- x) Oct 10, 2015, Nobel Prize in Physics 2015, Prof. V.M. Datar, TIFR, Mumbai
- xi) December 21, 2015, X-ray irradiation of finite systems: modeling the nanoplasma dynamics - Dr. Vikrant Saxena, DESY (Germany)
- xii) Feb 05, 2016, The Challenges in Experiments with Sub-atomic Particles: How to Probe Nuclei?? - Prof. Vandana Nal, TIFR, Mumbai
- xiii) Feb 26, 2016, Basic view of extended relativity theory - Prof. A.K. Sinha, California, US
- xiv) March 10, 2016, Slow highly charged ion interaction with atoms/molecules - Dr. Pragya Bhatt, IUAC, New Delhi
- xv) April 16, 2016, Radiation detection & its use in a human modern civilization - Dr. D.R. Mishra, BARC, Mumbai
- xvi) April 17, 2016, High Energy Accelerator Science & Technology in Japan - Prof. A. Suzuki, IP Univ, Japan

#### 8) Donations and Financial Support for IPA

The total donation received from IPA members till date for the Physics News corpus is Rs. 2,57,313/-. IPA thanks all the donors for this kind gesture and their continued support to IPA.

Before concluding, I take this opportunity to thank the President IPA, Prof. S. L. Chaplot, Vice President, Dr. D. Kanjilal, Treasurer, Prof. B. K. Nandi, Joint Secretary, Dr. Samit Mandal, Editors, Physics News, Prof. Dipan Ghosh, Dr. S. Kailas and Prof. S. Krishnagopal, and all other members of the Executive Committee for their unstinted support. I would also like to put on record my sincerest thanks to Prof. S. Kailas, former President, IPA and Prof. Ashok Mody former Treasurer, IPA for their guidance and whole hearted support during my tenure as General Secretary, IPA. I would also like to thank local IPA colleagues.

I also wish to express my deeply felt appreciation of the hard work done by Mrs. Suvarnalatha and Mr. Ashok Dhule of IPA office. Without their dedication to the cause, it would not have been possible to make whatever small progress that we have made during the period of this report. I thank them profusely for their whole-hearted support in conducting the IPA activities.

I now request the IPA members present here, to accept this report.  
Thank you!

A K Mohanty  
General Secretary, IPA