

## ACADEMY NEWS

### INSA MEETINGS

#### Council and General Body Meetings

The different Sectional and Nomination Committees of INSA met on July 30, 2014 to recommend names of scientists to the Council for election as Fellows, Foreign Fellows and Pravasi Fellows of the Academy. Meetings of the INSA Council and General Body were held on July 31 and August 1, 2014, respectively, at INSA premises.

#### Award Lectures

**Indira Gandhi Prize for Popularization of Science Medal Lecture (2014):** Professor Hari Om Vats, Physical Research Laboratory, Ahmedabad, delivered the Indira Gandhi Prize for Popularization of Science Lecture on *Visitors of the Solar System*, at Jawaharlal Nehru Planetarium, Bengaluru, on May 10, 2014.

**Professor Brahm Prakash Memorial Medal Lecture (2013):** Dr Baldev Raj, President, National Institute of Advanced Studies, Bengaluru, delivered the Professor Brahm Prakash Memorial Medal Lecture on *A perspective on technology challenges with emphasis on energy security and sustainability* at Indian Institute of Technology, Madras on August 4, 2014.



Dr Bhaskar Ramamurthi, Director IIT Madras presenting the Brahm Prakash Memorial Medal to Dr Baldev Raj, FNA

### INTERNATIONAL ACTIVITIES

#### Nominations/Election of Indian scientists for various positions at International Council for Science (ICSU) and its different Unions

- **Professor Raghavendra Gadagkar**, President, INSA, has been nominated for membership of the ICSU Executive Board.
- **Professor Mustansir Barma**, TIFR, Mumbai, has been nominated for the position of President Designate, International Union of Pure & Applied Physics (IUPAP).
- **International Union of Crystallography (IUCr)**

The following 13 Indian scientists have been nominated for various positions of the International Union of Crystallography (IUCr):

**Dr K Byrappa**, University of Mysore, Mysore; **Dr SL Chaplot**, BARC, Mumbai; **Dr Nandini Garg**, BARC, Mumbai; **Dr N Gautham**, University of Madras, Chennai; **Professor J Kumar**, Anna University, Chennai; **Dr NK Mukhopadhyay**, IIT BHU, Varanasi; **Professor Ashwini Nangia**, University of Hyderabad, Hyderabad; **Professor Dhananjai Pandey**, IIT BHU, Varanasi; **Dr DM Salunke**, Regional Ctr for Biotechnology, Gurgaon; **Professor Milan K Sanyal**, Saha Institute of Nuclear Physics, Kolkata; **Dr AK Singh**, IIT BHU, Varanasi; **Dr K Sekar**, IISc, Bengaluru; **Professor K Suguna**, IISc, Bengaluru.

- **International Union of Pure & Applied Physics (IUPAP)**

15 Indian scientists have been nominated for various positions of International Union of Pure & Applied Physics (IUPAP):

**Professor RC Budhani**, NPL, New Delhi; **Professor Amol Dighe**, TIFR, Mumbai; **Professor R Gopakumar**, Harish-Chandra Research Institute, Allahabad; **Professor Sunil K Gupta**, TIFR, Mumbai; **Professor R Jha**, Institute of Plasma Research, Gandhinagar; **Professor Chanda J Jog**, IISc, Bengaluru; **Professor SN Kaul**, University of Hyderabad, Hyderabad; **Professor Priya Mahadevan**, SN Bose National Centre for Basic Sciences, Kolkata; **Professor Rahul Pandit**, IISc, Bengaluru; **Professor Hema Ramachandran**, Raman Research Institute, Bengaluru; **Professor Jayashree Ramadas**, TIFR, Mumbai; **Professor Srinivasan Ramakrishnan**, TIFR, Mumbai; **Dr Madan Rao**, Raman Research Institute, Bengaluru; **Professor D Narayana Rao**, University of Hyderabad, Hyderabad; **Professor Milan K Sanyal**, Saha Institute of Nuclear Physics, Kolkata.

- **Dr Anil Kumar**, NCL, Pune, has been nominated for membership of the Executive Committee of Committee on Data for Science & Technology (CODATA).
- **Professor Sanjay Mittal**, IIT Kanpur, Kanpur, has been nominated for the membership of International Union of Theoretical and Applied Mechanics (IUTAM) Congress Committee for the term 2014-2018.
- **Dr Chintalagiri Mohan Rao**, CCMB, Hyderabad, has been nominated for the membership of International Union of Pure & Applied Biophysics (IUPAB) Council.
- **Dr Bhagirath Patel**, Sat Kaival College of Pharmacy, Sarsa, Gujarat, elected as Counsellor (Executive Member), International Union of Pharmacology (IUPHAR) for the term 2014-2018.
- **Dr Chandrima Shaha**, NII, New Delhi, has been nominated for the membership of ICSU-Regional Committee for Asia and the Pacific (RCAP) for the term 2015-2017.

### Support to Visiting Scientists during June - August 2014

- 56 Indian scientists were supported by the INSA for attending ICSU/Non-ICSU sponsored international conferences abroad.
- 17 Indian and four foreign scientists were exchanged under INSA Bilateral Exchange Programmes.

### Overseas Visits by INSA Delegations

- **Professor Raghavendra Gadagkar**, President, INSA and Professor Krishan Lal, Immediate Past-President, INSA, visited Rome, Italy, during May 15-16, 2014 to participate in the IAP-IAC Executive Committee Joint Meeting hosted by the Accademia Nazionale dei Lincei, Italy.
- **Dr DM Salunke**, Vice-President (International Affairs), INSA visited Italy during June 8-13, 2014 to participate in the AAAS-TWAS Summer Course on Science and Diplomacy. The course was jointly organized by the American Association for the Advancement of Science (AAAS) and The World Academy of Sciences (TWAS).

### Scientific Meetings during June-August 2014

- A meeting of the International Union of Microbiological Societies (IUMS) on *Infections at the Animal-Human Interface* was held on June 17, 2014 at INSA. A key objective of the meeting was to prepare a timely policy document that will identify the various needs for combating the threat of zoonotic and newly emerging infections within the country and its borders. It may serve as a policy document to raise awareness and to advise the Government of India on this matter of increasing importance.
- A group discussion meeting on Issues of Climate Change was held on June 23, 2014 at INSA premises with Professor V Rajamani, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi as the Convenor. 20 delegates attended the meeting.



Group Discussion on Climate Change

## SCIENCE AND SOCIETY PROGRAMME

### Public Lecture at INSA

Professor BV Sreekantan, Honorary Visiting Professor, National Institute of Advanced Studies, Bengaluru, delivered a public lecture on *Science and Reality as of 2014* on August 1, 2014.



President INSA, Professor R Gadagkar honoring Professor BV Sreekantan, FNA after the public lecture at INSA Auditorium

## AWARD AND HONOR TO INSA FELLOW

**Dr Sudhanshu Kumar Jain, FNA**, popularly known as Father of Indian Ethnobotany, has been honoured with 'Life Time Achievement Award' of the S.K. Jain Institute of Ethnobiology, Jiwaji University, Gwalior in recognition of his valuable services to the field of Ethnobotany. His research work was mainly concentrated on grasses, orchids, floristic studies, endangered species, medicinal plants, ethnobotany and economic botany. The influence and impact of his work is evident in government policies, on research in taxonomy, in monographic studies, explorations, and the network of botanic gardens, protected areas, and conservation of wild life.

During his career he held distinguished positions like the Founder Director of Institute of Ethnobiology, Chief Editor of Flora of India series (1978-84) and of *Ethnobotany* (an international journal of the Society of Ethnobotanists), Botanical



Professor SB Nimbse, Vice-Chancellor, Lucknow University presenting the Life Time Achievement Award to Dr SK Jain, FNA

Adviser to the Government of India, 'Emeritus Scientist' of the Council of Scientific and Industrial Research. He also received the J W Harshberger Medal and W Corey Medal.

#### RECENT PUBLICATIONS OF THE ACADEMY

##### *Indian Journal of History of Science (IJHS)*

Vol. 49, issue No. 2 (June 2014) of *IJHS* has been published. It is a thematic issue on 'Numerical Tables in Sanskrit Sources' based on outcome of a seminar organized by the Institut Méditerranéen de Recherches Avancées (IMeRA), Marseilles, France, on December 13-17, 2010. The issue includes papers on Sanskrit Astronomical Tables; Sine Tables from *Jñānarjē's Siddhāntasundara*; *Sākramavēkyas* of the *Vēkyakaraṭa*; *Karaṭakesarī* Tables for Computing Eclipse Phenomena; *Makaranda Sēriṭī* and *Saura Pak-a* Tables and Trigonometric Tables in India. The issue also contains reviews of Benno von Dalen's book on Islamic Astronomical Tables and RN Iyengar's book on *Parāaratantra* apart, besides news and conference reports on history of science.

##### *Indian Journal of Pure and Applied Mathematics (IJPAM)*

Vol. 45, issue Nos. 1, 2, 3 & 4 (February, April, June and July 2014) have been published.

## OBITUARY

### Fellows

#### Thazhuthaveetil Mathai Jacob

Thazhuthaveetil Mathai Jacob (b 06 June, 1927; d 06 June, 2014) obtained his PhD from the University of Madras specializing in Organic Chemistry, Molecular Biology and Immunology. Professor Jacob had two years of post-doctoral experience at IISc as National



Research Fellow. Later, he worked as Research Associate at the University of Toronto, Canada and Stevens Institute of Technology, New Jersey, USA. Professor Jacob joined the Institute for Enzyme Research at the University of Wisconsin, USA in 1961 as a Research Associate of Dr Har Govind Khorana. On his return to India, Professor Jacob joined the Department of Biochemistry, IISc, Bengaluru in 1966 from where he superannuated as Professor of Biochemistry in 1987. He was INSA Senior Scientist during 1987-90.

Professor Jacob was introduced to the areas of nucleic acid chemistry and molecular biology by Dr HG Khorana. He substantially contributed with Dr Khorana on studies of chemical synthesis of nucleic acid fragments with the idea of using them for studies in DNA replication, transcription and translation, and to study the nature of the genetic code. Professor Jacob raised antibodies in rabbits against nucleoside, nucleotide and oligonucleotide haptens after chemically coupling them to proteins. His studies with antibodies to deoxyribonucleotides showed that they form two classes of DNA-binding antibodies, one class binding preferentially to single stranded DNA and the other binding preferentially to double stranded DNA, but both being specific to homologous haptens.

Professor Jacob was a Fellow of the Indian Academy of Sciences, Bangalore and was elected to the Fellowship of Indian National Science Academy in the year 1981.

### Sarjit Singh Sandhu

Sarjit Singh Sandhu (*b* 07 February, 1930; *d* 19 June, 2014) obtained his first PhD from Punjab University in 1958 and the second from University of London, specializing in Inorganic Chemistry. Thereafter, he joined as Reader in Inorganic



Chemistry, Panjab University, Chandigarh, moved to Punjabi University, Patiala (1966) and finally to Guru Nanak Dev University (GNDU), Amritsar as Professor and Founder Head, Chemistry Department (1971) from where he retired in 1990. He also served as Director, Council of Science and Technology, Punjab State, Chandigarh. Professor Sandhu was elected Fellow of the National Academy of Sciences (India), Allahabad, Royal Institute of Chemistry, England and Chemical Society, London. The Indian Chemical Society awards the "Professor SS Sandhu Award" biennially in his honour.

Professor Sandhu made outstanding contributions to coordination chemistry of transition metal complexes in solid state, reactions in non-aqueous solvents, synthetic organic chemistry, bio-inorganic chemistry, organometallic chemistry, analytical chemistry, solid state chemistry of decomposition products of complexes, photo-chemistry of uranium ion, structure determination of compounds by X-ray diffraction technique, stability constants of transition metal complexes in solutions, reaction mechanism of metal complexes, and study of soil pollution by industrial effluents containing toxic transition metal ions.

After retirement from GNDU in 1990, Professor Sandhu settled in the US and was very active in a serious study of Sikhism and Guru Granth Sahib, tirelessly championing an accurate and careful translation of Guru Granth Sahib to English based on the original teachings of the Gurus. He founded

the International Sikh Institute for Research and Teaching, and published five books on Sikhism and translations of Guru Granth Sahib.

Professor Sarjit Singh Sandhu was elected to the Fellowship of Indian National Science Academy in the year 1982.

### Foreign Fellow

#### George William Housner

George William Housner (*b* 9 December, 1910; *d* 10 November, 2008) earned his PhD from California Institute of Technology, USA where he had been a Professor of Earthquake Engineering from 1945 to 1981, and Professor Emeritus thereafter.



Professor Housner was one of the pioneers of earthquake engineering, and his research had revealed the characteristics of destructive ground shaking, its attenuation with distance from the causative fault, response spectrum analysis, measures of potential destructiveness of ground motions. His research on structural vibrations include seismic performance of high-rise buildings, the response of large ground – based liquid storage tanks with slashing of contents; nonlinear vibrations of structures during earthquake; development of large vibration generator for studying the dynamic properties of actual buildings; vibration analysis of pipeline containing flowing fluid; liquefaction of soils during earthquakes; seismic design of concrete dams, and nuclear power plants.

Professor Housner was honoured with the National Medal of Science, Founders Award from National Academy of Engineering, Von Karman Medal of American Society for Civil Engineers and Society Medal from Seismological Society of America.

Professor George William Housner was elected to the Foreign Fellowship of Indian National Science Academy in the year 1985.

## ANNOUNCEMENTS

### **Nomination for Election of Fellows**

The last date for receiving nominations for election of Fellows is **October 15, 2014**. Nominations received on or before October 15 will be included for consideration in the year 2015, while those received after October 15, will go for the year 2016. Nomination form can be downloaded from the INSA website [www.insaindia.org](http://www.insaindia.org).

### **Nomination for Election of Foreign and Pravasi Fellows**

Nominations are invited from the Fellows of INSA for election of Foreign Fellows and Pravasi Fellows for the year 2015. Nomination form can be downloaded from the INSA website [www.insaindia.org](http://www.insaindia.org).

### **INSA Medal for Young Scientists - 2015**

Nominations are invited for **INSA Medal for Young Scientists – 2015**. Those born on or after **January 1, 1980** are eligible for consideration in the year 2015. The awardee shall receive a **certificate**, a **bronze medal** and cash award of **Rs. 25000/-** and **incentives for research work**. Proposals may be submitted by a Fellow of the Indian National Science Academy or by earlier recipients of this award. Scientific societies of national standing, university faculty, post-graduate departments of research institutions may also nominate eligible candidates. The last date for receiving nominations for INSA Medal for Young Scientists is **October 31, 2014**. Nomination form can be downloaded from the INSA website [www.insaindia.org](http://www.insaindia.org).

### **Proposals by INSA Fellows for Lectures to young students and teachers of schools and colleges in remote/rural areas**

The Academy has launched a programme under which INSA Fellows are encouraged to deliver Popular Lectures to young students and teachers of schools and colleges in remote/rural areas. Proposals are invited from Fellows with details like name and address of the school/college where they wish to deliver the lecture, title/s of lecture/s, proposed dates and the quantum of required travel support. Proposals may be sent to Executive Director, INSA at [esoffice@insa.nic.in](mailto:esoffice@insa.nic.in), [insacouncil@gmail.com](mailto:insacouncil@gmail.com) with a copy to [sci-soc@insa.nic.in](mailto:sci-soc@insa.nic.in) at the earliest.

### Call for Research Proposals on History of Science

The Indian National Commission for History of Science supports Research Projects on various subjects pertaining to history of science and technology in India under the guidance of a Research Council. Through this programme, the Investigator can take up source and theme oriented compilations of important sources with commentaries; translation of important technical primary sources on mathematics, astronomy, medicine, alchemy, agriculture, natural products, life sciences, scientific traditions including oral traditions of scientific nature, metals and metallurgy, architecture and related technologies, for critical assessment relating to ancient and medieval periods. The Commission gives equal emphasis for historical evaluation of science and technology scenario in India during the 19<sup>th</sup> and 20<sup>th</sup> centuries. Study of pioneering institutions, popular perceptions of science development, tools, techniques and how the knowledge in each area of science has grown conceptually on the basis of International perspectives, are some examples of the research areas. Themes may also be selected depending on candidates' own aptitudes and specializations.

For other details, visit the website [www.insaindia.org](http://www.insaindia.org) or mail to [ijhs@insa.nic.in](mailto:ijhs@insa.nic.in).

### Nominations for INSA Awards

The last date for receiving nominations for the following INSA Awards due for the year 2015 is **October 15, 2014**:

1. The Satyendranath Bose Medal
2. The Darashaw Noshervanji Wadia Medal
3. The Golden Jubilee Commemoration Medal (*for Animal Sciences*)
4. Vishwakarma Medal
5. Professor GN Ramachandran 60<sup>th</sup> Birthday Commemoration Medal
6. Professor Krishna Sahai Bilgrami Memorial Medal
7. Dr Nitya Anand Endowment Lecture
8. Professor Vishnu Vasudeva Narlikar Memorial Lecture
9. Professor Vishwa Nath Memorial Lecture

Nomination form can be downloaded from the INSA website [www.insaindia.org](http://www.insaindia.org).