

## ACADEMY NEWS

### SCIENCE & SOCIETY PROGRAMME

#### *Indian National Young Academy of Sciences (INYAS)*

India has a very large number of young scientists which offers a great potential for development. In recent years, India has established several new academic institutions like the IISERs, new IITs and several new Universities. These have attracted a large number of outstanding young scientists in the age group of 30-45 years. It is necessary to nurture their skills and talent, to implement programmes that are of interest to them, to promote interactions within them and to provide a forum where they can express their opinions about matters that concern them. In recognition of similar situations, there is a world-wide effort to establish 'Young Academies' like the Global Young Academy (GYA) and national young academies in many countries, including Germany, Denmark, Israel, Malaysia, Egypt, Pakistan, Sri-Lanka etc.

The Council of INSA at its meeting on December 20, 2014, approved the establishment of an academy of young scientists in India, as an activity of INSA. Based on recommendations of a committee with Rajesh Gopakumar, FNA as chair and Ranjini Bandyopadhyay (RRI, Bangalore) and Anindita Bhadra (IISER- Kolkata) as members, the following salient features of the young academy were agreed upon.

1. The young academy will be called '**Indian National Young Academy of Science (INYAS)**'.
2. The INYAS will comprise of twenty members, initially selected by the council of INSA through formal call for nominations from amongst INSA Young Scientist awardees, who are not exceeding the age of 40 years at the time of

induction and an equal number shall be inducted every year as new members of INYAS. The membership shall be for a fixed period of 5 years so that at the end of fifth year, INYAS will have 100 members.

3. In the 1<sup>st</sup> year, a committee consisting of the President, six Vice-Presidents and Executive Director will select 20 members from among the applicants for final approval by the council.
4. Subsequently the INYAS will evolve its own procedure of adding new members each year.
5. INSA will allocate Rs. 10 lakh per year for the organizational activities of INYAS and will provide a modest office space and administrative assistance to INYAS. Additional funding may be provided for specific programmes that fall within the broad activities of INSA.
6. Members of INYAS shall elect a 7 member working group, from among their members (with one chair and 6 members) that will run activities of INYAS.
7. INSA President, the six Vice-Presidents and Executive Director shall act as an Advisory Board for INYAS.
8. An annual report of the activities of INYAS, including utilization of funds, shall be presented to the council of INSA every year at the December Council meeting.
9. INYAS will come into existence in the year 2015.

From amongst the applications received, the following 20 have been selected by the Council to be the first 20 members of the INYAS.

**PC Abhilash**, Assistant Professor, BHU, Varanasi; **UK Anandavardhanan**, Associate Professor, IIT Bombay; **Sudarshan Ananth**, Associate Professor, IISER, Pune; **S Suresh Babu**, Scientist SF, VSSC, Thiruvananthapuram; **Anindita Bhadra**, Assistant Professor, IISER Kolkata; **Suryasarathi Bose**, Assistant Professor, IISc, Bengaluru; **T Govindaraju**, Associate Professor, JNCASR, Bengaluru; **Suman L Jain**, Senior Scientist, CSIR-IIP, Dehradun; **Arun Kumar K P**, Scientist, CDFD, Hyderabad; **Dhiraj Kumar**, Staff Research Scientist, ICGB, New Delhi; **Mahesh Kumar**, Assistant Professor, IIT Jodhpur; **Charu Lata**, Scientist, CSIR-NBRI, Lucknow; **Amit Mishra**, Assistant Professor, IIT Jodhpur; **Saptarshi Mukherjee**, Associate Professor, IISER Bhopal; **Venketeswara Pai R**, Assistant Professor, SASTRA University, Thanjavur; **Viswantha Ranjani**, Faculty Fellow, JNCASR, Bengaluru; **Bijaya Kumar Sahoo**, Associate Professor, PRL, Ahmedabad; **Rajeev Saraswat**, Scientist, NIO, Goa; **Deepak Sharma**, Assistant Professor, IIT Roorkee; **Vijay Pal Yadav**, Assistant Professor, JNU, New Delhi.

The first meeting of the INYAS is scheduled for June 20, 2015 at INSA premises

#### *INSA Local Chapters Activities*

INSA Local Chapters of Delhi, Lucknow, Allahabad, Kolkata and Hyderabad celebrated National Science Day under the Outreach programme of TWAS-India National Chapter. Under this programme, lectures of INSA Fellows were organised followed by interactive sessions with school and college students. Copies of a popular publication of the Academy, 'The Bright Spark', which highlights the life and career of eminent scientists were presented to the participating students.

#### *Awards and Honours to INSA Fellows*

- Professor CNR Rao, FRS, National Research Professor, Linus Pauling Research Professor and Honorary President, Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru has been conferred with the highest Japanese civilian honour 'The Order of the Rising Sun, Gold and Silver Star' by the Emperor of Japan.

- Professor R Gadagkar, President INSA, has been awarded with A.V. Rama Rao Technology Award 2014 instituted by CSIR-Indian Institute of Chemical Technology, Hyderabad.

#### **INTERNATIONAL ACTIVITIES**

##### *Overseas Visits by INSA Delegations*

- **Professor Raghavendra Gadagkar**, President, INSA, visited Paris during April 27-29, 2015 to participate in ICSU Executive Board Meeting.
- **Dr DM Salunke**, Vice-President (International Affairs), INSA, visited Paris during April 9-10, 2015 to participate in the meeting of ICSU Committee on Scientific Planning and Research (CSPR).

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

- **Professor GP Pandey**, Director, Centre of Biomedical Research, Sanjay Gandhi Post Graduate Institute of Medical Sciences Campus, Lucknow, has been nominated for membership of the IUPAC Organic and Bio-molecular Chemistry Division.
- **Dr Pradeep Kumar**, CSIR-National Chemical Laboratory, Pune, has been renominated for membership of the IUPAC Division Chemistry and Environment.

##### **Support for Visiting Scientists during March – April 2015**

Three Indian Scientists namely Professor KP Joy, Department of Zoology, Banaras Hindu University, Varanasi, Dr Shanta Laishram, Assistant Professor, Department of Mathematics, Indian Statistical Institute, New Delhi and Dr Anup Kumar Misra, Associate Professor, Molecular Medicine Division, Bose Institute, Kolkata visited abroad under INSA Bilateral Exchange Programme.

Professor Suresh Bhargava, College of Science, Engineering and Health, RMIT University, Melbourne, visited India as an INSA Chair Awardee.

## RECENT PUBLICATIONS OF THE ACADEMY

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

Volume 50, No.1 (March 2015) issue of 50<sup>th</sup> Anniversary year of *IJHS* has been published. The issue contains paper on early system of *Nakṣatras* and calendar of the Vedic and Indus traditions, Soma plant of the Vedic Āryas, crafts and technologies of the chalcolithic people of South Asia, metal casting traditions of South Asia, Immunology as mentioned in Ayurvedic Classics and rise of hospital medicine in India. The section on historical notes has papers on concept of *Manas* in *Sāṃkhya Darśana*, concept of food and nutrition from *Caraka & Suśruta Saṃhitās* and old water-works on the Mysore plateau. Book reviews, project reports, and news from history of science are the other features of the issue.

### *Proceedings of the Indian National Science Academy*

Volume 81, No. 2 (March 2015) issue has been published. The issue contained a special section on *Ultrafast Science: Progress and Opportunities* edited by Dr Deepak Mathur, Atomic and Molecular Sciences, Tata Institute of Fundamental Research, Mumbai.

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

Volume 46, No.1 & 2 (February & April) issue of *IJPAM* has been published.

## OBITUARY

### Fellows

#### Sohan Singh Prihar

Professor Sohan Singh Prihar (*b* 15 July 1932; *d* 21 April 2015) earned his PhD from Ohio State University, Ohio, USA in 1965. On returning to India, he joined the newly established Punjab Agricultural University (PAU), Ludhiana, as Soil Physicist in 1966 and later became Professor there in 1971. He superannuated as the Head of Department of Soil Conservation at PAU, Ludhiana. He was one of founder scientists of the Green Revolution in India.



Professor Prihar and his colleagues were pioneers in exploiting synergies among water, nutrients and tillage for increasing input-use efficiency. His team developed crop water balance and crop growth models which are useful in on-farm management of water with high use efficiency. He also made significant contributions to literature on miscible displacement of non-interacting salts in soil. His book *Reducing Soil Water Evaporation with Tillage and Straw Mulching* is notable in agriculture literature. He also established a strong laboratory of Soil Physics, which was then a new subject for State Agricultural Universities.

Professor Prihar won many awards including the Rafi Ahmed Kidwai Memorial Award, Om Parkash Bhasin Science and Technology Foundation Prize, ICAR Team Research Award and Dr NS Randhawa Medal (Lifetime Achievement Award) of the National Academy of Agricultural Sciences (NAAS), New Delhi. He was elected Fellow of the NAAS, the American Society of Agronomy and Honorary Member and Fellow of the Indian Society of Soil Science.

Professor Sohan Singh Prihar was elected to the Fellowship of Indian National Science Academy in 1984.

### Govindasamy Shanmugam

Professor Govindasamy Shanmugam (*b* 18 December 1938; *d* 15 April 2015) obtained his PhD from the erstwhile Regional Research Laboratory (now Centre for Cellular and Molecular Biology) Hyderabad specialising in Biosynthesis of Nucleic Acids. He did his postdoctoral studies at the St Louis University, School of Medicine and subsequently joined as Assistant Professor of Molecular Virology in the same University. He joined the Madurai Kamraj University in 1978 and founded the Cancer Biology Division. He superannuated in 1999 as Senior Professor of Biochemistry and Head of the School of Biological Sciences. After his retirement, he served as Director of Oncophyta Labs, a phytoceutical company developing plant-based drug formulations.



Professor Shanmugam made many significant contributions in the area of molecular mechanisms of viral carcinogens, and replication of RNA tumour viruses including HIV. Later, he discovered several genetic alterations in oral cancer such as mutations in oncogenes and tumour suppressor genes. His later studies revealed a predominant role of hypermethylation in the genesis of oral cancer. He also identified potent anticancer agents like Cleistanthin A from indigenous plants.

Professor Shanmugam was a recipient of ICMR Award for Biomedical Sciences, INSA Senior Scientists Award and UGC National Lecturership. He was a Fellow of the Indian Academy of Sciences, Bangalore and National Academy of Sciences, Allahabad (India).

Professor Govindasamy Shanmugam was elected to the Fellowship of the Indian National Science Academy in 1993.

### Foreign Fellow

#### Otto Kinne

Professor Otto Kinne (*b* 30 August 1923; *d* 03 March 2015) was a German Marine Biologist specialising in Marine Ecology. He was Director of Germany's Biologische Anstalt Helgoland from 1962 to 1984. Since 1967 he had also been a Professor at the University of Kiel, Germany. He established the Inter-Research Science Center (IRSC) as its Director in 1979 and was also the Founder Director of Ecology Institute Nordbunte Germany (1984). The IRSC published eight international journals, including *Marine Ecology Progress Series* and *Climate Research*.



Dr Kinne carried out extensive investigations on marine ecology on aspects such as marine biology, invertebrate zoology, environmental effects on organismic performance, pollution and diseases of aquatic organisms. He was mission leader of the first two operations of Federal Republic of Germany's Underwater laboratories in the Baltic Sea and North Sea. Professor Kinne received several awards and distinctions including Senior Foreign Scientist by National Research Council, USA (1970-71), Bundesverdienstkreuz der Bundesrepublik Deutschland (1981), Karl Ritter von Frisch-Medaille (1984) and Doctor *honoris causa* of the Russian Academy of Sciences, Russia (2004).

He was honorary member of various societies like the Marine Biological Association of the United Kingdom, UK (1986), All-Union Hydrobiological Society, Russia (1988), Institute of Marine Biology, Academy of Sciences of Russia, Russia (1992), Foreign Member of the Crimean Academy of Sciences, Ukraine (1995). He was also a Fellow of Guggenheim Foundation, USA (1958), Senior Queen Fellow, Australia (1980) and the World Academy of Art and Science, USA (2005).

Professor Otto Kinne was elected to the Foreign Fellowship of the Indian National Science Academy in 1992.

## ANNOUNCEMENT

### DEPUTATION OF INDIAN SCIENTISTS ABROAD UNDER BILATERAL EXCHANGE PROGRAMME 2016

Applications are invited from outstanding scientists/researchers holding Ph.D. degree and having regular positions in recognized S&T institutions/universities and who are actively engaged in research in frontline areas for deputation abroad during the calendar year 2015 in all fields of Science including Engineering, Medicine and Agriculture for short term (2-4 weeks for senior scientists) and long term visits (3 months for junior/younger scientists) under the Scientific Bilateral Exchange Programme with overseas Academies/Organizations in **Afghanistan, China, Czech Republic, France, Germany, Hungary, Iran, Israel, Kenya, Mauritius, Nepal, Philippines, Poland, Scotland, Slovak Republic, Republic of Slovenia, South Africa, Sudan, Taiwan and Turkey.**

Detailed guidelines and application form can be downloaded at <http://www.insaindia.org>. Hard copy of application, duly completed and endorsed by the Head of the Institution should be submitted latest by **July 25, 2015** to **The Assistant Executive Director (International), Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi - 110002**. A soft copy of complete application (single PDF file only) should be emailed to: **bepinsa2016@gmail.com**. Please include your **Name, Area of Research and Proposed Country** in the subject line of your email. The soft copy filename should be saved as: *Name of Applicant\_Proposed Country*. Incomplete applications will be rejected and no further correspondence shall be made.

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#### *Editorial Staff*

**AN Thakur, Seema Mandal, Shruti Sethi and Richa Sharma**

#### *Editorial Office*

Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi 110 002, India

Phones: 91-11-23221931-50 (Ext: 457, 459); Fax: 91-11-23235648; 91-11-23231095

E-mail: [proceedingsinsa@gmail.com](mailto:proceedingsinsa@gmail.com)

Website: [www.insaindia.org](http://www.insaindia.org)

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