

ACADEMY NEWS

81st ANNIVERSARY GENERAL MEETING, BHOPAL



Participants at the Anniversary General Meeting at IISER Bhopal

The 81st Anniversary General Meeting of the Council was held at Indian Institute of Science Education & Research, Bhopal from December 28-30, 2015. This three day event included two symposia on *To Celebrate International Year of Light 2015* (Conveners: Dr J P Mittal, former Director, Chemistry & Isotope Group, BARC, Mumbai & Professor Kankan Bhattacharyya, Senior Professor, Department of Physical Chemistry, IACS, Kolkata) and *Research at IISER Bhopal: Quest for Some New Frontiers* (Convener: Professor Vinod K Singh, Director, Indian Institute of Science Education and Research, Bhopal). In addition, two special lectures on *Making Sense of Science, an Indian Science Journalists Perspective*

by Mr Pallava Bagla, Science Editor, NDTV and *Long Non-coding RNAs Play Fundamental Roles in Cell Regulation* by Professor S C Lakhota, Vice-President, INSA and a public lecture on *Rock Paintings in Central India* by Professor G L Badam, formerly of Deccan College, Pune, were also held.

Professor R Gadagkar, President INSA, in his Anniversary Address spoke on *Is the Peacock Merely Beautiful or Also Honest?* 34 new Fellows were inducted to the Fellowship of the Academy, 29 Young Scientist awardees were presented INSA Medal for Young Scientist, 12 Teachers were presented the INSA Teachers Award and 2 young historians were



Professor Gadagkar delivering the Anniversary Address

presented the INSA Young Historian of Science Award.

The Council, at its meeting at IISER Bhopal, decided to offer the CV Raman Medal (2016) to Professor N Sathyamurthy, Director, IISER Mohali; the Shanti Swarup Bhatnagar Medal (2016) to Professor V Ravindranath, Chair, Centre for Neurosciences, Indian Institute of Science, Bengaluru and the KS Krishnan Memorial Lecture (2016) to Professor Sudha Bhattacharya, School of Environmental Sciences, JNU, New Delhi.

Award Lectures during the 81st Anniversary General Meeting

Four award lectures were delivered at IISER Bhopal:

INSA Medal for Promotion & Service to Science Lecture (2014): Professor MVS Valiathan, National Research Professor, Manipal University, Manipal



Professor Valiathan receiving the citation from Professor Gadagkar, Professor Mittal is on left

delivered the INSA Medal for Promotion & Service to Science lecture on *Evolving Approach of Biology to Ayurveda*.

The Aryabhata Medal Lecture (2015): Professor Alok Bhattacharya, School of Life Sciences & School of Computational and Integrative Sciences, Jawaharlal Nehru University, New Delhi delivered the Aryabhata Medal Lecture on *Exotic Organisms and Novel Biology: World of Parasites*.



Professor Alok Bhattacharya delivering the medal lecture during AGM

Dr Nitya Anand Endowment Lecture (2015): Professor TK Kundu, Transcription and Disease Laboratory, Molecular Biology and Genetics Unit, Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru delivered Dr Nitya Anand Endowment Lecture on *Epigenetic Regulation of Chromatin Dynamics and Gene Expression*:



Professor TK Kundu receiving the award from President INSA

Implications in Differentiation, Disease and Therapeutics.

The Sunder Lal Hora Medal Lecture (2008): Dr Rakesh Tuli, Senior Research Advisor, JC Bose National Fellow, UIET, Panjab University, Chandigarh delivered the Sunder Lal Hora Medal Lecture on *Genome Editing and Tissue Fabrication: Emerging Approaches to Designing Life Forms.*



Dr Rakesh Tuli delivering the SL Hora Medal Lecture at AGM

Condolence at the passing away of the distinguished Fellows

President, INSA read the obituary notes with respect to Dr Syed Zahoor Qasim and Professor Haridas Banerjee, esteemed Fellows of the Academy who left for heavenly abode on October 20, 2015 and November 15, 2015, respectively. All present stood in silence for a minute as a mark of respect to the departed soul.

Felicitations to the outgoing members of the Council

The outgoing members of the Council (Dr DM Salunke, Vice President, Professor Kunal Ghosh, Professor RL Karandikar, Professor Archana Bhattacharyya, Members) were felicitated by the President, INSA.

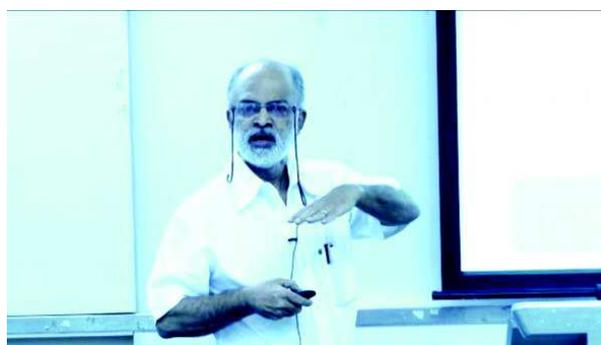
Professor Gadagkar profusely thanked Professor Vinod K Singh, Director, IISER, Bhopal and his colleagues for making INSA meeting a very successful one.



Professor Gadagkar felicitating the outgoing members of the council

AWARD LECTURE DELIVERED UNDER LOCAL CHAPTER

The Vishwakarma Medal Lecture (2015): Professor AB Pandit, UGC Research Scientist C, Chemical Engineering Department, Institute of Chemical Technology, Mumbai delivered the Vishwakarma Medal Lecture on *Chemical Engineering Foray into Rural India* at ICT, Mumbai under Mumbai Local Chapter on December 15, 2015.



Professor AB Pandit delivering the Vishwakarma Medal Lecture

INTERNATIONAL ACTIVITIES

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

- Professor LS Shashidhara, Indian Institute of Science Education and Research, Pune has been elected as General Secretary of IUBS for the term 2016-2019.
- Professor DM Banerjee, formerly Professor, Department of Geology, University of Delhi, Delhi has been nominated for the position of Vice-President, International Union of Geological Sciences (IUGS) for the term 2016-2020.
- Dr V Prakash, Distinguished Scientist of CSIR & Honorary Director, Research Innovation and Development, Jagadguru Sri Shivarathreeswara University, Mysore has been nominated for the position of President Elect/Member Governing Council of International Union of Food Science & Technology (IUFoST) for the period 2018-2020.
- Professor Krishan Lal, Past President, INSA, has been elected as Co-Chair of the InterAcademy Partnership (IAP), which is based in Trieste, Italy, and comprises of Academies of 111 countries for the period 2016-2018.

Workshop/Symposia/Conference supported by the Academy

- The 13th Conference of the Asian Crystallographic Association (AsCA) was held at Science City, Kolkata during December 5-8, 2015 with Professor Pinakpani Chakrabarti, Department of Biochemistry and Bioinformatics Centre, Bose Institute, Kolkata being the convener.
- The 6th INSA-German National Academy of Sciences Leopoldina joint symposium on *The Brain and the Eye* was organized at LV Prasad Eye Institute, Hyderabad during February 1-2, 2016. The symposium focused on all aspects of Neurosciences including biochemistry, molecular biology, basic research and

psychology. Professor Brigitte Roeder, Hamburg University, Germany delivered the Leibniz Prize Lecture on *Sensitive Stages in Human Brain Development* on February 3, 2016. President INSA and President, German National Academy of Sciences, Leopoldina attended the symposium. Around 10 scientists from Europe and 11 scientists from India participated in the symposium.

Visit of Overseas Delegates to INSA

- Professor Venkatraman Ramakrishnan, President, The Royal Society, London visited India during December 29, 2015 - January 11, 2016. During his visit, he delivered the Jawaharlal Nehru Birth Centenary Medal Lecture (2016) of INSA on *One hundred years of Visualizing Molecules* at IISER Mohali, Chandigarh on January 4, 2016. On January 7, 2016 he delivered Rutherford Memorial Lecture of The Royal Society, London on *The use of Recent Advances in Electron Microscopy to Study Ribosome Structure* at JNU Convention Centre, New Delhi.

Professor Ramakrishnan also delivered a public lecture on *On nobody's word: evidence and modern science* at KK Birla Auditorium, FICCI, New Delhi on January 8, 2016. Later he visited Rashtrapati Bhawan to meet with the President of India. President and Vice-Presidents of INSA also accompanied him.

On January 10, 2016, Professor Ramakrishnan visited INSA and had discussions with President and other officers of INSA for further strengthening the scientific bilateral cooperation between INSA and the Royal Society London.

- A three member German delegation of German National Academy of Sciences Leopoldina comprising of Professor Dr Jörg Hinrich Hacker, President; Dr Marina Koch-Krumrei, Head, International Relations Department and Dr Ruth Narmann, Deputy Head, International Relations Department visited the Academy on February 4, 2016. They had a discussion meeting with Dr Chandrima Shaha, Vice-

President, INSA; Professor Subrata Sinha, Director, National Brain Research Centre, Manesar; Professor NK Gupta, Indian Institute of Technology Delhi, Delhi and Dr Alok K Moitra, Executive Director, INSA about the future scientific activities under INSA-GNASL bilateral exchange programme on the following selected topics of mutual interest to both the Academies:

- Genome Editing
- Anti-Bacterial/Anti-Microbial Resistance/ Drug Resistance
- Climate Change in Relation to Agriculture, Health and Energy

Overseas Visits by INSA Delegations

- Dr Chandrima Shaha, Vice-President, INSA and Professor Subrata Sinha, National Brain Research Centre, Manesar attended, on the invitation of Professor Takashi Onishi, President, Science Council of Japan, the G-Science Academies Meetings held in Tokyo, Japan during February 17-19, 2016. During the meeting, three joint statements were released on the following topics of discussion - i) Brain science and mental health ii) Disaster risk reduction and iii) Scientist development for all.
- Professor JP Mittal, Vice President, INSA visited, on the invitation of President, Academy of Science of South Africa (ASSAf), South Africa to participate in the IAP Conference on Science Advice and 8th General Assembly hosted by the Academy of Science of South Africa in Hermanus, South Africa during 28 February - March 2, 2016.

Support for Visiting Scientists during December 2015 - February 2016

14 Indian scientists were supported by the Academy for attending various international conferences abroad.

Four foreign scientists visited India under INSA Bilateral Exchange Programme.

SCIENTIFIC MEETINGS DURING DECEMBER 2015 - FEBRUARY 2016

- President INSA attended the 4th Appropriate Authority meeting for 36th IGC (International Geological Congress) 2020 that was held on December 8, 2015 at Shastri Bhawan, New Delhi.
- The Executive Committee Meeting of Scientific Committee on Oceanic Research (SCOR) was held at CSIR-National Institute of Oceanography, Goa during December 6-9, 2015 under the convenership of Dr M Dileep Kumar, Chemical Oceanography Division, CSIR-NIO, Goa.
- The meeting of the Committee on Data for Science & Technology (CODATA) National Committee was held on February 4, 2016 in the Academy premises.
- The Science International 2015 released an accord on "Open Data in a Big Data World" on December 7, 2015 at Pretoria, South Africa in conjunction with the First Science Forum. The full details of the accord are available at <http://www.interacademies.net/News/PressReleases/29194.aspx> and <http://www.icsu.org/science-international>.

SCIENCE & SOCIETY PROGRAMME

Indian National Young Academy of Sciences (INYNAS)

The INYNAS established by INSA conducted the first Science Camp at Choksi Hall, Indian Institute of Science, Bengaluru during December 2-3, 2015. The camp was later held at Jawahar Navodaya Vidyalaya, Bangalore Urban (JNV) on December 4, 2015. This camp invited 50 students from JNV from 9th to 11th standards who were given two lectures on: i) At the interface of Physics and Chemistry on nanomaterials and ii) At the interface of Chemistry and Biology on the functioning of Brain and related diseases. Various experiments in physics, chemistry and biology, relating to everyday activities, were demonstrated.

The first General Body Meeting of INYNAS was held February 27, 2016 at INSA. Members discussed

future activities and plans to develop the INYAS website and other programmes.

National Science Day Lectures 2016

Indian National Science Academy in collaboration with The World Academy of Sciences- National Chapter celebrated the National Science Day on February 29, 2016. Five public lectures were organized at University of Delhi (South Campus), JNU and IIT-D. Professor Anil Kumar Gupta, IIM-Ahmedabad and founder of Honey Bee Network delivered a lecture on *Is Autopoietic Model of Creativity and Innovation Self-limiting?* at DU and JNU. Professor Ashok Jhunjhunwala, Department of Electrical Engineering, Indian Institute of Technology Madras, Chennai delivered lecture on *How does India get 50% of its Electrical Power from Solar by 2030?* at JNU & IIT-D. Professor MS Raghunathan, Department of Mathematics, Indian Institute of Technology Bombay, Mumbai delivered a lecture on *Making Mathematics in India* at DU.

AWARDS AND HONOURS TO INSA FELLOWS

The following Fellows of the Academy have been awarded with Civilian Awards by the Government of India.

Padma Bhushan

Dr AV Rama Rao

Padma Shri

Professor Dipankar Chatterji

Professor ON Srivastava

Professor GD Yadav

RECENT PUBLICATIONS OF THE ACADEMY

Proceedings of the Indian National Science Academy

Volume 81, No. 5 (December 2015) issue of *Proceedings* has been published. This issue contained three review articles, six research papers, three book reviews, a meeting report and academy sponsored reports by Madhav Gadgil and Chinmaya S Rathore. The issue also included an obituary of late Professor TN Ananthkrishnan by Dr Anantanarayanan Raman, Charles Sturt University, New South Wales, Australia.

Indian Journal of History of Science (IJHS)

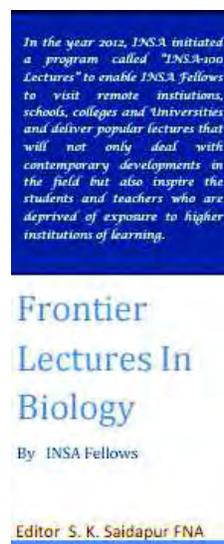
Volume 50, No. 4 (December 2015) of the 50th Anniversary of *IJHS* has been published. The main papers in the issue include articles on Sacrificially important trees from *Kṛṣṇa Yajur Veda Saṃhitā*; Ayurvedic medicinal plant- *Brāhmi/Aindri*; A survey of *Zijes* (astronomical mathematical tables for calculation positions of planets) from the sub-continent; Nīlakaṇṭha's Value of R-Sine for twenty four degrees and HISTEM (History of Science, Technology, Environment & Medicine) and the Making of Modern India. Under the Historical notes section, papers on the history and philosophy of Indian Medicine and Trigonometrical survey relating to naming of peak XV as Mt. Everest has been discussed. The other regular features like book reviews, project reports and news from History of Science are also included in the issue.

Indian Journal of Pure and Applied Mathematics (IJPAM)

Volume 46, No. 6 (December 2015) issue of *IJPAM* has been published.

Frontier Lectures in Biology

An e-book, edited by Professor SK Saidapur, formerly VC, Dharwad University, Karnataka and published by the Academy contains twenty two popular lectures delivered by INSA Fellows at remote institutions, schools, colleges and universities in India under 'INSA 100 lectures'. This e-book is available on INSA website www.insaindia.org.



OBITUARY

Taracad Narayanan Ananthkrishnan

TN Ananthkrishnan (*b* 15 December 1925; *d* 07 August 2015) obtained PhD and DSc degrees from the University of Madras specializing in Thysanoptera or thrips. Subsequently he worked on Insect-Plant Interaction at the University of Georgia. He was Professor and Head of the Department of Zoology, University of Madras, Chennai. He later served as Director of Zoological Survey of India, Kolkata.



Professor Ananthkrishnan established the Entomology Research Institute at the Loyala College, Chennai. He contributed significantly in the field of Thrips taxonomy and ecology as well as on diverse aspects of Insect - Plant Interactions, including Cecidology or gall studies.

Professor Ananthkrishnan received Rafi Ahmed Kidwai Award of ICAR, Pitambar Pant National Environment Award by Ministry of Environment and Forests, Dr KC Mehta Memorial Award by National Academy of Agricultural Science New Delhi; JC Bose Memorial Award of Indian Science Congress, Sundarlal Hora Medal and Golden Jubilee Commemoration Medal of INSA. He was a Fellow of Indian Academy of Science, Bangalore and National Academy of Agricultural Sciences, New Delhi.

Professor TN Ananthkrishnan was elected to the Fellowship of the Indian National Science Academy in the year 1977 and served in its Council as Member during 1983-85.

Biswa Nath Das

Biswa Nath Das (*b* 01 December 1930; *d* 07 August 2015) obtained PhD in Electronics and Electrical Communication Engineering from Indian Institute of Technology, Kharagpur. Besides working for a short stint at Science College, Kolkata, throughout his life, he served at IIT, Kharagpur superannuating as Professor of E & ECE. He was later a National Expert in Society for Applied Microwave Electronics Engineering and Research (SAMEER) Center of Electromagnetics, Taramani, Chennai. He served as Emeritus Scientist (CSIR), Emeritus Professor, Senior Scientist and INSA Honorary Scientist all at IIT, Kharagpur.



Professor Das was a very reputed teacher and a keen researcher. His research findings include beam shaping of phased-array using phase-only control; design and fabrication of end-lancher type of waveguide to coaxial line transition; long aperture coupled waveguide couplers—theory and application amongst others. He set up laboratories for high-level research in Microwave and Antenna Engineering and transformed IIT, Kharagpur into a major center of Microwave and Antenna Engineering in the country.

Professor Das was awarded Silver Jubilee Research Award of IIT, Kharagpur, Distinguished Fellowship Medal of the Society of Electronics Engineering, Professor Brahm Prakash Memorial Award and PC Mahalanobis Medal of INSA. He was a Fellow of Indian National Academy of Engineering, Institution of Engineers; and a Founder Fellow of West Bengal Academy of Science and Technology.

Professor Biswa Nath Das was elected to the Fellowship of the Indian National Science Academy in the year 1985 and served in its Council as Member during 1993-95.

Parameswaran Hariharan

Parameswaran Hariharan (*b* 26 December 1926; *d* 25 July 2015) obtained PhD for his work on photographic resolving power from National Physical Laboratory. Subsequently, he became Director of the laboratories at Hindustan Photo Films, Ootacamund and Senior Professor at the Indian Institute of Science (IISc), Bangalore. He later joined CSIRO in Sydney and retired as a Chief Research Scientist.



Professor Hariharan's research contributions include the design of a new three-beam interferometer, the double-passed Fabry-Perot interferometer, and the first practical radial-shear interferometer. He also made major contributions to digital phase-shifting interferometry, including a method for absolute measurements of deviations from flatness. He was the first to demonstrate achromatic phase shifting using the geometric phase and made significant contributions to the study of quantum effects in optical interference.

Professor Hariharan was a recipient of DSc (*hc*) of Sydney University, the Joseph Fraunhofer Medal of the Optical Society of America, the Thomas Young Medal of the Institute of Physics, London, the Dennis Gabor Award of SPIE, the Henderson Medal of the Royal Photographic Society, the Walter Boas Medal of the Australian Institute of Physics and Gold Medals of the Australian Optical Society and SPIE. He was a Fellow of the Indian Academy of Sciences, Bangalore, the Optical Society of America, and the Royal Photographic Society.

Professor Parameswaran Hariharan was elected to the Fellowship of the Indian National Science Academy in the year 1973.

Venkataraman Jagannathan

Venkataraman Jagannathan (*b* 15 June 1921; *d* 02 December 2015) obtained his PhD from Stanford University in the field of Chemistry. He joined the National Chemical Laboratory, Pune from where he retired as Director in 1981. He also worked at the National Institute of Health, Baltimore. He set up a laboratory for plant genetic engineering and worked as Head, Biotechnology at the Tata Energy Research Institute, New Delhi.



Dr Jagannathan discovered that phosphoglucomutase contained a phosphate group, which could be reversibly transferred to its substrates. His group discovered several new enzymes and purified, for the first time, enzymes such as brain hexokinase, acetylcholine esterase and hydrogenase. He collaborated with Dr GN Ramachandran, on the utilization of cellulose for the production of alcohol and protein. His contributions in the field of plant tissue culture included the first successful micropropagation of mature teak and eucalyptus, virus elimination from sugar cane, propagation of elite cardamom, turmeric and other plants. His group also established a pilot plant for the production of 250,000 tissue culture plants of importance to forestry.

Dr Jagannathan received the Distinguished Alumnus Award of the Indian Institute of Science, VASVIC Award (1978) and Shri Om Prakash Bhasin Award (1988). He was a Fellow of the Indian Academy of Sciences, Bangalore and the Founder Member of the Plant Tissue Culture Association of India.

Dr Venkataraman Jagannathan was elected to the Fellowship of the Indian National Science Academy in the year 1973.

Srinivasacharya Raghavan

Srinivasacharya Raghavan (*b* 11 April 1934; *d* 07 October 2014) received PhD from Bombay University in Mathematics. He served as Professor at Centre for Advanced Study in Mathematics, Bombay University. In addition, he worked as Visiting Scientist at the Institute for Advanced Study, Princeton, Goettingen University and at SPIC Mathematical Institute, Chennai.



Professor Raghavan estimated the Fourier coefficients of Siegel modular forms yielding a generalization of Hardy-Ramanujan-Hecke asymptotic formula for representation by positive definite quadratic forms. His other notable findings include the determination of the structure of singular Siegel modular forms, application of Hecke's Grenzprozess to analytic continuation of non-holomorphic Eisenstein series of degree 3 as forerunner of Weissauer's deep generalisation, Ramanathan-Raghavan's analogue over algebraic number fields of Oppenheim's result on density of values of irrational indefinite quadratic (zero) forms, and Dani-Raghavan's result on density of irrational euclidean frames under familiar discrete groups following Kronecker and Rangachari-Raghavan's investigation of Ramanujan's integral identities.

Professor Raghavan was awarded the SS Bhatnagar Prize for Mathematical Sciences. He was a Fellow of the Indian Academy of Sciences, Bangalore.

Professor Srinivasacharya Raghavan was elected to the Fellowship of the Indian National Science Academy in the year 1978 and served in its Council during 1979-81.

Kanakanahalli Ramachandra

Kanakanahalli Ramachandra (*b* 18 August 1933; *d* 17 January 2011) obtained PhD from Bombay University. He then joined Tata Institute of Fundamental Research from where he superannuated as Senior Professor in 1998 and thereafter, was INSA Senior Scientist during 1998-2000.



Professor Ramachandra worked on some of the most difficult and central problems of analytic number theory – classified theory, transcendental numbers, diophantine approximations and prime number problems. His work on classified theory relating to construction of these fields through values of analytic fields was a significant extension of the important classical work of Hasse, Hecke and Siegel. In the theory of transcendental numbers, he had obtained important results concerning the nature of numbers of the type α^β where α and β are both transcendental. He built one of the finest schools of analytic number theory at the TIFR.

Professor Ramachandra received many awards such as the Meghnad Saha Award, Srinivasa Ramanujan Birth Centenary Award. He was a Fellow of Indian Academy of Sciences, Bangalore, Biographical Academy of Commonwealth and National Academy of Sciences (India), Allahabad. He was President, Ramanujan Mathematical Society and Vice-President, Calcutta Mathematical Society. He was a Life Member of Indian Mathematical Society, Ramannan Mathematical Society and Founder Member, Society for Scientific Values.

Professor Kanakanahalli Ramachandra was elected to the Fellowship of the Indian National Science Academy in the year 1974.

Subramania Ranganathan

Subramania Ranganathan (*b* 02 February 1934; *d* 08 January 2016) received his MSc from Madras University. After a brief stint in the Biochemistry Department at CLRI, Chennai, he pursued his studies at the Ohio State University where he held the Sloan Kettering Foundation



Fellowship for three years. He was elected to the Phi Beta Kappa Society and received his PhD under the guidance of Harold Shechter. Professor Ranganathan joined the Chemistry Department, IIT Kanpur and held various academic positions before retiring in 1994. He was INSA Senior Scientist, first at RRL Trivandrum and then at Indian Institute of Chemical Technology (IICT), Hyderabad where he also worked as INSA Honorary Scientist.

While working with Woodward, Professor Ranganathan played a key experimental role in the development of Woodward-Hoffmann Rules in the course of Vitamin B₁₂ synthesis. He completed the total synthesis of Cephalosporin-C. His major research contributions involve organic synthesis, reaction mechanisms, protein engineering, crafting of new reagents and design of new reactions, non-covalent self-assembly, protein evolution, role of zinc in molecular biology and biosilicification.

Professor Ranganathan was conferred with many prestigious awards such as SS Bhatnagar Award, Silver Medal by Chemical Research Society of India, RC Mehrotra Endowment Gold Medal, INSA Teachers Award and Professor S Swaminathan 60th Birthday Commemoration Lecture of INSA Lifetime Achievement Award by Chemical Research Society of India besides others. He was also elected Fellow of the Indian Academy of Sciences, Bangalore, National Academy of Sciences (India), Allahabad, Honorary Professor of Jawaharlal Nehru Centre for Advanced Scientific Research and President of the Indian Society of Bioorganic Chemists.

Professor Subramania Ranganathan was elected to the Fellowship of the Indian National Science Academy in the year 1981.

Vallurupalli Sita Raghavendra Rao

Vallurupalli Sita Raghavendra Rao (*b* 01 February 1931; *d* 26 September 2013) did his PhD from Osmania University, Hyderabad specializing in biopolymers. He served as the Reader in Biophysics, University of Madras and



Professor, Molecular Biophysics Unit, Indian Institute of Science, Bangalore. He was ASTRA Professor in Biological Sciences and Visiting Scientist, NIH, USA.

Professor Rao was a specialist in carbohydrate structure and, in particular, the conformation and activity of polysaccharides and related biomaterials. He was the first to develop methods for investigating the structures of oligosaccharides and long-chain polysaccharides by using the idea of dihedral angles and of the bonds meeting at the bridge oxygen. The most significant among Rao's contributions were the studies on cell-wall polysaccharides and the action of antibiotics, like penicillin and cephalosporin on them, leading to an extremely satisfactory theory of the mode of action of the antibiotics, and of their resistance to degradative enzymes.

Professor Rao received Sir JC Bose Award for Life Sciences. He was a Fellow, Indian Academy of Sciences, Bangalore.

Professor Vallurupalli Sita Raghavendra Rao was elected to the Fellowship of the Indian National Science Academy in the year 1981.

Chintala Raja Ram Mohan Reddy

Chintala Raja Ram Mohan Reddy (*b* 16 January 1929; *d* 12 December 2012) obtained MD (Pathology), PhD (Pathology) from Andhra University specializing in Cancer pathology. He received DSc (Pathology) and DSc (*hc*) from Andhra



University and NTR Health Universities. He worked in the AP Medical Services and retired as Director of Medical Education at Visakhapatnam. After retirement, he worked in many corporate hospitals as Senior Consultant Pathologist.

Dr Reddy's interest was mainly on the habit of reverse smoking and its relation to carcinoma of palate. Extensive field and pathological studies showed the intimate relationship between the habit and cancer. At Kurnool, where he worked for more than a decade, his interest was on Dracontiasis, Hydatid disease, Cardiomyopathies and Cystic Fibrosis of Pancreas.

Dr Reddy won the Sandoz Oration Award of ICMR and Hari Om Ashram Award of the Medical Council of India. He was elected Fellow of the Indian Academy of Sciences, Bangalore, and Indian College of Pathologists.

Dr Chintala Raja Ram Mohan Reddy was elected to the Fellowship of the Indian National Science Academy in the year 1985.

ANNOUNCEMENTS

INSA TEACHERS AWARD – 2016

Call for Nominations

The Academy has instituted the INSA Teachers Award to recognize and value excellence, consistency and high level of teaching in Indian Colleges, Universities and Institutions. The award aims to recognize and honour teachers who have provided guidance, inspiration and mentored students to take up careers in Science and Technology. All disciplines of Science and Technology including Medical & Engineering Sciences come under the purview of this award. The maximum number of awards is 12. The awardees shall receive a scroll, a cash award of Rs. 50,000/- and a one-time book grant of Rs. 20,000/-.

The nominees should be teaching or have taught till retirement in India, with at least 20 years of teaching experience at undergraduate and/or at postgraduate level in any recognized College/University/Institution. Any teacher below the age of 55 years, as on December 31, 2015 shall be eligible for being nominated.

A teacher may be nominated by Fellows of INSA, IASc, NASI and/or INAE, Principal of a College, Vice-Chancellor of a University, Director of an Institution, a colleague or by a former student who is associated with an academic/R&D institution. The nominators may forward only one nomination in a year.

The **last date** for receipt of nominations is **May 31, 2016**. For further details and nomination proforma, please visit our website **www.insaindia.org**.

Proposal for Lectures in the Remote/Rural Areas

The Academy has launched a programme under which INSA Fellows, Young Scientists & Teachers' Awardees are encouraged to deliver Popular Lectures to young students and teachers of schools and colleges in remote/rural areas in India.

Proposals are invited from Fellows, INSA young scientists and INSA teacher awardees 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** and to **sci-soc@insa.nic.in** at the earliest.

Nomination for Election of Fellows, Foreign Fellows and Pravasi Fellows

Nominations are invited from the Fellows of INSA for election of Fellows, Foreign Fellows and Pravasi Fellows for the year 2017. Nomination forms can be downloaded from the INSA website **www.insaindia.org**.