

Chintamani Nagesa Ramachandra Rao



Chintamani Nagesa Ramachandra Rao was born on June 30, 1934 in Bangalore, India. Prof. Rao obtained his bachelors degree at University of Mysore in 1951 and a masters from Banaras Hindu University in 1953. He obtained his Ph. D. in 1958 from Purdue University and D. Sc from Mysore University in 1961. Prof. Rao is considered as one of the world's foremost solid state and materials chemists. Prof. Rao began his academic career with a variety of high end studies on spectral and structural properties of designer molecules in material science. He has made prolific and sustained contributions to the development of the field over five decades. His work on transition metal oxides has led to basic understanding of novel phenomena and the relationship between materials properties and the structural chemistry of these materials. Prof. Rao was one of the earliest to synthesize two-dimensional oxide materials such as La_2CuO_4 . His work has led to a systematic study of compositionally controlled metal-insulator transitions. Such studies have had a profound impact in application fields such as colossal magneto resistance and high temperature superconductivity. Oxide semiconductors have unusual promise. Prof. Rao has published over 1400 research publications and authored 39 books. Prof. Rao's current research interests include synthesis and characterization of designer solids with novel structures and properties. He is also interested in basic and applied research on nanoparticles and nanoparticle assemblies. Prof. Rao is currently working as Honorary President of the Jawaharlal Nehru Centre for Advanced Scientific Research and Honorary Professor at the Indian Institute of Science, Bangalore. He was appointed chair of the Scientific Advisory Council to the Indian Prime Minister in January 2005. He is also the chairperson in the empowered committee of the 'National Agricultural Innovative Project' of Indian Council of Agricultural Research (ICAR).

Prof. Rao became the first recipient of the India Science Award 2004 instituted by the Government of India for his pioneering contributions to solid state and

materials chemistry. He helped find, establish and develop this area more than any scientist internationally. Prof. Rao, a winner of the 'Padma Vibhushan (1985)' and the 'Padma Shri (1974)', was declared 'Chemical Pioneer' by the American Institute of Chemists. Prof. Rao was awarded Dan David Prize in 2005, by the Dan David Foundation, Tel Aviv University, which he shared with Prof. George Whitesides and Prof. Robert Langer. In 2005, he was conferred the title Chevalier de la Legion d'Honneur (Knight of the Legion of Honour) by France, the highest civilian award given by the French Government. Prof. Rao is a foreign member of the U. S. National Academy of Sciences, American Academy of Arts and Sciences.

Prof. Rao serves as editorial board member of several internationally reputed journals like Chemical Physics Letters, Modern Physics Letters, Journal of Solid State Chemistry, Journal of Molecular Structure, Materials Research Bulletin, Proceedings of the Royal Society, Philosophical Magazine, Topics in Catalysis, Journal of Material Chemistry- An European Journal, Solid State Sciences, Chemistry of materials, ChemPhyChem, Journal of Nanoscience and Nanotechnology, Dalton Transactions, Small, Current Nanoscience, Chemical Society. Reviews, Bulletin of the Chemical Society of Japan, Journal of Cluster Science, Journal of Experimental Nanoscience, Chemistry- An Asian Journal.

Prof. Rao has received honoris causa doctorate degrees from 39 universities including Purdue, Bordeaux, Banaras, Mysore, IIT Bombay, IIT Kharagpur, Notre Dame, Novosibirsk, Uppsala, Wales, Wroclaw, Caen, Khartoum, Calcutta, Sri Venkateswara University and Desikottama from Visva-Bharati, Santiniketan.

Besides being a Fellow of the Indian National Science Academy and the Indian Academy of Sciences, Prof. Rao is a Fellow of the Royal Society, London, Foreign Associate of the National Academy of Sciences, U.S.A., Foreign Member of the Russian Academy of Sciences, French Academy of Sciences, Japan Academy as well as the Polish, Czechoslovakian, Serbian, Slovenian, Brazil, Spanish, Korean and African Academies and the American Philosophical Society. He is a Member of the

Pontifical Academy of Sciences, Foreign Member of Academia Europaea and Foreign Fellow of the Royal Society of Canada.

Among the various medals, honours and awards received by him, mention must be made of the Marlow Medal of the Faraday Society (1967), Bhatnagar Prize (1968), Jawaharlal Nehru Fellowship (1973), Sir C.V. Raman Award (1975), Centennial Foreign Fellowship of the American Chemical Society (1976), S.N. Bose Medal of the Indian National Science Academy (1980), Royal Society of Chemistry (London) Medal (1981), Honorary Fellowship of the Royal Society of Chemistry, London (1989), Hevrovsky Gold Medal of the Czechoslovak Academy (1989), Meghnad Saha Medal of the Indian National Science Academy (1990), Blakett Lectureship of the Royal Society (1991), CSIR Golden Jubilee Prize in physical sciences (1991), TWAS Medal in Chemistry (1995), Einstein Gold Medal of UNESCO (1996), Linnett Professorship of the University of Cambridge (1998), Centenary Lectureship and Medal of the Royal Society of Chemistry, London (2000), the Hughes Medal of the Royal Society, London, for original discovery in physical sciences (2000), Karnataka Ratna (2001) by the Karnataka Government, the Order of Scientific Merit (Grand-Cross) from the President of Brazil (2002), Gauss Professorship of Germany (2003), the Somiya Award of the International Union of Materials Research (2004), Lifetime achievement award of Indian Science Congress (2004), Hony. Fellowship of IACS (2005), Medal of Honor of Chemical Research Society of India (2005), Pinnamaneni Award for Science (2005), Sri Chandrasekarendra Saraswati National Eminence Award for Science (2005) and L. Singhanian-IIM Lucknow Award for leadership in science and technology (2005).

Prof. Rao is National Research Professor of India, President of The Academy of Sciences for the Developing World (TWAS), Member of the Atomic Energy Commission of India and Chairman, Indo-Japan Science Council. Prof. Rao was President of the Indian National Science Academy (1985-86), the Indian Academy of Sciences (1989-91), the International Union of Pure and Applied Chemistry (1985-97), the Indian Science Congress Association (1987-88), the Materials Research Society of India (1989-91) and Chairman, Advisory Board of the Council of Scientific

and Industrial Research (India). He was the Director of the Indian Institute of Science (1984-94), Chairman of the Science Advisory Council to Prime Minister Rajiv Gandhi (1985-89) and Chairman, Scientific Advisory Committee to the Union Cabinet (1997-98) and Albert Einstein Research Professor (1995-99).

Prof. Rao held several important positions in various Government bodies and worked for development of the science and technology research in India. He served as member, University Grants Commission; Chairman, Advisory board, CSIR; President, Indian Science Congress; President, Indian Academy of Sciences; President, Indian National Science Academy; Member, Executive Board, International Council of Science (ICSU); Chancellor, Assam University; President, IUPAC; Chancellor, North-Eastern Hill University; Director, Reserve Bank of India. He was member, Tata Institute of Fundamental Research; Chairman, Board of Governors; Indian Institute of Technology, Kanpur; Chairman, Indo-Russia Long Term Programme in Science and Technology; Chairman, Indo-Japan Science Council; Founder President, Material Research Society of India; Founder President, Chemical Research Society of India; Member, Executive board, Science Institutes Group, Princeton; Member, Atomic Energy Commission of India.

Prof. Rao is known for his gifted energy for doing science and visited first time Indian Statistical Institute on 6th March 1992 to deliver the Convocation Address. Title of the address was “Three exciting areas of Experimental Physical sciences: High temperature, superconductors, metal clusters and super-molecules of carbon”. He was appointed as the chairman of the review committee of ISI in 2003.

Prof. Rao married Indumati Rao and they had two children named Suchitra and Sanjay. Their son-in-law, Dr. K. N. Ganesh is an eminent researcher in National Chemical Laboratory, Pune. Prof. Rao and two grandchildren are- Karthik and Suguna.

Delivering a lecture on the occasion of the India Science Award 2004 Prof. Rao underlined the need for India to invest in nanotechnology research, a new area of science that was bound to have powerful effect in the next decade. With several

developed countries already investing huge amounts in nano-research, the time had come for the country to enter the field on an equal footing. He remarked "We should not merely receive the fruits of research, we should start contributing." Prof. Rao commented that while sensors in different areas including the biological and medical fields were likely to be a reality in the coming days, the research on their effects in other fields was also giving exciting results.

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