

Turaga Sundara Rama Prasada Rao (1939–2022)

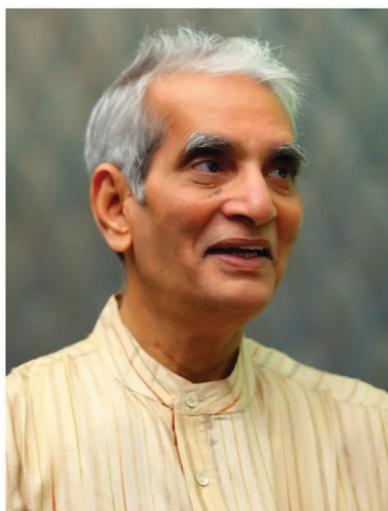
Dr Turaga Sundara Rama Prasada Rao, fondly known as Dr Prasada Rao, an accomplished catalysis scientist, petroleum technologist and a science manager of distinction, passed away on 7 April 2022, at the age of 83 in Hyderabad, India.

Prasada Rao was born on 20 January 1939 in Ganti Pedapudi and raised in Avidi, both small villages in the East Godavari district, Andhra Pradesh. He rose from humble origins to occupy some of the exalted positions in public life all through the sheer dint of hard work, perseverance, persistence and commitment to goals. He had his early education in Avidi and obtained his B.Sc. Honours and M.Sc. degrees in chemistry from Andhra University, Waltair. He continued in the same University and obtained his Ph.D. degree in inorganic chemistry in 1967 under the guidance of Professor M. N. Sastry.

Subsequent to his doctoral degree, Prasada Rao joined the Fertilizer Corporation of India R&D Centre in Sindri, Bihar, where he was involved in the development of steam reforming and other fertilizer catalysts. In 1974, he moved to the newly established R&D Centre at Indian Petrochemicals Corporation Limited (IPCL), Baroda, to build a Catalysis Science and Technology Department focused on petrochemical catalysts, I first met him during this time, and we worked together as colleagues at IPCL for close to 15 years. This friendship continued uninterrupted till his demise. In 1990, Prasada Rao was appointed as the Director of CSIR-Indian Institute of Petroleum (IIP), Dehradun, a responsibility he discharged with distinction till his superannuation in 1999. He founded a consulting company, Sarasijam Technologies, and was active in industrial consulting for both global and Indian oil, gas and petrochemical companies till the last days of his life. He also co-founded a company, SciTech Patent Art in Hyderabad, to engage in areas related to patent search, technology landscaping and building big data/machine learning tools for the global Intellectual Property and R&D communities. Established in 2002, with one client, SciTech now serves over 300 clients around the world. Prasada Rao had the prescience to see a business opportunity in the emerging importance of IP in a knowledge economy and the cost arbitrage that high-quality talent offered in India to build a sustainable business and grow it worldwide. He thus

belonged to the rare breed of individuals in India who combined expertise in science and technology (S&T) with the spirit of entrepreneurship and business acumen.

Prasada Rao's professional journey can be divided into three phases. One, as a scientist in the area of heterogeneous catalysis; second, as a science manager and lastly, as an independent consultant and entrepreneur. To each phase of his professional life, he brought energy, zeal and a commitment to be the best.



At IPCL his focus was on the development of indigenous petrochemical catalysts and adsorbents. He established a state-of-the-art catalysis research facility at IPCL. He played a key role in the acquisition of a well-established CATAD plant from M/s ACC, Mumbai, by IPCL and oversaw the manufacture of several catalysts and adsorbents developed by IPCL R&D and also by national laboratories. He played a pivotal role in collaboration with CSIR-National Chemical Laboratory, Pune, to develop, scale up and introduce domestically manufactured zeolite catalyst for naphtha reforming and isomerization at the aromatics plant of IPCL in 1985. Prasada Rao and his team succeeded in developing several catalysts and putting them into commercial operations. These include paraffin dehydrogenation catalyst for the manufacture of linear olefins, a feedstock for linear alkyl benzenes, adsorbent for removal of aromatics from food-grade hexane, catalyst for toluene disproportionation to xylenes and ammoxidation catalyst for converting propylene to acrylonitrile. In the mid-eighties,

most of these catalysts were the preserve of well-known multinational companies who held the technologies close to their heart with monopoly pricing. Prasada Rao took on the challenge of developing these catalysts and translating them from small bench-scale reactors to full-scale commercial plant operations.

After he moved to IIP, Dehradun as the Director, Prasada Rao was deeply involved in the development of several petroleum refining and petrochemical technologies. Worthy of special mention are the production of benzene/toluene through sulpholane extraction, bi-metallic Pt-Re reforming catalyst, process technology for food-grade hexane, low air-pressure film burner, sulpholane production technology and soaker visbreaking technology. Many of these technologies were transferred to several refineries and commercialized. As a science manager, he rejuvenated the working culture and infused new energy into IIP by inspiring the students and staff to pursue high-end scientific research, building collaborations and partnerships with Indian and global oil, gas and petrochemical companies, increasing scientific publications and patent filing, and resolving long-standing union and staff-related problems. Prasada Rao was positively aggressive, charismatic and benevolent. He administered the affairs of the laboratory using his head and heart. His concern for the welfare of the employees was legendary and he would greet even the lowest level employees of the laboratory by their names. He was kind, empathetic and transparent in dealing with people. Prasada Rao's wry humour, booming voice and collegial informality made even his worst opponent a friend. He was an extrovert, a people's man, always extending a helping hand to those deserving. When he believed in a cause, he was tenacious, never to let go.

Prasada Rao authored over 100 scientific papers, has been cited as an inventor in about 50 patents and has supervised the Ph.D. thesis of 10 students. He won several recognitions for his scientific and industrial contributions. To mention a few, he was elected to the fellowship of the Indian Academy of Sciences, Bengaluru and the Indian National Academy of Engineering (INAE), New Delhi. He was recognized with the life-time achievement award of the INAE, the PETROTECH life-time achievement award by the Ministry of

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Petroleum and Natural Gas, Government of India, the FICCI award in S&T, K. G. Naik Gold Medal of the MS University of Baroda and Om Prakash Bhasin award for S&T. He was the founder of the Catalysis Society of India and played a dominant role in shaping catalysis R&D in India for over five decades.

More than all his scientific accomplishments and accolades, Prasada Rao was a person with sterling human qualities. He was kind-hearted and treated everyone, small or big, with enormous respect. In his later years, he was deeply involved in the upliftment of Avidi, the village where he

was born, and set up a Trust for development programmes on science education, hygiene, cleanliness, healthcare and pension for the elderly, leading to its designation as a Smart Village by the Andhra Pradesh Government. In spite of reaching great heights in his professional life, Prasada Rao never forgot his humble roots.

Prasada Rao's passing is a great loss to the catalysis science community in India and to the galaxy of students, associates and friends whom he loved and cherished. Those of us who have been fortunate enough to know and work with him closely have lost a dear friend. We will miss hear-

ing his booming voice on the telephone. As we mourn his demise, we should also celebrate Prasada Rao's life for the qualities that he enshrined and lived, a life full of purpose, zest, void of empty pretences, commitment to eternal values and humility.

Prasada Rao, leaves behind his wife, son and daughter.

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