

Thanks to the generosity of his brother Melkote Shivaswamy and his wife Usha, he was able to begin this second phase of his career in Muncie, IN. He transitioned to industry as a technical writer, a career in which he flourished until his retirement in 2005. In 1978, he and his family moved to Indianapolis, an area in which he lived and enriched the community. He worked at Value Engineering from 1978 to 1980, and then at Esterline Angus Instrument Corporation (1981–84), Regency Electronics (1985–86), and in various contract positions in the US defence industry. His love for physics continued, as he taught courses as Adjunct Professor at Indiana Central University (now known as University of Indianapolis) from 1986 to 1990. It is indeed fitting that in 2019 he returned to the Columbus, Ohio area to where he first immigrated in 1960.

Ramaswamy has made important contributions to nuclear physics especially the study of nuclear energy levels by beta-ray and gamma-ray spectroscopy and the elucidation of nuclear structure effects by the study of internal conversions and electric monopole transitions. He explored the possibility of neutrino detection using indium-113m. He also initiated phase transition studies using positron annihilation technique.

In addition to his technical career and background, Ramaswamy was a prolific

punster and humorist. He entertained his friends at social gatherings, and to this day, some of his former BITS students remember how he wove humour into otherwise dry physics lectures. His first foray into written humour began humbly with a column titled ‘Potpourri’, published in the *Muncie Weekly News*. He followed this with ‘Cents of Humor’ in the Indy East community paper, and a radio segment ‘As the Word Turns’ that aired on WGRT-FM in 1982.

Upon the urging of friends, he wrote and self-published *India-Na* in 1982, a compilation of some of his best puns – several poking gentle fun at the sometimes subtle, sometimes jarring contrasts between Indian and American popular culture. The literary angle was a major focus of his second act in the US – he served as editor for the India Association of Indianapolis newsletter (*Bharati*). He was a regular columnist for the *Indianapolis Star* for the past 3 decades, and his last ‘Faith & Values’ column appeared on Thanksgiving 2019. During this time, he published two additional books – *An Immigrant Celebrates America* in 2007, and *Vedanta through Drstanta* in 2013.

Ramaswamy developed a love and passion for Indian classical music during this time, specifically, the Carnatic style. He did not have formal training, yet this

did not stop him from teaching himself the difficult nuances of Tyagaraja’s compositions, and giving impromptu concerts. Singing bhajans was another pastime of his. He compiled a *Bhajan Mala* which served as the backbone of the Indianapolis bhajan group, and to this day is used by the Hindu Temple of Central Indiana (HTCI). He was extremely involved in the Indian community, as an active member of Geetha Mandal, HTCI, and the Carnatic Music Association of Indianapolis. He was also one of the founders of Mallige Kannada Koota.

As if music and writing did not keep him busy enough, Ramaswamy took pride in his walking pace. Not only did he do brisk walks every day, indoors or outdoors, he also participated in competitive walks and regularly placed in his age group.

Ramaswamy is survived by his wife Suneela (with whom he enjoyed 60 years of marriage), sons Rajesh and Sanjay, daughters-in-law Gita and Rashmi, and granddaughter Ashvini. He is also survived by 4 brothers and 2 sisters, along with numerous nieces, nephews, relatives, former students, colleagues, and friends.

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Tangirala Ramasarma (1932–2020)

Born on 13 May 1932, in Gudivada (Andhra Pradesh), Tangirala Ramasarma (TR) obtained his B Sc in Chemistry from the Andhra University in 1951. Subsequently his Diploma in Chemical Engineering was from Indian Institute of Science (IISc) in 1953 and Ph D in Biochemistry from the Bombay University in 1956, the work having been done at the institute under the guidance of K. V. Giri. He obtained a postdoctoral fellowship from the National Research Council of Canada in 1956, to work at the Prairie Regional Laboratory (PRL), Saskatoon, Saskatchewan, Canada. He moved to Madison, Wisconsin, USA in 1957 to work on mitochondrial electron transport and energy transduction with David Ezra Green at the famous Enzyme Institute. He joined the Biochemistry Department as a CSIR pool officer in 1959 and

served as a regular staff member from 1962 to 1992. He also served as the Dean, Science Faculty (1982–1984) as well as the Chairman, Department of



Biochemistry (1986–1989). He guided more than 30 Ph D students, many of whom have taken up faculty positions in various institutions within India and

abroad. Several of his students have succeeded as entrepreneurs in industry. One of the most important traits that students learned from him was to have passion for science and how to nurture that passion in others.

His main research interests included cholesterol–ubiquinone inter-relationship with special focus on the regulation of HMGCoA reductase, environmental stress and biochemical adaptation with special focus on mitochondrial function and enzyme regulation as well as the roles of vanadium as a biological oxidant. Protein folding and the hydrogen bond was his favourite preoccupation during his final years before death. His last paper was published a few days before his death. His work, described in over 200 publications, was well received both nationally and internationally as

judged, with his review on H₂O₂ being highly cited. He was internationally recognized for his work on mitochondria and on cholesterol biogenesis. He was Brettingham Visiting Professor in the University of Wisconsin, Madison, USA between 1979 and 1980. He was elected a Fellow of the Indian National Science Academy in 1989.

He has had several associates, most prominent among them being C. K. R. Kurup whose lab was closely linked to TR's lab. Both labs worked as one and took care of each other. J. D. Padayatty's lab joined for week-end seminars on Saturdays. Sadly, both his close colleagues have also left us. His close personal friend P. S. Sastry, a long-time faculty member of the department is also no more. To the very end, he was enthusiastic about science as always, sad about the loss of friends like Kurup, Padayatty and Sastry, and proud of the accomplishments of his students.

As a teacher, TR was an active proponent of Biochemical Education in India. He was one of the first organizers of Summer Schools in Biochemistry in

1962 at Srinagar as well as BEST (Biochemical Education for Students & Teachers) at several places including Pant Nagar (1985), Trivandrum (1986), Tirupati (1987), New Delhi (1988) and Izzatnagar (1989). During his stay at CDFD, Hyderabad as a 'Honorary Distinguished Chair' for almost 6 years, he is remembered by faculty associates and students as a 'great scientist, excellent teacher and a wonderful human being'. As a CSIR 'Senior Scientist' after superannuation, his love for teaching was the main inspiration behind the organization and popularization of a Seminar series named TRendys, which has now matured into a popular ongoing annual event sponsored by several institutions and university departments within the country.

He was deeply attached to the discipline of biochemistry and the department at IISc. During his later years, support from INSA enabled him to continue his association with the department. He often said, 'I will never leave biochemistry, even if biochemistry leaves me', a statement that rang true to the end. He

was seen discussing biochemistry at the Departmental centenary inauguration with his students, faculty, friends and conference participants, on 21 February 2020. Later he enjoyed the conference dinner. A few hours later, he passed away early the next day. He left us the way he would have liked to, spending time in his favourite place, the Department of Biochemistry at IISc, undoubtedly happy and content, at his numerous accomplishments and achievements in science, as a researcher, a mentor, and as a friend. He is survived by his son Chandrasekhar, daughter Sharada and wife, Indira whose hospitality will always remain etched in the memories of TR's friends and students.

R. MANJUNATH

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