

Subir K. Das (on electrolytes near criticality). Further, he maintained a scientific connection with E. S. Raja Gopal, whose laboratory at the Indian Institute of Science studied the critical properties of fluid mixtures. When Fisher visited Bangalore in 1974, H. R. Krishnamurthy accompanied him to the residence of a well-known sitar guru Rama Rao, under whom he took some lessons. The latter helped him to buy a sitar which he carried back and continued to play for years after. Incidentally, Fisher was also a very good player of Spanish guitar, and wrote a column in the *Banjo, Mandolin and Guitar (BMG)* magazine.

In 2007 he visited India again, and delivered the Homi Bhabha lecture at TIFR, on the subject of phase transitions. An amusing point: During his visit to Mumbai, he was accompanied by his wife Sorrel and her sister Jacinta, and the three of them stayed at Fariyas Hotel in Colaba. Finding the arrangement in the hotel room not quite opti-

mal, Michael moved the furniture around until he was satisfied. This sort of rearrangement was not unexpected, as it was an unusual but endearing habit he was well known for. See the informative and amusing article by Mermin⁸ for an account of similar incidents and other stories about Fisher.

Those who knew Michael Fisher will miss him greatly, and will recall especially the energy and exactitude he brought to bear on every scientific issue that came to his attention. In his passing, the scientific world has lost one of the luminaries of statistical mechanics, one whose influence on the subject will stay for decades to come.

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Nagaswami Venkatasubramanian (1932–2022)

Professor Nagaswami Venkatasubramanian, known to many of us as Dr NVS (and Babu to his family), one of the senior most and distinguished physical organic chemists of India, passed away on 28 July 2022, at the age of 90 in Issaquah, Washington, USA. It was just two weeks earlier (on 16 July) that he requested his son to call me. During the call from his hospital bed, he sounded vibrant and spoke with lucidity as we discussed everything under the Sun. With great affection, he recalled my years spent under his tutelage. In hindsight, I realize now that he knew the end was near and his conversation with me was his way of saying ‘goodbye’ with dignity and grace.

Venkatasubramanian was born on 25 April 1932, in Villivakkam, a suburb of Madras (now Chennai), Tamil Nadu, India. His father worked as a clerk in Southern Railways, and his mother taught music to complement the family income. NVS attended the Dharmamurthy Rao Bahadur Calavala Cunnan Chetty Higher Secondary School, Perambur and topped the class in SSLC. He then joined as a student of Intermediate in Presidency College, Madras, where he had the opportunity to interact with the legendary T. R. Govindachari, and that propelled him to take up chemistry as the subject of choice. After graduating with

M.A. in Chemistry from Presidency College in 1952 with flying colours, he was appointed as Lecturer at the Madras Christian College (MCC), Tambaram. This was a turning point in his career since he came under the influence of the doyen of physical organic chemistry, S. V. Ananthkrishnan, at MCC. He completed his Ph.D. programme under the tutelage of Ananthkrishnan, working on some facets of chromic acid oxidation of secondary alcohols.



NVS joined the Ramakrishna Mission Vivekananda College as the Head of the Department of Chemistry at the age of 29 and was responsible for starting the post-

graduate programme in Chemistry there. With him at the helm of affairs, the M.Sc. programme in the college produced 100% results year after year. He was instrumental in developing revolutionary pedagogy and initiating a full-fledged research programme in chemistry. This was a challenging task, considering the meagre resources and infrastructure available at his disposal. Nobody, including the Principal of the College, expected him to succeed in his research endeavours, and NVS proved everyone wrong. His determination, tenacity of purpose, perseverance and the will to succeed paid rich dividends in the following years.

With the skilled support of his research staff, NVS was able to set up a vibrant research group and elevate Vivekananda College to a world-renowned institution in Physical Organic Chemistry research during his tenure. He mentored 27 Ph.D. students, who in turn produced 35 more Ph.D. students. He encouraged his MSc students to take up research and persuaded his faculty colleagues to register for Ph.D. Within a few years, all the Faculty members in Chemistry of the postgraduate college became proud Ph.D. degree holders. To accomplish this feat in a small, private college under trying conditions is no mean achievement but the stuff of folklore! He became the Principal

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of the College in 1973 at the age of 41 and contributed extensively to the growth and development of the college in the following eight years.

NVS's research focus was mainly on physical organic chemistry with special emphasis on chemical kinetics related to oxidation chemistry and ester hydrolysis. His pioneering research contributions to understanding reaction mechanisms include – kinetics and mechanism of chromic acid oxidation of benzhydrol; Tl(III) acetate oxidation of cyclanols and bicyclo [2.2.1] heptan-2-ol; kinetics of chlorination of ketones by 1-chlorobenzotriazole; study of linear free energy relationship in the nucleophilic substitution at a benzylic carbon by an ambident nucleophile; kinetics of oxidation of benzoin by ceric ammonium nitrate; kinetic study of oxidation of fluorenes by ammonium meta vanadate; thallation of fluorenes; dipolar aprotic solvent effects in the hydrolysis of phenylmethane sulfonates; protic-aprotic solvent effects as newly suggested diagnostic tool in the E1CB pathway of ester hydrolysis; kinetics and mechanism of the oxidative decarboxylation of α -hydroxy acids by lead tetraacetate; an oxidative rearrangement in the reaction of aromatic amides with phenyl iodosylacetate; study of structure–activity relationships of some selected beta-adrenergic blocking agents; mechanism of alkaline hydrolysis of lactones; dipolar aprotic versus protic solvent effects as a diagnostic tool; alkaline hydrolysis of glycol esters : a newly suggested criterion in the assessment of anchimeric assistance. During his investigations, he even challenged some theories enunciated by well-established scientists from abroad and stood his ground.

NVS moved from academia to industry in 1981, working at the Indian Nitro Nobel Research Institute (INBRI), Bangalore for eight years, pursuing his passion as a researcher. Following his fruitful tenure at INBRI, he moved to Pondicherry University, where he started the Centre for Post-Graduate Studies and became its first Director in 1989. He officially retired from service in 1992. In 1997 he moved to the US to be with his family and continued to mentor and inspire his students all over the world.

In June 1961, I joined Vivekananda College as a student in the pre-university course.

The same year, NVS moved from Madras Christian College to Vivekananda College. During that time, I did not have the opportunity to meet or interact with NVS, who was then a Professor and Head of the Department of Chemistry. He did teach a course in organic chemistry for us in the third year of B.Sc. and a course on Reaction Mechanisms during M.Sc. All the students were in awe of this dashing young professor who made chemistry so elegant and simple. NVS used to give inter-collegiate lectures in physical organic chemistry for all the students of M.Sc. drawn from various colleges in the city of Madras. The student community eagerly looked forward to listen to his invigorating take on mechanistic organic chemistry. His command of the English language, clear diction, stylish attire and unique teaching style were legendary. Needless to say, he was the inspiration for my entry into the magical world of organic chemistry for pursuing research and teaching as a profession.

NVS was an exemplary role model for me and the scores of students who came into contact with him. He demonstrated how one person could make an enormous difference in the lives and careers of many youngsters. He had the supernatural gift of identifying and fostering talent. I was one of the beneficiaries of his benevolence over a period of time. It is rare to come across a strongly bonded relationship of pupils with the teacher for decades, like the one between NVS and his students.

NVS got involved with various other scientific organizations and contributed enthusiastically to their growth. He was the Co-founder and First Secretary of the 'Madras Science Association', organized weekly science meetings for schools and colleges and conducted Science Exhibitions for young students. He also served as the Chairman of the Madras Chapter of the Royal Society of Chemistry and organized a number of meetings under the auspices of the Society. His contributions to education and research have truly been the hallmark of a Champion and he was conferred the 'Champion of Chennai' award in 2017. In the same year, during the 54th Annual Convention of Chemists held in Surat, he was bestowed with the Lifetime Achievement Award of the Indian Chemical Society.

During his long, distinguished service in Vivekananda College, many colleagues fondly referred to him as 'Prestige Padmanabhan' of Viveka (a character played by the veteran actor Sivaji Ganesan in the Tamil movie 'Vietnam Veedu', known for his honesty, integrity, uprightness, grace, dignity and concern for the underprivileged). NVS was a paragon of virtues the Padmanabhan character summed up in the movie.

In the words of his son, Venkat Venkataratnam, 'NVS was deeply devoted to his immediate family that was made up of his loving wife of 71 years, Soundaram, two loving daughters, five devoted sons, two sons-in-law, five daughters-in-law, eleven grandchildren, three great-grandchildren. His caring and gentle demeanour towards his family will be his legacy. He also built lasting bonds with his sisters-in-law, brothers-in-law, cousins, nephews, grandnephews, grandnieces, and other relatives. He was a true role model for everyone in the family. Realizing that education was the single biggest equalizer in society, he, along with the support provided by his loving wife, ensured that all his children got the best education possible. They became successful doctors, engineers, accountants, and computer science specialists.'

Three days before NVS passed on, his son's friend had an informal chat with him lying in the hospital bed. The video chat recalling his early life, his father and his career was so lucid and testament to his brilliant mind that it was difficult to imagine he would breathe his last in less than 72 hours.

NVS was a consummate researcher, able administrator, and above all, an educator par excellence and his passing is a great loss to the people he loved and cherished. It is difficult to reconcile that he is no more in our midst, but his legacy would continue to thrive among his students, friends and family.

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