Among Chowdhury's nearly 30 Ph D students, seven are fellows of IASc – three are theoreticians and four are experimentalists. This illustrates the vastness of his research interest. Three of his students received the Bhatnagar Award and four are fellows of INSA. Many of his students and grand-students are now professors at premier institutions in India (IITs, major Universities, IISERs, etc.). Many famous researchers in India were his undergraduate and/or postgraduate students.

Chowdhury received numerous awards and accolades. These include Gold Medal of the Chemical Research Society of India (2006), Eminent Teacher Award of Calcutta University (2006), Mizushima–Raman Lecture of India–Japan Council (2003), *honoris causa* degrees of the Vidyasagar University (2007) and Presidency University (2013), K. Rangadhama Rao Memorial Lecture of INSA (1989), Sadhan Basu Memorial Lecture of INSA (2002), J. C. Ghosh Memorial Lecture of Indian Chemical Society (1997), Morris Travers Memorial Lecture of IISc Bangalore (1998), Baba Kartar Singh Memorial Lecture of Panjab University (1999), UGC National Lecturer (1980), Lifetime Achievement Award of ISRAPS and R. P. Mitra Memorial Lecture of Delhi University (1988). As a member of many important committees, he played a seminal role in nurturing younger scientists in India through research grants and awards.

The hallmark of Chowdhury's character was politeness and kindness. He never lost temper or control of words though he had a strong view on many issues and was most often, quite uncompromising. Even when he disagreed, there was no loss of dignity on either side. He never liked hollow praise. The highest appreciation one could extract from him was 'not bad'. If one could crack his apparent unemotional shield, it was pleasing to find his love for literature, movies and theatre and his wry sense of humour.

He was a good badminton player and would easily defeat students, half his age. In the laboratory, he used to work much harder than the students. He hardly ate anything during long office hours. Because of his presence in the laboratory, we often had to work long hours without any food or tea break. The prize of this torture (!) used to be snacks and coffee, at his expense, at the nearby Jadavpur Coffee House, afterwards.

Mihir Chowdhury is survived by his wife, one son, and one daughter.

KANKAN BHATTACHARYYA

Department of Chemistry,
Indian Institute of Science Education and Research,
Bhopal 462 066, India
e-mail: kankan@iiserb.ac.in

Durga Prasad Roy (1941–2017)

It was a terrible shock with which friends, collaborators and colleagues received the news of the sad demise of Durga Prasad Roy recently. DP, as he was popularly known, passed away on 17 March 2017 in Cuttack, Odisha after a brief illness. Roy was active in every sense of the word till he breathed his last, having posted a review on the arXiv in August 2016, participated in conferences actively even in 2017 and being physically fit to climb hills during the recent INSA meeting. Indeed, he had given a series of lectures on the standard model of particle physics at the University of Hyderabad just a few days before he fell ill.

Roy completed his B Sc (Hons) in 1960 from Ravenshaw College, Cuttack and M Sc in 1962 from Delhi University. He obtained his Ph D degree in 1966 from the Tata Institute of Fundamental Research (TIFR), Mumbai, in particle physics. He was a postdoctoral Fellow at the University of California, Riverside, USA (1966–68); CERN, Geneva (1968–69), and University of Toronto, Canada (1969–70). He then worked at the Rutherford Laboratory, UK (1970–74), and as Reader at Visva-Bharati University, Santiniketan, West Bengal (1974–76). He then joined TIFR as Reader in 1976 and retired as Senior Professor in 2006. He worked at the Homi Bhabha Centre of Science Education (HBCSE), TIFR, as a DAE Raja Ramanna Fellow (until 2011), and then continued working at HBCSE as an INSA Senior Scientist.

Roy made pioneering contributions in the wide area of particle and astroparticle physics. His early research work was in the area of 'Regge phenomenology and duality', which addressed the issue of cross-sections for processes involving low transverse momenta, i.e. the dominant part. Regge theory predicted these to grow as a sum of power law terms of the colliding energy, whereas duality relates resonance contributions in the scattering to these terms. Roy predicted and presented evidences for exotic mesons, called baryonium those days, but now termed tetra-quark, as well as exotic baryons, now called the penta-quark states. These robust predictions continue to attract the attention of experimentalists as well as lattice quantum chromodynamics (QCD) experts. Along with his collaborators, Roy suggested to look for a hard isolated lepton and jets as a signature of the (heavy) top quark. It has been widely used in the top quark search at the CERN and Tevatron proton–antiproton colliders, leading to discovery of the latter in 1995. He worked extensively on many popular theories of physics beyond the standard model, such as supersymmetry. Most popular minimal supersymmetric model requires more than just one recently discovered additional Higgs bosons, including a charged one. He suggested a promising signature for the charged Higgs boson search in its tau lepton decay channel, using the distinctive polarization prediction for tau. This is currently being used in the ongoing search for charged Higgs boson at the Large Hadron Collider at CERN. Like-

wise, the missing transverse-momentum signature for supersymmetric particles suggested by Roy, is being widely used in the ongoing collider searches for these particles. Impressive experimental results on neutrinos produced in the atmosphere, as well as those produced in the sun, led to the golden years (2000–05) of neutrino physics. Roy's group analysed the experimental data to finally provide a unique solution to the long standing solar neutrino puzzle in terms of neutrino oscillation with precise mass and mixing angle through a series of globally acclaimed papers. Roy had a unique sixth sense in recognizing what is important, making him a top-class theorist well-known all over the world as illustrated by the impressive list of his collaborators, such as V. Barger, R. J. N. Phillips, E. Reya, S. Pakwasa, R. M. Godbole, R. D Roberts, M. Drees, S. Moretti, J. Sterling and so on. Many of the top Indian experts in this area have collaborated with him, as seen in his broad list of publications.

Roy pioneered the high energy physics (HEP) phenomenology activity in the country in a big way by starting a still-very-strong series of workshops with Probir Roy in 1989 – WHEPP (Workshop on High Energy Physics Phenomenology); these workshops initiated a lot of collaborative work nationwide by acting as a forum for vigorous discussions among Indian and international experts. Indeed, it would be hard to find a faculty in HEP who has not benefited from these either through direct discussions with Roy, or with the many famous physicists who came for these workshops.

Roy was passionate about undergraduate teaching; he was active in the National Initiative in Undergraduate Science programme of HBCSE as a mentor and the *Student's Journal of Physics* published by the Indian Association of Physics Teachers as member of its National Advisory Board. He also taught in the five-year integrated M Sc programme of the DAE-MU Centre of Excellence in Basic Sciences at the University of Mumbai as a visiting faculty, having himself been amongst the founders of this idea.

Roy had wide-ranging interests. He was a weight-lifting champion of Odisha, and an expert swimmer, and a connoisseur of Indian classical music and dance. His passion for adventure always showed up in the after-work evening activities at WHEPP workshops. He had strong views on the lack of experimental investigations in ancient India. He published them in 2016 in the *Indian Journal of History of Science*.

Roy's scientific achievements were recognized in the form of Meghnad Saha Award conferred by UGC, New Delhi and the S. N. Bose Medal awarded by Indian National Science Academy (INSA), New Delhi (2007). He was elected Fellow of the Indian Academy of Sciences, Bengaluru (1987), INSA (1993) and the National Academy of Sciences (India), Allahabad (1997).

Roy leaves behind his wife (Monika), and daughter (Kalyani). We join them in their grief and pray that his soul may rest in peace.

RAJIV V. GAVAI

Department of Theoretical Physics,
Tata Institute of Fundamental Research,
Homi Bhabha Road, Colaba,
Mumbai 400 005, India
e-mail: gavai@tifr.res.in