## Vinod Prakash Sharma (1938–2015)

'The most beautiful experience we can have is the mysterious. It is the fundamental emotion that stands at the cradle of true art and true science.' These words of Albert Einstein go a long way in describing Vinod Prakash Sharma (VP to friends), a scientist, humanist and spiritualist, all rolled into one.

Born on 6 April 1938 in the village Kailwal in Bulandshehar district of Uttar Pradesh, Sharma did his schooling in Dehradun. He went to Agra University for his Bachelor's degree in Science (B Sc) and to Allahabad University for his Master's (M Sc) as well as Doctoral degree (D Phil) which he completed in 1964. A year later, in 1965, he went as a post-doctoral fellow to the University of Notre Dame in USA. This was followed by a senior post-doctoral fellowship at Purdue University, where he was happily joined by his scientist wife, Manju Sharma, who later went on to become Secretary, Department of Biotechnology, Government of India. At both Notre Dame and at Purdue, Sharma's postdoctoral research and training focused largely on research in entomology.

Back in India in 1968, Sharma also obtained the degree of Doctor of Science (DSc) from Allahabad University in 1974. He started his scientific research career as a pool officer at the Forest Research Institute in Dehradun, where he worked for a year before joining the Indian Council of Medical Research (ICMR) as senior scientist in a WHOsponsored project involving the study of genetic control of culicine mosquitoes, where he worked from 1970 to 1975. These were times when malaria had reemerged in the Indian subcontinent with a vengeance, smashing to smithereens the illusion of existing control methods having eradicated malaria from this region. Confronted with the challenge, Sharma moved to the Vector Control Research and Malaria Research Unit of the ICMR as its Deputy Director and worked there for two years. After this, in 1978, having gained considerable experience in different aspects of research in vectorborne diseases in general, and in malaria in particular, he pulled out all the stops in upgrading the Malaria Research Centre which, to begin with, was an upshot of the 'Genetic Control of Mosquitoes Project' at ICMR. By any standard, it

was a small and humble beginning, with only a few scientists available for the mammoth task, but Sharma not only managed to consolidate the ongoing activities at the centre, he also got relentlessly engaged in modernizing it. Never hesitant to use new technologies, though never at the expense of time-tested methods of vector and disease control, he developed the centre along with a number of field stations at different key locations



in the country for trying out newer methods of vector control and reducing malaria infections. It was mostly through his vision and leadership that malaria research was to gain impetus and soon brought into focus. Today India is one of the largest contributors to malaria research in the world and Sharma can safely be accredited as being one of the key leaders to have had the vision to reignite the concern in difficult times. It was no surprise that the Government of India not only allowed the upgradation of the Malaria Research Centre but also renamed it as the National Institute of Malaria Research (NIMR). Today, NIMR is one of the leading institutions that carries out research in all aspects of malaria, besides being a leading contributor to policy decisions regarding the issue of combating malaria in India. These outstanding efforts and relentless focus on various aspects of malaria control quite naturally led to his appointment as its first Director, a post he held till he retired from service in 1998 to take up the position of Additional Director General, **ICMR** 

Sharma underscored the vital connect between malaria, other vector-borne diseases and agriculture. He strongly advocated that malaria vector control and Krishi Vigyan Kendra of the Indian Council of Agricultural Research (ICAR) come together to transport new technical advances to rural India. He was a highly respected malariologist and was invited to serve on many international committees on malaria control efforts including 'Roll back Malaria' in India, and more recently, in eradication of malaria. His international commitments, among many, included chairmanship of WHO/FAO/ UNCHS/UNEP panel of experts on environmental management of vector control, and member of world expert committee on malaria in India. Sharma was internationally recognized as one of the leaders in malaria control research. His own research interests in malaria included epidemiology, urban malaria, insecticide resistance in malaria vectors, sterilization of male mosquitoes by various methods, development of new techniques for sex separation of mosquitoes, bio-environmental control of malaria and vector biology.

Although Sharma had multiple research interests, he never lost the childlike curiosity he possessed. He wanted to know everything that was happening in malaria research in areas he did not directly work in. He would spend hours discussing new experimental vaccines, new approaches to drug development, genomics and genetics in malaria, and so on. Highly respected and well recognized as he was, one of his major contributions was to kindle, encourage and support anyone interested in malaria and vectorborne diseases. He went out of his way to facilitate malaria research without asking or expecting anything in return. When we, at International Centre for Genetic Engineering and Biotechnology (ICGEB), initiated research projects in malaria biology and development of malaria vaccine(s) in India, he was more excited, positive and optimistic than any of us. Sharma accompanied us to several malaria-endemic sites in Orissa and Madhya Pradesh, connected us with many key malaria scientists working in field situations that resulted in initiation and strengthening of many long lasting collaborations. This is what VP was like. He

did whatever he could possibly have done for anyone, as well as for malaria research in India. I am certain that there is no malaria researcher who did not directly or indirectly receive attention, care, ideas and help from him; and in doing all this, it is needless to say, that he was completely selfless. The vast amount of hard work, research output and leadership that VP did has been recognized through prestigious awards, and memberships of science academies including the National Academy of Sciences, India (NASI) Allahabad where he served as its President during 1999-2000; the Indian Academy of Sciences, Bengaluru, and the Indian National Science Academy at New Delhi. He was recipient of high civil honours like the 'Padmashree' (1992) and 'Padmabhushan' in (2014).

After his retirement in 1998, he was nominated as the Meghnad Saha Distinguished Fellow of NASI at the Centre for Rural Development and Technology at IIT, Delhi. During his time at the Centre, VP continued to be seriously involved in international programmes such as Roll Back Malaria and Malaria eradication along with conservation, availability and access to water, as well as environment protection. He led the safe water campaign started by NASI and wrote extensively on this important subject. Sharma was seriously concerned about issues re-

garding water resource management in India. He was the key figure in organizing several brainstorming workshops on safe water and sanitation, which led to several publications like Safe Water and Community Health. His interest in environmental issues becomes evident from the fact that he delivered the lecture on 'Sunlight and human health' four days before he went to the hospital for the last time. Essentially a field person, he was deeply interested in seeing and making things materialize in field situations. Some of his endeavours include rejuvenation of baolies (water bodies) in rural areas and development of a mosquito proof bye pass desert cooler.

Sharma loved writing and editing and continuously encouraged others to do so as well. It was primarily through his efforts and drive that the *Indian Journal of Malariology*, later rechristened as the *Journal of Vector Borne Diseases* was restarted. He published more than three hundred research papers and authored several books. His writing output showed no decline even when his health did. He has left behind several books in their final stages of publication.

Sharma was a cheerful communicator and was prepared to talk about subjects of interest at any level; he gave talks at schools, at colleges and universities and continued this even when his health was compromised during the last few months of his life.

Well known as a leading malariologist, there was another facet to Sharma's persona – a very kind, friendly and giving individual. Anyone, at any level, who came in contact with him, be it at the work place, at meetings, in the neighbourhood or anywhere else, was greeted with friendly warmth. He was non-judgemental about people almost to a fault, but at the same time also had the courage to call a spade a spade.

Sharma breathed his last on Friday, 9 October 2015 after his health deteriorated suddenly and rapidly. He leaves behind his wife and good friends Manju Sharma, his son Amit Sharma, himself a noted malaria structural biologist, his daughter-in-law Divyani and two grand children. Sharma may have passed away but he will live on in the hearts of people who met him in any capacity. For me it is a grave personal loss and the vacuum that he has left will remain unfilled. We will all miss him.

VIRANDER S. CHAUHAN

International Centre for Genetic Engineering and Biotechnology, New Delhi 110 067, India e-mail: viranderschauhan@gamil.com