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## The pursuit of science – my hobby and profession

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**I**t is said that you cannot choose your parents. I was extremely fortunate to have been born the daughter of Manik and Pandit (Waman – known as Pandit because of his sharp mind) Achwal, who did not believe in conditioning their daughters. I rarely ever heard statements like ‘You are a girl and you should do so and so and not do XYZ,’ and in fact never heard them at home. In addition, I was left alone to explore and learn from my own experiences, and was never told what to think. My parents were always pillars of support when needed. They also inculcated the idea that one is capable of anything and there are no limits except the ones that exist in our own minds. My mother often cited a story where it was said that the word “impossible” did not exist in Napoleon’s dictionary. They imbibed a lot from European culture and society where they had spent a substantial period of time, and they tried to combine it with the best practices in our country while dealing with day-to-day matters. Being their first daughter and the only one for seven years, I was a very quiet and shy person, and spent hours on my own, daydreaming and imagining things.

Initially, because of my liking for reading, I even toyed with the idea of taking up arts and psychology. My father was a

scientist (a textile chemist) and a professor, and his attitude to science and life left a deep impression on me. There were inspiring and dedicated teachers in my school, college and later life, and I owe a lot to them. My mother insisted on my reporting things which I noticed and encouraged me to wonder about them and to discuss and share them. I faced no difficulties and always got encouragement from my parents. My aunt, also a scientist working on cancer, stayed single for many years in order to do research. It thus was natural for me with my temperament and background to choose science as a profession.

The living world and the amazing capabilities of microbes to influence it were my early interests. The time spent in Cambridge and Berlin while I was a student was important in shaping my ideas. In Cambridge, I learnt about the world of preimplantation-stage mouse embryos and relished the charged atmosphere. In Berlin I learnt of the relationship between hemimethylation, chromatin structure and regulation of gene expression. The development of a single cell into an embryo and then into an organism which has the potential to create artifacts was an interesting subject. Although it is the genome which seems to have the blueprint, the ability of the environment to influence through epigenetics, the phenotype, behaviour, physiology and even intelligence of an individual held great promise in my imagination. Among other things, this is what I have been working on for the past 28 years.

While pursuing my Ph.D. at the prestigious Indian Institute of Science, Bangalore, I met my future husband, Dileep Deobagkar. He had just left a sound and prosperous career in USA (at NIH and Yale), declined job offers and come to India as a research officer without any permanent job in hand! His forthrightness, passion for and dedication to science impressed me. He has since helped me in research and science writing and has taught me many things. Support from Dileep in every possible aspect of our life, and his trust and confidence in my ability to multitask have been the main factors that enabled me to continue research while making a home and looking after my daughters. We often take each other's support for granted. At times it was the sheer passion for science, and my inability to even imagine an existence

where science was not part of my life, that kept me going when things were tough.

Why do I do science? I find it fascinating and satisfying. When one reads about really good experiments, looks at unraveling of the human genome, the possibility of asking many meaningful questions and perhaps getting answers, it is very inspiring! My years as a student were very nice. When I started working, however, I faced difficulties for several years. In addition to challenges in my personal life, there were many in the workplace. I had decided a long time ago, particularly when I joined the University, that I would do science only because it is enjoyable.

For me, science and the scientific attitude have always been a way of life. My work on biosensors and nanotechnology, science popularization, and genetics and epigenetics excites me a lot. As a university teacher, one is constantly surrounded by young and bright students. I have learnt a lot from my interactions with M.Sc. and research students and I find it challenging and rewarding. As a consultant to the Serum Institute of India, I have also been able to get a good feel of the biotechnology industry and business. My chosen profession involves the pursuit of science and I am indeed happy that I can earn my living doing it.