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## A dream come true

H S Savithri

I was born into a middle class family in Bangalore. I have an elder brother, two elder sisters and an younger sister. We had our grand parents living with us. My father, the eldest in his family, had the responsibility of educating all his brothers and sisters and getting them married! We always had a lot of people at home and I grew up as one among the many in a small house. My mother was extremely dynamic and could handle all the house work single handed and find time for sitting with us while we studied, stitch our clothes and knit any number of sweaters. She would give us tests before the final exam and correct our papers. She was the motivation for all of us and to set high goals in life. Her greatest ambition in life was to see that all of us got into professional courses and be financially independent.

My parents never differentiated between daughters and son. They encouraged all of us equally to study well. My two elder sisters were already in medical college and I took Physics Chemistry Mathematics in my pre-university instead of Physics Chemistry Biology as I wanted to do something different from what they did. My father encouraged me and sent me to the summer program organized by Bangalore Science forum. There was a nominal fees and it was indeed my father's vision about education that made him pay the fees even though there were other things for which he needed the money.

This was the most inspiring program that I have ever attended. There were lectures by faculty from IISc and we had the occasion to talk to them and ask questions. Most importantly we were taken to the Raman Research Institute where we had the good fortune to listen to Sir C. V. Raman. He was then interested in color blindness in the Indian population and tested all of us personally. I was elated that I could spend 30 seconds with a Nobel Laureate!

I had reasonably good marks in chemistry and I joined Central College to do Chemistry honors, after which I studied Biochemistry. I then joined the department of Biochemistry, Indian Institute of Science and I was fortunate to have N. Appaji Rao, a distinguished enzymologist, as my PhD supervisor. The first experiment he asked me to do was to demonstrate the activity of an enzyme called aspartate transcarbomylase in the crude extract of mung bean seedlings. I had the beginners luck and the assay worked the very first time! One needs to be perseverant, intuitive, and very hard working to succeed in experimental science. I could further demonstrate the kinetic and regulatory mechanisms of the enzyme.

I had the good fortune, meanwhile, to get married to M.R.N. Murthy, an outstanding student in the Department of Organic Chemistry, IISc. The first thing he did for me was to write a program to analyze my data by an iterative procedure that would accurately estimate the kinetic constants, and since then we have had an active collaboration throughout our research career. I wound up submitting my thesis 10 days before my son was born! All along I had the full co operation by my parents, in-laws and Murthy so I could meet all my deadlines!

After the post doctoral work at Purdue University we came back to IISc. Less than a month after we returned we started our work by growing plants in a temporary netted green house to infect them with the viruses we had decided to work. I had a CSIR pool officer position and Prof. Appaji Rao very generously took me back in his laboratory, giving me full freedom to work on any of his projects and to develop my own project. A new student, Suryanarayana decided to work on my project on plant viruses. I

thought he must be brave in making this decision as I neither had permanent position nor any research grant! Our work on the Physalis mottle virus was published in the journal of Biological Chemistry. This was the turning point and I got a position as assistant professor, seven years after returning. Two people who were happier than me were Murthy and Appaji Rao! They have both been most supportive and encouraging through out my research career. In parallel with structural work on viruses, we began to determine the complete genome sequence of viruses. The work in my lab and Murthy's lab has been complementary: his students and mine have worked together, and one of the most pleasurable times for me has been discussions together to analyze and interpret the data and come up with explanations and more experiments and more questions. In addition to research in the lab, both Murthy and I have a strong commitment to spreading scientific knowledge and motivating students to learn science and take it as a career. We have given lectures all over Karnataka and through the center for counseling and support at IISc, I have organized science congress for school children, field trips, summer camps, guidance classes and interactive sessions. The motivation to move on to different areas of research and learn with my students keeps me excited about the work.

At any given time I have had students from various states, backgrounds and capabilities moulding each of them to perform their best has been a challenge. It has been a wonderful time!