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# Asima Chatterjee

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(by S C Pakrashi)

**A**sima Chatterjee showed early promise obtaining her M.Sc. degree from Calcutta University in 1938, with organic chemistry as the special paper and D.Sc. degree in 1944 from the same university under the guidance of P. K. Bose, the pioneer natural product chemist in India. She was the first woman to be awarded the D.Sc. of any Indian university.

In 1940, Chatterjee joined Lady Brabourne College, Calcutta, as the Founder – Head of the Chemistry Department. In 1944, she was appointed as an Honorary Lecturer in Chemistry, Calcutta University.

She worked with L.M. Parks University of Wisconsin, USA (1947) on naturally occurring glycosides, with L. Zechmeister, California Institute of Technology, Pasadena, USA (1948–49) on Carotinoids and provitamins and with Paul Karrer, N.L. University of Zurich (1949–50) on biologically active alkaloids, which became her life-long interest ever since. After her return to India in 1950, she vigorously pursued investigations on the chemistry of Indian medicinal plants, particularly alkaloids and coumarins.

In 1954, Chatterjee was appointed Reader in the Department of Pure Chemistry, Calcutta University, which became her permanent address almost till her death. In 1962, she became the

Khaira Professor of Chemistry, one of the most prestigious and coveted Chairs of the Calcutta University which she adorned till 1982 and was the first woman scientist to adorn a chair of any University in India. She continued as the Honorary Coordinator of the Special Assistance Programme to intensify teaching and research in natural product chemistry, sanctioned by the University Grants Commission in 1972 and later recognized as the Centre of Advanced Studies on Natural Products in 1985.

Through her untiring efforts, Chatterjee could fulfill her life-long dream to establish a Regional Research Institute for carrying out research on Indian medicinal plants for the development of Ayurvedic drugs along with an Ayurvedic Hospital for systematic clinical trials through a unique Centre-State collaboration, under the aegis of the Central Council for Research in Ayurveda and Siddha in Salt Lake City, Kolkata. As the Honorary Principal Co-ordinator, she nurtured this Institute till the end of her life.

Chatterjee successfully developed the anti-epileptic drug, Ayush-56 from *Marsilia minuta* and the anti-malarial drug from *Alstonia scholaris*, *Swrertia chirata*, *Picrorhiza kurroa* and *Cesalpinna crista*. The patented drugs have been marketed by several companies.

She made significant contributions in the field of medicinal chemistry with special reference to alkaloids, coumarins and terpenoids, analytical chemistry, and mechanistic organic chemistry. She published around 400 papers in national and international journals and more than a score of review articles in reputed serial volumes. Her publications have been extensively cited and much of her work has been included in several textbooks.

Chatterjee edited and revised the six-volume *Bharatiya Banoushodhi* published by the Calcutta University and was also the Chief-Editor of the six-volume series, *The Treatise of Indian Medicinal Plants* published by CSIR.

She was elected a Fellow of the Indian National Science Academy (INSA), New Delhi (1960), received the Shanti Swarup Bhatnagar Award (1961) and was conferred Padma Bhushan (1975) amongst other awards. She was elected as the General President of

the Indian Science Congress Association (1975) the first woman scientist to be so elected, and was nominated by the President of India as a Member of the Rajya Sabha which she served with distinction from February 1982 till May 1990.

She probably imbibed interest in the medicinal plants from her father, Dr. Indra Narayan Mukherjee, a medical man cum amateur botanist. During her post-graduate studies, she came in contact with eminent teachers and educationists such as, Acharya P. C. Ray, P. C. Mitter. P. Ray, P. B. Sarker, J. N. Mukherjee, P. K. Bose and J. C. Bardhan all of whom influenced her future career.

Being one of her early Ph.D. students I have closely witnessed her initial struggles to establish herself. Those were trying days for research, particularly in the most ill-equipped university laboratories with inadequate chemicals and meager financial assistance. DST, DBT were yet to come and CSIR was in the formative stage. Research guides had often to pay not only for chemicals, apparatus, etc., but also the charges of even elementary and almost all spectral analyses to be had from abroad. Scholarships were few and barely enough; most of the students had to work part time or without any scholarship just for the love of work and pay all the necessary cost of thesis submission including printing, examination fee and even the postal charges for dispatching the thesis to the foreign examiner(s) which was compulsory, with hardly any job prospect for research as a profession.

Before I joined her, she had a grant of Rs 300/- p.a. and three college teachers as part time research students. I was the sole fulltime scholar with laboratory grant of Rs. 1000/- p.a. only with a princely W. B. Govt. stipend of Rs.150/- p.m. For milling plant materials we had to go to the far away workshop of the Jadavpur University and even for UV measurement, we had to go to adjacent Bose Institute where only she was allowed to handle the equipment. We borrowed solvents for plant material extraction mostly from the comparatively well off B.C. Guha's laboratory as the research grant of even the Heads of Departments used to be only Rs. 1200/-.

During those hard days, she received encouragement from Profs. Satyen Bose, Meghnath Saha, S. K. Mitra , B. C. Guha and

Sir J. C. Ghosh and other Vice-Chancellors of Calcutta University. Her husband, Professor Baradananda Chatterjee, a renowned Physical Chemist himself and the Vice-Principal of the then Bengal Engineering College (now a Deemed University), Sibpur, Howrah, solidly stood by her. She in turn could inspire and keep the morale of her students by her own example. Nevertheless, she was a very hard task master, never satisfied with performance and would never compromise with the standard of work. "I wish to work as long as I live", her philosophy and work culture that she followed in letter and spirit.