

**Smt. Kusum Sharma Award
-for young woman scientist
-Recipient (2014) : Dr. Sarika Gupta**



Smt. Kusum Sharma

(August 1, 1930 – May 15, 2013)



Born in an illustrious Rawat family of Agra, during British Raj, Kusum Sharma was the eldest daughter of Shri Brij Mohan and Smt. Madhobeni Rawat and grew up with her younger sister and brother. Hailing from family with reputation of academic excellence, her Grand-father, Rai Bahadur Dr. Ganga Prasad Rawat studied medicine in Lahore (now in Pakistan) and was eventually appointed Civil Surgeon during the Raj. He taught at the Agra Medical College (now known as S.N. Medical College) and was instrumental in establishing the Department of Gynecology at the Institution. Her father was a prominent lawyer who was appointed honorary magistrate by the U.P. government.

At the age of 6, Kusum contracted polio, which led to a permanent physical disability. It was during this difficult period, that her tremendous strength and determination became apparent as she refused to be held down by the disease and insisted on leading not just a normal, but also a fully active life. After completing her schooling she decided to pursue the university degree and obtained bachelor degree in 1952 from Agra College. In 1954, she got married to Dr. Prem Narain Sharma, a renowned Physical Chemist and reputed lecturer at the Agra College. Dr. Sharma obtained his MS from University of Minnesota, USA and PhD from Agra University and served in various capacities for almost 40 years at the Agra College. As a founding member of Indian Council of Chemists, Dr. Sharma achieved the life time award and maintains a highest degree of respect among his peers and students. They have three daughters who carried on the family tradition of academic excellence by obtaining PhDs in different subjects and are well settled in life.

Smt. Kusum Sharma passed away peacefully on 15 July, 2013.

Dr. Sarika Gupta obtained her M.Sc. in 2000 and Ph.D. in 2004 from the Banaras Hindu University, Varanasi. Currently she is working as a Scientist at the National Institute of Immunology, New Delhi.



Dr. Sarika Gupta

- **Dr. Sarika Gupta** has developed a novel insulin assembly. Her studies have shown that administration of a single dose of the insulin assembly, to diabetic animals, released the hormone capable of maintaining physiologic glucose levels for >80 days, without fasting hypoglycemia and that it also reduced the extent of secondary diabetic complications.
- **Dr. Sarika Gupta** has also shown that methionine, a nutritionally essential amino acid, has biphasic effect on bone remodeling. She has shown that administration of methionine to osteoporotic rats prevented bone resorption by inhibiting trans-differentiation of blood mononuclear cells to functional osteoclasts via down-regulating TLR-4/MyD88/NF-κB cascade. However, at higher doses, methionine turned from a pharmacological agent to a hyperhomocysteinemia agent that leads to osteopenia/osteoporosis. Her studies have demonstrated that the metabolites of the same pharmacological agent can have diverse effects at different doses.
- **Awards/Honors:**
 - DST-SERB Women Excellence Award- (2013)
 - NASI- Platinum Jubilee Young Scientist Award – (2011).
 - Visiting Scientist to University of Miami, Miami, U.S.A.- 2010.
 - Best poster award in "International Conference and Humboldt-Kolleg on Structure and Characterization of Physical, Chemical, Bio- and Geo- Materials".
- **Presentations/Publications/Patents filed or awarded:**
 - Presentations- 6, Publications – 17, Patent (filed) - 14, Patent (granted) - 3

