Laveeta JOSEPH

Home Country
India

Degree
PhD in Bioengineering

Expertise
Neuroengineering

Research Focus
Neural Electrophysiology

Host University
Georgia Institute of Technology, United States

Fellowship Awarded
2007

Laveeta Joseph lived most of her life in Hyderabad, known as the pearl city of India. She is married and says she owes her academic success to her parents.

During high school Laveeta was judged Best All-Rounder, Best Athlete and Most Cooperative Outgoing Student, and she received a gold medal for academic excellence in mathematics and computer science.

During her undergraduate years at Osmania University in Hyderabad, Laveeta consistently obtained top rank among biomedical engineering students and she received a certificate of excellence in 2004 for obtaining first rank in her graduating class. Currently pursuing her PhD in bioengineering at the Georgia Institute of Technology in the United States, Laveeta's primary research is in the field of neural electrophysiology.

Nerves transmit information through electrical activity that propagates along the nerve like traveling waves. Laveeta looks at blocking this propagation using high-frequency currents for clinical pathologies involving unwanted neural activity. She is studying the effect of reversible conduction block induced by high-frequency waveforms on different nerves, specifically the different response of myelinated and unmyelinated nerves at frequencies in the range of 5 to 50 kilohertz.

Preventing neural conduction in specific fibers can also be used as a method for achieving selective stimulation. Her work is helping to improve our understanding of techniques used to stimulate specific nerves and has wide applications in the fields of pain management and neural prostheses.

After completing her doctoral degree, Laveeta plans to pursue post-doctoral research in the field of neuroscience before accepting a faculty position in her home country, where she hopes to teach at Osmania University.