

Professor Santosh Kurinec , Top Engineer Abroad !



Professor Santosh Kurinec

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Santosh Kurinec Receives 2012 IEEE Undergraduate Teaching Award

Recognition given for effectively integrating research into engineering education

Excerpts from interview with Santosh Kurinec - Professor of Electrical and Microelectronic Engineering at Rochester Institute of Technology, NY USA

... what do you do?

Educated in physics, I conducted my doctoral work on magnetic materials for electrical engineering applications, attained post-doctoral experience in material science for solar photovoltaics and integrated circuits. I consider myself as an engineer who works at the intersection of physics, materials science & electrical engineering. I am a Fellow of IEEE, Member, American Physical Society, NY State Academy of Sciences, and an IEEE Electron Device Society Distinguished Lecturer.

You have plenty of awards, which one you are most proud of and why?

We normally value our most recent and bigger awards. But when I look back, what put me on the track I am today, was when I won the National Science Talent Award by competing in the National Science Talent Search Scholarship program in India when I was in high school. The contest included completion of a research project, written exam in math & sciences and an interview. The award consisted of substantial scholarship up to the doctoral level provided the student continued to show academic excellence. I was one of the 300 candidates awarded out of tens of thousands contesting nationwide. To my family, with very modest resources, it was like winning a jackpot. My parents always valued education and strongly believed women should be encouraged in achieving their professional dreams. I participated

in five summer internships at leading research institutions during my BS and MS education which included Bhabha Atomic Research Center and Tata Institute of Fundamental Research where I could work on advanced techniques such as neutron scattering and nuclear magnetic resonance.

I strongly advocate that similar programs should also be established in the US and worldwide.

What are you currently working on?

I have three major research thrusts at the moment— the first one is to develop novel ferroelectric memristive device and its application in neuromorphic systems. Neuromorphic computing is an interdisciplinary field that aspires to create physical architecture and design principles based on biological nervous systems for applications such as vision systems, auditory systems and autonomous robots. My second project is dedicated to developing copper metallization for solar cells. We are investigating alternative printing processes for copper on silicon solar cells forming good electrical contacts while keeping power conversion efficiency high. The third project involves creating devices on 2D semiconductor films.

Do you have any hobbies outside of work?

I like watching good movies, shows, theatre, musicals and read select books. I admire performance of actors, eloquence of script writers and art & technology of cinematography. My favorite authors have been from Shakespeare, Charles Dickens, and Ayn Rand, to Malcom Gladwell, Nassim Taleb and Christopher Hitchens.

As a professor, what words of encouragement would you give to your students?

Have passion and curiosity in what you study. Grades will follow, your passion and performance will lead you to progress and perfection.