

Thank you for the opportunity to present these awards. Perhaps you know that the total number of awards in any one year is one-tenth of one percent of the voting membership. So these awards recognize very significant contributions to our world of electricity and electronics. We can be proud of these two colleagues.

I will read a few words about each, beginning with Professor Hagness, then ask them in turn to join me to receive the award.

Susan Hagness is Philip D. Reed Professor in Electrical and Computer Engineering and additionally is a faculty affiliate of the department of Biomedical Engineering. She arrived at the University of Wisconsin-Madison in August, 1999 after receiving her PhD from Northwestern University. It is noteworthy that she received the best dissertation award from Northwestern's Electrical and Computer Engineering department.

The earliest publication I found was titled "Direct Time Integration of Maxwell's Equations in Linear Dispersive Media with Absorption for Scattering and Propagation of Femtosecond Electromagnetic Pulses." I refer all questions to her.

Her group's research spans computational and experimental applied electromagnetics with an emphasis on bioelectromagnetics and the development of diagnostic and therapeutic technologies for biomedical applications. They focus their work on interdisciplinary problems that are extremely interesting and challenging, and fundamentally important from a societal perspective.

Not long after her arrival I became aware of her work in using microwave diagnostics in identifying small breast cancer tumors. My wife was a breast cancer survivor and so this work seemed to be of great importance. As I observed her potential over the next several years I said to my friend Chris DeMarco, then ECE chair, that this was a person to move rapidly through the tenure system and protect from competing universities. Happily, she is still here.

Our colleagues are sometimes criticized as emphasizing research over teaching. I'd like to point out that Susan has received three teaching awards, including most recently the 2009 UW System Alliant Energy Underkoffler Excellence in Teaching Award.

The Fellow citation reads "For contributions to time-domain computational electromagnetics and microwave medical imaging." I am very pleased to present this plaque to Professor Susan Hagness.

*Please say a few words if you wish.*

Parmesh Ramanathan is professor of Electrical and Computer Engineering at UW-Madison. He joined us after receiving his PhD from the University of Michigan in 1989.

Parmesh has the distinction of serving as ECE Chair for four years, which provides an excellent opportunity to learn who your friends are. It is also an opportunity to develop your multitasking skills since it is very difficult to maintain an active research program while arbitrating the equitable distribution of laboratory space. Experience in multivariable calculus should be a prerequisite for the position. Also thick skin and the ability to say no while smiling.

Parmesh categorizes his research as real-time communication in computer networks. This encompasses quality of service assurances for next generation cellular, wireless, and wireline networks. For example, for wireless networks he and his students are working on scheduling support for multi-media communication, fairness issues in medium access control, and techniques for quality of service guarantees during handoffs. He is not, however, addressing the computer-based phone calls I receive offering to consolidate my credit card debts.

A sample publication is titled 'Delay-differentiated gossiping in delay tolerant networks.' I should think this would take care of my phone calls.

The Fellow Citation reads "For contributions to real-time systems and networks." I am very pleased to present this plaque to Professor Parmesh Ramanathan.

*Please say a few words if you wish.*