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## DISTINGUISHED SEMINAR SERIES

**DR. SUMI HELAL**

**DEPARTMENT OF COMPUTER AND  
INFORMATION SCIENCE AND  
ENGINEERING**

**UNIVERSITY OF FLORIDA**

**MONDAY, MAY 29, 2006**

**11:00am-12:00pm**

**DUPUIS HALL 215**

***REFRESHMENTS AT 10:15 in GOODWIN 620***

**Programmable Pervasive Spaces**

**ABSTRACT:** Pervasive computing environments have recently been explored through a series of university and industry research prototypes. Many of them emphasized the “calmness” requirement of the technology and the “predictability” of the environment

behavior and interaction. By carefully integrating sensors, computers, devices and networks, it was possible to craft the first

generation of pervasive environments, also referred to by the research community as “integrated environments”.

In this talk I will describe our efforts in middleware design that aim at shifting the pervasive computing paradigm from

“integrated environments” to “programmable spaces”. I will present “Matilda Smart House”, a pervasive environment to achieve

successful aging and independence that we have developed following the integrated environment approach. I will then present the

programmable space approach and middleware based on a simple sensors-actuators-contexts model. I will revisit “Matilda Smart

House” that we recently remodeled as a highly programmable space. Finally, I will address the main issues and enablers necessary

to take pervasive computing and its applications from the confines of research laboratories to a multi-billion dollar mainstream industry.

The research I will present is currently being funded by the National Science Foundation, National Institute on Disabilities and Rehabilitation Research (NIDRR), the Veteran Administration, and Intel Corporation.

### **ABOUT THE SPEAKER:**

Dr. Sumi Helal is a Professor at the Computer and Information Science and Engineering Department (CISE) at the University of

Florida. His research interests span the areas of Pervasive Computing, Mobile Computing and networking and Internet Computing.

He directs the Mobile and Pervasive Computing Laboratory and leads the technology development of the NIDRR-funded

Rehabilitation Engineering Research Center on Successful Aging (RERC). He is cofounder and Director of the Gator Tech Smart

House, an experimental home for applied pervasive computing research in the domain of elder care. Additionally, he is founder,

President and CEO of Phoneomena, Inc., a mobile application and middleware company, and President of Pervasa, Inc., a University

of Florida start-up focused on platform and middleware products for sensor networks.

Outside of his teaching and research, Dr. Helal is a co-founder and an editorial board member of the IEEE Pervasive Computing magazine. He is the Editor of the magazine's column on Standards, Tools and Emerging Technologies.

He is also an

Associate Editor of the IEEE Transaction on Mobile Computing. He has published over 200 books, book chapters, journal articles, and conference or workshop papers. He is a Senior member of the Institute of Electrical and Electronics Engineers (IEEE), and a member of the Association for Computing Machinery (ACM) and the USENIX Association. Born in Suez, Egypt, Dr. Helal earned his B.E. and M.E. degrees in Computer Science and Engineering from Alexandria University, Egypt, in 1982 and 1985 respectively. He earned his Ph.D. in Computer Sciences from Purdue University in 1991. Before joining the University of Florida, he held academic and industrial research positions at MCC, Purdue University and the University of Texas at Arlington.