

Professor Ali H. Sayed Receives Multiple Awards Including the Technical Achievement Award

Professor Ali H. Sayed, who directs the UCLA Adaptive Systems Laboratory (www.ee.ucla.edu/asl), is an accomplished researcher and a prolific author with 430+ scholarly publications and five books. He is recognized internationally for his leadership in the broad area of statistical signal processing. His research involves several areas of inquiry including adaptation and learning, network science, information processing theories, and biologically-inspired designs. His work deals with the analysis and design of systems with self-learning abilities. These systems continually learn and adjust their structure in response to streaming information and to drifts in the environment, in order to deliver consistent performance. Such adaptive structures are widely used across many fields including communication systems, guidance and control, biomedical devices, and electronic circuitry. Professor Sayed's ingenious contributions to the field have taken adaptation to a new level. He has published two authoritative textbooks on the subject, which are now used as references at many institutions worldwide: *Fundamentals of Adaptive Filtering* (2003) and *Adaptive Filters* (2008). The first textbook was recognized for its quality and awarded the 2005 Terman Award by the American Society of Engineering Education.

Professor Sayed's recent efforts deal with the design of complex networks of adaptive agents that coordinate their operation in intelligent ways to solve challenging inference and optimization tasks. His research group pioneered the concept of diffusion adaptation for distributed learning over networks, and was the first to show how to perform adaptation in real-time over networks. His work established important analogies with the cognitive abilities of biological networks including fish schooling, bird formations, and bee swarming. Several of his articles in this area are well cited and have motivated a flurry of investigations by other researchers worldwide. In November 2009, he organized in Los Angeles an NSF Workshop on the topic of *Distributed Processing over Cognitive Networks* to help highlight the research challenges and opportunities in this field of research. He delivered recently keynote lectures at the two major international conferences in the signal processing field. His May 2013 plenary lecture at ICASSP (in Vancouver, Canada) was entitled "The Splendor of Nature:

Lessons in Adaptation and Learning over Networks," while his September 2013 plenary lecture at EUSIPCO (in Marrakesh, Morocco) was entitled "Online Learning and Adaptation over Networks." ICASSP is the flagship international conference with over 2400 attendees and EUSIPCO is the main annual European conference in the field.

Professor Sayed's work has been recognized with several recent awards including the 2013-2015 Leverhulme Visiting Professorship Award (United Kingdom) and the 2012 Technical Achievement Award from the IEEE Signal Processing Society for his "fundamental contributions to adaptive and statistical signal processing." The Technical Achievement Award honors a person who, over a period of years, has made outstanding and impactful technical contributions to theory and/or practice of signal processing. He has also been awarded several Best Paper Awards from IEEE (1996, 2002, 2005, 2012) and served as a 2005 Distinguished Lecturer for the IEEE Signal Processing Society. In 2003 he received the prestigious Kuwait Prize in Basic Sciences from the Government of Kuwait. He is a Fellow of IEEE and was elevated in 2012 to Fellow of the American Association for the Advancement of Science (AAAS), publisher of the journal *Science*. Fellows are chosen for their distinguished efforts



to advance science or its applications. Despite his extensive research efforts, Professor Sayed is able to find quality time to serve his community, department, and university. Among other activities, he served as Editor-in-Chief of the IEEE Transactions on Signal Processing (2003-2005), which is the leading journal in the field, as General Chairman of IEEE ICASSP (Las Vegas, 2008), and as Vice-President of Publications of the IEEE Signal Processing Society (2009-2011). He also served as member of the Board of Governors (2007-2011), Awards Board (2005), Publications Board (2003-2005, 2009-2011), Conference Board (2007-2011), and Technical Directions Board (2008-2009) of the same Society. Professor Sayed served as Chairman of Electrical Engineering at UCLA (2005-2010). He is the inventor and lead architect of the EEweb interface for online and integrated assessment of curricular activities, which has been adopted by all engineering departments at UCLA since 2003.

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