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Distinguished Lecture Series

presented by the Department of Electrical and Computer Engineering,
Information Infrastructure Institute (iCUBE), and
Women in HCI Lecture Series

SEPTEMBER 21

1:10–2 p.m. in Howe Hall, Alliant Energy-Lee Liu Auditorium

"EMOTIONAL INTELLIGENCE TECHNOLOGY AND AUTISM"

Rosalind Picard

Director of the Affective Computing Group and Autism and Communication
Technology Initiative, Massachusetts Institute of Technology



Abstract: Skills of emotional intelligence include the ability to recognize and respond appropriately to another person's emotion, and the ability to know when (not) to display emotion. This talk will demonstrate advances at MIT aimed at giving several of these skills to technology, including mobile devices, robots, agents, and wearable and traditional computers. I will present live demonstrations of current technology, including a system developed with Rana el Kaliouby to recognize cognitive-affective states in real-time from a person's head and facial movements. This technology computes probabilities that a person looks like he or she is concentrating, interested, agreeing, disagreeing, confused, or thinking. These states signal important information such as when is a good time to interrupt, or when it might be appropriate to apologize for interrupting. A wearable version of this system is being developed for helping people who face challenges in reading real-time social-emotional cues. I will describe several other new affective technologies that facilitate emotion measurement and communication, and describe applications in autism.

Speaker biography: Rosalind Picard is founder and director of the Affective Computing Research Group, and co-founder and director of the Autism and Communication Technology Initiative at the MIT Media Laboratory. After receiving a bachelor's degree in electrical engineering with highest honors from Georgia Tech, Picard joined AT&T Bell Labs where she contributed to the design of the DSP16 chip and developed new algorithms and architectures for image compression. Picard earned master's and doctorate degrees in electrical engineering and computer science from MIT, and joined the MIT faculty in 1991. At MIT, she pioneered research on content-based retrieval of image and video, contributing to the Photobook system and introducing the use of new mathematical models and semantic descriptions such as Wold features. In 1997, she authored the book *Affective Computing*, laying the foundation for a new field of research giving computers skills of emotional intelligence. Picard led the world's first research group focused on creating technology to recognize, interpret, and respond empathetically to emotion in multiple modalities, including physiology, face, posture, and task behavior. Applications of her research include autism, health, fitness, education, usability, marketing, and customer service.

Reception with refreshments to follow the seminar.

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