

Thursday, March 18

Scaife Hall Auditorium

Room 125

4:30 p.m.

Refreshments at 4:00 p.m.



Joel L. Dawson

Associate Professor
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Joel L. Dawson is an associate professor in the Department of Electrical Engineering and Computer Science at MIT. He received the S.B. in EE from MIT in 1996, and the MEng. degree from MIT in EECS in 1997. He went on to pursue further graduate studies at Stanford University, where he received his Ph.D. in Electrical Engineering for his work on power amplifier linearization techniques. Before joining the faculty at MIT, Dr. Dawson spent one year at a startup company that he co-founded. He continues to be active in the industry as both a technical and legal consultant. Prof. Dawson received the NSF CAREER award in 2008, and the Presidential Early Career Award for Scientists and Engineers (PECASE) in 2009.

Digitally Assisted Architectures for the Next Generation of RF Transceivers

Many of the architectures that we use in RF transceivers are very old – Edwin Armstrong invented the superheterodyne receiver in 1917 – and fundamentally sound. For decades, we have wisely confined ourselves primarily to innovation at the transistor and building-block level. Now, however, Moore's Law scaling has completely changed the game. We live at a time when we can specify a design with billion transistors, and reasonably expect every one of those transistors to work! "Digitally assisted" transceivers are transceivers that take advantage of this astounding capability. This presentation focuses on the principles of good digitally assisted design, and examines a few recent successful architectures.

ECE Seminar Hosts

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