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**ELECTRICAL & COMPUTER
ENGINEERING**
TEXAS A & M UNIVERSITY

S E M I N A R

Room 1003 ETB

Tuesday, October 29, 2013 3:55 - 5:10 P.M.

Design Challenges for Noise and Linearity Improvement in Wireless Wideband Receivers

by

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Abstract: As the technology moves toward multi-standard systems in the same device, multi-band receivers are the area of focus in recent years which consumes a large power and silicon area. A single wideband receiver (RX) has the advantage of replacing all the receivers, however it needs to compete with the performance of a well-designed narrow-band system. Therefore, noise and linearity performance are the major challenges in today's wideband wireless receiver design. As the receiver needs to operate in a large frequency band, saw-less or tunable RF front-ends are employed to be able to tolerate strong out-of-band blockers. On the other hand, due to multiple signals at the RX input, the noise performance of these receivers will be degraded comparing to narrow-band counterparts. This requires a receiver design with very low noise figure (NF). In this seminar, design challenges for noise and linearity improvement in wireless wideband receivers along with multiple design approaches will be investigated.

Hajir Hedayati was born in Oroumieh, Iran in 1985. He received his Master's degree in electronics engineering (with honors) from Sharif University of Technology, Tehran, Iran, in 2009, and is currently working toward the Ph.D. degree at Texas A&M University, College Station, Texas.

He is the recipient of 2011 Intel/Helic/CICC Student Scholarship Award. His research interests include the analysis and development of integrated circuits for narrow-band and wideband transceivers.