School of Engineering

Embedded Electrical and Computer Engineering

MASTER ORAL DEFENSE

TITLE: **Design of on Chip Temperature Monitoring in 90nm CMOS**

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TIME & DATE: **8 AM, December 17st, 2010** **LOCATION:** **SCI 256**

COMMITTEE CHAIR: **Dr. Hamid Mahmoodi**
COMMITTEE MEMBERS: **Dr. Hamid Shahnasser**

ABSTRACT

This talk presents a novel integrated design of on chip temperature monitoring sensor in 90nm CMOS technology for a wide range of temperature variation. Modern VLSI designs experience significant temperature change due to variations in workload and ambient conditions. The change in temperature can cause variation in other performance parameters such as power and reliability. Modern chips use complex self-calibration techniques to adjust design parameters to safeguard the chip's operation against temperature fluctuations. Any on-chip self-calibration system needs a temperature monitoring to observe the temperature of the chip at the spot of interest.