

# **COLLOQUIUM**

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**Electronic Materials: Past, Present and Future**

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## **Abstract**

Happy 70<sup>th</sup> birthday to the transistor! Three score and ten is a substantial full life. And indeed we are seeing predictions, prognostications and ingenious research to replace the silicon transistor...and also a share of skeptics. Silicon has been a mainstay of the information revolution for over 60 years. It has been a great success, and continues to evolve. Many contenders vie for this top spot in the semiconductor materials world and new challengers appear as we see the end of the road (map). They include compound semiconductors such as GaAs, two-dimensional (2D) monolayer crystals such as graphene and MoS<sub>2</sub>, 1D nanostructures such as carbon nanotubes and entirely new forms of conveying information such as spin devices. Also on the list are phase-changing materials such as VO<sub>2</sub> and the 2D electron gas formed in MBE oxide superlattices. This talk, aimed at graduate students, will describe the history of silicon, its future and the contenders.

**Monday, February 27, 2017, 3:00 pm**

**SERC, Room #116**

**Refreshments served at 2:45 pm**