

# **FKA 190 Modeling and Fabrication of Micro/Nanodevices**

**Spring 2006**

## **Project proposal:**

### **"Effect on post-metallization anneal and hydrogenation on interface states in SiC MOS devices"**

The aim of this project is to investigate how interface defects at the SiO<sub>2</sub>/SiC interface react to hydrogen annealing treatment. The SiO<sub>2</sub>/SiC interface is the heart of SiC MOSFET transistors and the effect of hydrogen on this interface is poorly understood. The effect of hydrogenation appears to depend strongly on the type of thermal oxide used in these structures. In this project the students fabricate various metal-oxide-SiC devices and perform electrical analysis to determine the interface properties. The project includes, literature study, planning of the experiments, clean room work (metallization, oxidation, furnace annealing, wet etching and cleaning, lithography), electrical characterization (capacitance-voltage and current-voltage measurements) and finally analysis and report writing.

#### **Supervisor**

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