Work Plan

1. Meeting to discuss PhD collaboration and roles
2. Interposer and Transistor Project
   1. Interposer and ACF
      1. Substrate type (p vs n type, orientation, size)
      2. Mask 1 pattern - Au wells (depth, width, separation of Au solder spheres)
      3. Incorporating ACF
      4. Au for interposer - Global deposition vs photolithography
      5. How to incorporate Interposers - sapphire or quartz?
   2. Individual Field Effect Transistors
      1. Mask designs (size and separation distance of transistors)
      2. Metals, insulators and doping
      3. Exposed gate oxide
3. Cleanroom access. Currently trained and have access for the following tools:
   1. Aligner
   2. E-beam evaporator
   3. Sputter
   4. RIE
   5. RTA
   6. SEM

* Short-term goal: resolve PhD status and re-gain access to fabrication tools and cleanroom. Begin researching interposer systems and develop mask design for Au solder sphere wells. Find a reliable method for ACF application and establish gold/metal trace contact. Select and determine a method for incorporating sapphire or quartz interposer. Develop a robust fabrication procedure for the interposer for IC packaging.
* Mid/long-term goal: successfully complete steps 1 and 2 of the project plans and explore different exposed gate oxides. Solidify a procedure for given exposed gate oxide and refine sensor of choice. Use the knowledge and skills gained from both PIs to develop a more personalized project, refine my research interests and decide on a post-doctoral position.

Schedule

* + Mon. at 9am-12:50pm(lab); Open schedule after lab
  + Tue. at 10am-10:30am(meeting); 3:30pm-4:50pm(lecture); 5:30pm-6:50pm(lecture); Open

schedules in between

* + Wed. at 4pm-6:50pm(lecture); Open schedule after lecture
  + Thu. at 3:30pm-4:50pm(lecture); 5:30pm-6:50pm(lecture); Open schedule before lecture
  + Fri. at 9am-1:00pm(lecture/seminar); Open schedule after seminar
* *Inquiry about removing one or two courses to create more time for research*