Materials and Devices for Flexible Electronics

M.A. Quevedo-Lopez

Department of Materials Science and Engineering, University of Texas at Dallas, Richardson, Texas, 75080: mquevedo@utdallas.edu

The development of low temperature, thin film transistor processes that has enabled flexible displays also presents opportunities for flexible electronics and flexible integrated systems. Of particular interest are possible applications in flexible, low metal content, sensor systems for unattended ground sensors, smart medical bandages, electronic ID tags for geo-location, conformal antennas, neutron/gamma-ray/x-ray detectors, etc. In this short course, we review the state-of-the-art in flexible electronics materials and devices and present recent results in our efforts to fully integrate complementary metal oxide semiconductors. We conclude with a discussion of the constraints of thin film transistors and the remaining challenges.