229a Inorganic Nanowires for Electronics Applications [Invited]

M. Meyyappan

Nanowires of silicon, germanium and various high temperature oxides find applications in future electronics devices, detectors, nanolasers and chemical sensors. Many of these applications require vertical nanowires for further device processing. This talk will describe our vapor-liquid-solid (VLS) based process for growing ZnO tin oxide, germanium and silicon nanowires. Catalysts other than gold and catalyst-free approaches will be discussed as gold is not compatible in device processing. Results for nanoelectronics devices, for example, vertical surround gate transistors, will be presented. The author acknowledges the contributions of Pho Nguyen, Bin Yu, Aaron Mao, S. Vaddiraju, M. Sunkara, A. Chin, and C. Ning for the material covered in this invited presentation.