

CAMT Seminar

Multidisciplinary Solid State Science and Technology - Plasma Process and beyond

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Date: August 7, 2017 (Monday) 14:00-15:00

Location: Main Conference Room (1st floor), Bldg. A12

Center for Atomic and Molecular Technologies (CAMT)

(A12 棟 1 階会議室)

Abstract:

MOSFETs and TFTs are two of the most important transistors in the two largest electronic industries, i.e., ICs and AMLCDs, today. In spite of their different develop trends, the fundamental principles are the same. For the state-of-the-art IC, billions of single crystal Si based nano transistors are interconnected with multilayer copper wires in a finger-nail sized territory on a 12-inch wafer. For the most advanced TFT LCDs, 10s of millions of a-Si:H TFTs are interconnected with copper lines on a 10 m² glass substrate. The success of the technology is dependent on three critical and closely related elements – processes, materials, and devices. I will give examples of my work on the large area TFT array fabrication based on plasma processes, especially the plasma phase chemistry and physics. I will also discuss my recent work on transforming the homogeneous high-k thin film into heterogeneous structures for various device applications. Challenges on future solid state developments will be discussed.

(Host: Satoshi Hamaguchi Ext:7913)