

# CAMT Seminar

## “Plasma-Surface Interactions in Semiconductor Processing”

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**Date: December 1, 2017 (Friday) 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:**

Ionized gas plasmas near room temperature are used in a remarkable number of technological applications mainly because they are extraordinarily efficient at exploiting electrical power for useful chemical and material transformations near room temperature. For example, plasma-assisted thin film deposition and etching applications in integrated circuit manufacture have evolved into technologies that allow control of features at the nanometer scale in commercial processes. Recent developments in atmospheric pressure plasmas have shown great progress in biomedical and agricultural applications.

Low temperature plasmas (LTPs) are virtually always bounded by surfaces. Charged particles from the plasma recombine and are emitted at walls; plasma species exchange mass, momentum and energy with walls; the plasma electrostatic potential is referenced to wall potential; energetic and often chemically reactive charged and neutral species from the plasma impact surfaces and reflect, embed, diffuse and desorb back into the plasma; dust particle nuclei may originate at surfaces; and surface erosion and re-deposition often dramatically alter plasma neutral composition and temperature. In this talk, I will present an overview of low temperature plasma-surface interactions with an emphasis on what the LTP community has learned during the last several decades, including some thoughts on new directions and opportunities.

**(Host: Satoshi Hamaguchi Ext:7913)**