CAMT Seminar

“Plasma devices for the processing and modification of materials”

Prof. Magdaleno R. Vasquez Jr.

Department of Mining, Metallurgical, and Materials Engineering, College of Engineering,
University of the Philippines, Diliman, Quezon City 1101 Philippines

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Location: Main Conference Room (1st floor), Bldg. A12
Center for Atomic and Molecular Technologies (CAMT)
(A12 棟 1 階会議室)

Abstract:

Surface modification via gaseous discharges has been extensively used due to its robustness, speed, and usually environmentally-benign processes. At the University of the Philippines, different plasma systems were developed for the valorization of locally-sourced and indigenous materials. These systems ranged from different operating pressures from atmospheric to high vacuum systems, from glow discharges to ion sources including the repurposing of an off-the-shelf microwave oven as a plasma device. Plasma-treated materials include natural zeolites, natural fibers, chitosan-zeolite composites as well as exfoliated graphene. The plasma modification allowed the tuning of surface properties without affecting the bulk properties for specific applications ranging from inducing biocompatibility to salt rejection for desalination applications to cement reinforcement. Plasma exposure also allowed the reduction of impregnated ions in a support matrix without undergoing heat treatment nor the use of toxic chemicals. At present, plasma-based research in the Philippines is gaining ground to provide alternative solutions to the modification and improvement of locally available materials.

(Host: Satoshi Hamaguchi Ext：7913)