

CAMT Seminar

“Influence of Energetic Conditions on the Plasma Polymerization of Cyclopropylamine in Capacitively Coupled Discharges”

Prof. Lenka Zajíčková

Department of Physical Electronics, Faculty of Science,
Central European Institute of Technology (CEITEC), Masaryk University.
Brno, Czech Republic

Date: 5 February, 2019 (Tue) 15:00-16:00

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

Center for Atomic and Molecular Technologies (CAMT)

(A12 棟 1 階会議室)

Abstract

Thin films prepared by plasma polymerization of cyclopropylamine (CPA) in capacitively coupled discharges demonstrated their attractive functional properties as a matrix layer in immunosensors or surface modification of synthetic polymers used for a cell cultivation. These bioapplications required tuning the concentration of amine and other bio-active groups together with the film stability in aqueous media. Since the final plasma polymer composition is influenced by the discharge power and the polymer cross-linking can be modified by ion energy flux towards the growing film the investigation of bulk plasma and plasma-surface interactions with respect to the energetic conditions are necessary for fundamental understanding of the overall process. This work puts together the results on the plasma polymer properties with the plasma diagnostics by mass and ion spectrometry, optical emission spectroscopy and retarding field energy analyzer placed at the substrate position. The experiments are complemented by the molecular dynamic simulations of the film growth.

(Host: Satoshi Hamaguchi Ext:7913)