



BILKENT UNIVERSITY

unam - INSTITUTE of MATERIALS SCIENCE & NANOTECHNOLOGY

FACULTY OF SCIENCE

**MATERIALS SCIENCE and NANOTECHNOLOGY
GRADUATE PROGRAM SEMINAR**

**“Epigenetic and Serological Alterations in Cancer and their Utility
as Biomarkers”**

Ali Osmay GÜRE, MD, PhD

Bilkent University

Department of Molecular Biology and Genetics

Personalized treatment regimens for lung cancer are new and very important alternatives to current treatment modalities. In this line, biomarkers that can aid in shaping therapy and/or help diagnose cancer at its earliest stage, are of utmost importance. Our most recent work relates to two groups of such biomarkers, those that reflect epigenetic alterations, and those which are due to an autologous serological response to the tumor. We have shown that cancer-testis (CT) gene expression is a biomarker of DNA hypomethylation in cancer and that it correlates with worse prognosis. Since only a percentage of tumors express CT genes, we investigated the mechanism underlying CT gene expression regulation. I will present our recent data pertaining to the elucidation of these mechanisms as well as those revealing correlations between one-carbon metabolism enzyme genotypes and CT expression that suggest a dietary intervention to be of potential benefit for the cancer patient. We have recently completed a proteomic screening study revealing the presence of more than 20 novel antigenic molecules targeted by autologous antibodies in lung, colorectal and gastric cancer patients. The high sensitivity and specificity of these markers, as well as the correlation of some with better prognosis has implications for the early diagnosis of lung cancer and its immunotherapy. Our recently published as well as unpublished data on both topics will be summarized.

Date : May 7, 2010 (Friday)

Time : 15:40

Place : Faculty of Science Building, A Block, Seminar Room (SA 240)

Tea and cookies will be served after the seminar