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Οδός Σταδίου, Ρίο, Τ.Θ. 1414, 265 00 Πάτρα
Τηλ.: 2610 965 300 & 3, Fax: 2610 990 987
www.iceht.forth.gr

ΣΕΜΙΝΑΡΙΟ

ΟΜΙΛΗΤΗΣ: DSc Miroslaw Derewinski
Institute of Catalysis and Surface Chemistry
Polish Academy of Sciences
Cracow

ΘΕΜΑ: **From zeolites to nanomaterials of multimodal pore systems**

ΤΟΠΟΣ: Αίθουσα Σεμιναρίων ΙΤΕ/ΕΙΧΗΜΥΘ

ΗΜΕΡΟΜΗΝΙΑ: Παρασκευή, 10 Νοεμβρίου 2006

ΩΡΑ: 11:00

ΠΕΡΙΛΗΨΗ

Zeolites (molecular sieves) play an important role as catalysts, ion-exchangers and sorbents. The isomorphous substitution of framework silicon with various metal atoms is widely used to modify the acidic function of zeolites. This modification influences also textural properties of the crystals synthesized. The effect of the synthesis conditions and the isomorphous substitution on the formation, size and morphology of the crystals obtained will be presented.

Similarity between the diameter of micropores and the size of reacting molecules can cause difficulties in transport of substrate/product inside the catalysts and limit the field of application of the zeolite-based materials. Thus, preparation of new systems with reduced limitations on diffusion and improved catalytic performance, i.e. possessing high accessibility of the active sites, is highly desirable. Generation of mesopores in the crystals of microporous materials, transformation of noncrystalline meso- and macroporous materials into systems containing zeolitic domains, and direct duo-templating synthesis of composite meso/microporous materials will be discussed during the lecture.