



ΙΔΡΥΜΑ ΤΕΧΝΟΛΟΓΙΑΣ ΚΑΙ ΕΡΕΥΝΑΣ

ΕΡΕΥΝΗΤΙΚΟ ΙΝΣΤΙΤΟΥΤΟ ΧΗΜΙΚΗΣ ΜΗΧΑΝΙΚΗΣ
ΚΑΙ ΧΗΜΙΚΩΝ ΔΙΕΡΓΑΣΙΩΝ ΥΨΗΛΗΣ ΘΕΡΜΟΚΡΑΣΙΑΣ

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ΣΕΜΙΝΑΡΙΟ

- ΟΜΙΛΗΤΗΣ:** Dr. Branko Tomazic
ADA-NIST, Bethesda MD, USA
- ΘΕΜΑ:** **Physico-chemical principles of cardiovascular calcification**
- ΤΟΠΟΣ:** Αίθουσα Σεμιναρίων ΙΤΕ/ΕΙΧΗΜΥΘ
- ΗΜΕΡΟΜΗΝΙΑ:** Πέμπτη, 23 Ιουνίου 2005
- ΩΡΑ:** 12:00

ΠΕΡΙΛΗΨΗ

The presentation aims at providing detailed physico-chemical information on the nature of pathological cardiovascular deposits (pcd) isolated from different sites of the human cardiovascular system. Special emphasis is given to the consideration of the potential precursor phases formed in pcd's using in vivo and in vitro studies. The presence of HAP, the thermodynamically most stable calcium phosphate does not preclude the formation of transient phases. The tools for the identification of all possible calcium phosphates formed both in vivo and in vitro include all possible physical and chemical methods for solids characterization. Chemical analytical data suggest that pcds contain considerable amounts of organic compounds while the inorganic part is bio apatite, i.e a calcium deficient hydroxyapatite. Pcd formations of varying crystallinity suggested that the crystal growth process of these pathological deposits depends both on the time scale and on the fluid dynamics. Transient phases including octacalcium phosphate (OCP) and amorphous calcium phosphate (ACP) were found in pcds.