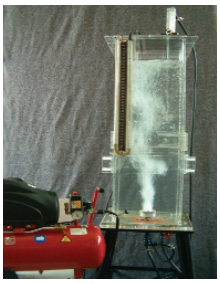
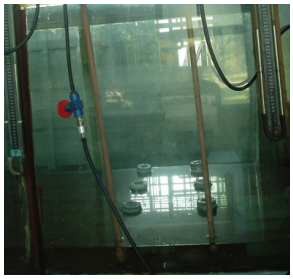
Department Hydro-gas-dynamics

Institution INCDIE ICPE-CA Bucharest
Contact Person:Prof. Gheorghe Baran **baran_gheorghe@yahoo.co.uk**





Ceramic porous diffuser manufacture and certification for waste water aeration MENER, No. 411/2004

Competence / Resources

Skills in the field of the proposed project:
Theoretical researches concerning initial radius of bubbles and its vertical variation, bubbles generation regime, ascending velocity, emission frequency
Experimental researches concerning head loss determination $\Delta\rho$ as a function of flow rate and materials porosity and bubbles columns stability
Experimental researches concerning mass transfer efficiency worked out using the ASCE (American Society of Civil Engineers) standard
Equipment:
Specific instrumentation for: flow rate, pressure, temperature and physical properties determination
Human resources:
1 Prof., 1 Ph.D., Ph.D. students, 1 M.Sc.

Proposal/ interest

Equipment for fine bubble diffusers performances determination
Aim: Advanced researches in the field of hydrodynamics and mass transfer in bubble columns in free surface flows with application in environmental technologies
Especial interest
We are looking for high skilled partners in micro-materials manufacture

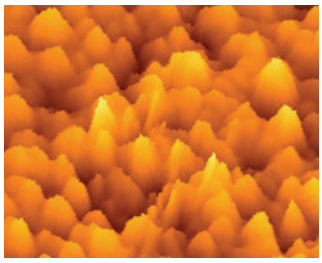
CENTRE of NANOSTRUCTURES and FUNCTIONAL MATERIALS (CNMF)

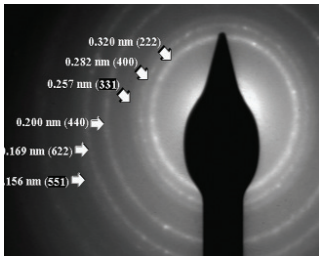
Faculty of Science and Faculty of Metallurgy and Materials Science, Dunarea de Jos Galati University,
Contact: Director Viorica Musat (**viorica.musat@ugal.ro**)

Proposals / Interests

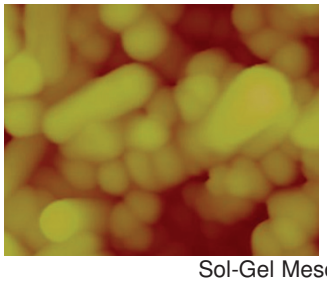
1. Incorporation of Bioactive Compounds: Vitamins, Probiotics, bioactive Peptides, and Antioxidants.
Synthesis and Characterization of Bioactive Heterocyclic Compounds (Electrochromics and/or Photoluminescents).
2. PVD, Electrodeposition and Characterization of Semiconductor, Composite and Nanocomposite Thin Films.
3. Sol-Gel Preparation and Characterization of Multifunctional Thin Films: Transparent and Conductive Oxide (TCO)/ electrodes; Mesoporous Oxide and Nanocomposite/gas sensitive materials.
4. Elaboration, "Education" and Characterization of Al-Cu-based Shape Memory Alloys
5. CVD Deposition and Characterization of Ceramic Coatings for Chemical and Mechanical Barriers.
6. Electrodeposition and Characterization of Micro/nanocomposite Coatings for Chemical and Mechanical Barriers

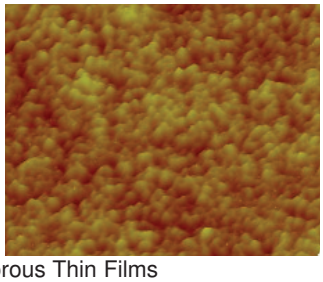
Competences / Resources



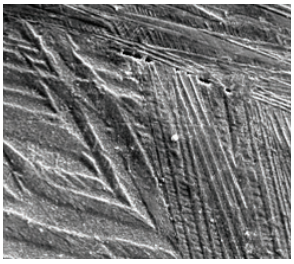


PVD Thin Films

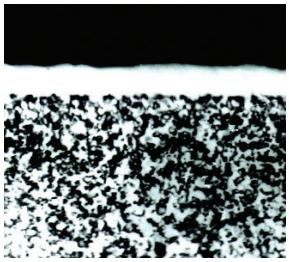




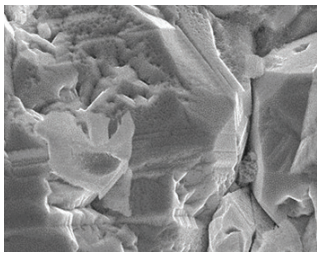
Sol-Gel Mesoporous Thin Films



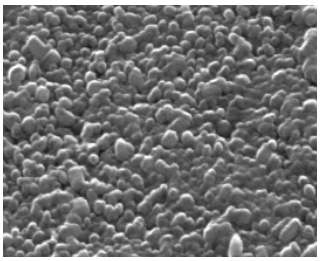
Shape Memory Alloys



CVD ceramic coatings



Electrodeposed composite coatings



Sol-Gel Transparent Conductive Thin Films

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