

BENEMÉRITA UNIVERSIDAD AUTÓNOMA DE PUEBLA



INSTITUTO DE FÍSICA
"Luis Rivera Terrazas"



SEMINARIO EXTRAORDINARIO
"DR. JESUS REYES CORONA"

"Use of Interface(s) for generating nanoparticulate Stabilizer-free films of metals, chalcogenides, oxides and organic materials".

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Interfaces have been customarily employed towards the preparation of particulate assemblies and films of metals, oxides and semiconductors. In particular, the interface(s) between water and organic liquid, and or, between a solid thin film and a liquid, and or, between a gas and liquid have not been sufficiently exploited to make Stabilizer-free uncapped nanoparticles. In this talk, results will be presented on the use of liquid-liquid, solid- liquid, gas-liquid interfaces as a medium for preparing stabilizer-free ultrathin films of metals, chalcogenides and oxides. All the three methodologies, involve triggering and completion of the reaction between a particular set of ions in one medium and its appropriate counter-ion for reduction, sulfidation, etc. in the other medium. Only, the procedure to produce organic nanoparticles differs from being not limited to reaction at interface(s), but recrystallization at interface(s) can also yield nanoparticles. Some of the materials discussed herein include Ag, Au, CdS, PbS, ZrO₂, CuPc, PbCrO₄ etc. The results reported vide this talk should demonstrate the versatility and potential of the interface(s) towards synthesis of nanoparticulate thin films and would surge further activity in this area of uncapped particles both from the view point of fundamental academic understanding and possible technology.

Auditorio-IFUAP
Viernes 08 de Mayo de 2015
13:00 Hrs.