



Field-Assisted Assembly of Nanomaterials and their Optical, Mechanical, and Electrical Properties

**Wednesday January 30, 2008
BABBIO 110, Time 11am [note room/time change]**

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Electric fields are useful in combining nanocomponents to form nanomaterials in a spatially selective manner. The assembly of thin films of CdSe nanocrystals by electrophoretic deposition is described, along with the mechanical and optical properties of these films. The nature of the assembly and film properties are quite dependent on the nanocrystal charge and capping ligands. The precise controlled dielectrophoretic placement of carbon nanotubes in electrode geometries is also presented.

PROFESSOR IRVING HERMAN graduated with S.B. and Ph.D. degrees in physics from M.I.T. in 1972 and 1977. From 1977-1986 he was a member and section leader in O-group within the Physics Department at the Lawrence Livermore National Laboratory, where he was engaged in research in laser isotope separation of deuterium and tritium, and the use of direct laser writing in thin film processing. In 1986, he joined the faculty of Columbia University, where he is now Professor of Applied Physics, Director of the Columbia Materials Research Science and Engineering Center (MRSEC), Chair of the Department of Applied Physics and Applied Mathematics, and a member of the Columbia Center for Integrated Science and Engineering (CISE), and the Center for Electron Transport in Molecular Nanostructures (NSEC). He is a fellow of the American Physical Society and the Optical Society of America. His research interests include the fundamental aspects and applications of laser interactions with matter and nanoscience. This includes properties of nanocrystals and films composed of nanocrystals, optical physics of the solid state, molecular and chemical physics, thin film processing, and optical spectroscopy.

Light refreshments will be served prior to seminar

For additional information please contact Prof. Stefan Strauf, strauf@stevens.edu



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