Dr. Leonidas Ocola
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Theme: Nanofabrication & Devices
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Research Summary:
Research interests include novel nanofabrication techniques, micro- and nanofluidics, plasmonic optical devices, transparent capacitors, templated self assembly, nano-electrical mechanical systems (NEMS), electron-matter interactions, single molecule spectroscopy. Experimental expertise is in the areas of nanofabrication using electrons, ions, and photons, scanning probe microscopies and other materials characterization techniques, modeling and simulation.

Selected Recent Publications:
G. Lu, L. Ocola , J. Chen, Proceedings of 2008 ASME International Conference, Clear Water Bay, Kowloon Hongkong, China, 2008, "Novel Gas Sensors Fabricated Using Tin Oxide Nanocrystal-Carbon Nanotube Hybrid Structures"

M. Lu, L. E. Ocola, R. Divan, and D. C. Mancini, Proc. SPIE 7039, 70390V (2008), “Fabrication of high-aspect-ratio hard x-ray zone plates with HSQ plating molds”,

L.E. Ocola, H. Li, O. Auciello, Clean Technology 2008 Proceedings, Chapter 2: Renewables: Photovoltaics, Wind & Geothermal, p.105, (2008), “Enhanced Photocurrent in Transparent Lead Zirconate-Titanate Thin Film Capacitors Under Sun Light Illumination”

L. E. Ocola, X.-M. Lin, Nanotechnology 2008: Materials, Fabrication, Particles, and Characterization - Technical Proceedings of the 2008 NSTI Nanotechnology Conference and Trade Show, 1, 578, (2008), “Templated Self-Assembly of 5 nm Gold Nanoparticles”;

Hao Li, L. E. Ocola, O. Auciello, and M. Firestone, J. Vac. Sci. Technol. A 26, 752 (2008), “Design and fabrication of a multilayer micro-/nanofluidic device with an electrically driven nanovalve”

W. Y-C Lai, L. E. Ocola, S. Pau, Journal Of Experimental Nanoscience, 3, 61, (2008), “Focus section on Nanofabrication Technologies, Devices and Applications”,

J. Hua, Z. L. Xiao, A. Imre, S. H. Yu, U. Patel, L. E. Ocola, R. Divan, A. Koshelev, J. Pearson, U. Welp, and W. K. Kwok, Phys. Rev. Lett. 101, 077003 (2008), “Magnetoresistance Anisotropy of a One-Dimensional Superconducting Niobium Strip”