



November 2011

College of William and Mary



Applied Research Center Student Newsletter

Student Highlight:



Jenna Carlson is a first-year Ph. D. student in Anthropology at the College of William and Mary. She recently used equipment from our lab as part of a graduate-level Biological Anthropology class research project. Jenna was analyzing rodent teeth from Neanderthal and early human sites in Israel to search for evidence of fire use. Accomplishing this required modern burnt rodent teeth to be used as comparatives. Modern samples were imaged using the Phenom SEM and then analyzed through FT-IR. Archaeological rodent teeth can then be compared with the modern data to determine the extent of fire use at prehistoric sites. Jenna's advisor is Miriam Belmaker who was highlighted in our newsletter last month.



Recognition for our Lab

Raja Singaravelu, a graduate research assistant in the Department of Physics at Old Dominion University, recently co-authored a research paper with Michael Kelley, William and Mary Professor in the Department of Applied Science and several others. Raja's research paper titled "Laser Nitriding of Niobium for Application to Superconducting Radio-Frequency Accelerator Cavities" has been published in the November/December issue of the *Journal of Vacuum Science and Technology*. We appreciate the fact that Raja thanked Amy, Brandt, Olga and Nick in the acknowledgments section of his paper for the assistance they provided here at our lab.

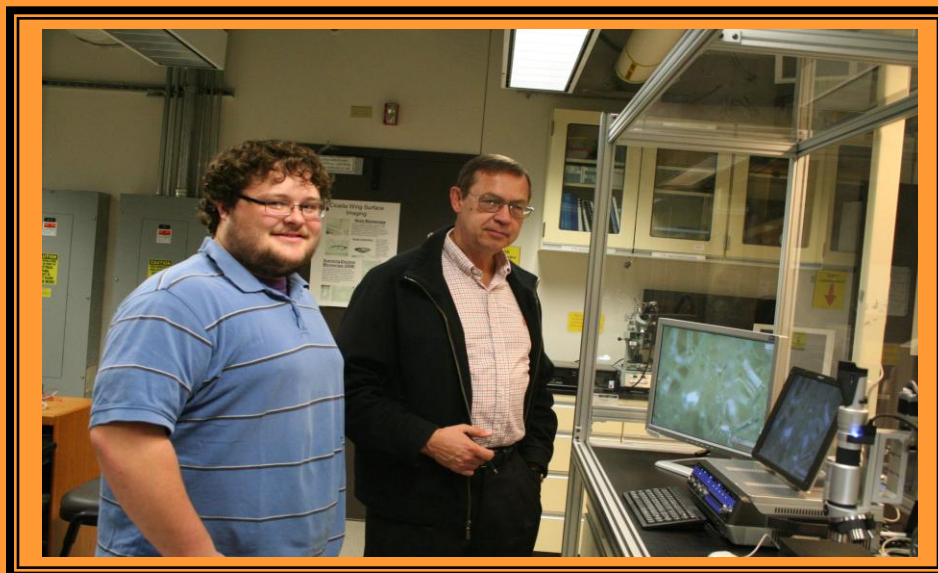
Olga at Work on the Hirox:

During November, **Olga** has been evaluating coated detector wires for Jefferson Lab using the Hirox microscope.



Lab Visitors:

Professor Vladimir I. Gavrilenko is at the Center for Materials Research and in the Department of Physics, of Norfolk State University. His background includes computational materials science and optics of surfaces and interfaces. His current interests lie in linear and nonlinear optics of solid surfaces, organic-inorganic interfaces, and nanostructures. Professor Gavrilenko has authored numerous scientific papers and books including *Optics of Nanomaterials*.



Nick is pictured here with Professor Gavrilenko viewing samples with the Hirox microscope.

Lab Visitors:



Olu Bamiduro, a frequent visitor to the lab, is pictured here with his advisor on the cover of the *Norfolk State University Research Magazine*, spring 2011 edition. Olu has been evaluating copper, indium gallium, and selenide (CIGS) thin films at our lab for solar cell applications to support his Ph. D. research at Norfolk State University.



Brandt is pictured here providing assistance with the FESEM to **Thejaswi Tumkur**, a Ph.D. student at Norfolk State University. Thejaswi is analyzing hyperbolic metamaterials consisting of metal-dielectric structures.