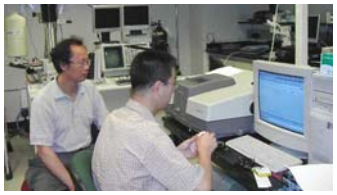
May 2004
College of William and Mary
Applied Research Center Student Newsletter

TOF-SIMS GOLD SOURCE ARRIVES!!!

Alan Marschall from Physical Electronics came the week of 5/11-5/14 to install our new gold source ion beam to the ToF-SIMS. This upgrade to our system will provide us with much higher ions yields at higher masses. This will improve data for both biological and polymer samples. Pictured here are Alan and Amy discussing the changes to the equipment.

Weekly Lab Users



Qiguang Yang (Left) and Baozhu Sun (Rt) are pictured here using the FT-IR located in the ARC Lab 121.

Qiguang Yang is a Post-Doc working in Gunter Luepke's group. His lab is located on site at the JLab Free Electron Laser building. Baozhu was our featured Researcher in the April 2004 Update Newsletter.

Mingyao Zhu, Jianjun Wang, and Amy Wilkerson Attend the Scanning 2004 Conference in Washington DC

The Scanning 2004 Conference, held at the Hotel Washington featured workshops on Scanning Electron Microscopes and Atomic Force Microscopes and presentations in the field of forensic science, biology, and material science.

Christine Conrad Wins the VIMS 2003 John M. and Marilyn Zeigler Student Achievement Award

Christine is pictured here running her samples using the Time-of-Flight Secondary Ion Mass Spectrometer.

The award is presented annually for recognition of scholarly, professional, and personal integrity, and for the contributions made to the VIMS through enthusiastic participation in its academic and research programs. You can visit Christine's web page at http://www.jlab.org/ARC/WM/304/conrad.html

Featured Researcher: Michael Bagge-Hansen

Michael is a rising sophomore at William and Mary who has been working at the ARC for the past year. Over several months, Michael's research has revolved around the design, assembly and function of the MTS Kelvin Probe in a UHV environment. The Kelvin Probe is a surface sensitive technique that measures the relative work function difference between the sample and the stainless steel reference probe. In ambient, adsorbed layers, native oxides, and/or other contaminants may interfere with this measurement. In a controlled vacuum environment, these unwanted species are reduced, thereby making them less likely to influence measurements. Under ultra-high vacuum, the Kelvin Probe will more accurately and precisely measure relative work functions. He hopes to understand the relationship of the surface layers of a processed material to its work function. Ultimately, he wants to correlate these observations to field emission properties.

Editor: Natalie Pearcy. Photos by Olga, Dee Dee, & Kelly