



Applied Research Center Student Newsletter

Future Scientists Visit Labs



Early in August, Dara Woerdeman and two of her children, 7 year old Sloane and 5 year old Sammy came in to do some optical microscopy for a new project Dara is working on.



Possible System Change

Pictured above is Michael Bagge-Hanson, who is working to characterize the rf system for Nimel Theodore's plasma chamber. They're looking to see whether switching from a fixed inducting coil to a variable inductor would be possible. If so, they'd be given another degree of freedom when tuning.

Future Leaders!

Lauren



Ashley

The 8th annual Bridgewater College High School Leadership Academy took place from August 1-6 this year. Ashley Worrell, one of our lab assistants, and Lauren Sullivan, Kelly (also one of our lab assistants) Sullivan's sister, both attended and just happened to be placed in the same group with each other. Bridgewater Academy, which consists of 6 days of leadership seminars and practical workshops, is a very selective program, accepting only 100 high school juniors and seniors who were nominated by their schools. Good job Laurie and Ashley!

Editor: Kelly Sullivan
Photos: Natalie Percy, Dee Dee Hopkins

Featured Researcher



Scott Wight
VCU

Scott Wight is a junior at VCU who has spent the summer participating in the Virginia Microelectronics Consortium. His project for the summer dealt with various metal carbides. Transition metals, specifically metals in Groups IV to VI in the periodic table, can combine with carbon to form transition metal carbides, or more commonly called refractory carbides. These newly formed compounds have many desirable characteristics attributed to them. When implanting the metals with the carbon, the carbon occupies the octahedral interstitial sites of the atomic lattice structure of the metal. The concentration of the vacancies resulting from the metal-carbon ratio have a great effect on the mechanical, electronic, and other properties of metal carbides. Further study of the surface properties and roughness of these metals, along with the relative work functions necessary to emit the electrons from these sources, provides a hope to obtain a better understanding of these refractory metals used for field emission sources.