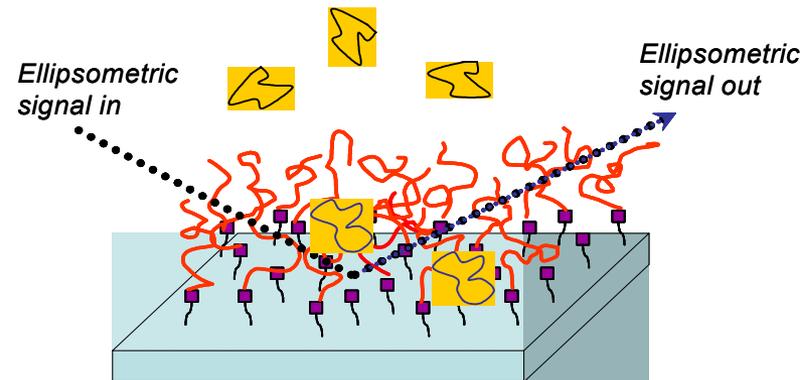
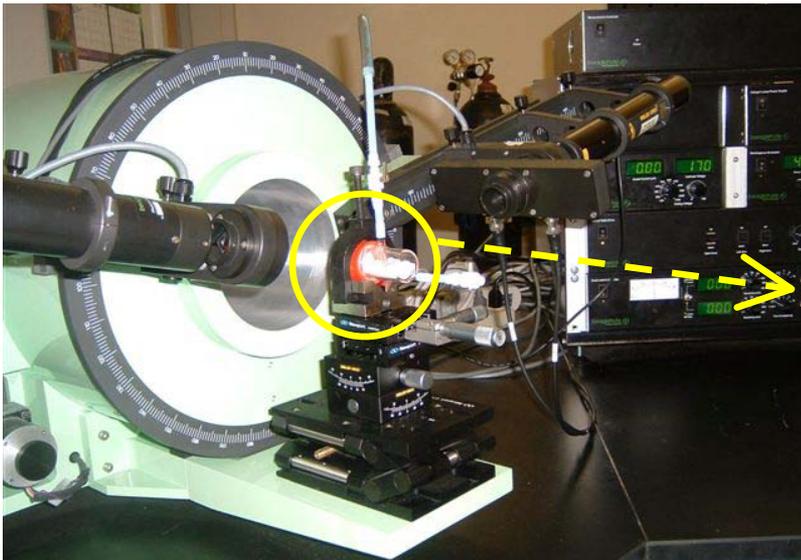


Acquisition of a High-Speed, High-Sensitivity Ellipsometer for Materials Research and Education

S. Michael Kilbey II, Scott M. Husson, Stephen Creager, and Richard Gregory, Clemson University, **DMR-0215881**



This “Instruments for Materials Research” award enabled the purchase of a state-of-the-art phase-modulated ellipsometer. With it, researchers study the adsorption of materials at interfaces and response of surface-tethered layers to changes in their environment. These experiments are ultimately aimed at learning how to develop surface layers for advanced biomaterial coatings, novel separation agents, and chemical sensors.

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Education. This instrument has become a cornerstone of the Surface Analytical Laboratory. Over 12 graduate researchers and 6 undergraduate students (4 from our NSF-sponsored REU program) from 4 different departments, including students affiliated with the NSF-sponsored Center for Advanced Engineering Fibers and Films, use this instrument in their research. During this past year, two leading experts in phase modulated ellipsometry, Dr. David Beaglehole (of Beaglehole Instruments, Wellington, NZ) and Dr. Ryan Toomey (of Center for Ocean Technology, Univ. of South Florida), visited and conducted multi-day training sessions for students on advanced measurement techniques with the instrument.

