

Engineering Student Wins Innovation Award

University of Miami biomedical engineering doctoral candidate Noël Ziebarth, MSBME, recently was awarded a Bausch & Lomb Annual Student Innovation Award. This award recognizes innovative research work and its promising utility in the area of vision science and eye health.

Ziebarth received the award for her innovative research on the origin of presbyopia, the loss of the ability to see at near distances as we age. It is generally understood that presbyopia is caused by changes in the properties of the crystalline lens of the human eye as we age, but the exact causes are unknown. Her research focuses on understanding the role played by the mechanical properties of the crystalline lens. She constructed an Atomic Force Microscope to measure the elasticity of the crystalline lens and their changes with age. Atomic Force Microscopy is an advanced microscopy technique that can be used to measure mechanical properties of cells and tissues at the nanoscale. Her research will be vital in the development of new strategies to correct presbyopia.



She has been working under the supervision of Dr. Jean-Marie Parel, director of Bascom Palmer Eye Institute's Ophthalmic Biophysics Center, Dr. Fabrice Manns from the Department of Biomedical Engineering and Dr. Vincent Moy, from the Department of Physiology and Biophysics.

Ziebarth's research was funded in part by a prestigious National Science Foundation Graduate Fellowship award. Her project is currently supported by the National Eye Institute, the Australian Federal Government CRC Scheme through the Vision Cooperative Research Centre, the Florida Lion's Eye Bank and the Scientific Advisory Committee of the University of Miami.