Vision scientists to explore causes of vision loss in albinism

Jan. 12, 2015 MCW News - The Medical College of Wisconsin (MCW) has received a four-year, $2 million grant from the National Institutes of Health’s National Eye Institute to study the specific parts of the visual system responsible for vision loss in albinism.

Joseph Carroll, PhD, the Richard O. Schultz, MD / Ruth Works Professor in Ophthalmology at MCW and the director of MCW’s advanced ocular imaging program; and Edgar A. DeYoe, PhD, professor of radiology at MCW, are co-principal investigators of the grant.

Albinism is an inherited disorder characterized by reduced pigment in the eye, as well as the skin and hair, and significant visual deficits. Those visual deficits were thought to originate in a small part of the eye called the fovea, which comprises only .02 percent of the total area of the retina, but is responsible for 40 percent of the visual process. However, the MCW team had preliminary data calling into question this textbook model.

In this project, researchers will use noninvasive technologies such as fMRI, adaptive optics, and other methods to characterize the entire visual system to understand the disease process in patients with albinism. The results will provide a more comprehensive understanding of the relationships between pigment, the retina, and overall vision.