University of Rochester
Flaum Eye Institute Basic Science Seminar Series

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Title:

Aging and Age-related Macular Degeneration (AMD): Role of Accumulation of Mitochondrial DNA (mtDNA) Mutations and Analysis of Macular Transcriptomics

Abstract: During aging, the retina undergoes significant functional decline with reported decreases in contrast sensitivity, visual acuity, visual field sensitivity, dark adaptation, and ERG response. At the same time, metabolic dysregulation and mitochondrial (mt) dysfunction in the neural retina and retinal pigment epithelium (RPE) accompany this deteriorating visual function. Mitochondrial dysfunction is also associated with several retinal neurodegenerative diseases, including age-related macular degeneration (AMD), diabetic retinopathy (DR), and glaucoma. What drives the mt failure in aging remains poorly understood; however, dysfunction of mtDNA repair mechanisms has been identified as a potential driver. The research project in my lab aims to decipher the molecular mechanisms associated with Polg-related mt dysfunction in the RPE and photoreceptor cells during aging and how that contributes to retinal neurodegenerative diseases. We also aim to define spatial changes in the RPE and retinal cells in the central retina to enhance our understanding of early-stage AMD and GA by examining the cellular and molecular composition of the macula's retinal layers.

Friday, June 20, 2025 @ 1:00PM

Adolph Auditorium (1.7619)

Zoom Meeting ID: 932 5716 3958

https://urmc.zoom.us/j/93257163958