

# PAGE MORTON HUNTER DISTINGUISHED SEMINAR SERIES



## THE NEED FOR IMPROVEMENT IN OPHTHALMIC LASER PROCEDURES

Ophthalmic lasers are most often associated with refractive surgery, but there are other uses for lasers to treat conditions and diseases of the eye. Laser refractive procedures have benefited by the development of improved and specialized devices, and similar infusion of technology is needed with other procedures.

Four laser procedures are increasing in clinical need, causing demand on an already overwhelmed specialty. Besides the need for timely delivery, these procedures can have complications such as retinal detachments, macular edema, vitreous hemorrhages, and unintentional damage to other structures. Laser Peripheral Iridotomy and Selective Laser Trabeculoplasty to treat glaucoma, Capsulotomy to treat posterior capsule opacification, and Vitreolysis to treat posterior vitreous detachment require skill to deliver the laser with exact focus and minimal total energy. Even the most experienced physician cannot always deliver the accuracy or efficiency which would be optimal.

Opportunities exist for guided systems to improve the success of these procedures while reducing the number of complications. Some of the complications that lead to or result from these procedures are poorly understood because of the variability in current procedures, and it is hoped that with more precise laser delivery will come the opportunity to study and refine procedures with artificial intelligence systems which could optimize delivery of treatments through iterative learning.

### Joseph Zinkovich, OD



*Healthcare Academia  
Director of Research and Professor,  
Kentucky College of Optometry -  
University of Pikeville*

Joseph Zinkovich is currently the Director of Research and Professor at the Kentucky College of Optometry at the University of Pikeville, and he has been the dean of the MCPHS School of Optometry at MCPHS University in Massachusetts as well as faculty at the Arizona College of Optometry at Midwestern University. He was an optometrist at the Prisma Eye Institute, where he also served as adjunct faculty for the University of South Carolina School of Medicine. He also has served in administrative roles as a Management Engineer at St. Vincent's Medical Center, Greenville Health System, and Tampa General Hospital. At Tampa General Hospital, he was a manager of Information Systems during the hospital's first mainframe computer installation. His degrees include a Doctor of Optometry from Nova Southeastern University, Master of Science in Bioengineering from Clemson University, and Bachelor of Science in Industrial Systems Engineering from the University of Florida.

March 16, 2023 • 3:30 p.m.

*Location:*  
108 Watt Auditorium



Department of  
**BIOENGINEERING**  
Clemson® University