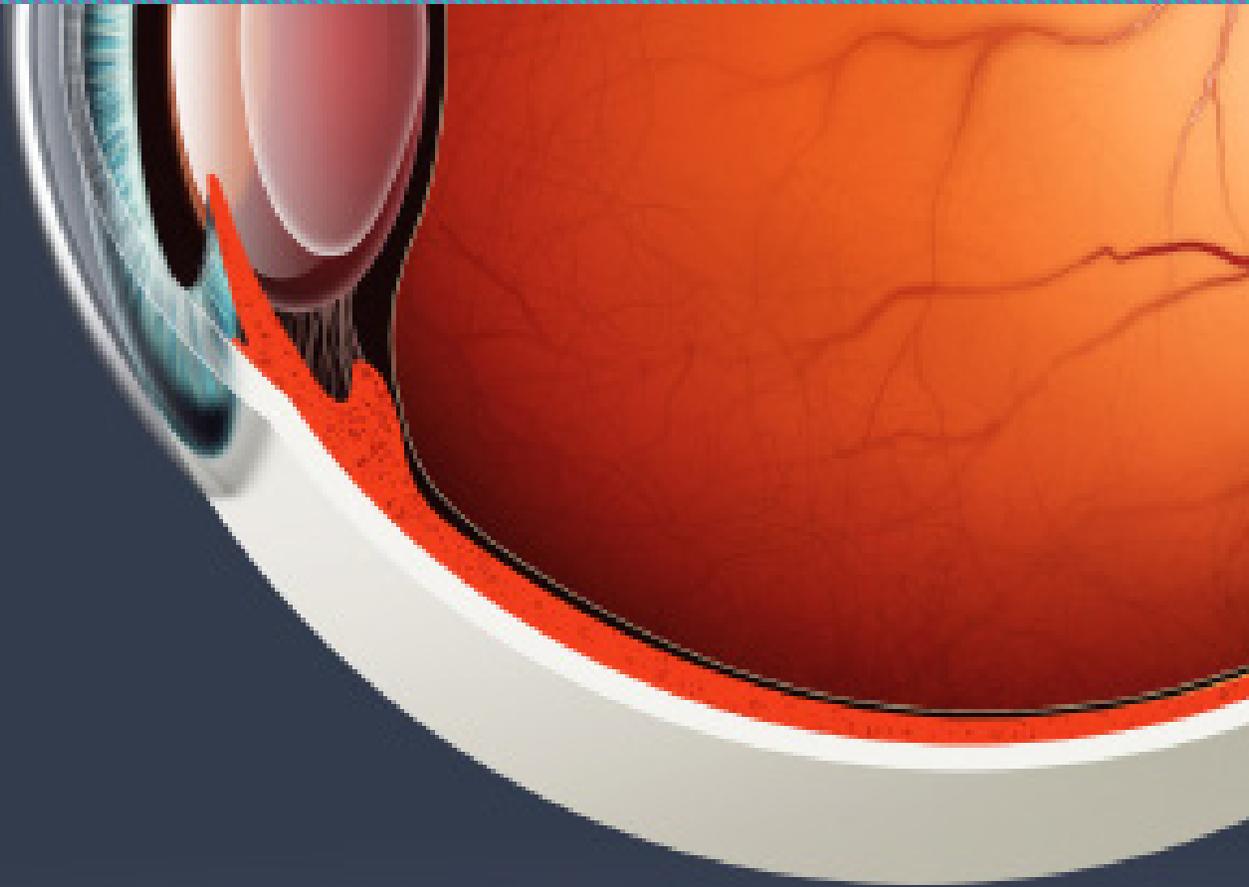


# INSTITUTE FOR TRANSLATIONAL NEUROSCIENCE AT NORTHWESTERN MEDICINE

## EYE INSTITUTE



## EYE INSTITUTE OF NORTHWESTERN UNIVERSITY DEPARTMENT OF OPHTHALMOLOGY

### Eye Institute at Northwestern University

The Eye Institute of Northwestern University will be the first eye institute of its kind in the Midwest and a national epicenter for breakthrough research and education in vision medicine. This new institute within the Institute for Translational Neuroscience at Northwestern Medicine will be led by our world-class Department of Ophthalmology. With Dr. Nicholas Volpe's leadership, the future of the Department of Ophthalmology at Northwestern University Feinberg School of Medicine is clear and compelling—to become one of the nation's preeminent, research-intensive academic Ophthalmology departments as measured by the excellence of our faculty and students, the success and innovative nature of our research and educational programs, and the quality of clinical care we provide to patients.

The new Eye Institute of Northwestern University—anchored within Northwestern's medical school research complex and including research laboratories on both our Feinberg School of Medicine and Evanston campuses—will provide the infrastructure necessary to elevate and support our vision scientists' research.

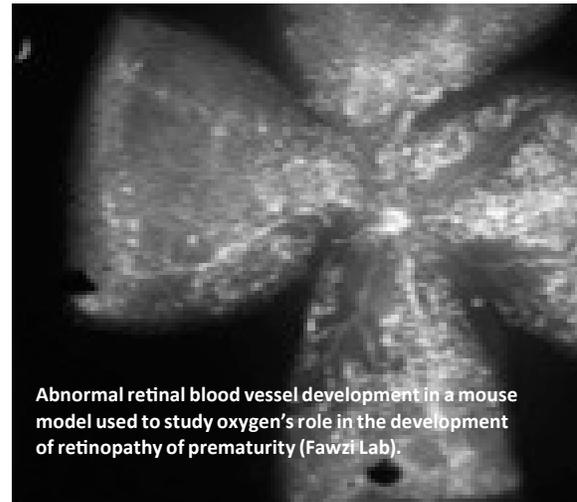
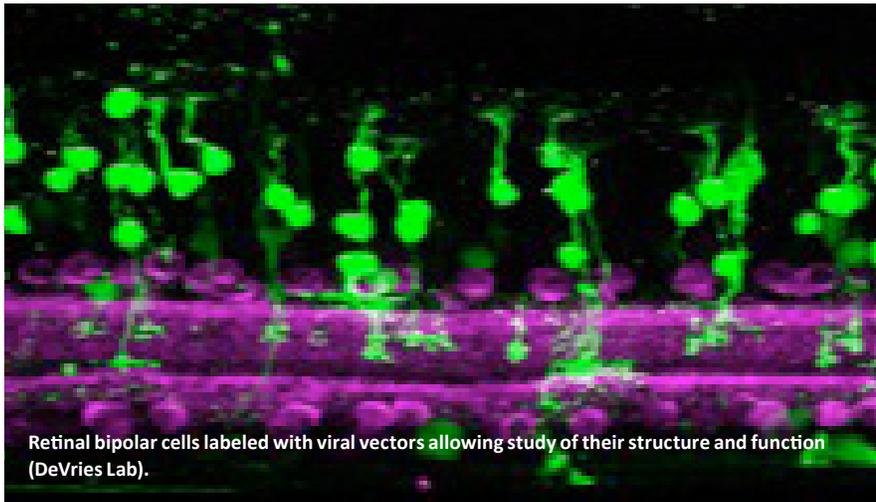
The Eye Institute will enable our clinicians and basic scientists to pursue scientific discoveries that will change the treatment of today's most disabling eye diseases, including macular degeneration, diabetic retinopathy, glaucoma, corneal blindness, optic nerve disease, ocular inflammation, and other diseases and disorders of the eye. It will provide targeted resources to help us aggressively build leadership in translational research, which focuses on applying basic science research to patient care. The daily work of the Institute will be conducted by Department of Ophthalmology faculty and colleagues across the medical school and University.

The Eye Institute will be comprised of four strategic centers and their respective programs. These centers represent the vanguard of vision science, training, and education and include the Center for the Aging Eye, Center for Retinal Biology, Vision Discovery and Research Center, and the Center for Outcomes Research, Preventative Ophthalmology and Epidemiology.



“Through our new Eye Institute, we will promote research and education that help to develop highly advanced therapies for macular degeneration, diabetic retinopathy, glaucoma, corneal blindness, optic nerve disease, ocular inflammation, and other diseases and disorders of the eye.”

Nicholas Volpe, MD  
George S. and Edwina Tarry Professor in Ophthalmology and Chair  
Department of Ophthalmology



## Northwestern Medicine

Northwestern Memorial Hospital and Northwestern University Feinberg School of Medicine are seeking to impact the health of humankind through Northwestern Medicine. We aspire to be the destinations of choice for people seeking quality healthcare; for those who provide, support, and advance that care through leading-edge treatments and breakthrough discoveries; and for people who share our passion for educating future physicians and scientists. Our commitment to transform healthcare and to be among the nation's top academic medical centers will be accomplished through innovation and excellence.

The Eye Institute of Northwestern University is an important part of our new Institute for Translational Neuroscience at Northwestern Medicine. The Institute for Translational Neuroscience will empower creative scientists and clinicians to translate a deep and rigorous understanding of disease mechanisms into new preventives, diagnostics, and therapeutics for use in diseases of the nervous system.

Through the Eye Institute, we have the unique opportunity to study vision and visual neuroscience to better understand the function of the nervous system. Fundamental principles of how the brain works can be learned from our neurophysiologic work on how the retina develops and transmits images through complex cell communications. The eye and its age-related diseases of glaucoma and macular degeneration provide an ideal model to image and study degenerative diseases of the nervous system. In collaboration with Northwestern experts in biomedical engineering, our vision researchers are developing disease detection techniques that will lead to early identification of both eye diseases, as well as other neurodegenerative conditions and the possibility of earlier treatment.

These robust interfaces and collaborations that occur within the Eye Institute will undoubtedly lead to clinical advances that benefit patients and their families locally, nationally, and across the globe.

## Centers & Programs within Northwestern Eye Institute

### Center for the Aging Eye

- Ocular Imaging Program
- Macular Degeneration Program
- Ocular Drug Delivery Program
- Diabetic Retinopathy Program
- Ocular Stem Cell Research Program
- Ocular Surface and Inflammatory Disease Program
- Glaucoma Program - Mechanisms and Clinical Management

### Center for Retinal Biology

- Retinal Synapse Program
- Retinal Developmental Biology Program

### Center for Outcomes Research, Preventative Ophthalmology and Epidemiology

- Health Economics Program
- Prevention Program
- Clinical Trials Program

### Vision Discovery & Education Center

- Resident and Fellow Education Program
- Scientific Advancement Program
- Community Outreach Program

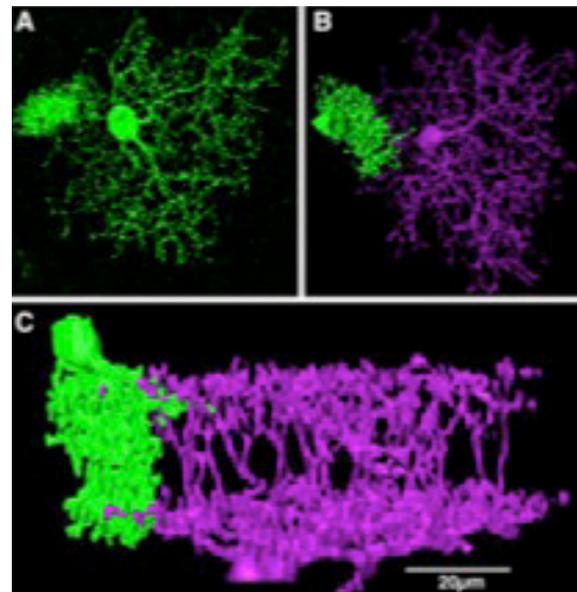
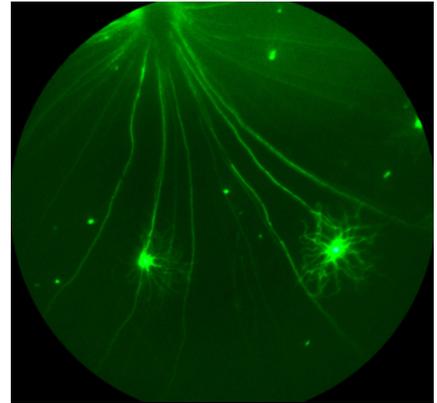
## THROUGH NORTHWESTERN MEDICINE, WE INTEND TO CREATE A NATIONAL EPICENTER FOR HEALTHCARE, EDUCATION, RESEARCH, COMMUNITY SERVICE, AND ADVOCACY.

### A Call for Partnership

We are seeking the involvement and philanthropic support of individuals, corporations, and foundations to help us fully realize the potential of the breakthrough Eye Institute and its proposed centers and programs. In addition to a singular gift to name and fund the Eye Institute of Northwestern University, we are working to secure leadership gifts to support each center and each program within the institute.

To fulfill the Institute's compelling vision, gifts to support the Eye Institute of Northwestern University would be used to:

- Recruit the world's finest vision scientists and physicians;
- Catalyze basic science and clinical research on vision disorders leading to potential new treatments and hope for many;
- Support and maintain state-of-the-art research space, including laboratories and laboratory instruments;
- Provide inspirational educators with the resources to train our medical students, residents, and fellows.



(Top) Imaging of single retinal ganglion cell in living mouse with glaucoma (Liu lab).

(Bottom) Images of cell to cell communication (synapse) in mouse retinal cells. Injection of viruses facilitate the imaging of these retinal cells. (DeVries, Zhu Lab).