

Matthew M. Harper, PhD

Specialty: Molecular Neuroscience

Research Scientist

Veterans Administration Center for the Prevention and Treatment of Vision Loss

Assistant Professor

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Education

- BS (Biology), Iowa State University
- PhD (Neuroscience), Iowa State University

Post Graduate Education

- Post-doctoral Research Associate, Molecular Ophthalmology, Iowa State University (2007-2009)

Professional Affiliations

- Association for Research in Vision and Ophthalmology
- Society for Neuroscience
- Iowa Center for Advanced Neurotoxicology
- VA Center for the Prevention and Treatment of Visual Loss

Research Interests

- Visual dysfunction following traumatic brain injury
- Retinal ganglion cell structure and function
- Developing neuroprotective treatments utilizing stem cells
- Rodent models of eye disease and damage
- Stem cell development and plasticity

Current Projects

- Evaluation of acute and long-term effects of blast-mediated traumatic brain injury on the visual system
 - Analysis of memory acquisition and retention after traumatic brain injury
 - Neuroprotective strategies for treatment of blast induced traumatic brain injury
 - Chromatic pupillography as an objective tool to assess the level of neurological damage following traumatic brain injury
 - Molecular profile of neurotrophic growth factors and their receptors in glaucoma
 - Stem cells based neuroprotective strategies for treatment of glaucoma and ischemic optic nerve diseases
 - Evaluation of visual system dysfunction in Parkinson's disease
 - Stem cell base therapeutic strategies for Parkinson's disease
- Current Funding

Active

- 2009-2014 Department of Veterans Affairs Center of Excellence for The Prevention and Treatment of Visual Loss. Role: Investigator \$5,000,000.00
- 2009-2011 Iowa Center for Advanced Neurotoxicology. Retinal diagnostic imaging in rodent models of Parkinson's disease Role: PI. \$16,000.00

Pending

- 2010-2013 Veterans Administration Career Development Award. Characterization of a novel model of traumatic brain injury. Role: PI. \$400,000.00
- 2010-2014 Veterans Administration Merit Award. Prevention of hemorrhage and death after traumatic brain injury. Role: Co-I \$1,069,240.00
- 2010-2014 Department of Defense. Synthetic platelets to halt bleeding following blast injuries. Role: Co-I \$1,813,005.00