

Stanford



Y. Joyce Liao, MD, PhD

Professor of Ophthalmology and of Neurology

CLINICAL OFFICES

- **Stanford Byers Eye Institute**

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ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

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Bio

BIO

Dr. Liao is a clinician-scientist who is dedicated to making basic discoveries and improving clinical care and treatment of patients with neuro-ophthalmic conditions (issues that affect vision due to nervous system issues). Dr. Liao received her undergraduate degree with high honors from Harvard University in Biochemical Sciences and her M.D., Ph.D. in Neuroscience (Medical Scientist Training Program) and Fellowship in Neuro-Ophthalmology from University of California San Francisco. She serves as the Director of the Neuro-Ophthalmology Service and Neuro-Ophthalmology Fellowship as well as Co-Director of the Vision Research Training Program. A major area of research is the understanding and treatment of human conditions that lead to retinal ganglion cell loss and irreversible thinning of the optic nerve, the only connection between the eye and the brain. This includes hypoxic-ischemic, autoimmune, and other causes. Hypoxic (loss of oxygen), ischemic (loss of blood flow) injury is common in all age groups and can occur as a result of perinatal asphyxiation in babies; near-drowning and poisoning in children; or cardiac arrest, stroke, pulmonary diseases, peri-operative complications, high altitude exposure, and space travel in adults. Dr. Liao uses animal model of HYPOXIA to study what happens to the optic nerve, retina, and brain in lower oxygen. In high altitude, some patients with selective vulnerability can develop ischemic optic neuropathy, which leads to irreversible vision loss. In prolonged space travel, the majority of astronauts develop optic nerve edema and retinal changes, which are of unclear mechanism but may be due to a combination of microgravity, hypoxic-ischemic injury, and other causes. Dr. Liao's group is also studying ANTERIOR ISCHEMIC OPTIC NEUROPATHY, the most common acute optic neuropathy in adults. Current research areas for optic neuropathies include: 1) Development of state-of-the-art in vivo optical, magnetic resonance imaging, and positron-emission tomography techniques in the eye and brain in humans and animal models of hypoxic-ischemic injury, in order to identify novel biomarkers that can help direct treatment; 2) Study of the cellular and subcellular changes to the retinal neurons, glia, axons and axonal transport following optic nerve injury; and 3) Development of highly promising treatment approaches for optic neuropathies and vision loss, including neuroprotection and regenerative therapy, in order to identify effective ways to treat human vision loss in the future.

A second major area of research is on clinical assessments of visual function and vision rehabilitation. Visual disability is significantly greater in almost all patients with neuro-ophthalmic conditions, because they impact daily activities such as driving, using a computer, and work. Dr. Liao founded the Stanford Human Ocular Motor Lab in 2006 and has 3 video infrared eye trackers that have been systematically used to measure eye behavior in hundreds of subjects with a variety of vision and eye movement issues. Her research focuses on how important visual function, such as reading and watching scenery (e.g. on TV), is affected by eye and brain diseases. The goal is that one day, she can use eye behavior to understand how different neuro-ophthalmic diseases impact visual function and to design better rehabilitation to help patients improve their visual function and quality of life. By recording and studying eye behavior during functional visual tasks like reading and watching a movie, which requires a combination of good vision and eye movement control, Dr. Liao hopes to decipher what contributes to visual dysfunction in the real world and design appropriate treatment and rehabilitation in the future.

CLINICAL FOCUS

- Neuro-Ophthalmology
- Ischemic Optic Neuropathy
- Hypoxic-ischemic injury
- Optic Disc Drusen
- Stroke
- Parkinson's disease and parkinsonism
- Eye Movement Disorders
- Diplopia
- Stem cell
- Leber's hereditary optic neuropathy
- Optic Neuritis and Multiple Sclerosis
- Pseudotumor Cerebri
- Nystagmus
- Neurology
- Space travel

ACADEMIC APPOINTMENTS

- Professor - University Medical Line, Ophthalmology
- Professor - University Medical Line, Neurology & Neurological Sciences
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Director, Center for Optic Disc Drusen, Stanford University School of Medicine, (2019- present)
- Vice Chair for Academic Affairs, Stanford University Department of Ophthalmology, (2019- present)
- Director, Neuro-Ophthalmology, Stanford University Department of Ophthalmology, (2008- present)
- Director, Neuro-Ophthalmology Fellowship, Stanford University Department of Ophthalmology, (2017- present)
- Co-Director, Vision Postdoctoral Training Program, Stanford University Department of Ophthalmology, (2010- present)
- Director, Stanford Human Ocular Motor Center, Stanford University Department of Ophthalmology, (2006- present)

- Editorial Board, American Journal of Ophthalmology Case Report, (2020- present)

HONORS AND AWARDS

- Faculty Educator of the Year, Department of Ophthalmology, Stanford (2020)
- Young Investigator Award, North American Neuro-Ophthalmology Society (2011)
- Grant Award, Weston Havens Foundation (2011-2013)
- McCormick Faculty Award, Office of Diversity and Leadership (2011-2013)
- Grant Award, Stanford University Vice Provost Undergraduate Research Faculty Grant (2010-2020)
- Career Award in Biomedical Sciences, Burroughs Wellcome Foundation (2005-2014)
- S. Weir Mitchell Award, American Academy of Neurology (2004)
- K08 Award, National Institute of Neurological Diseases and Stroke (2003-2008)
- Dean's Prize in Research, University of California, San Francisco (1992)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Assistant Professor Review Committee, Stanford University School of Medicine (2018 - present)
- Member, Research Committee, North American Neuro-Ophthalmology Society (NANOS) (2018 - present)
- Member, Scientific Program Committee, North American Neuro-Ophthalmology Society (NANOS) (2015 - present)
- Member, Neuro-Ophthalmology subcommittee of Annual Meeting Program Committee, American Association of Ophthalmology (AAO) (2014 - present)
- Vice Chair and Board Member, California State Athletic Commission Medical Advisory Board (2010 - 2013)
- Member, Abstract Committee, North American Neuro-Ophthalmology Society (NANOS) (2008 - 2014)

PROFESSIONAL EDUCATION

- Fellowship: UCSF Ophthalmology Fellowships (2006) CA
- Residency: Stanford University Neurology Residency (2002) CA
- Internship: Stanford University Internal Medicine Residency (1999) CA
- Medical Education: University of California at San Francisco School of Medicine (1998) CA
- A.B., Harvard , Biochemical Sciences (1991)
- Ph.D., UCSF , Neuroscience (1996)
- Board Certification: Neurology, American Board of Psychiatry and Neurology (2005)

LINKS

- Eye-Brain Research: <http://med.stanford.edu/eyebrian.html>
- Eye Movement Research: <http://med.stanford.edu/eyemovement.html>
- Get a Second Opinion: <https://stanfordhealthcare.org/second-opinion/overview.html>
- Stanford Center for Optic Disc Drusen: <https://med.stanford.edu/optic-disc-drusen.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Ischemic optic neuropathy

Stem cell transplantation

Optic neuropathy

Optic neuritis

Eye movement disorders

Reading

Parkinson's disease

Multiple sclerosis

CLINICAL TRIALS

- Clinical Study to Investigate the Long-term Safety, Tolerability, and Efficacy of Ponesimod in Patients With Relapsing-remitting Multiple Sclerosis, Not Recruiting
- Efficacy & Safety of RPh201 Treatment in Patients With Previous Nonarteritic Anterior Ischemic Optic Neuropathy (NAION), Not Recruiting
- Expanded Access Program for Idebenone in Patients With Leber's Hereditary Optic Neuropathy Who Completed the LEROS Study, Not Recruiting
- Phase 2/3, Randomized, Double-Masked, Sham-Controlled Trial of QPI-1007 in Subjects With Acute Nonarteritic Anterior Ischemic Optic Neuropathy (NAION), Not Recruiting
- Study of Pasireotide in Patients With Rare Tumors of Neuroendocrine Origin, Not Recruiting
- Study to Assess the Efficacy and Safety of Raxone in LHON Patients, Not Recruiting

PROJECTS

- Disease Pathogenesis and Treatment of Anterior Ischemic Optic Neuropathy - Stanford University (9/9/2008 - present)
- Eye Movement Control and Abnormalities in Neuro-Ophthalmic Conditions - Stanford University (9/9/2006 - present)
- Reading Difficulties in Parkinson's Disease (8/1/2015)
- Reading Abnormalities in Neuro-Ophthalmic Disorders (8/1/2006)
- Immunology and Vision Loss (8/1/2007)
- Human Non-Invasive Imaging and Recording of Brain Behavior (8/1/2006)
- Baseline Study - Stanford University, Duke University, Verily (2017)
- Low Vision Aids and Rehabilitation - Stanford University (6/1/2018)
- Eye-Brain Vision Issues in Space - Stanford University (January 1, 2018)

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Joel Inventarza, Karanvir Kaushal, Ajay Kumar, Hirenkumar Patel, Sangeethabalasri Pugazhendhi, Barbara Rangel da Silva, Miaomiao Yu

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

Publications

PUBLICATIONS

- **Immunoprofiling of Nonarteritic Anterior Ischemic Optic Neuropathy.** *Translational vision science & technology*
Mesentier-Louro, L. A., Stell, L., Yan, Y., Montague, A. A., de Jesus Perez, V., Liao, Y. J.
2021; 10 (8): 17
- **Multimodal Imaging Features of Optic Disc Drusen.** *American journal of ophthalmology*
Yan, Y., Ludwig, C. A., Liao, Y. J.
2021
- **The Project Baseline Health Study: a step towards a broader mission to map human health** *NPJ DIGITAL MEDICINE*
Arges, K., Assimes, T., Bajaj, V., Balu, S., Bashir, M. R., Beskow, L., Blanco, R., Califf, R., Campbell, P., Carin, L., Christian, V., Cousins, S., Das, et al

2020; 3 (1): 84

- **The Project Baseline Health Study: A Step Towards a Broader Mission to Map Human Health** *npj Digital Medicine*
Gambhir, S., ..., Liao, Y. J., et al., et al
2020
- **Vision loss in optic disc drusen correlates with increased macular vessel diameter and flux and reduced peripapillary vascular density.** *American journal of ophthalmology*
Yan, Y. n., Zhou, X. n., Chu, Z. n., Stell, L. n., Shariati, M. A., Wang, R. K., Liao, Y. J.
2020
- **Vision loss in optic disc drusen correlates with increased macular vessel diameter and flux and reduced peripapillary vascular density** *American Journal of Ophthalmology*
Yan, Y., Zhou, X., Chu, Z., Stell, L., Shariati, M. A., Wang, R. K., Liao, Y. J.
2020
- **Increased ER Stress After Experimental Ischemic Optic Neuropathy and Improved RGC and Oligodendrocyte Survival After Treatment With Chemical Chaperon.** *Investigative ophthalmology & visual science*
Kumar, V., Mesentier-Louro, L. A., Oh, A. J., Heng, K., Shariati, M. A., Huang, H., Hu, Y., Liao, Y. J.
2019; 60 (6): 1953–66
- **Direct targeting of the mouse optic nerve for therapeutic delivery.** *Journal of neuroscience methods*
Mesentier-Louro, L. A., Dodd, R., Domizi, P., Nobuta, H., Wernig, M., Wernig, G., Liao, Y. J.
2018
- **Slower saccadic reading in Parkinson's disease** *PLOS ONE*
Jehangir, N., Yu, C., Song, J., Shariati, M., Binder, S., Beyer, J., Santini, V., Poston, K., Liao, Y.
2018; 13 (1): e0191005
- **Report on the National Eye Institute Audacious Goals Initiative: Regenerating the Optic Nerve.** *Investigative ophthalmology & visual science*
Goldberg, J. L., Guido, W., For The Agi Workshop Participants
2016; 57 (3): 1271-1275
- **Freezing of saccades in dopa-responsive parkinsonian syndrome.** *American journal of ophthalmology case reports*
Likitgorn, T., Yan, Y., Liao, Y. J.
2021; 23: 101124
- **Variation in Evolving Optic Neuritis.** *Journal of neuro-ophthalmology : the official journal of the North American Neuro-Ophthalmology Society*
Bouffard, M. A., Mallery, R. M., Liao, Y. J., Torun, N.
2021
- **Topographic Quadrant Analysis of Peripapillary Superficial Microvasculature in Optic Disc Drusen** *FRONTIERS IN NEUROLOGY*
Yan, Y., Zhou, X., Chu, Z., Stell, L., Shariati, M., Wang, R. K., Liao, Y.
2021; 12: 666359
- **Multimodal Ophthalmic Imaging of Nonarteritic Anterior Ischemic Optic Neuropathy With and Without Optic Disc Drusen.** *Journal of neuro-ophthalmology : the official journal of the North American Neuro-Ophthalmology Society*
Pugazhendhi, S., Yan, Y., Liao, Y. J.
2021
- **Multimodal ophthalmic imaging of nonarteritic anterior ischemic optic neuropathy with and without optic disc drusen** *Journal of Neuro-Ophthalmology*
Pugazhendhi, S., et al
2021
- **Hypoxia-induced inflammation: Profiling the first 24-hour posthypoxic plasma and central nervous system changes.** *PloS one*
Mesentier-Louro, L. A., Rangel, B. n., Stell, L. n., Shariati, M. A., Dalal, R. n., Nathan, A. n., Yuan, K. n., de Jesus Perez, V. n., Liao, Y. J.
2021; 16 (3): e0246681
- **Ocular motility and cranial nerves** *Massachusetts Eye and Ear Infirmary Illustrated Manual of Ophthalmology*
Friedman, N. K., et al
2021; 5th

- **Diagnosing Optic Disc Drusen in the Modern Imaging Era: A Practical Approach** *Neuro-Ophthalmology*
Costello, F., et al
2021
- **Updates on ophthalmic imaging features of optic disc drusen, papilledema, and optic disc edema.** *Current opinion in neurology*
Yan, Y., Liao, Y. J.
2020
- **SECOND GENERATION BRAF/MEK INHIBITION IN ANAPLASTIC PLEOMORPHIC XANTHROASTROCYTOMA**
Stocksdale, B., Liao, Y., Coffey, G., Nagpal, S.
OXFORD UNIV PRESS INC.2020: 117–18
- **Dual Specific Phosphatase 14 Deletion Rescues Retinal Ganglion Cells and Optic Nerve Axons after Experimental Anterior Ischemic Optic Neuropathy.** *Current eye research*
Kumar, V., Ali Shariati, M., Mesentier-Louro, L., Jinsook Oh, A., Russano, K., Goldberg, J. L., Liao, Y. J.
2020: 1–9
- **Increased astrogliosis and aquaporin 4 in retinal hypoxia**
da Silva, B., Mesentier-Louro, L., Shariati, A., Dalal, R., Nathan, A., Perez, V., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2020
- **Prediction of Disease Status and Visual Dysfunction in Optic Disc Drusen Using Peripapillary and Macular Microvasculature**
Yan, Y., Zhou, X., Chu, Z., Stell, L., Wang, R. K., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2020
- **Optic chiasm compression leads to global loss of macular vessel density and regional thinning of macular ganglion cell complex**
Likitgorn, T., Liao, Y., Yan, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2020
- **Impact of neuro-ophthalmic diseases on driving and psychosocial well-being**
Patel, P., Shariati, A., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2020
- **Identification of Novel Biomarkers of Nonarteritic Anterior Ischemic Optic Neuropathy Using Cytokine Profiling**
Mesentier-Louro, L., Shariati, A., da Silva, B., Stell, L., Dalal, R., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2020
- **Neuroprotection of experimental anterior ischemic optic neuropathy using adenovirus-mediated enhancement of cAMP signaling in the perinuclear compartment**
Zhu, Y., Mesentier-Louro, L., Xia, X., Shariati, A., Liao, Y., Kapiloff, M.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2020
- **Systemic hypoxia led to little retinal neuronal loss and dramatic optic nerve glial response.** *Experimental eye research*
Mesentier Louro, L. A., Shariati, M. A., Dalal, R. n., Camargo, A. n., Kumar, V. n., Shamskhov, E. A., de Jesus Perez, V. n., Liao, Y. J.
2020: 107957
- **ANATOMIC, GENETIC AND FUNCTIONAL PROPERTIES OF THE RETINAL CIRCULATION IN PULMONARY HYPERTENSION** *Pulmonary Circulation*
Nickel, N. P., Shamskhov, E. A., Razeen, M., Condon, D., Messentier, L., Dubra, A., Liao, Y., Zamanian, R. T., Yuan, K., de Jesus Perez, V. A.
2020
- **Rapid Fluctuation of Subretinal Fluid on Encorafenib and Binimetinib.** *Retina (Philadelphia, Pa.)*
Li, A. S., Leng, T. n., Nagpal, S. n., Liao, Y. J.
2020
- **Geographical variations in ocular and extra-ocular manifestations in Behcet's disease.** *European journal of rheumatology*
Shahram, F., Mahlen, M. T., Akhlaghi, M., Davatchi, F., Liao, Y. J., Weyand, C. M.
2019: 1–8
- **The stressed optic nerve: gliopathy in hypoxic injury and potential for therapy**

- Mesentier-Louro, L., Camargo, A., Shariati, A., Nathan, A., Dalal, R., Kumar, V., Dardet, M. E., Perez, V., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **A Comparison: Structural optical coherence tomography and angiography in diabetic retinopathy and diabetic macular edema**
Huang, L. C., Shariati, A., Oh, A., Leng, T., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
 - **Should Antiviral/Anti-Varicella Zoster Virus Treatment Be Used in Patients With Giant Cell Arteritis?** *JOURNAL OF NEURO-OPHTHALMOLOGY*
Liao, Y., Kedar, S.
2019; 39 (1): 134–41
 - **Nonarteritic anterior ischaemic optic neuropathy and its association with obstructive sleep apnoea: a health insurance database study** *ACTA OPHTHALMOLOGICA*
Sun, M., Lee, C., Liao, Y., Su, C.
2019; 97 (1): E64–E70
 - **Direct targeting of the mouse optic nerve for therapeutic delivery** *JOURNAL OF NEUROSCIENCE METHODS*
Mesentier-Louro, L. A., Dodd, R., Domizi, P., Nobuta, H., Wernig, M., Wernig, G., Liao, Y.
2019; 313: 1–5
 - **Malignant optic glioma masked by suspected optic neuritis and central retinal vein occlusion.** *Radiology case reports*
Kalnins, A. n., Penta, M. n., El-Sawy, T. n., Liao, Y. J., Fischbein, N. n., Iv, M. n.
2019; 14 (2): 226–29
 - **A Small Molecule TrkB Neurotrophin Receptor Partial Agonist as Possible Treatment for Experimental Nonarteritic Anterior Ischemic Optic Neuropathy** *CURRENT EYE RESEARCH*
Shariati, M., Kumar, V., Yang, T., Chakraborty, C., Barres, B., Longo, F., Liao, Y.
2018; 43 (12): 1489-1499
 - **Anti-Interleukin-6 Antibody as Treatment for Giant Cell Arteritis** *JOURNAL OF NEURO-OPHTHALMOLOGY*
Liao, Y.
2018; 38 (4): 558–60
 - **A simple saccadic reading test to assess ocular motor function in cerebellar ataxia** *PLOS ONE*
Oh, A., Chen, T., Shariati, M., Jehangir, N., Hwang, T. N., Liao, Y.
2018; 13 (11)
 - **A Small Molecule TrkB Neurotrophin Receptor Partial Agonist as Possible Treatment for Experimental Nonarteritic Anterior Ischemic Optic Neuropathy.** *Current eye research*
Ali Shariati, M., Kumar, V., Yang, T., Chakraborty, C., Barres, B. A., Longo, F. M., Liao, Y. J.
2018: 1–11
 - **Stem cell therapy for treatment of ischemic optic neuropathy**
Mesentier-Louro, L., Yang, N., Shariati, A., Domizi, P., Dodd, R., Wernig, G., Wernig, M., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018
 - **Assessment of Endoplasmic Reticulum Stress Response after Diabetic Ischemic Optic Neuropathy**
Kumar, V., Shariati, A., Heng, K., Oh, A., Louro, L., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018
 - **Ocular motor abnormalities during saccadic reading in different neuro-ophthalmic diseases**
Oh, A., Chen, T., Shariati, A., Jehangir, N., Yu, R., Yu, C., Mercado, C., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018
 - **Vertical diplopia and oscillopsia due to midbrain keyhole aqueduct syndrome associated with severe cough.** *American journal of ophthalmology case reports*
Oh, A. J., Lanzman, B. A., Liao, Y. J.
2018; 10: 128–31
 - **Association between obstructive sleep apnea and optic neuropathy: a Taiwanese population-based cohort study.** *Eye (London, England)*
Sun, M. H., Liao, Y. J., Lin, C. C., Chiang, R. P., Wei, J. C.
2018

- **A simple saccadic reading test to assess ocular motor function in cerebellar ataxia.** *PloS one*
Oh, A. J., Chen, T., Shariati, M. A., Jehangir, N., Hwang, T. N., Liao, Y. J.
2018; 13 (11): e0203924
- **Visual function, digital behavior and the vision performance index.** *Clinical ophthalmology (Auckland, N.Z.)*
Ahmed, S. F., McDermott, K. C., Burge, W. K., Ahmed, I. I., Varma, D. K., Liao, Y. J., Crandall, A. S., Khaderi, S. K.
2018; 12: 2553–61
- **Association between obstructive sleep apnea and optic neuropathy: A Taiwanese Population-Based bidirectional cohort Study**
Sun, M., Liao, Y., Lin, C., Wei, J.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2017
- **Gaze Changes During Visual Behavior in Hemianopia**
Liao, Y., Song, J., Shariati, A., Hwang, D.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2017
- **High Correlation between OCTA and OCT Measurements in Patients with Optic Atrophy**
Shariati, A., Shen, Y., Chu, Z., Powers, M., Wang, R. K., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2017
- **Visual Disability and Reading Difficulty in Patients with Parkinson's Disease**
Yu, C., Shariati, A., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2017
- **Structure-Function Analysis of Nonarteritic Anterior Ischemic Optic Neuropathy and Age-Related Differences in Outcome.** *Journal of neuro-ophthalmology*
Sun, M., Liao, Y. J.
2017
- **Experimental Anterior Ischemic Optic Neuropathy in Diabetic Mice Exhibited Severe Retinal Swelling Associated With VEGF Elevation** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
Sun, M., Shariati, M. A., Liao, Y. J.
2017; 58 (4): 2296-2305
- **Immunoinhibitory checkpoint deficiency in medium and large vessel vasculitis** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Zhang, H., Watanabe, R., Berry, G. J., Vaglio, A., Liao, Y. J., Warrington, K. J., Goronzy, J. J., Weyand, C. M.
2017; 114 (6): E970-E979
- **Cardinal features of superior oblique myokymia: An infrared oculography study** *American Journal of Ophthalmology Case Report*
Thinda, S., Chen, Y., Liao, Y. J.
2017
- **Cardinal features of superior oblique myokymia: An infrared oculography study.** *American journal of ophthalmology case reports*
Thinda, S. n., Chen, Y. R., Liao, Y. J.
2017; 7: 115–19
- **The microvascular niche instructs T cells in large vessel vasculitis via the VEGF-Jagged1-Notch pathway.** *Science translational medicine*
Wen, Z. n., Shen, Y. n., Berry, G. n., Shahram, F. n., Li, Y. n., Watanabe, R. n., Liao, Y. J., Goronzy, J. J., Weyand, C. M.
2017; 9 (399)
- **Abnormal Eye Movement Behavior during Reading in Parkinson's Disease**
Yu, C., Shariati, A., Lee, T., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2016
- **Structure-Function Analysis in Chiasmal Compression Helps Predict Visual Prognosis**
Withthayaweerarak, J., Sun, M., Shariati, A., Li, J., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2016
- **Experimental Anterior Ischemic Optic Neuropathy in Diabetic Mice Exhibited Severe Retinal Swelling and Subretinal Fluid Accumulation Acutely and More Severe Thinning Chronically**

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- Sun, M., Shariati, A., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2016
- **Eye Fatigue During TV Watching: An Infrared Oculography Study of Linearly vs. Circularly Polarized LCD TV**
Shariati, A., Liao, K., Yu, C., Witthayaweerasak, J., Chang, R. T., Sun, M., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2016
 - **Giant Cell Arteritis: From Pathogenesis to Therapeutic Management.** *Current treatment options in rheumatology*
Watanabe, R., Goronzy, J. J., Berry, G., Liao, Y. J., Weyand, C. M.
2016; 2 (2): 126-137
 - **Dose-Response Modeling of the Visual Pathway Tolerance to Single-Fraction and Hypofractionated Stereotactic Radiosurgery** *SEMINARS IN RADIATION ONCOLOGY*
Hiniker, S. M., Modlin, L. A., Choi, C. Y., Atalar, B., Seiger, K., Binkley, M. S., Harris, J. P., Liao, Y. J., Fischbein, N., Wang, L., Ho, A., Lo, A., Chang, et al
2016; 26 (2): 97-104
 - **Treatment of Nystagmus in Brainstem Cavernous Malformation with Botulinum Toxin** *CUREUS*
Chen, Y., Fredrick, D., Steinberg, G. K., Liao, Y. J.
2016; 8 (4)
 - **Abnormal Eye Movement Behavior during Reading in Parkinson's Disease** *Parkinsonism and Related Disorders*
Yu, C. Y., Lee, T., Shariati, M., Santini, V., Poston, K., Liao, Y.
2016; 32 (130): 130-132
 - **Dose-Response Modeling of the Visual Pathway Tolerance to Single-Fraction and Hypofractionated Stereotactic Radiosurgery.** *Seminars in radiation oncology*
Hiniker, S. M., Modlin, L. A., Choi, C. Y., Atalar, B. n., Seiger, K. n., Binkley, M. S., Harris, J. P., Liao, Y. J., Fischbein, N. n., Wang, L. n., Ho, A. n., Lo, A. n., Chang, et al
2016; 26 (2): 97-104
 - **Treatment of Nystagmus in Brainstem Cavernous Malformation with Botulinum Toxin.** *Cure us*
Chen, Y., Fredrick, D., Steinberg, G. K., Liao, Y. J.
2016; 8 (4)
 - **Long Distance Homonymous Hemi-Macular Retrograde Degeneration of the Visual Pathway: A Comparison of Anterior and Posterior Visual Pathway Lesions**
Rajanala, A., Shariati, M., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2015
 - **Validation of the King-Devick Test Using 500-Hz Binocular Infrared Oculography**
Shariati, M., Sun, M., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2015
 - **Dramatic Fixation Instability in Peripheral Vestibulopathies without Visual Feedback Compared with Central Vestibulopathies**
Hwang, J., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2015
 - **The Presence of Calcium Significantly Enhanced Annexin-V-Labeling of Degenerating Axons after Experimental Anterior Ischemic Optic Neuropathy**
Lee, G., Shariati, M., Sun, M., Liao, Y.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2015
 - **50% of Non-Arteritic Anterior Ischemic Optic Neuropathy Occurs between 40-55 Years Old**
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PRESENTATIONS

- Eyes - the Window to Your Health (Project Baseline Lecture) - Stanford University
- Eye-Brain Issues in Microgravity and the Effect of Hypoxia in COVID-19 Infection - American Institute of Aeronautics and Astronautics Los Angeles-Las Vegas Section (April 18, 2020)
- Vision Issues in Parkinson's Disease - Parkinson's Institute
- Hot Topics in Eye-Brain Diseases - Moran Eye Center
- Brain and eye edema and dysfunction in space travel - American Institute of Aeronautics and Astronautics (AIAA) Los Angeles-Las Vegas Mini-Conference
- Eye Problems in Acoustic Neuroma - 2019 Acoustic Neuroma Society Meeting
- Profiling Health Changes in Prolonged Space Travel Using Proteomics - International Space Station Research and Development Meeting (<https://www.issconference.org>)
- Eye-brain issues in microgravity - The Space Show (May 31, 2020)