

CURRICULUM VITAE FOR ACADEMIC PROMOTION

The Johns Hopkins University School of Medicine

(Signature) _____

January 8, 2008

Revision Date

Howard Shann-Cherng Ying**DEMOGRAPHIC AND PERSONAL INFORMATION****Current Appointments**

Assistant Professor of Ophthalmology
 Wilmer Eye Institute Retina Division/Pediatric Ophthalmology and Strabismus
 The Johns Hopkins University School of Medicine
 Baltimore, MD

Personal Data

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EDUCATION AND TRAINING (in chronological order)

Year	Degree/Certificate	Institution	Discipline
1986 - 1990	B.S.	The Johns Hopkins University Whiting School of Engineering Baltimore, MD	Biomedical Engineering
1990 - 1998	M.D.	Washington University School of Medicine St. Louis, MO	Medicine
1990-1998	Ph.D.	Division of Biomedical Sciences, Washington University School of Medicine, St. Louis, MO	Neurosciences
1998-1999	Internship	Barnes-Jewish Hospital, Washington University, St. Louis, MO	Internal Medicine
1999 - 2002	Residency	Doheny Eye Institute at the University of Southern California, Los Angeles, CA	Ophthalmology
2002 - 2004	Fellowship	Wilmer Eye Institute at the Johns Hopkins University Baltimore, MD	Retinal Vascular Center and Vitreoretinal Disease
2004 – 2005	Preceptorship	Wilmer Eye Institute at the Johns Hopkins University Baltimore, MD	Strabismus

2005-present	Graduate studies	Bloomberg School of Public Health at the Johns Hopkins University Baltimore, MD	Epidemiology and Biostatistics
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PROFESSIONAL EXPERIENCE (in chronological order)

Dates	Positions	Institution
2002-2004	Advanced Specialty Training Program Assistant in Ophthalmology	Johns Hopkins University School of Medicine Baltimore, MD
2004 – present	Assistant Professor, Department of Ophthalmology	Johns Hopkins University School of Medicine Baltimore, MD

RESEARCH ACTIVITIES

Publications

Peer-reviewed research publications

Full-length publications

- 1 M.F. Chen, L.T. Chen, **H.S. Ying**, H.W. Boyce, Jr. (1990) Effect of DL-buthionine-S,R-sulfoximine on 1,2-dimethylhydrazine-induced colonic tumors in rats. *Cancer Letters* 49(3):237-42.
- 2 B.J. Gwag, J. Koh, J.A. DeMaro, **H.S. Ying**, M.F. Jacquin, D.W. Choi. (1997) Slowly-triggered excitotoxicity occurs by necrosis in cortical cultures. *Neuroscience* 77(2):393-401.
- 3 Z.S. Farhangrazi, **H.S. Ying**, G. Bu, L.L. Dugan, A.M. Fagan, D.W. Choi, D.M. Holtzman. (1997) High density lipoprotein decreases b-amyloid toxicity in cortical cell culture. *NeuroReport* 8(5):1127-1130.
- 4 S.P. Yu, B.J. Gwag, S.L. Sensi, Z.S. Farhangrazi, L.M.T. Canzoniero, **H.S. Ying**, L.L. Dugan, D.W. Choi. (1997) Enhancement of delayed rectifier current in cortical neurons undergoing apoptosis. *Science* 278(5335):114-117.
- 5 F.J. Gottron, **H.S. Ying**, D.W. Choi. (1997) Inhibition of caspase-like proteases selectively reduces the apoptosis component of oxygen-glucose deprivation-induced cortical neuronal death. *Molecular & Cellular Neuroscience* 9(3):159-169.
- 6 S.L. Sensi, L.M.T. Canzoniero, S.P. Yu, **H.S. Ying**, J.Y. Koh, G.A. Kerchner, D.W. Choi. (1997) Measurement of intracellular free zinc in living cortical neurons: routes of entry. *Journal of Neuroscience* 17(24):9554-9564.
- 7 **H.S. Ying**, J. Weishaupt, M. Grabb, L.M.T. Canzoniero, S.L. Sensi, C.T. Sheline, H. Monyer, D.W. Choi. (1997) Sublethal oxygen-glucose deprivation alters hippocampal neuronal AMPA receptor expression and vulnerability to kainate-induced death. *Journal of Neuroscience* 17(24):9536-9544.
- 8 T.Q. Duong, J.J. Ackerman, **H.S. Ying**, J.J. Neil. (1998) Evaluation of extra- and intracellular apparent diffusion in normal and globally-ischemic rat brain via 19F NMR. *Magnetic Resonance in Medicine* 40(1):1-13.
- 9 J.W. McDonald, T. Bhattacharyya, S.L. Sensi, D. Lobner, **H.S. Ying**, L.M. Canzoniero, D.W. Choi. (1998) Extracellular acidity potentiates AMPA receptor-mediated cortical neuronal death. *Journal of Neuroscience* 18(16):6290-6299.

- 10 S.P. Yu, Z.S. Farhangrazi, **H.S. Ying**, C-H. Yeh, D.W. Choi. (1998) Enhancement of outward potassium current participates in b-amyloid peptide-induced cortical neuronal death. *Neurobiology of Disease* 5(2):81-88.
- 11 **H.S. Ying** and D.W. Choi. (1998) Alterations in glutamate receptor expression in cultured neurons: implications for excitotoxic vulnerability. Ph.D. thesis, Neurosciences Program, Washington University.
- 12 D. Lobner, L.M. Canzoniero, P. Manzerra, F. Gottron, **H. Ying**, M. Tian, L.L. Dugan, G.A. Kerchner, C.T. Sheline, S.J. Korsmeyer, D.W. Choi. (2000) Zinc-induced neuronal death in cortical neurons. *Cellular and Molecular Biology* 46(4):797-806.
- 13 **H.S. Ying**, F.J. Gottron, and D.W. Choi. (2000) Assays in primary cultures to assess cell viability. In *Current Protocols in Neuroscience*. J.N. Crawley, C. Gerfen, R. McKay, M. Rogawski, D. Sibley, P. Skolnick Eds. Unit 7.18.
- 14 C.T. Sheline, **H.S. Ying**, C.S. Ling, L.M.T. Canzoniero, D.W. Choi. (2002) Depolarization-induced 65Zn^{2+} influx into cultured cortical neurons. *Neurobiology of Disease* 10(1):41-53.
- 15 Z. Wu, **H.S. Ying**, S. Yiu, J. Irvine, R.E. Smith. (2002) Fungal keratitis caused by *Scedosporium apiospermum*: report of two cases and review of the literature. *Cornea* 21(5):519-523.
- 16 C.T. Sheline, T. Takata, **H. Ying**, L.M.T. Canzoniero, A. Yang, S.P. Yu, D.W. Choi. (2004) Potassium attenuates zinc-induced death of cultured cortical astrocytes. *Glia* 46(1):18-27.
- 17 M.M. Lai, J.C. Lai, W.H. Lee, J.J. Huang, S. Patel, **H.S. Ying**, M. Melia, J.A. Haller, J.T. Handa. (2005) Comparison of retrobulbar and sub-Tenon's capsule injection of local anesthetic in vitreoretinal surgery. *Ophthalmology* 112(4):574-579.
- 18 J.I. Lim, C. Spee, M. Hangai, J. Rocha, **H.S. Ying**, S. Ryan, D. Hinton. (2005) Neuropilin-1 expression by endothelial cells and retinal pigment epithelial cells in choroidal neovascular membranes. *American Journal of Ophthalmology* 140(6):1044-1050.
- 19 N.G. Ghazi, C. Dibernardo, **H.S. Ying**, K. Mori, P. Gehlbach. (2006) Optical coherence tomography of enucleated human eye specimens with histological correlation: evaluation of the origin of the outer "red line". *American Journal of Ophthalmology* 141(4):719-726.
- 20 N.G. Ghazi, C. Dibernardo, **H.S. Ying**, K. Mori, P. Gehlbach. (2006) Optical coherence tomography of peripheral retinal lesions in enucleated human eye specimens with histological correlation. *American Journal of Ophthalmology* 141(4):740-742.
- 21 **H.S. Ying**, J.A. Haller, and J.D. Gottsch. (2006) Combined phacoemulsification, intraocular lens implantation, and pars plana vitrectomy for eyes with coexisting cataract and vitreoretinal pathology. In *Vitreoretinal Surgical Techniques*, 2nd ed. Eds. Peyman, Meffert, and Conway. Informa Healthcare: London.
- 22 Tian J, Shan X, Zee DS, **Ying H**, Tamargo RJ, Quaia C, Optican LM, Walker MF. (2007) Acute superior oblique palsy in monkeys: III. Relationship to Listing's Law. *Invest Ophthalmol Vis Sci.*; 48(6):2621-2625.
- 23 Shan, X, Tian, J, **Ying, H**, Quaia, C, Optican, L, Walker, M, Tamargo, R., Zee, DS, (2007) Acute SOP in monkeys: II. Changes in Dynamic Properties during Vertical Saccades. *Invest Ophthalmol Vis Sci.* 48(6):2612-2620.
- 24 Shan, X, Tian, J, **Ying, H**, Quaia, C, Optican, L, Walker, M, Tamargo, R., Zee, DS, Acute SOP in monkeys: I. Changes in Static Eye Alignment. *Invest Ophthalmol Vis Sci.* 48(6):2602-2611.
- 25 R.S. Adyanthaya, **H.S. Ying**, J.T. Handa, and M.X. Repka. Macular retinal detachment in Hallerman-Streiff syndrome. In press, *Archives of Ophthalmology*.
- 26 **Ying, H.S.**, Darbandi, B., Shan, X., Barker, P., Miller, N.R., Zee, D.S., Quantitative eye movement recordings in a patient with bilateral superior oblique palsy after Harada-Ito procedure. In press, *Strabismus*
- 27 **H.S. Ying** and A.P. Schachat. Choroidal and Retinal Metastasis. In *Atlas of Posterior Segment Pathology*, Eds Hwang, Kaiser, and Traboulsi. In press.

- 28 **H.S. Ying** and P. Gehlbach. Intraocular foreign body: nonmagnetic, chemically inert. In *Current Ocular Therapy*, 6th ed. Eds. Roy, Fraunfelder, and Fraunfelder. In press.
- 29 S. J. Patel, D. Baranano, **H.S. Ying**. Risk Factors for and Systemic Correlates of Diabetic Retinopathy. *In press, Current Opinion in Ophthalmology*.
- 30 Ramey, N, **Ying, H**, Müllenbroich, M, Irsch, K, Guyton, D. A Novel Haploscopic Viewing Apparatus with a Three Axis Eye Tracker. *In press, IOVS*.
- 31 X. Shan, J. Tian, **H. S. Ying**, M. F. Walker, D. Guyton, C. Quiaia, L. M. Optican, R. J. Tamargo, D. S. Zee. The effect of acute superior oblique palsy on torsional optokinetic nystagmus in monkeys. In press, *IOVS*.
- 32 **H.S. Ying**, K. Fackelmann, A. Messoudi, X. Tang, J.A. Büttner-Ennever, and A. K. E. Horn. Neuronal signaling expression profiles of motoneurons supplying multiply- or singly-innervated extraocular muscle fibers in monkey. *In press, Progress in Brain Research*.

Recent Abstracts

- 1 **H.S. Ying**, A.P. Ciardella, R.E. Smith. (2000). Super glue and artificial tear bottles can appear dangerously similar. *ASCRS Symposium on Cataract, IOL, and Refractive Surgery Proceedings*.
- 2 **H.S. Ying**, and R.C. Kwun. (2000). Implications of clinically significant macular edema for proliferative diabetic retinopathy in an urban Hispanic population. *IOVS* 41(4):S951.
- 3 **H.S. Ying**, A. Angeles, L. Rife, R.E. Smith. (2001) Topical recombinant human nerve growth factor improves rat corneal epithelial wound healing. *IOVS* 42(4):S886.
- 4 **H.S. Ying**, C. Spee, J.I. Lim, S.J. Ryan, D.R. Hinton. (2002) Vitreous levels of hepatocyte growth factor and transforming growth factor-b2 in patients with proliferative retinopathy. *IOVS* 43(4):E-Abstract 623.
- 5 **H.S. Ying**, R.R. Grebe, M.Mahmoud, S.Y. Kim, J.T. Handa, E.de Juan, Jr. (2004) Genistein reduces retinal pigment epithelial and Bruch's membrane degeneration induced by prolonged blue light exposure in senescence-accelerated mice. *IOVS* 45(4):E-Abstract 1809.
- 6 **H.S. Ying**, X.Shan, N.R. Miller, D.S. Zee. (2005) Effect of the Harada-Ito Procedure on Dynamic Eye Movements in Bilateral Superior Oblique Palsy *IOVS* 46(4):E-Abstract 2350.
- 7 D.S. Zee, X. Shan, **H.S. Ying**, J. Tian, R.J. Tamargo (2006) Unilateral IV nerve palsy in monkey: III. Torsion. *IOVS* 47(4):E-abstract 2933.
- 8 **H.S. Ying**, X. Shan, J. Tian, R.J. Tamargo, D.S. Zee (2006) Unilateral IV nerve palsy in monkey: II. Saccades. *IOVS* 47(4):E-abstract 2490.
- 9 X. Shan, **H.S. Ying**, J. Tian, R.J. Tamargo, D.S. Zee (2006) Unilateral IV nerve palsy in monkey: I. Alignment. *IOVS* 47(4):E-abstract 2466.
- 10 **H.S. Ying**, N. Ramey, M.C. Müllenbroich, K. Irsch, D.L. Guyton. (2006) Basic cyclovertical deviation and superior oblique palsy have similar head tilt behavior. 2006 AAO Annual Meeting:E-abstract P0624
- 11 J. TIAN, M. F. WALKER, X. SHAN, **H. YING**, R. TAMARGO, D. S. ZEE (2006) Acute superior oblique palsy induces a temporal rotation of Listing's plane. *Society for Neuroscience Abstracts* 22:E-abstract 736.14.
- 12 R. ANSARI, **H. S. YING**, D. L. GUYTON, R. J. LEIGH, D. S. ZEE (2006) Torsional optokinetic nystagmus in normal human subjects and in a patient with chronic superior oblique palsy. *Society for Neuroscience Abstracts* 22:E-abstract 736.16.
- 13 X. SHAN, M. F. WALKER, J. TIAN, **H. YING**, R. TAMARGO, D. S. ZEE (2006) The effect of acute superior oblique palsy on torsional optokinetic nystagmus. *Society for Neuroscience Abstracts* 22:E-abstract 736.15.
- 14 M.F. Walker, J. Tian, X. Shan, **H. Ying**, R.J. Tamargo, D.S. Zee (2007) Ablation of the Cerebellar Nodulus and Uvula Selectively Impairs Downward Pursuit. *IOVS* 48(4):E-

abstract 943.

- 15 P.A. Campochiaro, S.M. Shah, G. Hafiz, E. Quinlan, I. Zimmer-Galler, Q.D. Nguyen, D.V. Do, **H. Ying**, J.U. Sung, Wilmer Retinal Research Group. (2007) Ranibizumab for Macular Edema Due to Retinal Vein Occlusions. *IOVS* 48(4):E-abstract 1545.
- 16 R.S. Adyanthaya, N. Ramey, M.C. Müllenbroich, K. Irsch, **H.S. Ying**, D.L. Guyton (2007) A Novel Haploscopic Viewing Apparatus With a Three Axis Eye Tracker. *IOVS* 48(4):E-abstract 897.
- 17 X. Shan, **H.S. Ying**, J. Tian, D.L. Guyton, R. Tamargo, M. Walker, D.S. Zee (2007) Effect of Corrective Strabismus Surgery After Unilateral IV Nerve Palsy in Monkey: I. Vertical Alignment and Head Tilt. *IOVS* 48(4):E-abstract 4869.
- 18 **H.S. Ying**, X. Shan, J. Tian, D.L. Guyton, R. Tamargo, M. Walker, D.S. Zee (2007) Effect of Corrective Strabismus Surgery after Unilateral IV Nerve Palsy in Monkey: II. Torsion. *IOVS* 48(4):E-abstract 4870.
- 19 **H.S. Ying**, X. Shan, J. Tian, D.L. Guyton, R.J. Tamargo, M.F. Walker, D.S. Zee (2007). Effect of corrective strabismus surgery on vertical saccade dynamics after unilateral IV nerve palsy in monkey. *Society for Neuroscience Abstracts* 23:E-abstract 718:18.
- 20 **H.S. Ying**, A. Horn, J. Buettner-Ennever (2007). Neuronal signaling expression profiles of motoneurons supplying multiply- or singly-innervated extraocular muscle fibers in monkey. Using Eye Movements as an Experimental Probe of Brain Function: a symposium in Honour of Jean Buttner-Ennever, Imperial College London, P31.

**Inventions, Patents, Copyrights (pending, awarded)
Extramural Funding (current, pending, previous)**

Dates	Title / ID#	Sponsor	Total Direct Cost	PI	Role / % Effort
7/5/2004-7/31/2008	Mentored Clinical Research Scholar Program, 5K12EY015025-02	NIH/NEI		Harry Quigley	Mentee/ 80%
2006-2008	A Phase IIIB single-masked, multicenter, randomized study to evaluate the safety and tolerability of ranibizumab in naïve and previously treated subjects with Choroidal neovascularization (CNV) secondary to age-related macular degeneration (AMD).	Genentech, Inc.		Howard Ying	PI / up to 1%
2006-2007	A Phase II/III multi-center, double-masked, randomized, vehicle-controlled, parallel group group evaluation of the safety and efficacy of OT-551 ophthalmic solution to prevent formation or delay progression of nuclear cataract formation in post-vitrectomy patients.	Othera, Inc.		Howard Ying	PI / up to 3%

2006-ongoing	Ranibizumab for Diabetic Macular Edema Advisory Board.	Genentech, Inc.	up to \$5,000	Sean Ianchulev	Consultant / up to 4%
7/1/2008-9/29/2012	Oculomotor Disorders: Clinical and Experimental Study R01-EY001849 This project studies the effect of experimental cranial IV nerve transection and the role of the cerebellum in disconjugate adaptation and adaptive control of vertical and torsion eye control.	NIH/NEI		David Zee	Co-PI / 20%

Research Program Building / Leadership

EDUCATIONAL ACTIVITIES

Educational Publications

Journal peer review activities Comprehensive Ophthalmology Update
 Current Eye Research
 Journal of Cerebral Blood Flow and Metabolism
 Journal of Neurochemistry
 Lasers in Surgery and Medicine
 Ophthalmology
 Retina
 Vision Research

Teaching

Mentoring (pre- and post-doctoral)

Date	Advisee Name	Degree	Role	Awards earned while under mentorship	Present Position
2004 - 2005	Justin Brown	M.D.	Clinical Fellow		retina practice
2004 - 2005	Diana V. Do	M.D.	Clinical Fellow		Assistant Professor Wilmer Eye Institute
2004 - 2005	Wen-Hsiang Lee	M.D.	Clinical Fellow		Assistant Professor University of Miami School of Medicine
2004-2006	Brian Kim	M.D.	Clinical Fellow		retina practice

2004-2006	Egbert Saavedra	M.D.	Clinical Fellow		retina practice
2004-2006	Eric Tourville	M.D.	Clinical Fellow		retina practice
2004-2007	Xiaoyan Shan	M.D., Ph.D.	Post-doctoral Fellow		Johns Hopkins University
2005-2007	Heather Casparis	M.D.	Clinical Fellow		retina practice
2005-2007	Joanna Oda	M.D.	Clinical Fellow		retina practice
2005-2007	Sayjal Patel	M.D.	Clinical Fellow		Navy Hospital
2005-2006	Nicholas Ramey	M.D.	Medical Student		Duke Ophthalmology resident
2005-2007	Kristina Irsch	M.S.	Graduate Student		University of Heidelberg
2006	Reena Vaswani	B.A.	Medical Student		Drexel University School of Medicine
2006-2007	Rohit Adayanthaya	M.D.	Research Fellow		Stonybrook Ophthalmology resident
2007	Eugenie Hsieh	M.D.	Medical Student	AFAR fellowship	Johns Hopkins Medical School

Educational Program Building / Leadership

Date	Course	Role	Institution
1992-1993	Medical Histology	Teaching Assistant	Washington University School of Medicine, St. Louis, MO
2001-2002	Introduction to Clinical Medicine	Instructor	University of Southern California School of Medicine, Los Angeles, CA
2002-present	Basic Skills in Ophthalmology	Instructor	Johns Hopkins University School of Medicine, Baltimore, MD

Educational Extramural Funding (current, pending, previous)

CLINICAL ACTIVITIES

Certification/Licensure

Date	Certification/Licensure	Issuing Organization	Expiration
1999	Diplomate	National Board of Medical	

		Examiners	
1999	Drug Enforcement Agency BY6825939	United States Drug Enforcement Agency	11/30/2009
1999	Physician and Surgeon A71926	Medical Board of California	11/30/2009
2002	Medicine and Surgery D0058884	Maryland Board of Physician Quality Assurance	09/30/2009
2002	Controlled Dangerous Substance M54688	Maryland Department of Health and Mental Hygiene	6/30/2008
2003	Diplomate	American Board of Ophthalmology	12/31/2013

Professional Societies:

- 2005-present Associate Fellow, #3094382, American College of Surgeons
- 2004-present Active Fellow, #247739, American Academy of Ophthalmology
- 2004-present Member, #65385, Association for Research in Vision and Ophthalmology
- 2000-2002 Board of Directors, California Academy of Ophthalmology
- 1999-2002 Member-in-Training, American Society of Cataract and Refractive Surgery
- 1990-1998 Student Member, American Medical Association Political Action Committee

Clinical (Service) Responsibilities	Dates	Specialty	Role	Time commitment
			Consult service attending	1 month per year

Clinical Program Building / Leadership

Clinical Trials Participation:

- 2003-2007 A Phase I/II randomized, masked, controlled, multicenter comparative trial, in parallel groups to establish the safety of the modified-ETDRS technique or the modified macular grid (MMG) technique in patients with clinically significant diabetic macular edema (CSME) and no prior focal/grid laser photocoagulation Diabetic Retinopathy Clinical Research (DRCR) Network National Institutes of Health Referring Physician/Co-Investigator
- 2003-2006 A Phase II/III randomized, double-masked, controlled, dose-ranging, multicenter comparative trial, in parallel groups to establish the safety and efficacy of intravitreal injections of EYE001 (Anti-VEGF pegylated aptamer) given every 6 weeks for 54 weeks, in patients with exudative age-related macular degeneration (AMD) Eyetech Pharmaceuticals, Inc. (\$135,200.00) Co-Investigator WIRB #20010688
- 2004-2006 An open label, phase I, single administration, dose-escalation study of AdGVPEDF.11D in neovascular age-related macular degeneration (AMD) GenVec, Inc. Co-Investigator

- 2004-2006 A Phase I open label, dose escalation study of combretastatin (CA4P) in neovascular age-related macular degeneration (AMD)
Foundation for Fighting Blindness/Oxigene
Co-Investigator
- 2004-present Standard care vs. CORTicosteroid for REtinal vein occlusion (SCORE) study: two multicenter, randomized, Phase III trial to compare the efficacy and safety of standard care versus triamcinolone acetonide injection(s) for the treatment of macular edema associated with CRVO and BRVO
National Institutes of Health
Co-Investigator
- 2004-present A Phase II/III randomized, double-masked comparative trial to establish the safety and efficacy of supplemental inspired oxygen in patients with diabetic macular edema (DME)
National Institutes of Health
Co-Investigator
- 2004-present A Phase II/III randomized, double-masked comparative trial to establish the safety and efficacy of supplemental inspired oxygen in patients with exudative age-related macular degeneration (AMD) not eligible for other treatment
National Institutes of Health
Co-Investigator
- 2005-2007 A Phase I open label, single intravitreal injection, dose escalation study of SiRNA-027 in neovascular age-related macular degeneration (AMD)
Sirna Therapeutics, Inc.
Co-Investigator
- 2005-2007 A Phase II/III randomized, double-masked, controlled, multicenter comparative trial, in parallel groups to establish the safety and efficacy of intravitreal injections of triamcinolone in patients with clinically significant diabetic macular edema (CSME)
Diabetic Retinopathy Clinical Research (DRCR) Network
National Institutes of Health
Co-Investigator
- 2006-2008 A Phase IIIB single-masked, multicenter, randomized study to evaluate the safety and tolerability of ranibizumab in naïve and previously treated subjects with Choroidal neovascularization (CNV) secondary to age-related macular degeneration (AMD).
Genentech, Inc.
Principal Investigator
- 2006-2007 A Phase II/III multi-center, double-masked, randomized, vehicle-controlled, parallel group group evaluation of the safety and efficacy of OT-551 ophthalmic solution to prevent formation or delay progression of nuclear cataract formation in post-vitrectomy patients.
Othera Pharmaceuticals
Principal Investigator

- 2006-2007 Postoperative patient comfort with 25-gauge transconjunctival sutureless vitrectomy versus 20-gauge vitrectomy. Protocol # NA_00001156.
Johns Hopkins University
Co-investigator
- 2006-present The Age-Related Eye Disease Study 2 (AREDS 2). Protocol # NA_00002266.
National Institutes of Health / National Eye Institute
Co-investigator
- 2006-present High-Resolution Ultrasonography Study of Patients Who Have Undergone Multiple Intravitreal Injections. Protocol # NA_00004893
The Johns Hopkins University
Co-investigator
- 2007-present A Phase I Multi Center Study of the Safety and Efficacy of Multiple Intravitreal Injections of Ranibizumab in Subjects with Choroidal Neovascularization Secondary to Causes other than Age-Related Macular Degeneration. Protocol # NA_00004840.
Genentech, Inc.
Co-investigator
- 2006-present Ranibizumab for Edema of the mAcula in Diabetes: a phase 2 study (the READ-2 study). Protocol # NA_00005254.
Genentech, Inc.
Co-investigator
- 2007-present Pilot study of the effect of topical bromfenac ophthalmic solution 0.09% in patients with acute post-operative cystoid macular edema. Protocol # NA_00008377.
The Johns Hopkins University
Co-investigator
- 2007-present The Course of Response to Focal Photocoagulation for Diabetic Macular Edema. Protocol # NA_00008532
National Institutes of Health / National Eye Institute
Co-investigator
- 2007-present A Double-Masked, Placebo-Controlled, Parallel-Group, Multicenter, Dose-Ranging Study to Assess the Efficacy and Safety of LX 211 as Therapy in Subjects with Active Sight Threatening, Non-Infectious Intermediate-, Anterior and Intermediate-, Posterior-, or Pan-Uveitis. Protocol # NA_00010057
Lux Biosciences, Inc.
Co-investigator
- 2007-present A Double-Masked, Placebo-Controlled, Multi-Center, Parallel-Group, Dose-Ranging Study to Assess the Efficacy and Safety of LX211 as Therapy in Subjects with Clinically Quiescent Sight Threatening, Non-Infectious Intermediate-, Anterior and Intermediate-, Posterior-, or Pan-Uveitis. Protocol # NA_00010071
Lux Biosciences, Inc.
Co-investigator

- 2007-present A Double-Masked, Placebo-Controlled, Parallel-Group, Multi-Center, Dose-Ranging Study to Assess the Efficacy and Safety of LX211 as Therapy in Subjects with Active Sight-Threatening, Non-Infectious Anterior Uveitis. Protocol # NA_00010072
Lux Biosciences, Inc.
Co-investigator
- 2007-present FVF4165g: A PHASE III, MULTICENTER, RANDOMIZED, SHAM INJECTION-CONTROLLED STUDY OF THE EFFICACY AND SAFETY OF RANIBIZUMAB INJECTION COMPARED WITH SHAM IN SUBJECTS WITH MACULAR EDEMA SECONDARY TO BRANCH VEIN RETINAL OCCLUSION (BRAVO).
PROTOCOL # NA_00010160.
GENENTECH, INC.
CO-INVESTIGATOR
- 2007-present FVF4166g: A PHASE III, MULTICENTER, RANDOMIZED, SHAM INJECTION-CONTROLLED STUDY OF THE EFFICACY AND SAFETY OF RANIBIZUMAB INJECTION COMPARED WITH SHAM IN SUBJECTS WITH MACULAR EDEMA SECONDARY TO CENTRAL RETINAL VEIN OCCLUSION (CRUISE).
PROTOCOL # NA_00010309.
GENENTECH, INC.
CO-INVESTIGATOR
- 2007-present Phase 2 study of the safety and bioactivity of topical ocular mecamylamine for the treatment of diabetic macular edema (DME). Protocol # NA_00012124.
Comentis, Inc., Juvenile Diabetes Research Foundation.
Co-investigator

Clinical Extramural Funding (current, pending, previous)

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments

Dates	Appointment
1990-present	National Alumni Schools Committee, Member, Johns Hopkins University
1999-2001	Joint Council of Interns and Residents, Representative, Los Angeles County Hospital
1999-2002	Performance Improvement Team, Member, Los Angeles County Hospital

RECOGNITION

Date	Title	Sponsor
1986-1990	Stanley E. Blumberg Memoial Scholar	Johns Hopkins University
1988	Alpha Epsilon Delta honor society	Johns Hopkins University
1988	Tau Beta Pi honor society	Johns Hopkins University

1988	RG Thompson Fellow	American Cancer Society
1989	Undergraduate Summer Scholar	American Chemical Society
1990	Honors	G.W.C. Whiting School of Engineering Department of Biomedical Engineering
1992	Disease Neurobiology course	Cold Spring Harbor
1997	Spencer T. and Ann W. Olin Medical Scientist Fellow	Washington University Division of Biomedical Sciences
1990-1998	Medical Scientist Training Program Fellow	National Institutes of Health
2000	ARVO Travel Fellowship	National Eye Institute, National Institutes of Health
2000, 2001, 2002	Association for Research in Vision and Ophthalmology Best Resident Research Award	Doheny-USC Professional Association
2002	Thomas Heed Fellow	Heed Ophthalmic Foundation
2003	American Ophthalmologic Society-Knapp Fellow	Herman Knapp Testimonial Fund
2004	A. Edward Maumenee Scholar	Wilmer Eye Institute
2004	Wilmer Special Resident Teaching Award	Wilmer Residents' Association
2004	Raymond R. Margherio Award	The Retina Society
2007	Michaelson Club Travel Award	The Michaelson Club
2007	Jean Buttner-Ennever Symposium Travel Award	The Imperial College, London

OTHER PROFESSIONAL ACCOMPLISHMENTS

Recent Symposia and Invited Oral Presentations:

Date	Title	Location
September 29, 2004	Age-related macular degeneration risk factors	Wilmer Macular Degeneration Center Support Group Meeting, Timonium, Maryland
November 17, 2004	Small pigmented retinal lesions	Wilmer at Frederick Continuing Medical Education course, Frederick, Maryland
December 2, 2004	Strabismus after retinal detachment surgery	Wilmer 17 th Annual Current Concepts in Ophthalmology, Baltimore, Maryland
December 2, 2004	Pars plana vitrectomy for diabetic macular edema	Wilmer 17 th Annual Current Concepts in Ophthalmology, Baltimore, Maryland
October 24, 2005	New insights from the American Academy of Ophthalmology	Wilmer Macular Degeneration Center Support Group Meeting, Timonium, Maryland
December 1, 2005	Update on superior oblique palsy	Wilmer 18 th Annual Current Concepts in Ophthalmology, Baltimore, Maryland
December 2, 2005	Anti-VEGF therapy for diabetic macular edema	Wilmer 18 th Annual Current Concepts in Ophthalmology, Baltimore, Maryland
September 3, 2006	A quantitative approach to superior oblique palsy and cyclovertical deviations.	Third Global Chinese Ophthalmic Conference in conjunction with the XI National Congress of Chinese

September 4, 2006	Choroidal and Retinal Metastasis	Ophthalmological Society. Beijing, China. Tian Jing Eye Hospital, Tian Jing, China
November 3, 2006	Is a medical work-up indicated for venous occlusive disease?	Wilmer What's New in Diabetic Retinopathy and Venous Occlusive Disease Course, Baltimore, Maryland
January 12, 2007	Central Vein Occlusion with Intraretinal Revascularization	Macula 2007, Baltimore, Maryland
January 13, 2007	Laser Photocoagulation for Macular Edema: How Good Is It?	Atlantic Coast Retina Club Meeting, Baltimore, Maryland
May 2, 2007	The retina is attached and the visual acuity is great, so why can't my patient see?	9th Michaelson Symposium, Baltimore, Maryland.
June 20, 2007	Superior oblique palsy in monkeys and man.	Ludwig-Maxmillian University, Munich, Germany
October 13, 2007	Why a medical work-up is not indicated for BVO or CVO?	Wilmer What's New in Diabetic Retinopathy and Venous Occlusive Disease Course, Baltimore, Maryland
November 28, 2007	Superior oblique palsy: innovations and challenges	Massachusetts Eye and Ear Infirmary, Boston, Massachusetts.