

CURRICULUM VITAE

JENNIFER U. SUNG

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POSITIONS AND EMPLOYMENT:

- 2011-present PACIFIC EYE ASSOCIATES, California Pacific Medical Center
San Francisco, CA
- Staff Ophthalmologist
- 2001-2010 WILMER EYE INSTITUTE, Johns Hopkins University School of Medicine,
Baltimore, MD
- Assistant Professor of Ophthalmology, Retina Division
- 2000-2001 MOORFIELDS EYE HOSPITAL/INSTITUTE OF OPHTHALMOLOGY
London, United Kingdom
- Clinical research fellow in medical retina to Professor Alan Bird
- 1998-2000 WILLS EYE HOSPITAL, Retina Service
Philadelphia, PA USA
- Fellow in vitreoretinal diseases
- 1995-1998 BASCOM PALMER EYE INSTITUTE, University of Miami School of Medicine
Miami, FL USA
- Resident in ophthalmology
- 1994-1995 EVANSTON HOSPITAL
Evanston, IL USA
- Completed internship in preliminary medicine

EDUCATION:

- 2005-2008 JOHNS HOPKINS UNIVERSITY CAREY BUSINESS SCHOOL
Baltimore, MD
- Received M.B.A. in Medical Services Management in May 2008
- 1989-1994 NORTHWESTERN UNIVERSITY MEDICAL SCHOOL
Chicago, IL USA
- Received M.D. in June 1994
- 1986-1989 NORTHWESTERN UNIVERSITY HONORS PROGRAM IN MEDICAL EDUCATION
Evanston, IL USA
- B.A. in neurobiology and physiology awarded in 1989
- 1982-1986 FOX CHAPEL AREA HIGH SCHOOL
Pittsburgh, PA USA
- National Merit Scholar
 - Pennsylvania Governor's School for the Sciences

JENNIFER U. SUNG

RESEARCH EXPERIENCE:

- 2001-2010 Wilmer Eye Institute and Department of Neuroscience, Johns Hopkins University with Peter Campochiaro, MD and Solomon Snyder, MD
Baltimore, MD
- Neuroprotective agents in retinal degenerations
 - Oxidative damage in retinal degenerations
- 2000-2001 Moorfields Eye Hospital/Institute of Ophthalmology, University College of London with Professor Alan Bird
London, United Kingdom
- Histochemical correlation of autofluorescence in ocular disorders
- 1992-1993 Howard Hughes Medical Institute Research Scholar at the National Institutes of Health in the National Eye Institute/Laboratory of Retinal Cell and Molecular Biology with Gerald J. Chader, Ph.D.
Bethesda, MD USA
- Identification of candidate genes for retinal diseases using subtraction cloning techniques
- 1990-1992 Neuroscience research with Paul A. Knepper, M.D., Ph.D. at Children's Memorial Hospital
Chicago, IL USA
- Assessment of arachnoid cell survival on differential substrata *in vitro*
- 1989-1990 Immunology research with Philip Y. Paterson, M.D. at Northwestern University Medical School
Chicago, IL USA
- Immunofluorescent studies of rat spinal cord in Experimental Allergic Encephalomyelitis (EAE)
- 1988-1989 Neuroscience research with William Klein, Ph.D. at Northwestern University Evanston, IL USA
- Effects of retinoic acid and glutamate on synaptogenesis in embryonic chick retina cultures

HONORS AND AWARDS:

- 1990 Northwestern University Baxter Research Award
1991 Northwestern University Medical Student Research Award
1992 Howard Hughes Medical Institute-National Institutes of Health Research Scholar
1997 Florida Society of Ophthalmology, selected to present at Annual Meeting
2005 Knights Templar Eye Foundation Research Grant Award
2006 NIH K12 Clinician-Scientist Award
2007 Foundation for Fighting Blindness Center Grant, Module co-Principal Investigator

PUBLICATIONS:

Oveson BC, Iwase T, Hackett SF, Lee SY, Usui S, Sedlak TW, Snyder SH, Campochiaro PA, **Sung JU**. Constituents of Bile, Bilirubin and TUDCA, Protect Against Oxidative Stress-Induced Retinal Degeneration. *J Neurochem*. 2010 Nov 3.

Campochiaro PA, Hafiz G, Channa R, Shah S, Nguyen QD, Ying H, Do D, Zimmer-Galler I, Solomon S, **Sung JU**, Syed B. Antagonism of Vascular Endothelial Growth Factor for Macular Edema Due to Retinal

JENNIFER U. SUNG

Vein Occlusions; Two Year Outcomes: Ranibizumab for Macular Edema in Vein Occlusions. *Ophthalmology*. 2010 Jul 12

Nguyen QD, Shah SM, Heier JS, Do DV, Lim J, Boyer D, Abraham P, Campochiaro PA; READ-2 Study Group. Primary End Point (Six Months) Results of the Ranibizumab for Edema of the mAcula in diabetes (READ-2) study. *Ophthalmology*. 2009 Nov;116(11):2175-81.e1. Epub 2009 Aug 22. Collaborator

Browning DJ et al. Optical coherence tomography measurements and analysis methods in optical coherence tomography studies of diabetic macular edema. *Ophthalmology*. 2008 Aug;115(8):1366-71, 1371.e1. (collaborator)

Campochiaro PA, Hafiz G, Shah SM, Nguyen QD, Ying H, Do DV, Quinlan E, Zimmer-Galler I, Haller JA, Solomon SD, **Sung JU**, Hadi Y, Janjua KA, Jawed N, Choy DF, Arron JR. Ranibizumab for macular edema due to retinal vein occlusions: Implication for VEGF as a critical stimulator. *Mol Ther*. 2008 Apr;16(4):791-9

Do DV, Cho M, Nguyen QD, Shah SM, Handa JT, Campochiaro PA, Zimmer-Galler I, **Sung JU**, Haller JA. Impact of optical coherence tomography on surgical decision making for epiretinal membranes and vitreomacular traction. *Retina*. 2007 Jun;27(5):552-6.

Do DV, Cho M, Nguyen QD, Shah SM, Handa JT, Campochiaro PA, Zimmer-Galler I, **Sung JU**, Haller JA. The impact of optical coherence tomography on surgical decision making in epiretinal membrane and vitreomacular traction. *Trans Am Ophthalmol Soc*. 2006;104:161-6.

Shah SM, Tatlipinar S, Quinlan E, **Sung JU**, Tabandeh H, Nguyen QD, Fahmy AS, Zimmer-Galler I, Symons RC, Cedarbaum JM, Campochiaro PA. Dynamic and quantitative analysis of choroidal neovascularization by fluorescein angiography. *Invest Ophthalmol Vis Sci*. 2006 Dec;47(12):5460-8.

Nguyen QD, Tatlipinar S, Shah SM, Haller JA, Quinlan E, **Sung J**, Zimmer-Galler I, Do DV, Campochiaro PA. Vascular Endothelial Growth Factor Is a Critical Stimulus for Diabetic Macular Edema. *Am J Ophthalmol*. 2006 Dec;142(6):961-9.

Nguyen QD, Shah SM, Hafiz G, Quinlan E, **Sung J**, Chu K, Cedarbaum JM, Campochiaro PA; CLEAR-AMD 1 Study Group. A phase I trial of an IV-administered vascular endothelial growth factor trap for treatment in patients with choroidal neovascularization due to age-related macular degeneration. *Ophthalmology*. 2006 Sep;113(9):1522.e1-1522.e14

Margalit E, **Sung JU**, Do DV, Yohay K, Nguyen QD. Panuveitis in association with pseudotumor cerebri. *J Child Neurol*. 2005 Mar;20(3):234-6.

Do DV, Shah SM, **Sung JU**, Haller JA, Nguyen QD. Persistent diabetic macular edema is associated with elevated hemoglobin A1c. *Am J Ophthalmol*. 2005 Apr;139(4):620-3.

Nguyen QD, Shah SM, Van Anden E, **Sung JU**, Vitale S, Campochiaro PA. Supplemental oxygen improves diabetic macular edema: a pilot study. *IOVS* 2004 Feb;45(2):617-24.

Apte RS, **Sung JU**, Bernardo C, Feuer-Greenberg E. Giant neurosensory detachments associated with disciform lesions in neovascular age related macular degeneration. *Br J Ophthalmol* 2003 Jun;87(6):795-6.

Okoye G, Zimmer J, **Sung J**, Gehlbach P, Deering T, Nambu H, Hackett S, Melia M, Esumi N, Zack DJ, Campochiaro PA. Increased expression of brain-derived neurotrophic factor preserves retinal function and slows cell death from rhodopsin mutation or oxidative damage. 2003 *J Neuroscience*. May 15; 23(10):4164-72.

Rasmussen H, Chu KW, Campochiaro P, Gehlbach PL, Haller JA, Handa JT, Nguyen QD, J.U. **Sung JU**. Clinical protocol. An open-label, phase I, single administration, dose-escalation study of ADGVPEDF. 11D

JENNIFER U. SUNG

(ADPEDF) in neovascular age-related macular degeneration (AMD). 2002 *Hum Gene Ther* **12** (16):2029-32.

Englebrect NE, Aaberg TM, Jr, Lewis ML, **Sung JU**. Neovascular membranes associated with idiopathic juxtafoveal telangiectasis. 2002 *Arch Ophthalmol* **120**(3):320-4.

Takahashi K, Lou T, Saishin Y, Saishin Y, **Sung J**, Hackett S, Brazzell R, Kaleko M, Campochiaro PA. Sustained transduction of ocular cells with a bovine immunodeficiency viral vector. 2002 *Hum Gene Ther* **13**(11): 1305-16.

Sung J, Lam B, Curtin V, Tse D. Metastatic gastric carcinoma to the optic nerve. (1998) *Arch Ophthalmol* **116**:692-693

Jampol LM, **Sung JU**, Walker JD, Folk JC, Townsend-Pico WA, LowderCY, Dodds EM, Westrich D, Terry J. Choroidal neovascularization secondary to *Candida albicans* chorioretinitis. 1996 *Am J Ophthalmol* **121**:643-649.

ABSTRACTS:

Oveson B, Hackett S, Lee SY, Sedlak T, Snyder S, Campochiaro PA, and **Sung JU**. Constituents of Bile, Bilirubin and TUDCA, Protect Against Retinal Degeneration IOVS, ARVO abstract, 2010.

Sung, JU, Oveson, B, Jo, Y.-J., Shen, J., Sedlak T., Blackshaw, S, Snyder,SH, Campochiaro PA. Heme Oxygenase Pathway in Retinal Degenerations.(2009) IOVS ARVO abstract, 2009

Schulick R, Choti M, Wolfgang C, Pawlik T, Campbell K, Chang D, Edil B, Salani R, Antonik L, **Sung J**, and Cameron J. The Relationship of Hospital Volume to Outcome and Cost for Pancreaticoduodenectomy in the State of Maryland. American Surgical Association 2007 Nov (submitted)

Sung JU, Lima e Silva R, Saishin Y, Zhang M, Rogers BS, Deering TG, Aslam S, Saishin Y, Campochiaro PA. (2004) The effect of erythropoietin on hyperoxia-induced retinal degeneration and hypoxia-induced retinal neovascularization. *IOVS ARVO abstract*, March 15, 2004

Okoye G, Zimmer J, **Sung J**, Gehlbach P, Deering T, Nambu H, Hackett S, Melia M, Esumi N, Zack DJ, Campochiaro PA. Increased expression of brain-derived neurotrophic factor preserves retinal function and slows cell death from rhodopsin mutation or oxidative damage. *IOVS* **44**: ARVO abstract #3146, March 15, 2003

Sung JU, Takahashi K, Luo T, Saishin Y, Saishin Y, Kaleko M, Hackett S, Campochiaro PA Long-term Transduction of Retinal Pigmented Epithelial (RPE) Cells With a Bovine Immunodeficiency Viral (BIV) Vector. *IOVS* **43**: ARVO abstract #4614, March 15, 2002

Sung JU, Dubovy SR, Stanga PE, Fitzke FW, Bird AC, Luthert PJ. Quantitative imaging of fundus autofluorescence in post-mortem human eyes with comparison to confocal scanning laser ophthalmoscope. *IOVS ARVO abstract* #340, March 15, 2001

Sung J, Flynn H, Jr, Ehli F. (1998) Etiology and echographic features of choroidal folds. *IOVS*. **39**(4): ARVO abstract #3864, March 15, 1998

Sung JU, Mazuruk K, McCrea N, Chader GJ, and Rodriguez IR. Cloning of a novel cDNA expressed in retina and brain. 1993 *IOVS*. **34**(4): ARVO abstract #541, March 15, 1993.

BOOK CHAPTERS:

Sung J, Ho A. Macular pucker. Chapter in Spaeth (ed) Ophthalmic Surgery 3rd ed.

JENNIFER U. SUNG

OTHER PUBLICATIONS:

Sung JU, co-author on ophthalmology and chest/pulmonary sections of emergency medicine guide for palmtop computers. Palmtop Emergency Physician Information Database (PEPID). 1994-97.

PRESENTATIONS:

Sung JU. Is There a Role for Vitrectomy or Pharmacologic Treatment of Abnormal Vitreomacular Adhesions for Diabetic Macular Edema? (2010) What's New in Diabetic Retinopathy and Venous Occlusive Disease, Baltimore, MD

Sung JU. Steroids for Macular Edema in Vein Occlusions (2010) Macula 2010, Baltimore, MD

Sung JU. Steroids for Vein Occlusions: SCORE (2009) What's New in Diabetic Retinopathy and Venous Occlusive Disease, Baltimore, MD

Sung JU. Natural History of Geographic Atrophy (2009) What's New in Age-related Macular Degeneration, Baltimore, MD

Sung JU. Laser management of vein occlusive disease (2008) What's New in Diabetic Retinopathy and Venous Occlusive Disease, Baltimore, MD

Sung JU. Management of geography atrophy (2008) What's New in Age-related Macular Degeneration, Baltimore, MD

Sung JU Neuroprotection and the Retina (2008) Grand Rounds Invited Speaker, UCLA, Jules Stein Eye Institute, Los Angeles, CA

Sung JU. Sustained-release agents for macular edema from venous occlusive disease (2007) What's New in Diabetic Retinopathy and Venous Occlusive Disease, Baltimore, MD

Sung JU. Intravitreal agents and impact on practice management (2007) What's New in Age-related Macular Degeneration, Baltimore, MD

Sung JU. Other therapies for diabetic retinopathy (2006) What's New in Diabetic Retinopathy and Venous Occlusive Disease, Baltimore, MD

Sung JU, Shah SM, Do DV, Nguyen QD, Tatlipinar S, Haller J, Quinlan E, Zimmer-Galler I, and Campochiaro P. Ranibizumab for edema of the macula in diabetes (READ): One year interim results. (2006) Retina Society, Capetown, South Africa

Sung JU. Surgery for vein occlusion (2005) What's New in Diabetic Retinopathy and Venous Occlusive Disease, Baltimore, MD

Sung JU. Surgery for Vein Occlusion (2004) What's New in Diabetic Retinopathy and Venous Occlusive Disease, Baltimore, MD

Sung JU Neuroprotection and the Retina (2004) Grand Rounds Invited Speaker, Cleveland Clinic Foundation, Cole Eye Institute, Cleveland, OH

Sung JU, Lima e Silva R, Saishin Y, Zhang, M, Rogers B, Deering T, Aslam S, Saishin Y, Campochiaro PA. The effect of erythropoietin on hyperoxia-induced retinal degeneration and hypoxia-induced retinal neovascularization. (2004) ARVO, Fort Lauderdale, FL

Sung JU. Treatment of Age-related Macular Degeneration. (2004) JCAHPO, New Orleans, LA

Sung JU Surgery for vein occlusions. (2003) Current Concepts in Ophthalmology, Baltimore, MD

JENNIFER U. SUNG

Sung J, Okoye G, Zimmer J, Gehlbach P, Deering T, Nambu H, Hackett S, Melia M, Esumi N, Zack DJ, Campochiaro PA. Increased expression of brain-derived neurotrophic factor preserves retinal function and slows cell death from rhodopsin mutation or oxidative damage. (2003) ARVO, Fort Lauderdale, FL

Sung JU Neuroprotection and the retina. (2002) Current Concepts in Ophthalmology, Baltimore, MD

Sung JU. New treatments for macular edema. (2001) Current Concepts in Ophthalmology, Baltimore, MD

Sung J, Federman J. Silicone oil in the management of pediatric traumatic retinal detachments. (2000) Fifth International symposium for ocular trauma. Montreal, Canada.

Sung J, Tasman W. (1999) Fluorescein angiography of macular changes in neonates with retinopathy of prematurity. Retina Society, Maui, HI

Sung J, Flynn H, Jr, Ehli F. (1998) Etiology and echographic features of choroidal folds. Bascom Palmer Eye Institute 34th Annual Residents' Days, Coral Gables, FL.

Sung J, Rubsam P, Murray T, Smiddy W, Rosenfeld R, Feuer W, and Flynn H, Jr. (1997) Outcomes in subfoveal surgery for subretinal neovascular membranes. Bascom Palmer Eye Institute 33rd Annual Residents' Days, Coral Gables, FL.

Sung J, Lam B, Curtin V, Rosa R, Tse D, Schatz N, and Jillapalli D. (1997) Unilateral visual loss in metastatic gastric carcinoma to the optic nerve. Frank A. Walsh Society Meeting, Baltimore, MD.

Sung J, Aaberg T, Jr, and Lewis M. (1996) Clinical course of juxtafoveolar retinal telangiectasis-related neovascular membranes. Bascom Palmer Eye Institute 32nd Annual Residents' Days, Coral Gables, FL.

CLINICAL TRIALS:

Co-Investigator - Diabetic Retinopathy Clinical Research Network

Co-Investigator - Ranibizumab for Diabetic Macular Edema

Co-Investigator - Ranibizumab for Venous Occlusive Disease

Co-Investigator - The Genetics of Macular Degenerations

Co-Investigator - Safety and Efficacy of VEGF-trap in Patients with Exudative Age-Related Macular Degeneration

Co-Investigator - Safety and Efficacy of Combretastatin in Patients with Exudative Age-Related Macular Degeneration

Co-Investigator - Safety and Efficacy of Intravitreal Injections of RhuFab in Patients with Exudative Age-Related Macular Degeneration

Co-Investigator - Safety and Efficacy of Intravitreal Injections of EYE001 (Anti-VEGF Pegylated Aptamer), in Patients with Exudative Age-Related Macular Degeneration

Co-Investigator - Supplemental Inspired Oxygen

Co-Investigator - Study of ADgvPEDF.11D in Neovascular AMD

Co-Investigator - Oculex - Trial to Assess the Safety and Efficacy of Dexamethasone Posterior Segment Drug Delivery System (DEX PS DDS) in the treatment of PME

TEACHING EXPERIENCE:

Johns Hopkins University School of Medicine – Medical students' lectures, tutorials, elective clerkship rotations

Wilmer Eye Institute – Ophthalmology residents' lectures, clinical rotations, vitreoretinal fellows' teaching conferences, clinical and surgical rotations

Greater Baltimore/Washington, DC Metropolitan area – Patient-oriented lectures on retinal diseases including age-related macular degeneration and diabetic retinopathy.

JENNIFER U. SUNG

ADMINISTRATIVE EXPERIENCE:

2001-2004 Medical Director, Wilmer Eye Institute at Rockville. Experience with growing a retina practice in a satellite location, hiring and training staff and other administrative duties.

BOARD CERTIFICATION:

1999 American Board of Ophthalmology
2009 ABO recertification

MEDICAL LICENSURE:

California
Maryland
Pennsylvania (inactive)
Florida (inactive)

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

1997-present American Academy of Ophthalmology
2000-present Association for Research in Vision and Ophthalmology
2001-present American Society of Retina Specialists
2006-present The Retina Society
1998-2001 Pennsylvania Academy of Ophthalmology
1995-98 Miami Ophthalmological Society
1993-94 Phi Rho Sigma

EDITORIAL BOARD:

Ophthalmology, Ad Hoc Reviewer
Archives of Ophthalmology, Ad Hoc Reviewer

Languages:

Korean, Spanish, French (conversational)