

**CURRICULUM VITAE**  
**The Johns Hopkins University School of Medicine**

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Irene C. Kuo, M.D.

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January 24, 2012

**DEMOGRAPHIC INFORMATION**

**Current Appointments**

Associate professor, Cornea and External Diseases Service, Refractive Surgery Service, Department of Ophthalmology, **Wilmer Eye Institute**, Johns Hopkins University School of Medicine, Baltimore, MD.

Division Chief, First Medical Director and Anchor Physician of **Wilmer Eye Institute at White Marsh**, Baltimore, MD, August 2000 to present.

**Personal Data**

Business Address      Wilmer Eye Institute at White Marsh  
4924 Campbell Blvd. #100  
Baltimore, MD 21236

**Education and Training**

**Massachusetts Institute of Technology**

B.S. in chemistry, minor in economics

**University of California, San Francisco, School of Medicine**

M.D.

**Huntington Memorial Hospital, Pasadena, CA**

Intern in medicine

**L.A. County-University of Southern California/Doheny Eye Institute**

Resident in ophthalmology

**Proctor Foundation-University of California, San Francisco**

Clinical fellow in cornea, refractive surgery, and uveitis

Clinical Instructor, Department of Ophthalmology, UCSF

**RESEARCH ACTIVITIES**

## Publications

### Peer-reviewed articles

1. Chen J, Pal J, Petryshyn R, **Kuo IC**, Yang J, Throop M, Gehrke L, London IM. Amino acid microsequencing of internal tryptic peptides of heme-regulated eIF-2 subunit kinase: homology to protein kinases. *Proceedings of the National Academy of Sciences* 1991;88:315-319.
2. Chen J, Throop M, Gehrke L, **Kuo IC**, Pal J, Brodsky M, London IM. Cloning of the cDNA of the heme-regulated eukaryotic initiation factor 2 alpha (eIF-2 $\alpha$ ) kinase of rabbit reticulocytes: homology to yeast GCN2 protein kinase and human double-stranded RNA-dependent eIF-2 $\alpha$  kinase. *PNAS* 1991;88:7729-7733.
3. **Kuo IC**, Seitz B, LaBree L, McDonnell P. Can zinc prevent apoptosis of anterior keratocytes after superficial keratectomy? *Cornea* 1997;16(5):550-555.
4. **Kuo IC**, Kapusta MA, Rao NA. Vitritis as the primary manifestation of syphilis in HIV patients. *American Journal of Ophthalmology* 1998;125(3):306-311.
5. Grossniklaus H, Martin DF, Avery R, Shields JA, Shields CL, **Kuo IC**, Green RL, Rao NA. Uveal lymphoid infiltration: Report of four cases and clinicopathologic review. *Ophthalmology* 1998;105(7):1265-1273.
6. **Kuo IC**, Cunningham ET. Ocular neovascularization in patients with uveitis. *International Ophthalmology Clinics* 2000;40(2):111-26.
7. **Kuo IC**, Rechdouni A, Rao NA, Johnston RH, Margolis TP, Cunningham ET. Subretinal fibrosis in patients with Vogt-Koyanagi-Harada syndrome. *Ophthalmology* 2000;107:1721-1728.
8. **Kuo IC**,\* Cunningham ET, Fan J. Ophthalmic manifestations of NOMID syndrome. *American Journal of Ophthalmology* 2000;130(6):856-858. (\* corresponding author)
9. **Kuo IC**, Ou R, Hwang DG. Flap haze after epithelial debridement and flap hydration for treatment of post-LASIK striae. *Cornea* 2001;20(3):339-341.
10. **Kuo IC**, Hwang DG. *Aspergillus fumigatus* keratitis following laser in situ keratomileusis. *Cornea* 2001;20(3):342-344.
11. **Kuo IC**, Liu WQ, Kuppermann B, Martin D, Margolis TP. Genotypic analysis of cytomegalovirus retinitis poorly responsive to intravenous ganciclovir but responsive to the ganciclovir implant. *American Journal of Ophthalmology* 2003;135(1):20-25.
12. **Kuo IC**, Cevallos V, Troyer R, Lietman T, McLeod SD. Efficacy of transport media use vs. direct inoculation of blood agar plates in the microbiologic evaluation of experimental *Streptococcus pneumoniae* keratitis. *Cornea* 2003;22(3):249-53.
13. **Kuo IC**,\* Lee SM, Soya K, Holsclaw DS, Hwang, DG. Late onset haze and myopic regression after PRK. *Cornea* 2004;23:350-5. (\* corresponding author)

14. **Kuo IC.** Corneal wound healing. *Current Opinion of Ophthalmology* 2004;15(4):311-5.
15. **Kuo IC.** Bernice Zimmer Brown. *Archives of Ophthalmology* 2004;122:939.
16. Jabbur NS, Chicani CF, **Kuo IC,** O'Brien TP. Risk factors in interface epithelialization after laser in situ keratomileusis. *Journal of Refractive Surgery* 2004;20(4):343-348.
17. **Kuo IC,\*** Kempen JH, Jabs DA. Clinical characteristics and outcomes of cytomegalovirus retinitis in persons without human immunodeficiency virus infection. *American Journal of Ophthalmology* 2004;138:338-346. (\*corresponding author)
18. **Kuo IC,\*** Ghajarnia M, O'Brien TP, Jabbur NS. Excimer laser surgery for correction of ametropia after cataract surgery. *J Cataract Refract Surg* 2005;31(11):2104-10. (\*corresponding author)
19. **Kuo IC,\*** Broman AT, Pirouzmanesh A, Melia M. Is there an association between diabetes and keratoconus? *Ophthalmology* 2006; 113(2):184-90. (\*corresponding author)
20. **Kuo IC,\*** O'Brien TP, Haller JA, Jabbur NS. Complications of sequential keratorefractive and vitreoretinal surgery. *J Cataract Refract Surg* 2006;32:2146-8. (\*corresponding author)
21. Reviglio VE, **Kuo IC,** Gramajo L, Olmedo MA, Falco M, Juarez CP. Acute rhegmatogenous retinal detachment immediately following laser in situ keratomileusis. *J Cataract Refract Surg* 2007; 33:536-9.
22. **Kuo IC.** Response to Letter to the Editor, "Is There an Association between Diabetes and Keratoconus." *Ophthalmology* 2007; 114:1034-5.
23. Ramulu P, Green WR, **Kuo IC.** \* Conjunctival lymphoid hyperplasia. *Cornea* 2007;26:484-6 (\*corresponding author).
24. **Kuo IC,\*** Jabbur NS, O'Brien TP. Photorefractive keratectomy for refractory LASIK flap striae *J Cataract Refract Surg*; (\*corresponding author).
25. Reviglio VE, Sambuelli R, Olmedo A, Falco M, Echenique, O'Brien TP, **Kuo IC.** Secretory leukocyte protease inhibitor is an inducible antimicrobial peptide expressed in *Staphylococcus aureus* endophthalmitis, *Mediators of Inflamm* 2007; 2007:93857 (senior author).
26. **Kuo IC,** Falco M, Olmedo A, Misani L, O'Brien TP, Reviglio VE. Corneal tattoo with tea infusion. *Food Chem Toxicol* 2008; 46:2303-5.
27. **Kuo IC,** Haller JA, Reviglio VE. Regression of a subfoveal choroidal metastasis of colorectal carcinoma after intravitreal bevacizumab treatment. *Arch Ophthalmol* 2008;126(9):1311-3.

28. **Kuo IC**,\* Reviglio VE. Wavefront-guided refractive surgery after multifocal lens implantation. *Current Opinion in Ophthalmology* 2009;20(4):255-9. (\* corresponding author)
29. **Kuo IC**, Myrowitz E, Chuck R, Schein O. Wavefront-guided photorefractive keratectomy to correct ametropia following aspheric ReSTOR implantation. *Jl Refract Surg* 2009 Dec;25(12):1111-5.
30. Reviglio VE, Grenat A, Pegoraro F, Sambuelli, Rana TS, **Kuo IC**. Secretory leukoprotease inhibitor: a native antimicrobial protein in the innate immune response in a rat model of *S. aureus* keratitis. *J Ophthalmol* 2009;2009:259393 (senior author).
31. **Kuo IC**, Pellegrino F, Fornero P, Britos L, Pedetta G, Reviglio VE. H1N1 pandemic and ophthalmology. *Ophthalmology* 2010; 117(2):405.
32. **Kuo IC**. Trends in refractive surgery at an academic center: 2007 to 2009. *BMC Ophthalmol*. 2011; 11(1):11.
33. **Kuo IC**, Reviglio VE. Aggressive pterygium growth and corneal scarring after hyperopic photorefractive keratectomy. *Cornea*. 2011;30(7):832-4.
34. **Kuo IC**, Broman AT, Massof R, Park W. The impact of cataract surgery on patients from a low vision clinic. *Can J Ophthalmol*. 2011 Oct;46(5):391-398.

#### **Current research projects:**

new antibiotics in corneal storage medium

corneal wound-healing after laser refractive surgery

clinical outcomes of cataract, refractive surgery

#### **Invited review**

**Kuo IC**, Corneal wound healing after keratorefractive procedures. *European Ophthalmic Review*, Spring 2010.

**Kuo IC**, Toric intraocular lens implants for astigmatism. *European Ophthalmic Review*, Spring 2012.

#### **Non peer-reviewed publication**

**Kuo IC**, Cunningham, ETC. Vogt-Koyanagi-Harada syndrome. *Review of Ophthalmology*. August 1999.

Tzu J, **Kuo IC**, Handa J. Morning Rounds case: Purtscher's retinopathy. *American Academy of Ophthalmology EyeNet*. June 2008; 53-54.

Hoffman RS, **Kuo IC**, Matossian C, Miller G, Ahmed IK. Complex Case Management: Dislocated Iris-Fixated PCIOL. *Cataract and Refractive Surgery Today*. April 2011.

### **Internet publication**

**Kuo IC**, Irvine JA. A 39 year old Hispanic man who presents with decreased vision OS for one year. *Digital Journal of Ophthalmology Grand Rounds Case*. December 24, 1996 (<http://www.meei.harvard.edu/meei/DJOhome.html>).

### **Grant and other**

Eye Bank Association of America Scientific Award, 2004-2005.

Johns Hopkins Medicine IRB-approved study. "Refractive Surgery Clinical Outcomes Assessment." Principal investigator 2005 to 2009.

## **EDUCATIONAL ACTIVITIES**

### **Teaching**

Classroom instruction

2000-present "The Red Eye" lectures to medical students (regular rotation)

2009-present "Conjunctival and Lid Infections" to ophthalmology residents and fellows

2002 "Allergic Eye Disease" lecture to ophthalmology residents

### **Clinical instruction**

2000-present Proctor ophthalmology residents' surgical cases

Oversee medical students rotating to Wilmer at White Marsh

### **CME Instruction**

1. "Subretinal fibrosis in patients with VKH syndrome." Paper presentation, ARVO Annual Meeting, Fort Lauderdale, 1999.

2. "Skin and eye problems: herpes simplex virus and varicella zoster virus." *Ophthalmology for the Medical Practitioner*, Johns Hopkins University School of Medicine, October 2000.

3. "Infectious keratitis after LASIK." Wilmer Grand Rounds, November 2000.

4. "Amniotic membrane and limbal graft transplantation." *Current Concepts in Ophthalmology*, Wilmer Eye Institute, December 2000.

5. "Refractive surgery: defining flap and zap." Sixth Annual Continuing Education for Ophthalmic Technicians and Medical Personnel, Wilmer Eye Institute, January 2001.
6. "Ocular allergic disease." Wilmer Update in Ophthalmology, January 2001.
7. "Updates in Ophthalmology." Wilmer at White Marsh-sponsored course at the Hilton Garden Inn, White Marsh, September 2001.
8. "Amniotic membrane and limbal graft transplantation." Breakfast with the Experts, American Academy of Ophthalmology (AAO) Annual Meeting, New Orleans, October 2001.
9. "Late-onset corneal haze and myopic regression after PRK." Current Concepts in Ophthalmology, Wilmer Eye Institute, December 2001.
10. "Refractive surgery in patients with uveitis." Current Concepts in Ophthalmology, Wilmer Eye Institute, December 2001.
11. "Efficacy of transport media use vs. direct inoculation of blood agar plates in the microbiological evaluation of bacterial keratitis." Wilmer Residents Association Clinical Meeting, April 2002.
12. "Herpetic eye diseases." Ophthalmology for the Medical Practitioner, Johns Hopkins University School of Medicine, October 2002.
13. "Herpes zoster and the eye." Symposium on Skin and Eye disease. AAO Annual Meeting, Orlando, October 2002.
14. "Cytomegalovirus infection in adults without HIV infection." Wilmer Residents Association Clinical Meeting, April 2003.
15. "Treatment of hyperopia in patient with consecutive hyperopia following Strabismus Surgery." Wilmer Grand Rounds, May 20, 2004.
16. "Lyme and syphilitic keratitis" Update on Ocular Infectious Diseases Symposium, Johns Hopkins University, May 21-22, 2004.
17. "Excimer laser surgery for correction of ametropia after cataract surgery" Current Concepts in Ophthalmology, Wilmer Eye Institute, December 2007.
18. "Wavefront-guided photorefractive keratectomy to correct ametropia following aspheric ReSTOR implantation," Current Concepts in Ophthalmology, Wilmer Eye Institute, December 2008.
19. "Decreased vision after PRK." Current Concepts in Ophthalmology, Wilmer Eye Institute, December 2009.
20. "Trends in refractive surgery at an academic center: 2007-2009." Current Concepts in Ophthalmology, Wilmer Eye Institute, December 2010.

## **Mentoring**

Work with medical students, residents, fellows, and interns has resulted in presentations at national meetings and in publications.

### **Editorial activities**

*Ophthalmology* ad hoc reviewer, 2000 to present.

*Journal of Cataract and Refractive Surgery* ad hoc reviewer, 2003 to present.

*Journal of Postgraduate Medicine* ad hoc reviewer 2005 to present

*Journal of Refractive Surgery* ad hoc reviewer, 2005 to present

*American Journal of Ophthalmology* ad hoc reviewer, 2010 to present

*Archives of Ophthalmology*, ad hoc reviewer, 2010 to present

### **Other**

Certificate for “Critical Reading of Epidemiologic Literature,” 27<sup>th</sup> Annual Graduate Summer Institute of Epidemiology and Biostatistics, Johns Hopkins University Bloomberg School of Public Health, July 2009.

Certificate for “Introduction to Clinical Research,” an intensive 2-week course offered by Johns Hopkins Bloomberg School of Public Health and Johns Hopkins University School of Medicine Institute for Clinical and Translational Research, July 2010.

Workshop “Developing a Cochrane Systematic Review” offered at United States satellite base at Johns Hopkins Bloomberg School of Public Health in Baltimore, Maryland, January 2011. Cochrane Eyes and Vision Group.

## **CLINICAL ACTIVITIES**

### **Certification**

California State Medical License

Maryland State Medical License

diplomate of American Board of Ophthalmology

certified to implant **ReSTOR** multifocal and Acrysof Toric lens implants

### **Service Responsibilities/Program Development**

Division Chief, first medical director, and lead physician of new facility, Wilmer Eye Institute at White Marsh, which broke ground in early 2000.

Clinical/surgical responsibilities are comprised of evaluating and treating cornea, refractive surgery, and cataract patients, as well as general ophthalmology and glaucoma patients. Perform cataract operations including multifocal lens implants; perform corneal transplants, YAG laser procedures, excimer laser refractive surgery, and femtosecond laser procedures.

## **Leadership**

Wilmer Finance Committee based on my division's performance.

Wilmer Long-Range Planning Committee member

Chief, Wilmer Infection Control, sit on Wilmer Quality Improvement Committee effective August 12, 2009. Responsible for implementation of new Red Eye Policy for patients and employees by working with Hospital Epidemiology and Infection Control, Wilmer clinics, Occupational Health, and Hopkins Virology/Pathology

Inaugural group of women faculty from School of Medicine selected by chairmen and Office of Women in Science and Medicine for Leadership Program for Women Faculty (coursework completed 2010).

Advisory Board of the Office of Women in Science and Medicine to increase representation of women in leadership roles in the School of Medicine.

Joint Oversight Committee on Faculty Development and Gender

Satellite Directors Committee to investigate the role of Wilmer's satellite clinics, to address issues unique to the satellite clinics, and to help implement aspects of successful satellite practices in the rest of Wilmer.

Completed courses in the Leadership Development Program

National Eye Institute Low Vision Traveling Exhibit at White Marsh, August 13 to September 13, 2005: one of 81 sites nationwide visited by 35 million people in a four-year tour sponsored by the NEI and locally by Wilmer Eye Institute, the Wilmer Eye Institute at White Marsh, and the Lions Club.

## **ORGANIZATIONAL ACTIVITIES**

### **Professional Societies**

Association for Research and Vision in Ophthalmology Member

American Academy of Ophthalmology Fellow and Member

Women in Ophthalmology Member, ex-Board Member

Castroviejo Society Member (selection to this cornea society is based on thesis and publications)

American Society of Cataract and Refractive Surgery Member

## **RECOGNITION**

### **Awards/Honors**

American Academy of Achievement Award

National Merit Scholar

TRW Research Scholar

Honors Chemistry Society Phi Lambda Upsilon

Merck Index Award for Outstanding Scholarship

Pacific Coast Oto-Ophthalmological Society Resident Award

Nesburn Award for Resident Research, presented by the Los Angeles Society of Ophthalmology

Heed Fellowship Award in Ophthalmology

Eye Bank Association of America Scientific Award

Leadership Program for Women Faculty (selected by chairs and Office of Women in Science and Medicine at Johns Hopkins University)

### **Invited Talks**

“Can zinc prevent apoptosis of anterior keratocytes after superficial keratectomy?” Pacific Coast Oto-Ophthalmological Society Meeting, Coronado, CA.

“Update in cornea and external disease.” Women in Ophthalmology Annual Retreat, Aspen, CO.

“Amniotic membrane and limbal graft transplantation.” Women in Ophthalmology Annual Retreat, Aspen, CO.

“Excimer laser surgery for correction of ametropia after cataract surgery.” American Society of Cataract and Refractive Surgery Annual Meeting, Washington D.C.

“Multifocal lenses” Women in Ophthalmology Annual Retreat, San Diego, CA, August 2009.

“Diabetes and Corneal Biomechanics.” Stanford University Department of Ophthalmology Grand Rounds, October 2010.

## **OTHER PROFESSIONAL ACCOMPLISHMENTS**

Undergraduate Research Opportunities Program, MIT.

Teaching assistant in Expository Writing, Project Interphase (program for incoming minority students), MIT.

Assistant editor of text *Advanced Algebra* at Houghton Mifflin Co., Boston, MA.

Research assistant at Fujirebio, Inc., Hachioji, Tokyo, Japan.

## **ABSTRACTS**

“Can zinc prevent apoptosis of anterior keratocytes after superficial keratectomy?” Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Fort Lauderdale, FL.

“Vitritis as the primary manifestation of syphilis in HIV patients.” ARVO Annual Meeting, Fort Lauderdale, FL.

“Intraocular invasion by squamous cell carcinoma of the conjunctiva.” ARVO Annual Meeting, Fort Lauderdale, FL.

“Isolated vitritis in a patient with relapsing polychondritis.” Ocular Microbiology and Immunology Group Annual Meeting, New Orleans, LA.

“Genotypic analysis of CMV retinitis clinically resistant to intravenous ganciclovir but responsive to Vitrasert.” American Uveitis Society Meeting, Fort Lauderdale, FL.

“Late onset haze and myopic regression after PRK.” ARVO Annual Meeting, Fort Lauderdale, FL.

“Iris vascular tufts.” VISTA Meeting, ARVO, Fort Lauderdale, FL.

“Does diabetes affect the progression of keratoconus?” World Cornea Congress V, The Cornea Society, Washington D.C.

“The Impact of Cataract Surgery in Low Vision Patients.” American Society of Cataract and Refractive Surgery Annual Meeting, San Diego.

“Kill curves for Corneal Storage Media with Different Antibiotic Composition.” American Society of Cataract and Refractive Surgery Annual Meeting, Chicago, April 2008 (Eye Bank Association of American Scientific Award project)

“Antimicrobial Peptides: Mediators of Innate Immunity as Templates for the Development of Novel Anti-Infective and Immune Therapeutics” ARVO Annual Meeting, Fort Lauderdale, FL, 2008.

“Intravitreal bevacizumab for a subfoveal choroidal metastasis of colorectal adenocarcinoma” American Academy of Ophthalmology Annual Meeting, Atlanta, 2008

“Wavefront-guided photorefractive keratectomy to correct ametropia following aspheric ReSTOR implantation,” American Society of Cataract and Refractive Surgery Annual Meeting, San Francisco, April 2009.

“Effects of Age and Diabetes on Corneal Hysteresis and Corneal Resistance Factor in Glaucoma Patients,” American Society of Cataract and Refractive Surgery Annual Meeting, San Francisco, April 2010.