

Curriculum Vitae
Kang Zhang, M.D., Ph.D.

Last Updated: 09/20/2017

I. EDUCATION

A. Baccalaureate Degree

1980 - 1984 BS, Sichuan University, Sichuan, China, Biochemistry

B. Advanced Degree

1991 - 1995 MD, Harvard University Medical School - M.I.T., Health Sciences and Technology, Cambridge, MA, Medicine

1985 - 1991 PhD, Harvard University, Cambridge, MA, Genetics

C. Resident/Fellowship Training

2002 - 2003 FELLOW, University of Utah School of Medicine, Salt Lake City, UT, Vitreoretinal Diseases and Surgery

1996 - 1999 RESIDENT, Johns Hopkins University, Wilmer Eye Institute, Baltimore, MD, Ophthalmology

1995 - 1996 INTERN, Presbyterian/St. Lukes Hospital, Denver, CO, Medicine

II. BOARD CERTIFICATIONS

American Board of Ophthalmology (Ophthal), 05/13/2001, certified; 01/01/2012, recertified

National Board of Medical Examiners, 01/01/1996, Certified

III. CURRENT MEDICAL LICENSES/CERTIFICATIONS

State License (CA)

State License (UT)

CS (UT)

DEA Certificate (CA)

State License (OH)

State License (MD)

IV. ACADEMIC HISTORY

12/2015-present, Chief Scientific Officer, Precision Medicine Center

West China Hospital

Sichuan University

04/01/2008-present, Full professor with tenure

11/2009-02/13, Founding Director, UCSD Institute for Genomic Medicine

07/2014-present, Co-Director, Biomaterials and Tissue Engineering Center

University of California San Diego

Department of Ophthalmology, School of Medicine

03/01/2002-6/30/06, Tenure Track-Assistant Professor

07/01/2006, Promotion, Associate Professor with tenure

University of Utah

Ophthalmology/Visual Sciences

10/01/2000-02/29/02, Assistant Staff

Cleveland Clinic Foundation
Cole Eye Institute

07/01/1999-09/30/00, Instructor
Johns Hopkins University
Wilmer Eye Institute

V. **PROFESSIONAL EXPERIENCE**

A. **Full Time Positions**

- 2014 – pres Co-Director, Biomaterials and Tissue Engineering Center, Institute of Engineering in Medicine, University of California San Diego, La Jolla, CA
- 2009 – 2013 Founding Director, Institute for Genomic Medicine, University of California San Diego, La Jolla, CA
- 2008 – pres Chief of Ophthalmic genetics, Department of Ophthalmology, University of California San Diego, La Jolla, CA
- 2008 – pres Professor with tenure, University of California San Diego, La Jolla, CA
- 2008 -- pres Attending Physician, Shiley Eye Center and UCSD, La Jolla, CA
- 2008 – pres Attending Staff Physician, Veteran's Administration Medical Center, San Diego, CA
- 2006 – 2008 Associate Professor with tenure, University of Utah, Department of Ophthalmology and Visual Science, John Moran Eye Center, Salt Lake City, UT
- 2002 – 2008 Investigator, University of Utah, Eccles Institute of Human Genetics, Program in Human Molecular Biology & Genetics, Salt Lake City, UT
- 2002 – 2006 Attending Staff Physician, Veteran's Administration Medical Center, Salt Lake City, UT
- 2002 -2006 Assistant Professor, University of Utah, Department of Ophthalmology and Visual Science, John Moran Eye Center, Salt Lake City, UT
- 2000 -2002 Assistant staff, Cleveland Clinic Foundation, Lerner Research Institute, Cleveland, OH
- 1999 -2000 Instructor, Johns Hopkins University, School of Medicine, Wilmer Eye Institute, Baltimore, MD
- 1999 -2000 Attending Physician, Johns Hopkins Hospital, Baltimore, MD

B. **Editorial Experience**

- 2015-present co-Editor in Chief, Signal Transduction and Targeted Therapy
- 2013-2016 Associate Editor, Current Molecular Medicine
- 2013-2018 Editorial board, Journal of Biological Chemistry
- 2012-present Consulting Editor, Journal of Clinical Investigation
- 2012-present Associated Editor-in -Chief, Chinese Journal of Retinal Diseases
- 2006-2010 Chief Medical Editor, Ophthalmology News and World Report, China Edition. (circulation: 40,000+ ophthalmologists in Asia)

C. **Reviewer Experience**

- Referee for American Journal of Human Genetics
- Referee for American Journal of Medical Genetics
- Referee for American Journal of Pathology
- Referee for Archives of Ophthalmology
- Referee for Biochemical Journal
- Referee for BMC Genomics
- Referee for Cell
- Referee for Molecular Cell
- Referee for Cell Stem Cell

Referee for Developmental Dynamics
Referee for Experimental Eye Research
Referee for Expert Opinion in Ophthalmology
Referee for Genome Biology
Referee for Human Genetics
Referee for Human Molecular Genetics
Referee for Human Gene Therapy
Referee for International Journal of Biologic Science
Referee for Investigative Ophthalmology and Visual Science
Referee for Journal of Biological Chemistry
Referee for Journal of Cataract and Refractive Surgery
Referee for Journal of Clinical Investigation
Referee for Journal of Lipid Research
Referee for Journal of Medical Genetics
Referee for Journal of Neurology
Referee for Lancet
Referee for Molecular Therapy
Referee for Molecular Vision
Referee for Nature
Referee for Nature Genetics
Referee for Nature Communications
Referee for Neuroscience
Referee for New England Journal of Medicine
Referee for Ophthalmic Genetics
Referee for Ophthalmology
Referee for PNAS
Referee for PNAS Plus
Referee for PLoS Biology
Referee for PLoS Medicine
Referee for PLoS Genetics
Referee for PLoS One
Referee for Progress in Retina and Eye Research
Referee for Retina
Referee for Science
Referee for Trend in Genetics
Referee for Trend in Molecular Medicine

VI. RESEARCH AWARDS

Molecular Mechanism and Therapy for Ocular Melanoma. NIH R01CA217642, 03/01/2017-02/28/2022. Direct Costs: \$314,842. Total costs: \$488,005. Contact PI.

Non-coding Variants predisposing to age-related macular degeneration. NIH/NEI R01HG008135, 08/24/2015-06/30/2018. Direct Costs: \$654,449. Total costs: \$786,773. (Zhang, Zhong, Ren) PI.

Limbal Stem Cell Fate and Corneal Enhancers. R01EY021374, 03/01/2015-02/29/2020. Direct Costs: \$310,000 per year. Total costs: \$483,000 per year. Contact PI.

Biomaterial enhancement of stem cell transplant efficacy for macular degeneration. RO1 EY024134, 2/1/2014-1/31/2017. National Eye Institute, Direct Costs: \$250,000 per year. Total costs: \$375,000 per year. Co-PI.

HTRA1 and age related macular degeneration. - To investigate mechanism of macular degeneration due to HTRA1. VA Merit Award. 9/1/2008 - 8/30/2017. Direct Costs: \$150,000 per year. Principal Investigator.

Generation of iPS lines for blinding eye diseases; 8/01/2013-7/30/2015, California Institute for Regenerative Medicine. Direct Costs: \$630,000. Total costs: \$ 1,030,000. Principal Investigator.

Layer-by-Layer Bioprinting of Stem Cells for Retinal Tissue Regeneration. W81XWH-14-1-0522, 09/30/2014-09/29/2016 DoD

Major Goals: To investigate a Layer-by-Layer (LBL) bioprinting process using stem cells for retinal tissue regeneration. (Chen & Zhang) PI

Regeneration of Retinal Neurons by Chemically Induced Reprogramming of Muller Glia- R01 EY021374-01, 9/30/2010-9/29/2015, NIH Director's Transformative R01 Program (obtained with a perfect review score 10), Direct Costs: \$650,000 per year. Total costs: \$ 900,000 per year, Contact PI.

ELOVL4 and Retinal Disease. – To characterize ELOVL4 biochemical properties and macular degeneration mechanism. R01 EY014428 05/01/2002 - 04/30/2013. National Eye Institute, Direct Costs: \$250,000 per year. Total costs: \$375,000 per year. Principal Investigator.

Genetics and Functional Studies of Age-Related Macular Degeneration- To characterize chromosome 10q variants and functions in age related macular degeneration. 1R01EY018660-01A1. 9/30/2008 - 8/30/2014. National Eye Institute, Direct Costs: \$225,000 per year. Total costs: \$350,000 per year. Principal Investigator.

Regulation of the Hippo pathway and its role in uveal melanoma-To study the regulation of the Hippo pathway and its role in uveal melanoma. R01 EY022611 (PI: Guan, Kun-Liang) 09/01/2012 – 08/31/2016. National Eye Institute, Direct Costs: \$250,000 per year. Total costs: \$350,000 per year. Co-PI.

Genetic Susceptibility for Development of Proliferative Diabetic Retinopathy- To identify genetic variants that predispose to diabetic retinopathy. 1R01EY019270, 9/01/09-6/31/2012. National Eye Institute, Direct Costs: \$225,000 per year. Total costs: \$412,000 per year. Co- PI

Genetics of Macular Degeneration - To clone and characterize the disease gene for North Carolina macular dystrophy. RO1EY16698. 11/30/2003 - 07/30/2009. National Eye Institute, Direct Costs: \$385,000 per year. Total costs: \$580,000 per year. Principal Investigator.

Eye Targeted Gene Therapy for Cystinosis in the Eye- To test the hypothesis that injection of self-complementary adeno-associated virus expressing a functional CTNS gene will prevent complications and progression of defects of cystinosis in the eye when delivered very early in the course and ameliorate the eye disease when administered to older patients.

Cystinosis Research Foundation, 9/1/09-8/31/11, \$321,346. Role: PI

Define novel genes for diabetic microvascular complications. –To use genetic association studies to identify genes for diabetic microvascular complications. Burroughs Wellcome Fund Clinical

Scientist Award in Translational Research. 7/1/08-6/30/2013. Direct costs: \$150,000 per year
Principal Investigator.

Wynn Center for the Study of Retinal Degeneration, University of Utah (Wolfgang Baehr)
07/01/2005 - 06/30/2010. Foundation Fighting Blindness, Direct Costs: \$45,000 per year. Total
costs: \$45,000 per year. Module II: Molecular genetics. Principal Investigator.

Gene Identification for Age-Related Macular Degeneration. 07/01/2005 - 06/30/2006. Knights
Templar Eye Research Grant for Lejin Wang: Genetic Linkage Mapping of Leber's Congenital
Amaurosis. 06/01/2005 - 06/30/2006. Knight's Templar Eye Foundation, Direct Costs:
\$30,000. Total costs: \$30,000. Principal Investigator.

Fellowship for Nathan Faulkner: Genetic Linkage Study of a Family with Marfan
Syndrome. 05/01/2005 - 09/30/2005. Fight for Sight, Inc., Direct Costs: \$2,100. Total costs:
\$2,100. Principal Investigator.

Pharmacological intervention of retinal degeneration in ELOVL4 transgenic mice to assess drugs
for retinal degeneration intervention. FR-PT-0505-0237 01/01/2005 - 12/31/2006. Foundation
Fighting Blindness, Direct Costs: \$119,000. Total costs: \$119,000. Principal Investigator.

Gene Identification for Juvenile Retinal Dystrophy. 11/01/2003 - 10/31/2006. Macula Vision
Research Foundation and Ronald McDonald House Charities, Direct Costs: \$80,000 per year.
Total costs: \$80,000 per year. Principal Investigator.

Gene Mapping for Stargardt's Macular Degeneration. 04/01/2002 - 03/31/2003. American
Health Assistance Foundation, Direct Costs: \$50,000. Total costs: \$50,000. Principal
Investigator.

Macular Degeneration Genetics. 49580-001.45 04/01/2002 - 03/31/2004. Karl Kirchgessner
Foundation, Direct Costs: \$50,000; Total costs: \$50,000. Principal Investigator.

Gene Identification for Macular Degeneration. 04/01/2002 - 07/31/2005. Ruth and Milton
Steinbach Fund, Direct Costs: \$100,000 per year; Total costs: \$100,000 per year. Principal
Investigator.

Mentored Clinician Scientist Award K23EY00401. Project: "Cloning a gene for dominant
Stargardt's disease"; Goal: to clone a gene for dominant Stargardt's disease.
08/01/1999 - 07/30/2004. National Eye Institute, Direct Costs: \$175,000 per year. Total costs:
\$210,000. Principal Investigator.

Eye Research Award 01/01/1996 - 12/31/1996. Knight's Templar Eye Foundation, Direct
Costs: \$30,000. Total costs: \$30,000. Principal Investigator.

VII. CLINICAL TRIALS

Anti-VEGF Phase III Clinical Trial for predominantly classic choroidal neovascularization of
age-related macular degeneration (ANCHOR). 06/01/2003 - 12/31/2005. Genentech Inc, Direct
Costs: \$633,694. Total costs: \$788,160. University of Utah, Principal Investigator.

Anti-VEGF Phase III Clinical Trial for minimally classic and completely occult choroidal
neovascularization of age-related macular degeneration (MARINA). 08/01/2003 -

03/31/2006. Genentech Inc, Direct Costs: \$686,082. Total costs: \$838,321. University of Utah, Principal Investigator.

Anti-VEGF aptamer for choroidal neovascularization from age-related macular degeneration sponsored by EyeTech pharmaceuticals and Pfizer 07/01/2001 - 07/31/2004. Eyetech Pharmaceuticals, Inc., Direct Costs: \$142,647. Total costs: \$180,271. Co-Investigator.

A Multicenter, Randomized, Double-Masked, Controlled Study to Evaluate Intravitreal Fluocinolone Acetonide (.5, 2, or 6 mg) Implant in Patients with Non-Infectious Uveitis Affecting the Posterior Segment of the Eye. BLP 415-001 02/01/2001 - 02/28/2005. Bausch & Lomb, Direct Costs: \$164,165. Total costs: \$195,498. Co-Investigator.

An open-label, multicenter extension study to evaluate the safety and tolerability of ranibizumab in subjects with choroidal neovascularization (CNV) secondary to age-related macular degeneration (AMD) who have completed the treatment phase of III Anchor or Marina trials. 09/01/2005 - 2009. Genentech Inc, Direct Costs: \$100,500. University of Utah Principal Investigator.

A Six-Month, Phase III, Multi-centered, Masked, Randomized, Sham-Controlled Trial (With Six-Month Open Label Extension) To Assess the Safety and Efficacy of 700 microgram and 350 microgram Dexamethasone Posterior Segment Drug Delivery System (DEX PSDDS) Applicator System in the Treatment of Patients with Macular Edema Following Central Retinal Vein Occlusion or Branch Retinal Vein Occlusion. 04/01/2002 - . Allergan Inc, Co-Investigator.

An Evaluation of Efficacy and Safety of Posterior Juxtасcleral Injections of Anecortative Acetate (15 mm) vs. Visudyne Patients with Subfoveal Exudative Age-Related Macular Degeneration (AMD). 04/01/2002 - 03/31/2006. Alcon Laboratories, Co-Investigator.

A Phase II Study of Implants of Encapsulated Human NTC-201 Cells Releasing Ciliary Neurotrophic Factor (CNTF), in Participants with Visual Acuity Impairment Associated with Atrophic Macular Degeneration (CNTF2). 08/01/2007-pres, Neurotech. Direct Costs: \$300,165; Principal Investigator and study chair.

Phase II/III Study of Encapsulated Human NTC-201 Cell Implants Releasing Ciliary Neurotrophic Factor (CNTF) for Participants with Retinitis Pigmentosa Using Visual Field Sensitivity as the Primary Outcome. 08/01/2007-08/01/2008, Neurotech. Direct Costs: \$90,000. University of Utah, Principal Investigator.

Clinical Assessment of Age-related Macular Degeneration Patients After Early Diagnosis and Treatment With Ranibizumab (COMPASS)

April 2011 - present

A phase II/III study to determine if patients treated with monthly ranibizumab within 4 months after diagnosis of exudative age-related macular degeneration can return to their baseline pre-disease visual acuity. Principal Investigator

Seven Year Update of Macular Degeneration Patients (SEVEN UP)

October 2010 - present

The purpose of this study is to assess long term vision outcomes and disease status in patients with age-related macular degeneration previously treated with ranibizumab as participants in the Phase III ANCHOR and MARINA Studies and the HORIZON Study. Co-Investigator

Ranibizumab for Edema of the Macula in Diabetes: Protocol 3 With High Dose - the READ 3 Study

April 2010 - present

A phase II study investigating the safety, tolerability, bioactivity, and dose response of two different dosages (0.5 mg and 2.0 mg) of ranibizumab in patients with diabetic macular edema (DME). Co-Investigator

HARBOR study

August 2009 – Nov. 2012

A phase II study to evaluate the safety and efficacy of 2.0 mg and 0.5 mg intravitreal ranibizumab administered monthly or as-needed in patients with subfoveal neovascular age-related macular degeneration (AMD). Genentech Inc, Direct Costs: \$679,694. Total costs: \$834,160. Principal Investigator

Study Evaluating Genotypes While Using Lucentis 2 (SEAGUL2)

May 2008 to present

A phase IV study investigating whether the efficacy of ranibizumab treatment for exudative-age related macular degeneration is associated with VEGF polymorphisms. Genentech. Direct Costs: \$600,500. Principal Investigator

Genetic Assessment of Early to Late Macular Degeneration Study 2 (GALLEY2)

April 2008 – present

An observational study to determine if HTRA1 and CFH polymorphisms are associated with an accelerated progression to advanced age-related macular degeneration (AMD) in patients with early AMD (soft confluent drusen >120 microns) in the study eye, and with either early or advanced AMD in the non-study eye. Genentech. Direct Costs: \$600,000. Principal Investigator

VIII. SCHOLASTIC HONORS

Fellow, American Institute for Medical and Biological Engineering (2016)

The Ophthalmologist 2016 100 Power List (2016)

Achievement Award, American Academy of Ophthalmology (2014)

Clinical Advancement & Recognition of Excellence in Service, UCSD (2012).

Fellow, Association of American Physicians (2011).

Fellow, American Association for the Advancement of Science (2011).

America's Top Ophthalmologists, Consumer's research Council of America (2011).

NIH Director's Transformative R01 Program (with a perfect review score 10, 2010)

Senior Investigator Award, Research to Prevent Blindness (2010)

Outstanding Achievement Award, Chinese Ophthalmological Society, 2009

Chinese National Endowed Visiting Professorship (Chang Jiang Scholar Program), 2009.

Burroughs Wellcome Fund Clinical Scientist Award in Translational Research, 2008

Inaugural Resident Research Mentor Award, Moran Eye Center, University of Utah, 2008

Lew R. Wasserman Merit Award, Research to Prevent Blindness, 2006

Macula Society membership, 2006

American Society of Clinical Investigation membership, 2006

Macular Vision Research Award, 2002

Ruth Steinbach Fund for Macular Degeneration, 2001

Charles Schepens Award for Excellence in Retina Research. 2001

Johns Hopkins Medical Institutions Clinician Scientist Award. 1999

Stark Research Award in Ophthalmology, Wilmer Eye Institute, Johns Hopkins University. 1998

Association of University Professors of Ophthalmology (AUPO) Inaugural Residents and Fellow's Research Forum, runner-up. 1997
 Knights Templar Eye Foundation Research Award. 1996
 Magna Cum Laude, Harvard Medical School. 1995
 First Bower Award for Research on Macular Degeneration Wills Eye Hospital, Philadelphia. 1993
 Reed Scholar, M.I.T.. 1993 -1994
 Johnson & Johnson Scholar, M.I.T.. 1991 -1992
 Chinese National Scholarship for Graduate Studies Abroad. 1984
 Highest Scholarships and High Distinction in Biochemistry, Sichuan Univ. 1980 -1984

IX. ADMINISTRATIVE EXPERIENCE

A. Grant Review Committee/Study Section

2013-present Reviewer, New York Stem Cell Program
 2013- present Reviewer, Penn Stem Cell Program
 2012-present Reviewer, Chinese Academy of Science Strategic Stem Cell Program
 2009-present Reviewer, Natural Science foundation of China
 2008-present Reviewer, ChangJiang Scholars Program, Ministry of Education, China
 2009-present Reviewer Reviewer, National Basic Research Program, China
 2007-present Ad Hoc Reviewer, Biology and Disease of the Posterior Eye Study Section (VISC), NIH
 2006-present Ad Hoc Reviewer, Anterior Eye Disease Study Section (VISA), NIH
 2007-present Distinguished Reviewer's panel, National Eye Institute, NIH
 2009-present Ad Hoc Reviewer, diabetic complications section, Juvenile Diabetes research Foundation
 2006-Present Ad Hoc Reviewer, research grants and fellowships, Wellcome Trust, UK
 2006-Present Ad Hoc Reviewer, research grants and fellowships, Medical Research Council, UK
 2004-present Ad Hoc Reviewer, Neurobiology C Study Section, Medical Research Service, Department of Veterans Affairs Administration
 2002-present Ad Hoc Reviewer, research grants, Foundation Fighting Blindness, USA
 2009-2010 ARRA grant panels
 2007 Special emphasis panel, Gene environment Initiative, Nat Human Genome Research Institute, NIH
 2007 CIDR Access Review Panel, National Human Genome Research Institute, NIH
 2007 Ad Hoc Reviewer, research grants, Macular Disease Society, UK
 2003 Ad Hoc Reviewer, research grants, Foundation Fighting Blindness, Canada
 2001 Ad Hoc Reviewer, postdoctoral training grant, Research into Aging, UK
 2000 Ad Hoc Reviewer, Medical Research Service, Department of Veterans Affairs Administration

X. PROFESSIONAL COMMUNITY ACTIVITIES

2016 Co-organizer. Nature Conference on Tissue Engineering and Regenerative Medicine. Guangzhou, China
 2016 Co-organizer, Nature Conference. Nuclear Reprogramming and the Cancer Genome. La Jolla, CA
 2015 Co-organizer, Nature Conference. Epigenetics of Cancer and Aging, Beijing, China
 2015 Co-organizer, International Congress of Ocular Cell and Stem Cell Biology

- 2014 Co-organizer, Nature Conference. Genomics and Stem Cell Based Therapies: Shaping the Future of Personalized Medicine, Guangzhou, China
- 2014 Co-organizer, Nature Conference. Genomic Technologies and Biomaterial for Understanding Disease, San Diego, CA
- 2014 Co-organizer, International Masters of Retina
- 2014 Co-organizer, Nature-Biocon Symposium
- 2014 Co-organizer, Nature-China Symposium
- 2012-pres Member, Harvard Medical School Dean's Advisory Council.
- 2011-2013 Founding President, American Chinese Association for Research in Vision and Ophthalmology
- 2002-pres Medical Advisory Board, Genentech
- 2012-pre Medical Advisory Board, Thrombogenics
- 2008-pres Scientific Advisory Board, Lifeboat Foundation
- 2006-pres Scientific Advisory Board, Acucela
- 2010-pres co-organizer, International Masters of Retina
- 2011-pres Program Committee, Annual Meeting of Chinese Ophthalmological Society
- 2012 Organizer, the Second World Wide Chinese Ophthalmologist Retina Summit
- 2012 Co-organizer, Nature-UCSD Institute for Genomic Medicine Symposium
- 2010 Organizer, Genetics of Diabetic Retinopathy Workshop, San Diego, CA
- 2009 Retina Subspecialty Day, Moderator, AAO Annual Meeting
- 2009 Organizer, Shanghai International Ophthalmology Symposium
- 2006 Co-Organizer, Genetics of Diabetic Retinopathy Workshop, Salk Lake City, UT
- 2008 Organizer, Genetics of Diabetic Retinopathy Workshop, Salk Lake City, UT
- 2007 Organizing Committee member, International Forum of Vitreoretinal Diseases and Surgery, China
- 2007 Section Chair, Animal Model of Age-Related macular Degeneration. PreARVO Meeting 2007 on Retinal Degeneration and gene Therapy, FL.
- 2007 Organizer, Shanghai International Ophthalmology Symposium
- 2006 Organizer, "Snowbird Neuroscience Symposium 2006"
- 2005 Co-organizer, "Genetics of Molecular Biology of Retinal Diseases", ancillary meeting of Annual Meeting of American Society of Human Genetics, UT.
- 1993-94 President, Harvard Chinese Student Association

I. UNIVERSITY COMMUNITY ACTIVITIES

A. College Level

- 2010-pre Member, Steering Committee, MD/PhD Program, UCSD/Salk/Burnham/TSRI
- 2009-2013 Founding Director, Institute of Genomic Medicine, UCSD
- 2008-2012 Member, MD-PhD Program Admissions Committee, UCSD/Salk/Burnham
- 2010-2012 Faculty Advisor, the MSTP Physician Scientist Colloquium
- 2009-2013 Member, Executive Committee, Research Council, UCSD Health Sciences
- 2008-2013 Member, Research Council, UCSD Health Science
- 2005 - 2008 Member, SOM Academic Senate Nominating Committee, Elected appointment by the Dean, University of Utah
- 2004 - 2008 Member, SOM Admissions Committee, University of Utah
- 2007-2008 Member, MD-PhD program Admissions Committee, University of Utah

A. Department Level

- 2008-pres Member, Department of Ophthalmology CAP Committee, UCSD
- 2010-pres Chief, Division of Ophthalmic Genetics, UCSD
- 2005 - 2008 Director, Division of Ophthalmic Genetics, Moran Eye Center, University of Utah

- 2005 - 2008 Co-Director, Division of International Ophthalmology, Moran Eye Center, University of Utah
- 2006-2008 Chair, Resident Research Committee, Moran Eye Center, University of Utah
- 2002 – 2008 Member, Ophthalmology and Visual Sciences, Resident Selection Committee, Moran Eye Center, University of Utah
- 2002 - 2008 Member, Ophthalmology and Visual Sciences, Department Library Committee, Moran Eye Center, University of Utah
- 2002 - 2008 Member, Ophthalmology and Visual Sciences, Department Seminar Speaker Committee, Moran Eye Center, University of Utah

B. Other Internal Level

- 2001 -2002 Member, Cleveland Clinic Foundation, Search Committee for the Director for the Center for Human Genetics and Genomics
- 1991 -1995 Member, Harvard University - M.I.T., M.D. Curriculum Committee, Division of Health Sciences and Technology
- 1988 -1989 President, Harvard University, Chinese Student Association

II. CURRENT MEMBERSHIPS IN PROFESSIONAL SOCIETIES

- American Academy of Ophthalmology
- American Institute for Medical and Biological Engineering
- American Association for the Advancement of Science
- American Society for Clinical Investigation
- American Society of Human Genetics
- American Society of Retinal Specialists
- Association for Research in Vision and Ophthalmology
- Association of American Physicians
- European Association for Vision and Eye Research
- International Society for Eye Research
- International Society for Stem Cell Research
- Macula Society

III. TEACHING RESPONSIBILITIES/ASSIGNMENTS

A. Course Lectures

- 2015-pres MSII Ophthalmology Skills Lab
- 2015 Retina OKAP Academic Lectures “Macular Dystrophy”
- 2015 Guest lecturer, Bioengineering Seminar
- 2015 Stein Grand Rounds/Geriatric Multi-Professional Lecture Series
- 2014-pres Guest lecturer, Molecular Basis of Human Disease (BIMM110)
- 2014-pres Guest lecturer, “Genetics of Age Related Diseases” (PATH255/BIOM277)
- 2014 Guest Lecturer, PATH277
- 2014 Instructor, “Inherited Ocular Disorders” (Fellows’ Medical Genetics Course)
- 2008-2012 Instructor, BMS core curriculum, quantitative Methods in Genetics (BIOM262)
- 2009 – 2010 Small group discussion leader, Genetics in Medicine, preclinical core curriculum, School of Medicine, UCSD
- 2008 – 2009 Course Co-Director, Genetics in Medicine, preclinical core curriculum, School of Medicine, UCSD
- 2008-2009 Core course in Cellular and Molecular Medicine, Biomedical Science PhD Program, UCSD

2008-pres Pharmacogenomics, School of Pharmacy and Pharmaceutical Sciences, UCSD
 2008-pres Resident Lecture Series, Shiley Eye Center, UCSD
 2008-pres Co-Director, bi-monthly San Diego city-wide Retinal Fluorescein Angiogram Conference
 2008-pres Visiting Professor, Peking University, China
 2007-pres Visiting Professor, Fudan University, China
 2006-pres Visiting Professor, Sichuan Academy of Medical Sciences, China
 2005-2008 Frontiers in Neuroscience, PhD Program in Neuroscience, University of Utah, Salt Lake City, UT; contributing lecturer
 2005 Visiting Professor, King Khaled Eye Specialty Hospital. Riyadh, Saudi Arabia
 2004 Faculty Research Topic Lecture Series, PhD. Program in Molecular Biology, University of Utah, Salt Lake City, UT; contributing lecturer
 2003 - Present Visiting Professor, Peking University Eye Center, Peking University, China
 2003 - Present Visiting Professor, Sichuan University, China
 2003 - Present Visiting Professor, Sichuan academy of Medical Sciences and Sichuan Provincial Hospital, China
 2003 - Present Visiting Professor, Zhong Shan Ophthalmic Center, Sun Yet-sen University, China
 2002 - 2008 Director, Fluorescein Angiogram Conference, John Moran Eye Center, University of Utah, Salt Lake City, UT; Contributing lecturer
 2002 - 2008 Grand Rounds, John Moran Eye Center, University of Utah, Salt Lake City, UT; Contributing lecturer
 2002 - 2008 Ophthalmology Resident Lectures - Lecture Series on the Retina, John Moran Eye Center, University of Utah, Salt Lake City, UT; Contributing lecturer
 2000 -2002 Grand Rounds Quiz for residents, Cole Eye Institute, Cleveland Clinic
 1992 -1994 Teaching Assistant in HMS-M.I.T. HST Genetics and Medicine, 80 students (MIT undergraduate and graduate students, Harvard Medical Students)

B. Students/fellows Supervised

2017-pres Anthony Ao, undergraduate BISP/research assistant
 2016-pres Runze Zhang, undergraduate researcher
 2016-pres Yaou Duan, PhD Student
 2015-pres Xin Fu, PhD, visiting scholar
 2015-pres Shaohua Yi, PhD, visiting scholar
 2015-pres Zheng Zhong, PhD Student
 2015-pres William Shi, premed/research assistant
 2015-pres Jonathan Sun, undergraduate BISP/research assistant
 2015-pres Wei Wei, MD, PhD, visiting scholar
 2015-pres Tingshuai Jiang, MD, visiting scholar
 2015-pres Huiyan Luo, MD, visiting scholar
 2015-pres Dorota Skowronska-Krawczyk, PhD, project scientist
 2015-pres Michelle Pei, premed/research assistant
 2015-pres Nickisa Hodgson, MD, resident/research assistant
 2015-pres Karine Moussa, undergraduate research assistant
 2015-pres Sally Baxter, MD, resident/research assistant
 2014-pres Ying Qi, MD, PhD, postdoctoral scholar
 2014-pres Wenqiu Wang, Md, PhD, postdoctoral scholar
 2014-pres Sherrina Patel, premed/research assistant
 2014-pres Maryam Jafari, research assistant
 2014-pres Michal Krawczyk, PhD, research scientist
 2014-pres Jie Zhu, MD, PhD, postdoctoral scholar

2014-2016 Sha Wang, PhD, postdoctoral scholar
2014-2016 Christopher Chung, BS/MS, research assistant
2014-2016 Bennett Caughey, medical student
2014-pres Daniel Chen, PhD student
2013-2014 Anthony Radosevich, MD, medical student/MSTAR
2013-2015 Duy Nguyen, MD, medical student/research assistant
2013-2016 Frances Wu, medical student
2014-2015 Ying Lin, MD, PhD, postdoctoral scholar
2012-pres Cindy Wen, premed/research assistant
2013-2014 Wenting Wu, PhD, visiting scholar
2011-pres Hong Ouyang, PhD, postdoctoral scholar
2011-2014 Jing Luo, MD, PhD, postdoctoral scholar
2012-2013 Lei Xi, MD, PhD, postdoctoral scholar
2012-2013 Maling Go, PhD, visiting fellow
2012-2015 Jin Zhu, MS student
2012-2013 Yang Yang, MD, postdoctoral scholar
2011-2012 Xiaohui Zhang, MD, postdoctoral scholar
2011-2012 Jing Zeng, MD, postdoctoral scholar
2011-2013 Jing Zhu, MD, PhD student
2010-2012 Hongjun Du, MD, PhD, postdoctoral scholar
2010-2011 Shufeng Wang, PhD, postdoctoral scholar
2010-2012 Li Zhang, PhD, postdoctoral scholar
2010-2012 Sharon Lim, PhD, postdoctoral scholar
2010-2012 Xuemei Zhu, MD, PhD, postdoctoral scholar
2010-2012 Shirong Wang, PhD, postdoctoral scholar
2011-2012 Yuhong Yang, PhD, visiting scholar
2011-2014 Ling Zhao, PhD, postdoctoral scholar
2010-2013 Seanna Grob, BS, medical student, research advisor
2010-2013 Martin Krupa, BS, medical student, research advisor
2009-2011 Sara Bozorg, MD, Resident, research advisor
2009-2011 Woong Sun, PhD, visiting fellow
2009-2010 Hisham Alkuraya, MD, postdoctoral fellow
2009-2013 Clara Lee, BS, premed/lab assistant
2009-2013 Guy Hughes, BS, premed/lab assistant
2009-2013 Kevin Wang, BS, pre-optometry, lab assistant
2009-2012 Matthew Bedell, MD, postdoctoral scholar
2000-2010 Zhenglin Yang, MD, Assistant Professor
2008-2010 Xufang Sun, MD, postdoctoral fellow
2006-2010 Yuhong Chen, MD, PhD, postdoctoral fellow
2008-2009 Bei Li, MD, PhD, postdoctoral fellow
2009-2010 Xiaolei Wang, MD, postdoctoral fellow
2007-2010 Jiexi Zeng, MD, postdoctoral fellow
2008-2013 Chao Zhao, BS, graduate student, UCSD
2008-2009 Cynthia Meyer, lab assistant
2008-2009 Ruben Rarmona, lab assistant, UCSD medical student
2008-2009 Francesca Salazar, lab assistant, UCSD medical student
2006-2007 Peiquan Zhao, MD, PhD, visiting fellow, Chair, Dept of Ophthalmology, Xinhua Hospital of Shanghai Jiaotong University
2006-2008 Haoyu Chen, MD, Postdoctoral fellow
2006-2008 Jessica Jiang, MD, Postdoctoral fellow
2007-2008 Manjusha Dixie, PhD, Postdoctoral fellow
2007-2008 Ling Luo, MD, Postdoctoral fellow

2006-2008 Shrena Patel, MD, Postdoctoral fellow

2004 - 2008 Bradley Katz, MD, PhD. Post Doctoral Fellow, NIH K23 Mentored Clinician Scientist Awardee, and Associate Professor

2004 - 2007 Josh Cameron, Neuroscience Program, University of Utah PhD Thesis Student

2007 – 2008 Ryan Constantine, Neuroscience Program, University of Utah PhD Thesis Student (MD/PhD)

2007 – 2008 Charity Olson, Molecular Biology Program, University of Utah PhD Thesis Student

2004 - 2006 Shin Kamaya, University of Utah Undergraduate Student

2005 - 2006 Asif Azimi, MD, Postdoctoral fellow

2005 - 2006 Jay Meyer, University of Utah Medical Student

2005 - 2006 Nathan Faulkner, University of Utah Medical Student

2005 - 2007 Rusten Gomez, University of Utah Undergraduate Student

2005 - 2007 Shan Duan, PhD, Postdoctoral fellow

2005 - 2006 Wendy Rao, University of Utah Undergraduate Student

2004 Mac Machan, University of Utah Undergraduate Student

2004 Nathan Faulkner, University of Utah Undergraduate Student

2004 Parley Filmore, University of Illinois Medical Student

2004 - 2007 Yali Chen, PhD, Postdoctoral fellow

2004 - 2008 Zongzhong Tong, PhD, Postdoctoral Fellow

2003 Kristina Price, Emery University Medical Student

2003 Marrielle Payne, University of Utah Medical Student

2003 Yian Yin, University of Utah Medical Student

2003 -2005 Chunmei Li, MD, Postdoctoral fellow, Staff Physician, Zhongshan Ophthalmic center, China

2003 - 2005 Jianbin Hu, MD, Postdoctoral fellow

2002 - 2008 Ophthalmology Attending. Supervising ophthalmology residents (PGY2-4), Moran Eye Center, Univ. of Utah

2002 - 2008 Ophthalmology Attending. Supervising residents (PGY2-4) in retina and retina laser clinic, VA Hospital

2002 -2003 Jieyan Pan, PhD, Senior Postdoctoral fellow, University of Penn

2002 -2003 Keke Fan, PhD, Senior Postdoctoral fellow, Case Western University

2002 -2003 Lin Gan, MD, Senior Postdoctoral fellow, University of Heidelberg

2002 -2004 Li Jiang, MD, Postdoctoral Fellow/PhD Student, Dept of Biology, University of Utah

2002 - 2007 Goutam Karan, PhD, Postdoctoral fellow

2001 Wei Lin, Harvard Medical Student

2000 -2001 Zhengya Yu, M.D., Prior Postdoctoral student, Assoc. Prof. Surgery and Chief of Vascular Surgery, Tong Reng Eye Hospital, Beijing, China

2000 -2002 Ophthalmology Attending. Supervised residents (PGY3-4), Cole Eye Institute, Cleveland Clinic Foundation

2000 -2001 Zhengya Yu, MD, Postdoctoral Fellow, Assoc. Prof. Surgery and Chief of Vascular Surgery, Tong Reng Eye Hospital, Beijing, China

1999 -2000 Ophthalmology Attending. Supervised residents (PGY3-4), Wilmer Eye Institute, Johns Hopkins Hospital

1999 -2001 Yang Li, M.D., Prior Postdoctoral student, Assoc. Prof. Ophthalmology and Director of Research, Tong Reng Eye Hospital, Beijing, China

1999 -2001 Yang Li, MD, Postdoctoral Fellow, Assoc. Prof. Ophthalmology and Director of Research, Tong Reng Eye Hospital, Beijing, China

1993 Edward Nugyen (Harvard College), UCSF Medical Student, practicing physician

1993 Kristin Lichtenberg (Wellesley College), Medical Student, University of Pittsburg Medical School, practicing physician

1992 Howard Yeon (Harvard College), Harvard Medical Student, practicing physician

C. Continuing Education

CME Courses Taught

- 2005 Diabetic Retinopathy, Department of Public Health. Idaho State University, Boise, Idaho
2003 Clinical Faculty Day, John Moran Eye Center, University of Utah School of Medicine.
Salt Lake City, Utah

Bibliography

I. ORIGINAL PUBLICATIONS

A. Peer-Reviewed Publications

1. Kapler GM, **Zhang K**, Beverley SM. (1987) Sequence and S1 nuclease mapping of the 5' region of the dihydrofolate reductase-thymidylate synthase gene of *Leishmania major*. *Nucleic Acids Res*, 15(8), 3369-83.
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4. **Zhang K**, Chaillet JR, Perkins LA, Halazonetis TD, Perrimon N. (1990) *Drosophila* homolog of the mammalian jun oncogene is expressed during embryonic development and activates transcription in mammalian cells. *Proc Natl Acad Sci U S A*, 87(16), 6281-5.
5. **Zhang K**, Smouse D, Perrimon N. (1991) The crooked neck gene of *Drosophila* contains a motif found in a family of yeast cell cycle genes. *Genes Dev*, 5(6), 1080-91.
6. Rutledge BJ*, Zhang K*, Bier E, Jan YN, Perrimon N. (1992) The *Drosophila* spitz gene encodes a putative EGF-like growth factor involved in dorsal-ventral axis formation and neurogenesis. *Genes Dev*, 6(8), 1503-17. co-first authors.
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13. **Zhang K**, Kniazeva M, Hutchinson A, Han M, Dean M, Allikmets R. (1999) The ABCR gene in recessive and dominant Stargardt diseases: a genetic pathway in macular degeneration. *Genomics*, 60(2), 234-7.
14. Allikmets R. (2000) Further evidence for an association of ABCR alleles with age-related macular degeneration. The International ABCR Screening Consortium. *Am J Hum Genet*, 67(2), 487-91.

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II. REVIEW ARTICLES

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12. Huang PS, Ho PT, **Zhang K.** A proposal: a comprehensive platform to characterize tumors in Chinese and improve success in cancer drug discovery and development. *Chin J Cancer*. 2011 Jun;30(6):363-7.
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14. Tuo J, Grob S, **Zhang K,** Chan CC (2012). Genetics of immunological and inflammatory components in age-related macular degeneration. *Ocul Immunol Inflamm*. 2012 Feb;20(1):27-36.
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17. Zhu, W, Ma X, Gou M, Mei D, **Zhang K,** Chen S. (2016). 3D printing of functional biomaterials for tissue engineering. *Curr Opin Biotechnol*. 40:103-112.

III. BOOKS and CHAPTERS

1. Cameron DJ, Yang Z, Tong Z, Zhao Y, Praggastis A, Brinton E, Harmon J, Chen Y, Pearson E, Bernstein PS, Brinton G, Li X, Jorgensen A, Schneider S, Gibbs D, Chen H, Wang C, Howes K, Camp NJ, **Zhang K.** (2008) 10q26 is associated with increased risk of age-related macular degeneration in the Utah population. In Anderson RE, LaVail MM, Hollyfield JG (Eds.), *Recent Advances In Retinal Degeneration*. New York: Plenum Publishing Corporation.
2. Chen H, Yang Z, Zhao P, **Zhang K** (2008). Genetics of AMD. in Kaiser PK, Sears J, Singh R (Eds), *Macular Degeneration – State of the Art*. London, Remedica Medical Education and Publishing Limited (in press)
3. Moshfeghi DM, Yang Z, Faulkner ND, Karan G, Hirumalaichary S, Jiang L, Tsai T, **Zhang K.** (2005). Choroidal Neovascularization in Patients with Adult-onset Foveomacular Dystrophy Caused by Mutations in the RDS/Peripherin Gene: Report of 3 Cases. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*. New York: Plenum Publishing Corporation.
4. Katz BJ, Yang Z, Payne M, **Zhang K.** (2005). Fundus Appearance of Choroideremia. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*. New York: Plenum Publishing Corporation.

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11. Zhang, K. (Ed.) *Ophthalmic Disease Mechanisms and Drug Discovery*. (2016). New Jersey: World Scientific.
12. Liu, Y and Zhang, K. Ed. *Ocular Stem Cell Therapy*. World Scientific Publishing, in preparation.

IV. **OTHER (Commentary/Letters/Editorials/Case Reports/Video/Film)**

Patents

- 1 **Zhang K**, Petrukhin, K; Li, W. ELOVL4 gene. Patent No. 2067809999. Washington, D.C.:U.S. Patent and Trademark Office.

V. **ORAL PRESENTATIONS**

A. Invited/Visiting Professor Presentations

International

- 2016 Nature Conference on Nuclear Reprogramming and Cancer Genome 2016
- 2015 International Stem Cell Symposium, Guangzhou, China
- 2015 20th APAO Congress, Guangzhou, China
- 2015 Angiogenesis, Exudation, and Degeneration 2015, Miami, FL
- 2014 Nature Conference on Nuclear Reprogramming and Cancer Genome 2014
- 2014 ARVO Invited Symposium
- 2013 ARVO Invited Symposium
- 2013 Plenary Lecture, International Society of Ocular Cell Biology conference, Oxford, England
- 2013 Angiogenesis, Exudation and degeneration, Miami, FL
- 2012 Cold Spring harbor Asia Stem Cell Meeting
- 2012 NIH Director's Fund Regenerative Medicine Symposium, Bethesda, MD

2012 International Symposium of Age Related Macular Degeneration, Beijing
2012 Asian Pacific Academy of Ophthalmology Annual meeting, Pusan, Korea
2012 Annual Meeting of Chinese Ophthalmology Society, Nanjing, China
2012 Annual Meeting of Chinese Retina Society, Wuhan, China
2012 Annual Meeting of Chinese Ophthalmology Society, Nanjing, China
2012 International Masters of Retina, Dominican Republic
2012 Second Symposium of Chinese Research in Vision and Ophthalmology, Tianjin, China
2011 ARVO ISOCB Ocular Cell Biology Conference, Vancouver, Canada
2011 Annual Meeting of Chinese Ophthalmology Society, Guangzhou, China
2011 Glaucoma: Beyond IOP. San Diego, CA
2011 International Masters of Retina, Dominican Republic
2011 Angiogenesis, Miami, FL
2011 Beckman Initiative in Macular Research, Irvine, CA
2010 Chinese Ophthalmological Society/Asia Pacific Ophthal. Joint Annual Mtg, Beijing, China
2010 Glaucoma Research Foundation, San Francisco, CA
2010 Glaucoma: Beyond IOP. San Diego, CA
2010 BioRetina Submit, San Francisco
2010 Annual Meeting of Chinese Ophthalmology Society, Beijing, China
2010 Gordon Conference on Visual System Development, Lucca (Barga), Italy
2010 Beckman Initiative in Macular Research, Irvine, CA
2010 Angiogenesis, Miami, FL
2009 Mentors Lecture, American Society of Retinal Specialists Masters Meeting, Hawaii
2009 FASCEB Conference, Snow mass, CO.
2009 Beckman Initiative in Macular Research, Irvine, CA
2009 International conference on inflammation and Retinal Disease, Greece
2009 Annual Meeting of Chinese Ophthalmology Society, Chongqing, China
2009 IBC's 5th International Conference on Ocular Angiogenesis and Retinal Degeneration, Las Vegas, NV
2009 BioRetina Submit, San Francisco
2009 Macula 2009, New York, NY
2009 12th Annual Ocular Drug and Surgical Therapy Update Meeting, LA, CA
2009 Angiogenesis, Exudation, and Degeneration, Miami, FL
2008 International Society of Eye Research, Beijing, China
2008 Shanghai International Ophthalmology Symposium, Shanghai, China
2008 International Symposium on Retinal Degeneration (Key note speaker, Chengdu, China
2008 Macular Vision Research Foundation Symposium, FL
2008 World Ophthalmology Congress, Hong Kong, China
2008 International Society of Eye Research, Beijing, China
2008 International Society of Ocular Cell Biology, CA
2008 Angiogenesis 2008, FL
2007 International Forum on Vitreoretinal Diseases and Surgery, China
2007 University of Alberta, Canada
2007 Annual Meeting of Chinese Ophthalmology Society, Beijing, China
2007 Chinese Bioscience Symposium, Beijing
2007 Institute of ophthalmology, University College London

2007 Trinity College, Ireland
 2007 Angiogenesis 2007, FL
 2006 National Eye Institute, Bethesda, MD
 2006 Keystone Symposium on Genome Sequence Variation and the Inherited Basis of Common Disease and Complex Traits
 2006 Osaka Bioscience Institute, Japan
 2006 Annual Meeting of Chinese Ophthalmology Society, Beijing, China
 2005 Annual Meeting of Chinese Ophthalmology Society. Beijing, China
 2004 Beijing Ophthalmology Symposium.
 2003 Institute of Ophthalmology, University College London.
 2002 University of Nimjagen, Netherlands.
 2000 Singapore National Eye Research Institute, Singapore.

National

2012 LCA Conference, Philadelphia
 2007 Foundation Fighting Blindness, Orlando, FL
 2007 Diabetic Retinopathy Clinical Network Genetics workshop, Baltimore, MD.
 2005 Macular Vision Research Foundation Symposium.
 2004 Steinbach Macular Degeneration Symposium.
 2003 FASCEB Conference.
 2002 Steinbach Macular Degeneration Symposium.
 2001 III Retina Summit, Cleveland, OH.
 2001 7th Great Lake Vision Research Conference, Cleveland, OH.
 2000 Foundation Fighting Blindness, Ft. Lauderdale, FL.

Local/Regional

2016 Van Andel Research Institute, Grand Rapids, MI
 2015 KEI Vision Workshop, Kresge Eye Institute, Wayne State University, Detroit
 2015 2nd Annual Gavin Herbert Eye Institute Symposium, UC Irvine, CA
 2015 Multidisciplinary Research Colloquium Series in Aging, USC Davis School of Gerontology, CA
 2015 Frontiers in Medical Research Seminars, University of Arizona, Tuscon, AZ
 2015 Basic Sciences Seminar, Loma Linda University, Loma Linda, CA
 2014 San Diego County Ophthalmic Medical Assistants Association and San Diego Eye Bank Conference, San Diego, CA
 2014 Dept of Ophthalmology, SUNY Buffalo
 2013 Dept of Ophthalmology, Stanford University
 2013 Baylor College of Medicine
 2012 Research Day, Keynote speech, University of British Columbia, Vancouver, Canada
 2012 Dept of Ophthalmology, Mass Eye & Ear Infirmary and Harvard Med School
 2011 Mayo Clinic, MN
 2011 Medical College of Wisconsin, Milwaukee
 2010 Case Western Reserve University
 2009 Schepens Eye Research Institute distinguished lecture
 2008 Futterman Memorial Lecture, Dept of Ophthalmology, University of Washington
 2007 University of California San Diego, Inaugural Genetics and Genomics in Medicine Seminar Series
 2007 Brigham and Women's Hospital/Harvard Medical School, Molecular Medicine Series
 2007 Joslin Diabetes Center/Harvard Medical School
 2007 Santen, Inc. Inaugural Global Grand Rounds lecture
 2007 Genentech, Inc. Ophthalmology conference series
 2007 Univ. of Kentucky, Dept. of Ophthalmology & Visual Sciences
 2003 Oklahoma University, Dept. of Ophthalmology & Visual Sciences

2002 University of Utah, Moran Eye Center.
2002 UCLA, Jules Stein Eye Institute.
2002 Ohio State University, Dept. of Ophthalmology.
1995 University of Colorado, Health Science Center.
1994 Mass. Eye & Ear Infirmary, Harvard Medical School.