

**I. PERSONAL DATA**

Name: Kang Zhang

Birth Place: China

Citizenship: United States

**II. EDUCATION****A. Baccalaureate Degree**

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

**B. Advanced Degree**

1991 - 1995 MD, Harvard University Medical School - M.I.T., 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

**III. BOARD CERTIFICATIONS**

Am Board Ophthalmology (Ophthal), 05/13/2001, Certified

National Bd Medical Examiners, 01/01/1996, Certified

**IV. CURRENT LICENSES/CERTIFICATIONS**

State License (CA) 2008-20011

State License (UT) 2005-2009

CS (UT) 2005-2009

DEA Certificate (UT) 2004-2009

State License (OH) 2000-2009

State License (MD) 1999-2009

**V. ACADEMIC HISTORY**

University of Utah

Neurobiology and Anatomy

Hire, Adjunct Track, Adjunct Assistant Professor, 01/01/2004

Ophthalmology/Visual Sciences

Hire, Tenure Track-Scientist Scholar, Assistant Professor, 03/01/2002

Promotion, Associate Professor, 07/01/2006

Tenure, 07/01/2006

UCSD

Full professor with tenure, 2008

**VI. PROFESSIONAL EXPERIENCE****A. Full Time Positions**

2008 – Present Professor with tenure, University of California San Diego, 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 – 2008 Attending Staff Physician, Veteran's Administration Medical Center, San Diego, CA
- 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**

- 2001 Guest, Editorial Board for Investigative Ophthalmology and Visual Science

**C. Reviewer Experience** Referee for American Journal of Human Genetics

- Referee for American Journal of Medical Genetics
- Referee for Archives of Ophthalmology
- Referee for Biochemical Journal
- Referee for BMC Genomics
- Referee for Developmental Dynamics
- Referee for Experimental Eye Research
- Referee for Human Genetics
- Referee for Human Molecular Genetics
- 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 Medical Genetics
- Referee for Journal of Neurology
- Referee for Kidney International
- Referee for Molecular Vision
- Referee for Nature Genetics
- Referee for Neuroscience
- Referee for Ophthalmic Genetics
- Referee for Ophthalmology
- Referee for PNAS
- Referee for PLoS Biology
- Referee for PLoS Medicine
- Referee for PLoS One
- Referee for Progress in Retina and Eye Research
- Referee for Retina
- Referee for Trend in Genetics

**VII. RESEARCH AWARDS**

**A. Contracts**

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. Principal Investigator.

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. Principal Investigator.

University of Utah PI for a multi-center study of an 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 - present. Genentech Inc, Direct Costs: \$100,500. Principal Investigator.

A Six-Month, Phase III, Multicentered, 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.

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-pres, Neurotech. Direct Costs: \$90,000. Principal Investigator.

VEGF and HTRA1 DNA polymorphisms in neovascular AMD pathogenesis and response to Lucentis. Genentech. Direct Costs: \$600,500. Principal Investigator.

Genetics of early to late progression of age-related macular degeneration. Genentech. Direct Costs: \$240,000. Principal Investigator.

## **B. Grants**

ELOVL4 and Retinal Disease. – To characterize ELOVL4 biochemical properties and macular degeneration mechanism. R01 EY014428 05/01/2002 - 04/30/2012. National Eye Institute, Direct Costs: \$250,000 per year. Total costs: \$375,000 per year. Principal Investigator. .

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.

Wynn Center for the Study of Retinal Degeneration (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.

Genetics and Functional Studies of Age-Related Macular Degeneration- To characterize HTRA1 variants and functions in age related macular degeneration. 1R01EY018660-01A1. 9/30/2008 - 8/30/2013. National Eye Institute, Direct Costs: \$225,000 per year. Total costs: \$350,000 per year. Principal Investigator.

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.

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.

Pharmacological intervention of retinal degenration 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. 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.

## **VIII. SCHOLASTIC HONORS**

Burroughs Wellcome Fund Clinical Scientist Award in Translational Research, 2008  
Lew R. Wasserman Merit Award, Research to Prevent Blindness, 2006  
Macula Society membership, 2006  
American Society for Clinical Investigation membership, 2006  
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**

2006-present Ad Hoc Reviewer, Anterior Eye Disease Study Section (VISA), NIH  
2006-Present Ad Hoc Reviewer, research grants, Wellcome Trust, UK  
2004 Ad Hoc Reviewer, Neurobiology C Study Section, Medical Research Service, Department of Veterans Affairs Administration  
2003 Ad Hoc Reviewer, research grants, Foundation Fighting Blindness, Canada  
2002 - Present Ad Hoc Reviewer, research grants, Foundation Fighting Blindness, USA  
2001 Ad Hoc Reviewer, postdoctoral training grant, Research into Aging, UK  
2000 Ad Hoc Reviewer, Medical Research Service, Department of Veterans Affairs Administration  
2007 Special emphasis panel, Gene environment Initiative, National Human Genome Research Institute, NIH  
2007 CIDR Access Review Panel, National Human Genome Research Institute, NIH  
2007 Special emphasis panel, National Eye Institute, NIH  
2007 Ad Hoc Reviewer, research grants, Macular Disease Society, UK

## **X. PROFESSIONAL COMMUNITY ACTIVITIES**

2005 Advisory Board, Genentech, Age-related macular degeneration  
2005 Co-organizer, "Genetics of Molecular Biology of Retinal Diseases", ancillary meeting of Annual Meeting of American Society of Human Genetics, UT.  
2006 Organizer, "Snowbird Neuroscience Symposium 2006"  
2007 Chief Medical Editor, Ophthalmology New and World Report, China Edition.  
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.

## **II. UNIVERSITY COMMUNITY ACTIVITIES**

### **A. College Level**

- 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

### **B. Department Level**

- 2005 - 2008 Director, Ophthalmology and Visual Sciences, Division of Ophthalmic Genetics  
2005 - 2008 Co-Director, Ophthalmology and Visual Sciences, Division of International Ophthalmology  
2006-2008 Chair, resident research committee  
2002 – 2008 Member, Ophthalmology and Visual Sciences, Resident Selection Committee  
2002 - 2008 Member, Ophthalmology and Visual Sciences, Department Library Committee  
2002 - 2008 Member, Ophthalmology and Visual Sciences, Department Seminar Speaker Committee

### **C. 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

## **III. CURRENT MEMBERSHIPS IN PROFESSIONAL SOCIETIES**

American Academy of Ophthalmology  
American Association for the Advancement of Science  
American Society for Clinical Investigation  
American Society of Human Genetics  
Association for Research in Vision and Ophthalmology  
Macula Society

## **IV. TEACHING RESPONSIBILITIES/ASSIGNMENTS**

### **A. Course Lectures**

- 2007-pres Visiting Professor, Fudan University, China  
2006-pres Visiting Professor, Sichuan Academy of Medical Sciences, China  
2005-pres 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 - Present Fluorescein Angiogram Conference, John Moran Eye Center, University of Utah, Salt Lake City, UT; Contributing lecturer  
2002 - Present Grand Rounds, John Moran Eye Center, University of Utah, Salt Lake City, UT; Contributing lecturer

2002 - Present 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 Supervised**

2007-pres Yuhong Chen, MD, PhD, Postdoctoral fellow  
 2006-pres Haoyu Chen, MD, Postdoctoral fellow  
 2006-pres Jessica Yang, MD, Postdoctoral fellow  
 2007-pres Manjusha Dixie, PhD, Postdoctoral fellow  
 2007-pres Ling Luo, MD, Postdoctoral fellow  
 2006-pres Shrena Patel, MD, Postdoctoral fellow  
 2000 - Present Zhenglin Yang, MD, Research Assistant Professor  
 2004 - present 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 – present Ryan Constinine, Neuroscience Program, University of Utah PhD Thesis Student (MD/PhD)  
 2007 – present 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 - Present 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 - Present Ophthalmology Attending. Supervising ophthalmology residents (PGY2-4), Moran Eye Center, Univ. of Utah  
 2002 - Present 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
1993	Kristin Lichtenberg (Wellesley College), Medical Student, University of Pittsburg Medical School
1992	Howard Yeon (Harvard College), Harvard Medical Student

### 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.
2. Kapler GM, **Zhang K**, Beverley SM. (1990) Nuclease mapping and DNA sequence analysis of transcripts from the dihydrofolate reductase-thymidylate synthase (R) region of *Leishmania major*. *Nucleic Acids Res*, 18(21), 6399-408.
3. Perkins LA, Doctor JS, **Zhang K**, Stinson L, Perrimon N, Craig EA. (1990) Molecular and developmental characterization of the heat shock cognate 4 gene of *Drosophila melanogaster*. *Mol Cell Biol*, 10(6), 3232-8.
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.
7. **Zhang K**, Bither PP, Park R, Donoso LA, Seidman JG, Seidman CE. (1994) A dominant Stargardt's macular dystrophy locus maps to chromosome 13q34. *Arch Ophthalmol*, 112(6), 759-64.
8. Hata Y, Duh E, Zhang K, Robinson GS, Aiello LP. (1998) Transcription factors Sp1 and Sp3 alter vascular endothelial growth factor receptor expression through a novel recognition sequence. *J Biol Chem*, 273(30), 19294-303.

9. Kniazeva M, Chiang MF, Morgan B, Anduze AL, Zack DJ, Han M, Zhang K. (1999) A new locus for autosomal dominant stargardt-like disease maps to chromosome 4. *Am J Hum Genet*, 64(5), 1394-9.
10. Kniazeva MF, Chiang MF, Cutting GR, Zack DJ, Han M, Zhang K. (1999) Clinical and genetic studies of an autosomal dominant cone-rod dystrophy with features of Stargardt disease. *Ophthalmic Genet*, 20(2), 71-81.
11. **Zhang K**, Garibaldi DC, Kniazeva M, Albin T, Chiang MF, Kerrigan M, Sunness JS, Han M, Allikmets R. (1999) A novel mutation in the ABCR gene in four patients with autosomal recessive Stargardt disease. *Am J Ophthalmol*, 128(6), 720-4.
12. **Zhang K**, Jampel HD. (1999) Discordance of primary infantile glaucoma in monozygotic twins. *Am J Ophthalmol*, 128(1), 97-8.
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.
15. Kniazeva M, Traboulsi EI, Yu Z, Stefko ST, Gorin MB, Shugart YY, O'Connell JR, Blaschak CJ, Cutting G, Han M, **Zhang K**. (2000) A new locus for dominant drusen and macular degeneration maps to chromosome 6q14. *Am J Ophthalmol*, 130(2), 197-202.
16. Stefko ST, **Zhang K**, Gorin MB, Traboulsi EI. (2000) Clinical spectrum of chromosome 6-linked autosomal dominant drusen and macular degeneration. *Am J Ophthalmol*, 130(2), 203-8.
17. Ayyagari R, **Zhang K**, Hutchinson A, Yu Z, Swaroop A, Kakuk LE, Seddon JM, Bernstein PS, Lewis RA, Tammur J, Yang Z, Li Y, Zhang H, Yashar BM, Liu J, Petrukhin K, Sieving PA, Allikmets R. (2001) Evaluation of the ELOVL4 gene in patients with age-related macular degeneration. *Ophthalmic Genet*, 22(4), 233-9.
18. Bernstein PS, Tammur J, Singh N, Hutchinson A, Dixon M, Pappas CM, Zabriskie NA, **Zhang K**, Petrukhin K, Leppert M, Allikmets R. (2001) Diverse macular dystrophy phenotype caused by a novel complex mutation in the ELOVL4 gene. *Invest Ophthalmol Vis Sci*, 42(13), 3331-6.
19. Li Y, Marcos I, Borrego S, Yu Z, **Zhang K**, Antinolo G. (2001) Evaluation of the ELOVL4 gene in families with retinitis pigmentosa linked to the RP25 locus. *J Med Genet*, 38(7), 478-80.
20. Wilkie SE, Li Y, Deery EC, Newbold RJ, Garibaldi D, Bateman JB, Zhang H, Lin W, Zack DJ, Bhattacharya SS, Warren MJ, Hunt DM, **Zhang K**. (2001) Identification and functional consequences of a new mutation (E155G) in the gene for GCAP1 that causes autosomal dominant cone dystrophy. *Am J Hum Genet*, 69(3), 471-80.
21. **Zhang K**, Kniazeva M, Han M, Li W, Yu Z, Yang Z, Li Y, Metzker ML, Allikmets R, Zack DJ, Kakuk LE, Lagali PS, Wong PW, MacDonald IM, Sieving PA, Figueroa DJ, Austin CP, Gould RJ, Ayyagari R, Petrukhin K. (2001) A 5-bp deletion in ELOVL4 is associated with two related forms of autosomal dominant macular dystrophy. *Nature Genet*, 27(1), 89-93.
22. Yang Z, Peachey NS, Moshfeghi DM, Thirumalaichary S, Chorich L, Shugart YY, Fan K, **Zhang K**. (2002) Mutations in the RPGR gene cause X-linked cone dystrophy. *Hum Mol Genet*, 11(5), 605-11.
23. **Zhang K**, Garibaldi DC, Li Y, Green WR, Zack DJ. (2002) Butterfly-shaped pattern dystrophy: a genetic, clinical, and histopathological report. *Arch Ophthalmol*, 120(4), 485-90.
24. Johnson S, Halford S, Morris AG, Patel RJ, Wilkie SE, Hardcastle AJ, Moore AT, **Zhang K**, Hunt DM. (2003) Genomic organisation and alternative splicing of human RIM1, a gene implicated in autosomal dominant cone-rod dystrophy (CORD7). *Genomics*, 81(3), 304-14.
25. Kniazeva M, Sieber M, McCauley S, **Zhang K**, Watts JL, Han M. (2003) Suppression of the ELO-2 FA elongation activity results in alterations of the fatty acid composition and multiple physiological defects, including abnormal ultradian rhythms, in *Caenorhabditis elegans*. *Genetics*, 163(1), 159-69.

26. Yang Z, Lin W, Moshfeghi DM, Thirumalaichary S, Li X, Jiang L, Zhang H, Zhang S, Kaiser PK, Traboulsi EI, **Zhang K.** (2003) A novel mutation in the RDS/Peripherin gene causes adult-onset foveomacular dystrophy. *Am J Ophthalmol*, 135(2), 213-8.
27. Zhang XM, Yang Z, Karan G, Hashimoto T, Baehr W, Yang XJ, **Zhang K.** (2003) Elov14 mRNA distribution in the developing mouse retina and phylogenetic conservation of Elov14 genes. *Mol Vis*, 9301-7.
28. Berry V, Yang Z, Addison PK, Francis PJ, Ionides A, Karan G, Jiang L, Lin W, Hu J, Yang R, Moore A, **Zhang K,** Bhattacharya SS. (2004) Recurrent 17 bp duplication in PITX3 is primarily associated with posterior polar cataract (CPP4). *J Med Genet*, 41(8), e109.
29. Hunt DM, Wilkie SE, Newbold R, Deery E, Warren MJ, Bhattacharya SS, **Zhang K.** (2004) Dominant cone and cone-rod dystrophies: functional analysis of mutations in retGC1 and GCAP1. *Novartis Found Symp*, 25537-49; discussion 49-50, 177-8.
30. Karan G, Yang Z, **Zhang K.** (2004) Expression of wild type and mutant ELOVL4 in cell culture: subcellular localization and cell viability. *Mol Vis*, 10248-53.
31. Maugeri A, Meire F, Hoyng CB, Vink C, Van Regemorter N, Karan G, Yang Z, Cremers FP, **Zhang K.** (2004) A novel mutation in the ELOVL4 gene causes autosomal dominant Stargardt-like macular dystrophy. *Invest Ophthalmol Vis Sci*, 45(12), 4263-7.
32. Payne M, Yang Z, Katz BJ, Warner JE, Weight CJ, Zhao Y, Pearson ED, Treft RL, Hillman T, Kennedy RJ, Meire FM, **Zhang K.** (2004) Dominant optic atrophy, sensorineural hearing loss, ptosis, and ophthalmoplegia: a syndrome caused by a missense mutation in OPA1. *Am J Ophthalmol*, 138(5), 749-55.
33. Toomes C, Bottomley HM, Jackson RM, Towns KV, Scott S, Mackey DA, Craig JE, Jiang L, Yang Z, Trembath R, Woodruff G, Gregory-Evans CY, Gregory-Evans K, Parker MJ, Black GC, Downey LM, **Zhang K,** Inglehearn CF. (2004) Mutations in LRP5 or FZD4 underlie the common familial exudative vitreoretinopathy locus on chromosome 11q. *Am J Hum Genet*, 74(4), 721-30.
34. Toomes C, Bottomley HM, Scott S, Mackey DA, Craig JE, Appukuttan B, Stout JT, Flaxel CJ, **Zhang K,** Black GC, Fryer A, Downey LM, Inglehearn CF. (2004) Spectrum and frequency of FZD4 mutations in familial exudative vitreoretinopathy. *Invest Ophthalmol Vis Sci*, 45(7), 2083-90.
35. Xu Q, Wang Y, Dabdoub A, Smallwood PM, Williams J, Woods C, Kelley MW, Jiang L, Tasman W, **Zhang K,** Nathans J. (2004) Vascular development in the retina and inner ear: control by Norrin and Frizzled-4, a high-affinity ligand-receptor pair. *Cell*, 116(6), 883-95.
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67. Chen H, Yang Z, Gibbs D, Yang X, Hau V, Zhao P, Ma X, Zeng J, Luo L, Pearson E, Constantine R, Kaminoh Y, Harmon J, Tong Z, Stratton CA, Cameron JD, Tang S, **Zhang, K**. Association of HTRA1 polymorphism and bilaterality in advanced age related macular degeneration. *Vision Research*, in press.
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## **B. Non Peer-Reviewed Publications**

1. Hunt DM, Wilkie SE, Newbold R, Deery E, Warren MJ, Bhattacharya SS, Zhang K. (2004). Dominant cone and cone-rod dystrophies: functional analysis of mutations in retGC1 and GCAP1. *Novartis Found Symp*, 255, 37-49; discussion 49-50, 177-8.

## **II. REVIEW ARTICLES**

1. Patel, S, Chen H, Tinkham, NH, **Zhang, K**, (2008). Genetic susceptibility of Diabetic retinopathy. *Current Diabetic Report*, 8, in press
2. Garibaldi D, **Zhang K**. (1999). Molecular genetics of macular degeneration. *Intl Ophthalmol Clinics*, 39, 117.
3. **Zhang K**, Yeon H, Han M, Donoso LA. (1996). Molecular genetics of macular dystrophies. *Br J Ophthalmol*, 80(11), 1018-22.
4. **Zhang K**, Nguyen E, Crandall A, Donoso LA. (1995). Genetic and molecular studies of macular dystrophies: recent development. *Survey of Ophthalmology*, 40, 51.
5. **Zhang K**, Wang MX, Munier F, Roth D, Mastrangelo D, Chung S, Shields JA, Donoso LA. (1993). Molecular genetics of retinoblastoma. *Int Ophthalmol Clin*, 33(3), 53-65.

## **III. BOOK 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.
5. **Zhang K**, Carr RE, Sunness JS. (2005). Hereditary choroidal dystrophies. In Ryan SJ (Ed.), *Retina*.
6. Hu J, Payne M, **Zhang K**. (2005). Intravitreal Injection of Triamcinolone Acetonide for Macular Edema Due to Retinitis Pigmentosa and Other Retinal Diseases. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*. New York: Plenum Publishing Corporation.
7. Sauve Y, Karan G, Yang Z, Li C, Hu J, **Zhang K**. (2005). Treatment with Carbonic Anhydrase Inhibitors Depresses Electroretinogram Responsiveness in Mice. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*.
8. **Zhang K**, Carr RE, Sunness JS. (2001). Hereditary choroidal dystrophies. In Ryan SJ (Ed.), *Retina*.
9. Li Y, Lam L, Yu Z, Yang Z, Bither P, **Zhang K**. (2000). Clinical spectrum of autosomal dominant Stargardt's macular dystrophy with a mutation in ELOVL4. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*. New York: Plenum Publishing Corporation.
10. Garibaldi GC, Yang Z, Li Y, Yu Z, **Zhang K**. (2000). The role of fatty acids in the pathogenesis of retinal degeneration. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*. New York: Plenum Publishing Corporation.

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

##### **Patents**

- 1 **Zhang K**, Petrukhin WL. (Provisional patent filed 2004). ELOVL4 gene. Patent No. 2067809999. Washington, D.C.:U.S. Patent and Trademark Office.

#### V. **ORAL PRESENTATIONS**

##### **A. Invited/Visiting Professor Presentations**

###### **International**

- 2008 International Society of Eye Research, Beijing, China
- 2008 International Symposium on Retinal Degeneration, 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 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**

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**

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.