

Curriculum vitae

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EDUCATION

8/05-12/08 Ph.D. Health Studies, Community/Population Health; Texas Woman's University, Denton TX
9/97-5/99: M.S. Genetic Counseling; University of North Texas, Denton, TX
9/82-5/86: B.S. Biology; Friend's University, Wichita, KS

ACADEMIC HONORS

1999: Phi Kappa Phi Honor Society
1986: Alpha Chi Honor Society

CERTIFICATIONS

2008: Certified Health Education Specialist

RESEARCH POSITIONS

2009-present Adjunct Asst. Professor of Ophthalmology, UT Southwestern Medical Center, Dallas, TX
2005-present: Asst. Research Scientist, Retina Foundation of the Southwest, Dallas, TX
2000-2005: Sr. Research Associate/Biochemistry Laboratory Supervisor, Retina Foundation of the Southwest, Dallas, TX
1999-present: Director, Southwest Eye Registry, Retina Foundation of the Southwest, Dallas, TX
1999-present: Research Genetic Counselor, Retina Foundation of the Southwest, Dallas, TX
1995-2000: Biochemistry Research Associate, Retina Foundation of the Southwest, Dallas, TX
1993-1995: Biochemistry Research Assistant, Retina Foundation of the Southwest, Dallas, TX
1992: Research Technician, Department of Chemistry, Wichita State University, Wichita, KS
1989-1990: Research Assistant, Department of Chemistry, Wichita State University, Wichita, KS
1988-1989: Chemist, American Water Purification, Wichita, KS

CLINICAL INTERNSHIPS

Cook Children's Genetics, Cook Children's Medical Center, Fort Worth, TX
Pediatric and adult genetic counseling
Perinatal Associates, Columbia Medical City, Dallas, TX
Prenatal genetic counseling
The University of North Texas Health Science Center, DNA Identity Laboratory, Fort Worth, TX
Molecular genetic methodologies

PUBLICATIONS

Journal Articles and Book Chapters

- Drover JR, Hoffman DR, Castañeda Y, Morale SE, Garfield S, **Wheaton DH**, & Birch EE. The DIAMOND study: A double masked, randomized controlled clinical trial of cognitive development as a function of the dietary level of docosahexaenoic acid, *Early Human Development*, 2011, **87**: 223-230.
- Locke KG, Wheaton D, Bowne SJ, Sullivan LS, Coors L & Birch DG. Optical coherence tomography in patients diagnosed with North Carolina Macular Dystrophy. *J. Ophthalmic Photography*, 2010; **32**: 64-71.
- Birch EE, Carlson SE, Hoffman DR, Fitzgerald-Gustafson KM, Fu VLN, Drover JR, Castaneda YS, Minns L, **Wheaton DKH**, Mundy D, Marunycz J & Diersen-Schade D. The DIAMOND (DHA Intake And Measurement Of Neural Development) Study: A double-masked, randomized controlled clinical trial of the maturation of infant visual acuity as a function of the dietary level of docosahexaenoic acid. *Am. J. Clin. Nutr.* 2010; **91**: 848-859.
- Friedman JS, Ray JW, Waseem N, Johnson K, Brooks MJ, Hugosson T, Breuer D, Branham KE, Krauth DS, Bowne SJ, Sullivan LS, Ponjavic V, Gränse L, Khanna R, Trager EH, Gieser LM, **Hughbanks-Wheaton D**, Cojocarui RI, Ghiasvand NM, Chakarova CF, Abrahamson M, Göring HHH, Webster AR, Birch DG, Abecasis GR, Fann Y, Bhattacharya SS, Daiger SP, Heckenlively JR, Andréasson S & Swaroop A. Mutations in a novel BTB-Kelch protein, KLHL7, cause autosomal dominant retinitis pigmentosa. *Amer. J. Hum. Genet.* 2009; **84**: 792-800.
- Hughbanks-Wheaton DK**. Omega-3 fatty acid status in patients diagnosed with Usher syndrome: A descriptive study of red blood cell (RBC) docosahexaenoic acid (DHA) levels in Usher subtypes. Doctoral dissertation, Texas Woman's University, 2008. (ATT 3347066).
- Jiang L, **Wheaton D**, Bereta G, Zhang K, Palczewski K, Birch D, & Baehr W. A novel GCAP1 (N104K) mutation in EF-hand 3 (EF3) linked to autosomal dominant cone dystrophy. *Vision Research* 2008; **48**: 2425-2432.
- Bowne S, Sullivan L, Gire A, Birch D, **Hughbanks-Wheaton D**, Heckenlively J, & Daiger S. Mutations in the *TOPORS* gene cause 1% of autosomal dominant retinitis pigmentosa (adRP). *Mol. Vis.* 2008; **14**: 922-927.
- Harris KM, **Hughbanks-Wheaton DK**, Johnston R, & Kubin L. Parental refusal or delay of childhood immunization: Implications for nursing and health education. *Teaching and Learning in Nursing* 2007; **2**: 126-132.
- Birch EE, Garfield S, Castañeda YS, **Wheaton DKH**, Uauy R, & Hoffman DR. Visual acuity and cognitive outcomes at 4 years of age in a double-blind, randomized trial of long-chain polyunsaturated fatty acid-supplemented infant formula. *Early Human Development* 2007; **83**: 279-284.
- Gire AI, Sullivan LS, Bowne SJ, Birch DG, **Hughbanks-Wheaton D**, Heckenlively JR, & Daiger SP. The Gly56Arg mutation in *NR2E3* accounts for 1-2% of autosomal dominant retinitis pigmentosa. *Mol. Vis.* 2007; **13**: 1970-1975.
- Sullivan LS, Bowne SJ, Seaman RC, Blanton SH, Lewis RA, Heckenlively JR, Birch DG, **Hughbanks-Wheaton D**, & Daiger SP. Genomic rearrangements of the *PRPF31* gene account for 2.5% of autosomal dominant retinitis pigmentosa. *Invest. Ophthalmol. Vis. Sci.* 2006; **47**: 4579-4588.
- Sullivan LS, Bowne SJ, Birch DG, **Hughbanks-Wheaton D**, Heckenlively JR, Lewis RA, Garcia CA, Ruiz RS, Blanton SH, Northrup H, Gire AI, Seaman R, Duzkale H, Spellicy CJ, Zhu J, Shankar SP, & Daiger SP. Prevalence of disease-causing mutations in families with autosomal dominant retinitis pigmentosa: A screen of known genes in 200 families. *Invest. Ophthalmol. Vis. Sci.* 2006; **47**: 3052-3064.
- Bowne SJ, Sullivan LS, Mortimer SE, Hedstrom L, Zhu J, Spellicy CJ, Gire AI, **Hughbanks-Wheaton D**, Birch DG, Lewis RA, Heckenlively JR, & Daiger SP. Spectrum and frequency of mutations in IMPDH1

- associated with autosomal dominant retinitis pigmentosa and Leber Congenital Amaurosis. *Invest. Ophthalmol. Vis. Sci.* 2006; **47**: 34-42.
- Hoffman DR, **Wheaton DKH**, James KJ, Tuazon M, Diersen-Schade DA, Harris CL, Stolz S, & Berseth CL. Docosahexaenoic acid in red blood cells of term infants two levels of long-chain polyunsaturated fatty acids *J. Pediatric Gastroenterology*; 2006;**42**:287-292.
- Kozma P, **Hughbanks-Wheaton DK**, Locke KG, Fish GE, Gire AI, Spellicy CJ, Sullivan LS, Bowne SJ, Daiger SP, & Birch DG. Phenotypic characterization of a large family with RP10 autosomal dominant retinitis pigmentosa: an Asp226Asn mutation in the IMPDH1 gene *American J. Ophthalmology* 2005;**140**:858-867.
- Birch EE, Castañeda YS, **Wheaton DH**, Birch DG, Uauy RD, & Hoffman DR. Visual maturation of term infants fed LCP-supplemented or control formula for 12 months *American J. Clinical Nutrition* 2005; **81**:871-879.
- Morale SE, Hoffman DR, Castañeda YS, **Wheaton DH**, Burns RA, & Birch EE. Duration of long-chain polyunsaturated fatty acid availability in the diet and visual acuity. *Early Human Development* 2005; **81**:197-203.
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- Hoffman DR, Locke KG, **Wheaton DH**, Fish GE, Spencer R, & Birch DG. A randomized, placebo-controlled clinical trial of docosahexaenoic acid supplementation for X-linked retinitis pigmentosa. *Am. J. Ophthalmology* 2004; **137**:704-718.
- Bowne SJ, Daiger SP, Malone KA, Heckenlively JR, Kennan A, Humphries P, **Hughbanks-Wheaton D**, Birch DG, Liu Q, Pierce EA, Zuo J, Huang Q, & Sullivan LS. Characterization of RP1L1, a highly polymorphic paralog of the retinitis pigmentosa 1 (RP1) gene. *Molecular Vision* 2003; **9**:129-137.
- Wheaton DH**, Hoffman DR, Locke KG, Watkins RB, & Birch DG. Biological safety assessment of docosahexaenoic acid (DHA) supplementation in X-linked retinitis pigmentosa (XLRP). *Archives of Ophthalmology*, 2003; **121**:1269-1278.
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- Bowne SJ, Sullivan LS, Blanton SH, Cepko CL, Blackshaw S, Birch DG, **Hughbanks-Wheaton D**, Heckenlively JR, & Daiger SP. Mutations in the Inosine Monophosphate Dehydrogenase 1 Gene (IMPDH1) cause the RP10 form of autosomal dominant retinitis pigmentosa. *Human Molecular Genetics*, 2002; **11**:559-568.
- Wheaton DH**, Daiger SP, & Birch DG. The Southwest Eye Registry; Distribution of disease types and mutations. *New Insights into Retinal Degenerative Eye Diseases* (RE Anderson, MM LaVail, JG Hollyfield, eds.) Kluwer/Plenum Publ., New York, 2001; 339-345.
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- Wimalasena K, Dharmasena S, Wimalasena DS, and **Wheaton DH**. Reduction of Dopamine - Monooxygenase. *J. Biological Chemistry*, 1996; **271**: 26032-26043.
- Singhal RP, **Wheaton DH**, & Xian J. Separation of dideoxyribonucleosides in trace amounts by automated liquid chromatography and capillary electrophoresis. *J. Chromatography*, 1992; **609**: 147-161.

Abstracts and Presentations

- Wheaton DK, Wen Y, Locke KG, Klein M, Bowne SJ, Sullivan LS, Ray JW, Daiger SP, & Birch DG. Phenotypic characterization of three families with autosomal dominant retinitis pigmentosa (adRP) due to mutations in KLHL7. *Invest. Ophthalmol. Vis. Sci.*, 2011; **52**: E-abstract 5402.
- Webb KD, Patel HM, Bowne SJ, Sullivan LS, Fahim AT, Daiger SP, Hoffman DR, Birch DG, & **Wheaton DK**. Assessment of phenotypic variability among female carriers of x-linked retinitis pigmentosa (xLRP) due to RPGR mutations. *Invest. Ophthalmol. Vis. Sci.*, 2011; **52**: E-abstract 4981.
- Mitzel GM, Cready CM, **Wheaton DK**, & Wang YZ. The influence of age and race/ethnicity on visual health in a senior population. *Invest. Ophthalmol. Vis. Sci.*, 2011; **52**: E-abstract 4223.
- Blaine D, Branham K, Burner E, Day M, Lee K, Sutherland J, **Wheaton D** & Wolfe-Swartz S. Hereditary ophthalmologic conditions: A new vision. *National Society of Genetic Counselors 29th Annual Educational Conference*, October 14-17th, 2010, Dallas, Texas.
- Hughbanks-Wheaton D**, Kimberling W, Jensen M & Hoffman D. Omega-3 fatty acid dietary intake and red blood cell (RBC) docosahexaenoic acid (DHA) levels in Usher syndrome subtypes. *International Symposium on Usher Syndrome and Related Diseases*, May 27-29th, 2010, Valencia, Spain.
- Wheaton DK**, Clark K, Bowne SJ, Sullivan LS, Branham M, Othman M, Heckenlively JR, Swaroop A, Daiger SP & Birch DG. RP2 mutations cause variable phenotypes in carrier females in two families with retinitis pigmentosa. *Invest. Ophthalmol. Vis. Sci.*, 2010; **51**: E-abstract 1351.
- Clark K, Birch D, Hoffman D, Patel H, Daiger SP, Bowne SJ, Sullivan LS & **Wheaton DK**. Assessment of everyday visual tasks in carriers of X-linked retinitis pigmentosa: Use of the Visual Activities and Low Luminance Questionnaires. *Invest. Ophthalmol. Vis. Sci.*, 2010; **51**: E-abstract 949.
- Bowne SJ, Sullivan LS, **Wheaton DK**, Clark K, Branham KE, Spellacy CJ, Dangol G, Birch DG, Heckenlively JR & Daiger SP. Mutations in X-linked RPGR account for an appreciable fraction of families with a pedigree consistent with autosomal dominant retinitis pigmentosa. *Invest. Ophthalmol. Vis. Sci.*, 2010; **51**: E-abstract 4085.
- Fahim AT, Sullivan LS, Bowne SJ, Birch DG, **Wheaton DK**, Clark K & Daiger SP. Polymorphic variations in RPGRIP1 and RPGRIP1L as potential modifiers of X-linked retinitis pigmentosa caused by mutations in RPGR. *Invest. Ophthalmol. Vis. Sci.*, 2010; **51**: E-abstract 1658.
- Wheaton DK**, Koenekoop RK, Khan H, Takacs A, & Hoffman DR. Evaluation of olfactory function in patients with X-linked retinitis pigmentosa (xLRP) due to mutations in the retinitis pigmentosa GTPase regulator gene (*RPGR*). *Invest. Ophthalmol. Vis. Sci.*, 2009; **50**: E-abstract 1000.
- Bowne SJ, Sullivan LS, **Wheaton DK**, Birch DG, Heckenlively JR, & Daiger SP. Disease-causing copy number variants (CNVs) in genes associated with autosomal recessive retinal degeneration. *Invest. Ophthalmol. Vis. Sci.*, 2009; **50**: E-abstract 2307.
- Hughbanks-Wheaton, DK**. DHA supplementation in xLRP: Implications for Usher syndrome. *Usher Syndrome Consortium Meeting 2008*, October, 2, 2008, Iowa City, Iowa.
- Jiang L, **Wheaton D**, Bereta G, Zhang K, Palczewski K, Birch D, & Baehr W. A novel GCAP1 mutation linked to autosomal dominant cone dystrophy. *The XIIIth International Symposium on Retinal Degeneration*, September 18-23rd, 2008, Sichuan, China.

- Spellicy CJ, Bowne SJ, Sullivan LS, **Hughbanks-Wheaton D**, Birch DG, Heckenlively JR, & Daiger, SP. Using peripheral leukocytes to detect PRPF31 haploinsufficiency. *Invest. Ophthalmol. Vis. Sci.*, 2008; **49**: E-abstract 1302.
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- Hughbanks-Wheaton DK** & Daiger SP. Genetics and inheritance. *VISIONS 2007*, July 21, 2007, Overland Park, Kansas.
- Wheaton, DK**, Stier BD, Bowne SJ, Sullivan LS, Daiger SP, & Birch DG. The Southwest Eye Registry: A twelve-year evaluation. *Invest. Ophthalmol. Vis. Sci.*, 2007; **48**: E-abstract 5494.
- Hoffman DR, **Wheaton DKH**, & Birch DG. Docosahexaenoic acid profiles in red blood cells of patients with retinal degenerative diseases. *Invest. Ophthalmol. Vis. Sci.*, 2007; **48**: E-abstract 574.
- Bowne SJ, Sullivan LS, Cadena ED, **Wheaton DH**, Heckenlively JR, Birch DG, & Daiger SP. A screen for genomic rearrangements in genes known to cause autosomal dominant retinitis pigmentosa (adRP). *Invest. Ophthalmol. Vis. Sci.*, 2007; **48**: E-abstract 2334.
- Wheaton DH**, Birch DG, & Hoffman DR. Fatty acid metabolism in XLRP and Usher syndrome. *First International Symposium on Usher Syndrome and Related Disorders*, October 2006, Omaha, NE.
- Wheaton DK**, Kimberling WJ, Jensen ML, Tuazon M, Stier B, & Hoffman DR. Blood docosahexaenoic acid (DHA) levels in individuals with genotypically-defined Usher syndrome. *Invest. Ophthalmol. Vis. Sci.*, 2006; **47**: E-abstract 4604.
- Hoffman DR & **Wheaton DH**. Red blood cell levels of docosahexaenoic acid (DHA) during aging. *Invest. Ophthalmol. Vis. Sci.*, 2006; **47**: E-abstract 2104.
- Birch DG, **Wheaton DH**, Locke KG, Bowne SJ, Sullivan LS, & Daiger SP. Clinical characterization of RP11 in five families with identified PRPF31 mutations. *Invest. Ophthalmol. Vis. Sci.*, 2006; **47**: E-abstract 1037.
- Sullivan LS, Bowne SJ, Seaman CR, Birch DG, **Wheaton DH**, Lewis RA, Blanton SH, & Daiger SP. Identification of a large insertion/deletion in the PRPF31 gene in a family with adRP. *Invest. Ophthalmol. Vis. Sci.*, 2006; **47**: E-abstract 1704.
- Bowne SJ, Daiger SP, Heckenlively JR, Birch DG, **Wheaton DH**, & Sullivan, LS. Exonic deletions in autosomal dominant retinitis pigmentosa genes may be a frequent cause of retinal disease. *Invest. Ophthalmol. Vis. Sci.*, 2006; **47**: E-abstract 1705.
- Wheaton DKH**, Kozma P, Fish GE, Locke KG, Bowne SJ, Sullivan LS, Daiger SP, & Birch DG. Clinical characterization of RP10 in a large family with an identified (Asp226Asn) IMPDH1 mutation. *Invest. Ophthalmol. Vis. Sci.*, 2005; **46**: E-abstract 512.
- Daiger SP, Sullivan LS, Mortimer SE, Hedstrom L, Gire AI, Zhu J, Heckenlively JR, Birch DG, **Wheaton DH**, & Bowne SJ. Mutations in IMPDH1 are associated with Leber congenital amaurosis. *Invest. Ophthalmol. Vis. Sci.*, 2005; **46**: E-abstract 1815.
- Sullivan LS, Bowne SJ, Shankar SP, Blanton SH, Heckenlively JR, Birch DG, **Wheaton DH**, Pelias MZ, & Daiger SP. Linkage mapping in families with autosomal dominant retinitis pigmentosa (adRP). *Invest. Ophthalmol. Vis. Sci.*, 2005; **46**: E-abstract 2293.
- Wheaton DH**, Birch DG, Locke KG, Swaroop A, Yashar B, Haag Branham K, Bowne SJ, Sullivan LS, Daiger SP, & Hoffman DR. Clinical characterization of disease severity and progression in X-linked retinitis pigmentosa (XLRP) associated with RPGR mutations. *Invest. Ophthalmol. Vis. Sci.*, 2004; **45**: E-abstract 5160.
- Sullivan LS, Bowne SJ, Shankar SP, Birch DG, **Hughbanks-Wheaton D**, Heckenlively JR, Blanton SH, & Daiger SP. Autosomal dominant retinitis pigmentosa: exclusion of known and mapped genes in three families. *Invest. Ophthalmol. Vis. Sci.*, 2004; **45**: E-abstract 4747.

- Shankar SP, Kozma P, Birch DG, **Hughbanks-Wheaton D**, Locke KG, Ruiz RS, Sullivan LS, Bowne SJ, Stone EM, & Daiger SP. Analysis of protein haplotypes in *trans* as factors modifying phenotypic variation of retinal dystrophies caused by a splice site mutation in the peripherin/RDS gene. *Invest. Ophthalmol. Vis. Sci.*, 2004; **45**: E-abstract 3719.
- Hoffman DR, Garfield S, Morale SE, Bosworth RG, Castañeda YS, **Wheaton DH**, Theuer RC, & Birch EE. Visual and neural development of breast-fed infants receiving docosahexaenoic acid (DHA)-enriched baby food: a randomized clinical trial. *Invest. Ophthalmol. Vis. Sci.*, 2004; **45**: E-abstract 3510.
- Bowne SJ, Sullivan LS, Gire AI, Birch DG, **Hughbanks-Wheaton D**, Heckenlively JR, Zhu J, RaySpellicy CJ, Gutter EM, & Daiger SP. Autosomal dominant retinitis pigmentosa: prevalence of disease-causing mutations in known genes. *Invest. Ophthalmol. Vis. Sci.*, 2004; **45**: E-abstract 2457.
- Daiger SP, Shankar SP, Schindler AB, Sullivan LS, Bowne SJ, King TM, Daw EW, Heckenlively JR, Stone EM, **Wheaton DKH**, & Birch DG. Genetic factors modifying clinical expression of inherited retinal diseases: the role of polymorphic protein haplotypes in *trans*. *Amer. J. Hum. Genet.*, 2004; Abstract 2628.
- Hoffman DR, Birch EE, Castañeda YS, Garfield S, **Wheaton DH**, Birch DG, & Uauy R. Maturation of visual and mental function in 18-month old infants receiving dietary docosahexaenoic acid (DHA) ±arachidonic acid (ARA). *FASEB J.*, 2003; **17**:A727-8.
- Hoffman DR, **Wheaton DH**, Locke KG, Fish GE, & Birch DG. Four-year outcomes from a randomized clinical trial of docosahexaenoic acid (DHA) supplementation in X-linked retinitis pigmentosa (XLRP). *Invest. Ophthalmol. Vis. Sci.*, 2003; **44**: E-abstract 4851.
- Birch DG, Locke KG, **Wheaton DH**, Fish GE, & Hoffman DR. Dietary nutrients and yearly rates of decline in retinal function in patients with X-linked retinitis pigmentosa (XLRP). *Invest. Ophthalmol. Vis. Sci.*, 2003; **44**: E-abstract 545.
- Gire A, Bowne SJ, Sullivan LS, Birch DG, **Hughbanks-Wheaton D**, Heckenlively JR, & Daiger SP. Mutations in X-linked RPGR in families with apparent autosomal dominant retinitis pigmentosa (adRP). *Invest. Ophthalmol. Vis. Sci.*, 2003; **44**: E-abstract 2313.
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- Morale SE, Hoffman DR, Castañeda YS, **Wheaton DH**, Burns RA, & Birch EE. Duration of LCPUFA availability in the diet and visual acuity at 12 months. *J. Amer. College Nutr.*, 2003; **22**:469.
- Bowne SJ, Sullivan LS, Blanton SH, Cepko CL, Blackshaw S, Birch DG, **Hughbanks-Wheaton D**, Heckenlively JR, & Daiger SP. Mutations in the Inosine Monophosphate Dehydrogenase 1 Gene (IMPDH1) cause the RP10 form of Autosomal Dominant Retinitis Pigmentosa. *Invest. Ophthalmol. Vis. Sci.*, 2002; **43**: E-Abstract 836.

- Hughbanks-Wheaton DK**, Sullivan LS, Bowne SJ, Daiger SP, & Birch DG. Characterization of a Novel Rhodopsin Mutation (Pro170Arg) in a Family with Autosomal Dominant Retinitis Pigmentosa (adRP). *Am. J. Hum. Genet.*, 2002; **S71**: Abstract 2139.
- Hoffman DR, Locke KG, **Wheaton DH**, Fish GE, Watkins RB, & Birch DG. Fatty Acid Profiles of Blood Lipids from Patients with X-linked Retinitis Pigmentosa (XLRP) Supplemented with Docosahexaenoic Acid (DHA) for Four Years. *Invest. Ophthalmol. Vis. Sci.*, 2002; **43**: E-Abstract 2412.
- Locke KG, Fish GE, **Wheaton DH**, Birch DG, & Hoffman DR. Fundus Appearance in X-linked Retinitis Pigmentosa (XLRP) over a 4-Year-Interval. *Invest. Ophthalmol. Vis. Sci.*, 2002; **43**: E-Abstract 1171.
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- Birch EE, Fawcett SL, Leffler JN, Shields SE, & **Wheaton DH**. Pedigree Analysis of Accommodative Esotropia. AAPOS, 2000.
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PROFESSIONAL SOCIETIES

Association for Research in Vision and Ophthalmology

International Society for Genetic Eye Diseases

American Society of Human Genetics

National Society of Genetic Counselors

TRAINING

Summer biomedical science research interns

Ashley Anderson 2010

Megan Fish 2011 (Fight for Sight Internship)