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Chronological Summary

- **Assistant Professor of Ophthalmology**, Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD, USA (2015-Present)
 - **Clinical Fellowship in Uveitis and Ocular Inflammation**, Casey Eye Institute, Oregon Health & Science University, Portland, OR, USA (2014-2015)
 - **Residency in Ophthalmology**, University of Florida, Gainesville, FL, USA (2011-2014)
 - **Internship in Surgery**, University of Colorado Denver, Aurora, CO, USA (2010-2011)
 - **Postdoctoral Research Fellowship**, University of California San Francisco, San Francisco, CA, USA (2009-2010)
 - **Postdoctoral Research Fellowship**, Albert Einstein College of Medicine, Bronx, NY, USA (2007-2009)
 - **Graduate Program in Microbiology & Immunology (PhD)**, Albert Einstein College of Medicine, Bronx, NY, USA (2001-2007)
 - **Graduate Program in Clinical Chemistry (MS)**, West Chester University of Pennsylvania, West Chester, PA, USA (1999-2001)
 - **General Medical Practitioner**, Wonji Hospital, Wonji, Ethiopia (1990-1999); also served as a Medical Director, Wonji Hospital, Wonji, Ethiopia (1997-1999)
 - **General Medical Practitioner**, Woldia Hospital, Woldia, Ethiopia (1989-1989)
 - **Medical School (MD)**, Addis Ababa University, Addis Ababa, Ethiopia (1982-1989)
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Employment

- **Assistant Professor of Ophthalmology** (September 2015 to present): Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD, USA
- **Research Assistant** (May 2001 to August 2001): Department of Chemistry, West Chester University of Pennsylvania, West Chester, PA, USA

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- **Medical Director** (December 1997 to July 1999) and **General Medical Practitioner** (January 1990 to July 1999): Wonji Hospital, Wonji, Ethiopia

- **General Medical Practitioner** (January 1989 to December 1989): Woldia Hospital, Woldia, Ethiopia

Training

- **Clinical Fellowship in Uveitis and Ocular Inflammation** (July 2014 to July 2015): Casey Eye Institute, Oregon Health & Science University, Portland, OR, USA

- **Residency in Ophthalmology** (July 2011 to June 2014): University of Florida, Gainesville, FL, USA

- **Internship in Surgery** (June 2010 to June 2011): University of Colorado Denver, Aurora, CO, USA

- **Postdoctoral Research Fellowship** (May 2009 to June 2010): University of California San Francisco, San Francisco, CA, USA

- **Postdoctoral Research Fellowship** (May 2007 to April 2009): Albert Einstein College of Medicine, Bronx, NY, USA

Education

- **Doctor of Philosophy** (June 2007) and **Master of Science** (June 2004): Albert Einstein College of Medicine, Bronx, NY, USA. Major: Microbiology & Immunology. Dates of attendance: August 2001 to June 2007

- **Master of Science** (May 2001): West Chester University of Pennsylvania, West Chester, PA, USA. Major: Clinical Chemistry. Dates of attendance: August 1999 to May 2001

- **Doctor of Medicine** (February 1989): Faculty of Medicine, Addis Ababa University, Addis Ababa, Ethiopia. Included a one-year pre-medical program and a one-year internship. Dates of attendance: October 1982 to January 1989

Clinical Experience

- **Ophthalmologist and Uveitis Specialist** (September 2015 to present): Wilmer Eye Institute, Johns Hopkins Medicine, Baltimore, MD, USA. Involved in the practice of uveitis and comprehensive ophthalmology

- **Ophthalmologist** (August 2014 to July 2015): Portland Veterans Affairs Medical Center, Portland, OR, USA. As a part-time employee, provided care to medical retina patients

- **General Medical Practitioner** (January 1990 to July

1999): Wonji Hospital, Wonji, Ethiopia. Worked as a generalist physician responsible for outpatient and inpatient care covering internal medicine, surgery, obstetrics, gynecology, pediatrics, orthopaedics, ophthalmology, dermatology and psychiatry

- **General Medical Practitioner** (January 1989 to December 1989): Woldia Hospital, Woldia, Ethiopia. Involved in the medical and surgical care of military casualties in addition to providing general medical care to civilian patients

Leadership Experience

- **Medical Director** (December 1997 to July 1999): Wonji Hospital, Wonji, Ethiopia. Served as the head of a 175-bed hospital owned by a sugar factory that provided care for the workers of the factory and their families

Teaching Experience

- **Wilmer Eye Institute**, Johns Hopkins University School of Medicine, Baltimore, MD, USA (September 2015 to present): Assistant Professor of Ophthalmology
- **Casey Eye Institute**, Oregon Health & Science University, Portland, OR, USA (July 2014 to July 2015): As a fellow, gave lectures to ophthalmology residents
- **University of Florida**, Gainesville, FL, USA (July 2011 to June 2014): As a resident, taught medical students during ophthalmology rotations
- **West Chester University of Pennsylvania**, West Chester, PA, USA (August 1999 to May 2001): As a graduate assistant, assisted in chemistry laboratory teaching

Research Experience

- **Johns Hopkins University School of Medicine**, Baltimore, MD, USA (September 2015 to present).
 - Molecular analysis of bacterial and fungal DNA in conjunctival sarcoid granulomas (PI)
 - Molecular search for viruses, bacteria and fungi in Vogt-Koyanagi-Harada (VKH) syndrome (Co-I)
 - Periocular and INTravitreal corticosteroids for uveitic macular edema (POINT) Trial (Co-I)
 - Macular Edema Ranibizumab versus Intravitreal anti-inflammatory Therapy (MERIT) Trial (Co-I)
 - Retrospective analysis of diagnostic evaluation and outcomes in patients with uveitis and other immune-mediated eye diseases (Co-I)
 - Retrospective analyses of clinical characteristics and outcomes of eye disorders in patients with

- systematic or local ocular infections seen in the Division of Ocular Immunology (Co-I)
- Long-term follow-up of patients participating in the Multicenter Uveitis Steroid Treatment Trial (MUST Trial Follow-up Study) (Co-I)
 - Systemic Immunosuppressive Therapy for Eye Diseases (SITE) Cohort Study Two (Co-I)
 - Retinal nerve fiber layer thickness in birdshot chorioretinitis (Co-I)
 - A Multicenter Open-Label Study of the Long-term Safety and Efficacy of the Human anti-TNF monoclonal antibody adalimumab in subjects with non-infectious intermediate-, posterior-, or pan-uveitis (Co-I)
 - Proof of concept study of the effectiveness of Ozurdex in lieu of oral corticosteroids for the control of active intermediate and posterior uveitis requiring immunosuppressive drug therapy (Co-I)
- **Oregon Health & Science University**, Portland, OR, USA (July 2014 to July 2015): As a co-investigator, participated in clinical trials involving the use of tocilizumab, abatacept, adalimumab, methotrexate, mycophenolate and fluocinolone acetonide intravitreal insert in patients with uveitis
 - **University of California San Francisco**, San Francisco, CA, USA (May 2009 to June 2010): As a postdoctoral research fellow, investigated the roles of cytokines, monocytes and cell signaling pathways in the homeostasis of intraocular pressure and in the pathogenesis of glaucoma
 - **Albert Einstein College of Medicine**, Bronx, NY, USA (May 2007 to April 2009): As a postdoctoral research fellow, investigated the effects of vitamin D on the activities of cellular signaling pathways in immune cells and the role of vitamin D deficiency in the pathogenesis of systemic lupus erythematosus. Demonstrated that the tumor promoter PMA acting in a cooperative manner with the adenoviral oncogene Ad E1A induces expression from the herpes simplex virus type 1 thymidine kinase promoter
 - **Albert Einstein College of Medicine**, Bronx, NY, USA (August 2001 to June 2007): As a graduate student, examined the effects of mutations in IKK γ (NEMO) protein associated with hypohidrotic ectodermal dysplasia-immune deficiency and demonstrated that the

mutations block the activation of T cells

- **West Chester University of Pennsylvania**, West Chester, PA, USA (August 1999 to August 2001): As a graduate assistant and as a research assistant, developed a method for the analysis of urine proteins by capillary electrophoresis
- **Ethiopian-Norwegian Fluoride Project**, Wonji, Ethiopia (June 1997 to July 1999): As a co-investigator, participated in epidemiological studies on dental fluorosis and skeletal fluorosis

**Research
Funding**

- Wilmer Eye Institute-King Khaled Specialist Eye Hospital Joint Collaboration Award (co-investigator); 2016 to present
- Mallinckrodt Foundation Research Fellowship Award (principal investigator): 2015-2016

**Publicati
ons
(Peer-
reviewed)**

1. Shifera AS, Pennesi ME, Yang P, Lin P. Ultra-wide-field fundus autofluorescence findings in patients with acute zonal occult outer retinopathy. *Retina* 2016 [Epub ahead of print]
2. Choi CS, Zhang L, Abramoff MD, Sonka M, Shifera AS, Kay CN. Evaluating efficacy of aflibercept in refractory exudative age-related macular degeneration with OCT segmentation volumetric analysis. *Ophthalmic Surg Lasers Imaging Retina* 2016; 47:245-251
3. Alvarado JA, Chau P, Wu J, Juster R, Shifera AS, Geske M. Profiling of cytokines secreted by conventional aqueous outflow pathway endothelial cells activated in vitro and ex vivo with laser irradiation. *Invest Ophthalmol Vis Sci* 2015; 56:7100-7108
4. Shifera AS, Kay CN. Early-onset X-linked retinitis pigmentosa in a heterozygous female harboring an intronic donor splice site mutation in the retinitis pigmentosa GTPase regulator gene. *Ophthalmic Genet* 2015; 36:251-256
5. Shifera AS, Suhler EB. An overview of biological therapy for immune-mediated uveitis. *Ophthalmol Int* 2014; 9:119-122
6. Shifera AS, Leoncavallo A, Sherwood M. Probable association of an attack of bilateral acute angle-closure glaucoma with duloxetine. *Ann Pharmacother* 2014; 48:936-939
7. Alvarado JA, Iguchi R, Martinez J, Trivedi S, Shifera AS. Similar effects of selective laser trabeculoplasty and prostaglandin analogs on the permeability of cultured Schlemm canal cells. *Am J Ophthalmol*

- 2010;150:254-264
8. Alvarado JA, Katz LJ, Trivedi S, Shifera AS. Monocyte modulation of aqueous outflow and recruitment to the trabecular meshwork following selective laser trabeculoplasty. *Archives Ophthalmol* 2010;128:731-737
 9. Shifera AS. Proteins that bind to IKK γ (NEMO) and down-regulate the activation of NF- κ B. *Biochem Biophys Res Commun* 2010;396:585-589
 10. Shifera AS, Trivedi S, Chau P, Bonnemaision LH, Iguchi R, Alvarado JA. Constitutive secretion of chemokines by cultured human trabecular meshwork cells. *Exp Eye Res* 2010;91:42-47
 11. Shifera AS, Leong D, Hardin JA. Vitamin D does not modulate NF- κ B activity in Jurkat T cells. *Immunol Lett* 2010;131:151-158
 12. Shifera AS. The zinc finger domain of IKK γ (NEMO) protein in health and disease. *J Cell Mol Med* 2010;14:2404-2414
 13. Shifera AS. Protein-protein interactions involving IKK γ (NEMO) that promote the activation of NF- κ B. *J Cell Physiol* 2010;223:558-561
 14. Shifera AS, Hardin JA. Factors modulating expression of *Renilla* luciferase from control plasmids used in luciferase reporter gene assays. *Anal Biochem* 2010; 396: 167-172
 15. Shifera AS, Hardin JA. PMA induces expression from the herpes simplex virus thymidine kinase promoter via the activation of JNK and ERK in the presence of adenoviral E1A proteins. *Arch Biochem Biophys* 2009;490:145-157
 16. Shifera AS, Horwitz MS. Mutations in the zinc finger domain of IKK γ block the activation of NF- κ B and the induction of IL-2 in stimulated T lymphocytes. *Mol Immunol* 2008 Mar; 45:1633-1645
 17. Shifera AS, Friedman JM, Horwitz MS. IKK γ (NEMO) is involved in the coordination of the AP-1 and NF- κ B pathways. *Mol Cell Biochem* 2008; 310:181-190
 18. Assefa G, Shifera G, Melaku Z, Haimanot RT. Clinical and radiological prevalence of skeletal fluorosis among retired employees of Wonji-Shoa sugar estate in Ethiopia. *East Afr Med J* 2004; 81:638-40

**Publications
(Editorials)**

1. Alvarado JA, Shifera AS. Progress toward understanding the functioning of the trabecular meshwork based on lessons from studies on laser trabeculoplasty. *Br J Ophthalmol* 2010; 94:1417-1418

- Publications (Book Chapters)**
1. Shifera AS, Kopplin L, Lin P, Suhler EB. Drug-induced uveitis. *Int Ophthalmol Clin* 2015; 55:47-65
 2. Kopplin LJ, Shifera AS, Suhler EB, Lin P. Biological response modifiers in the treatment of noninfectious uveitis. *Int Ophthalmol Clin* 2015; 55:19-36
- Publications (Non-peer-reviewed)**
1. Alvarado JA, Iguchi R, Juster R, Chen JA, Shifera AS. From the bedside to the bench and back again: predicting and improving the outcomes of SLT glaucoma therapy. *Trans Am Ophthalmol Soc* 2009;107:167-183
 2. Shifera AS. The effects of IKK γ zinc finger mutations on NF- κ B signaling in T cells. PhD dissertation, Albert Einstein College of Medicine, Yeshiva University, 2007
 3. Bjorvatn K, Fantaye W, Shifera G, Bårdsen A, Tekle-Haimanot R, Atashgahy MM, Skartveit L. Dental fluorosis in the deciduous dentition of Ethiopian children. Dahi E, Rajchagool S & Osiriphan N. (eds.). Proceedings of the 3rd International Workshop on Fluorosis Prevention and Defluoridation of Water, Chiang Mai, Thailand, November 20-24, 2000. The International Society of Fluoride Research, Dunedin, New Zealand, pp 5-9
 4. Fantaye W, Shifera G, Tekle-Haimanot R. Prevalence of dental fluorosis in Wonji Shoa Sugar Estate. Dahi E and Nielson JM (eds.). Proceedings of the 2nd International Workshop on Fluorosis and Defluoridation of Water, Nazareth, Ethiopia, Nov 19-25, 1997. The International Society of Fluoride Research, Dunedin, New Zealand, pp 39-43
 5. Melaku Z, Tekle-Haimanot R, Shifera G. Prevalence of low back pain at an agro-industrial community in the Rift Valley. Dahi E and Nielson JM (eds.). Proceedings of the 2nd International Workshop on Fluorosis and Defluoridation of Water, Nazareth, Ethiopia, Nov 19-25, 1997. The International Society of Fluoride Research, Dunedin, New Zealand, pp 44-47
 6. Shifera G, Tekle-Haimanot R. A review of the defluoridation program of drinking water supplies of an Ethiopian estate. Dahi E and Nielson JM (eds.). Proceedings of the 2nd International Workshop on Fluorosis and Defluoridation of Water, Nazareth, Ethiopia, Nov 19-25, 1997. The International Society of Fluoride Research, Dunedin, New Zealand, pp 160-167
- Meeting Abstracts**
1. Shifera AS, Pennesi M, Yang P, Lin P. Wide-field fundus autofluorescence and electroretinographic

abnormalities in patients with acute zonal occult outer retinopathy. *Invest Ophthalmol Vis Sci* 2015; 56:6183

2. Suhler EB, Giles TR, Lin P, Shifera AS, Rosenbaum JT. An open-label trial to assess the efficacy and safety of tocilizumab in the management of juvenile idiopathic arthritis-associated uveitis: preliminary results. *Invest Ophthalmol Vis Sci* 2015; 56:860
3. Choi C, Zhang L, Abramoff MD, Sonka M, Shifera AS, Kay CN. Efficacy of aflibercept in refractory wet age-related macular degeneration. *Invest Ophthalmol Vis Sci* 2014; 55:3936
4. Shifera G, Caffo AL. Method development for urinary proteins by capillary electrophoresis. *Clin Chem* 2001; 47:A38

Professional Memberships

- International Society for Eye Research (2016)
- American Academy of Ophthalmology (2011)
- Association for Research in Vision and Ophthalmology (2010)

Awards & Honors

- Mallinckrodt Research Fellowship, Mallinckrodt Foundation, St Louis, MO, USA (2015-2016)
- Full Graduate Assistantship, West Chester University of Pennsylvania, West Chester, PA, USA (1999-2001)
- Addis Ababa University Medal (first in graduating class) Addis Ababa University, Addis Ababa, Ethiopia (1988)
- Outstanding Student of the Year, Addis Ababa University, Addis Ababa, Ethiopia (1984)
- Honor List, Pre-Medical Program, Addis Ababa University, Addis Ababa, Ethiopia (1983)

Licensure

- Physician and Surgeon License, State of Maryland (Active)
- Medical Physician and Surgeon License, Commonwealth of Pennsylvania (Active)
- Medical Doctor License, State of Oregon (Inactive)

Language

- English, Amharic and Oromeffa

Volunteer Work

- Ethiopian-Netherlands AIDS Research Project, Ethiopia (1995 to 1999): Participated in the planning and launching of a large-scale cohort study conducted by a joint research program between research institutions of Ethiopia and the Netherlands and that investigated the natural history of HIV infection

**Interests
&
Activitie
s** • Watching sports and traveling
