

BIOGRAPHICAL SKETCH

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NAME: Ashley Zhou

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Heed Fellowship

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Start Date MM/YYYY	Completion Date MM/YYYY	FIELD OF STUDY
Duke University, Durham, NC	Bachelor of Science	08/2015	05/2019	Major: Neuroscience (Distinction), Minors: Chemistry, Cultural Anthropology
The Johns Hopkins University School of Medicine, Baltimore, MD	Doctor of Medicine	07/2019	06/2023	Medicine
Mayo Clinic, Rochester, MN		06/2023	Anticipated 06/2027	Ophthalmology Residency

A. Personal Statement

I am pursuing a career in academic vitreoretinal surgery with a focus on clinically driven, outcomes-based research to improve the safety and effectiveness of retinal therapies. My early work in retinal neurobiology at Duke University provided a foundation in vision science, which I later translated into clinical research at Johns Hopkins University School of Medicine examining retinal disease outcomes, disparities, and large-scale data applications. During residency at Mayo Clinic, I have continued to pursue research interests alongside expanding clinical and surgical responsibilities. My current work centers on complications of retinal therapies, particularly intraocular inflammation following intravitreal injections; through my mini-thesis, I am studying this complication using both prospective and retrospective approaches to better characterize its clinical course and inform strategies that improve patient outcomes. This work is grounded in my experience caring for patients affected by this complication and has important implications for patient counseling and real-world management. In parallel, my research examining litigation related to retinal detachment repair reflects a broader interest in patient safety and systems-level factors influencing surgical outcomes. Together, my work is centered on using clinical insight and real-world data to improve outcomes in retinal disease.

B. Positions, Scientific Appointments and Honors**Positions and Scientific Appointments**

2023 – Present Ophthalmology Resident, Mayo Clinic

2025 – Present Resident Leader, Zumbro Valley Medical Society Free Eye Clinic, Rochester, MN

2019 – 2023 Clinical Researcher, Wilmer Eye Institute, Johns Hopkins University School of Medicine

2020 – 2021 Co-Founder and Director, National Medical School Vision Screening Consortium

2020 – 2021 Medical Student Director, Vision Screening in Our Neighborhoods (ViSION), Johns Hopkins University School of Medicine

2020 – 2021 Health Fair Chair, Hopkins Asian Pacific American Medical Student Association, Johns Hopkins University School of Medicine

2020 – 2021 Co-President, American Medical Women's Association, Johns Hopkins University School of Medicine

2015 – 2019 Undergraduate Researcher, Department of Neurobiology, Duke University

2018 Research Fellow, Duke Summer Neuroscience Program of Research, Duke University

2015 – 2019 President, Global Public Health Brigades, Duke University
2015 – 2019 Chair, Science Committee, American Society for Microbiology, Duke University
2015 – 2019 Chair, Medical Resources Committee, American Medical Women's Association, Duke University

Honors and Awards

2026 Duke Fellows Advanced Vitreous Surgery Course Resident Travel Grant
2025 Best Resident Video, Young Ophthalmologist Video Competition, American Academy of Ophthalmology
2019 Graduation with Distinction in Neuroscience, Duke University

Professional Memberships

2026 – Present American Society of Retina Specialists (ASRS)
2025 – Present Vit-Buckle Society (VBS)
2023 – Present Women in Ophthalmology (WIO)
2021 – Present Association for Research in Vision and Ophthalmology (ARVO)
2021 – Present American Academy of Ophthalmology (AAO)
2020 – Present American Medical Women's Association (AMWA)
2020 – Present American Medical Association (AMA)
2020 – Present American College of Physicians (ACP)

C. Contributions to Science

1. Undergraduate Research

My early research focused on retinal neurobiology and vision science, where I investigated mechanisms of light adaptation and signaling in retinal ganglion cells using electrophysiologic techniques and animal models. This work provided foundational training in experimental design and data analysis and established my long-standing interest in vision science.

Presentations:

Zhou A, Ruda K, Field G. The effects of light adaptation on diverse types of retinal ganglion cells. Duke Summer Neuroscience Program of Research, Durham, NC, 2018. |

2. Medical School Research

During medical school, I expanded my focus to clinical research in retinal disease at the Wilmer Eye Institute. My work examined outcomes in pathologic myopia, viral retinitis, and retinal detachment, with an emphasis on real-world outcomes and disparities in care. I contributed to multiple peer-reviewed publications and national presentations and developed an interest in using large datasets and population-based approaches to better understand disease patterns and outcomes. This period also included work in medical education and health systems research, reflecting a broader interest in improving care delivery.

Publications:

Zhou A, Leon C, O'Connor C, Johannesen Catherine, and Ranasinghe P. The physician gender pay gap in Maryland: current state and future directions. *Ann Med.* 2023;55(2):2258923. PMID: 37782955. |

Ranasinghe P, **Zhou A**. Women physicians and the COVID-19 pandemic: gender-based impacts and potential interventions. *Ann Med.* 2023;55(1):319-324. PMID: 36594806. |

Ong SS, Ahmed I, Gonzales A, Aguwa UT, Beatson B, Dai X, Pham AT, Shah YS, **Zhou A**, Arsiwala LT, Wang J, and Handa JT. Management of uncomplicated rhegmatogenous retinal detachments: A comparison of practice patterns and clinical outcomes in a real-world setting. *Eye.* 2023;37(4):684-691. PMID: 35338355. |

Zhou A, Ong SS, Ahmed I, Arevalo JF, Cai CX, and Handa JT. Socioeconomic disadvantage and impact on visual outcomes in patients with viral retinitis and retinal detachment. *J Ophthalmic Inflamm Infect.* 2022;12(1):26. PMID: 35916989. |

Zale AD, Song CI, **Zhou A**, Lai J, Jang M, Lipsett P, Desai S, Hanyok L, and Bienstock J. A qualitative study of the barriers and benefits to resident education in ambulatory surgical centers. *J Surg Educ.* 2021;78(6):1825-1837. PMID: 34092534.

Presentations:

Zhou A, Ong SS, Ahmed I, Arevalo JF, Cai CX, and Handa JT. Socioeconomic disadvantage and impact on visual outcomes in patients with viral retinitis and retinal detachment. Association for Research in Vision and Ophthalmology Annual Meeting, Denver, CO, 2022. |

Zhou A, Biju K, Pham A, Beatson B, Abeles E, Garzon C, Thanitcul T, Woreta FA, Kaleem M, and Johnson TV. Ophthalmic assessments performed by supervised medical students during community vision screenings in comparison to follow-up clinical evaluations by ophthalmologists. Institute for Excellence in Education Conference, Baltimore, MD, 2022.

Zhou A, Nanegrungsunk O, Bressler SB, Liu A, Sachdeva MM, Scott AW, Wenick A, and Bressler NM. Retinal characteristics in eyes with pathologic myopia among individuals self-identifying as Black. Association for Research in Vision and Ophthalmology Annual Meeting, 2021.

Zhou A, Nanegrungsunk O, Bressler SB, Liu A, Sachdeva MM, Scott AW, Wenick A, and Bressler NM. Ocular changes over five years among different self-reported races/ethnicities in pathologic myopia. The Johns Hopkins University School of Medicine Medical Student Research Symposium, Baltimore, MD, 2021.

3. Residency Research

During residency, I have sustained active engagement in research and national academic forums alongside increasing clinical and surgical responsibilities. As part of my mini-thesis, I am involved in a prospective and retrospective study examining intraocular inflammation following intravitreal injections, with the goal of better understanding the safety profile of these therapies and improving outcomes for patients who develop injection-associated intraocular inflammation.

Publications:

Welk GM, Xu KK, Bush JK, Diamond-Ames TM, Rivkin AC, Kangas B, Kraker JA, **Zhou A**, Bernhisel AA, Scruggs BA. Developing a student-run community eye clinic: a service-learning model for medical student ophthalmology education. Submitted to *MedEdPORTAL*.

Zhou A and Bakri Sj. Intraocular Drug Delivery: Intravitreal Injections, Implants, and Emerging Routes. Accepted for the 7th edition of *Ophthalmology*.

Zhou A and Barkmeier AJ. GLP-1 Drugs' Effects on the Retina—What to Watch for and How to Manage. Accepted to *Retina Specialist* magazine.

Zhou A, Poonja S, Chodnicki KD, Tajfirouz DA, and Chen JJ. The Intermittently Outstanding Pupil: A Case of Isolated Unilateral Episodic Mydriasis from Oculomotor Schwannoma. Submitted to *JNO*.

Welk GM, Pecoraro TY, **Zhou A**, Hodge DO, and Mohney BG. Progression of intermittent exotropia in surgical and non-surgical patients: a retrospective cohort study. Submitted to *BMJ Pediatrics*.

Zhou A, Hodge DO, Pecoraro TY, Welk GM, and Mohney BG. The Natural History of Intermittent Exotropia followed for a Minimum of Three Years. Submitted to *JAAPOS*.

Zhou A, Flaxel CA, Wilson DA, and Scruggs BA. Crystal Clear: Pars Plana Vitrectomy for Cholesterol Crystals in Coats-Like Response. *American Academy of Ophthalmology*. Published September 26th, 2025. <https://www.aaopt.org/education/1-minute-video/crystal-clear-pars-plana-vitrectomy-cholesterol-cr>

Zhou A, Li Z, Kong J, Paul W, Burlina P, Mocharla R, Joshi N, Gu S, Nanegrungsunk O, Bressler SB, Cai C, Liu A, Moini H, Sepehrband F, and Bressler NM. Estimating visual acuity with habitual correction in clinical practice settings from fundus photos using artificial intelligence in eyes with diabetic macular edema. *JAMA Netw Open*. 2025;8(1):e2453770. doi:10.1001/jamanetworkopen.2024.53770.

Zhou A, Nanegrungsunk O, Bressler SB, et al. Retinal characteristics in eyes with pathologic myopia among individuals self-identifying as Black. *Can J Ophthalmol*. 2024;59(2):119-127. PMID: 36796442.

Presentations:

Zhou A, Bantounou MA, and Starr MR. Litigation Involving Retinal Detachment Repair: A Review of Legal Claims and Outcomes. Vit-Buckle Society, Las Vegas, NV, 2026.

Zhou A. Through the Eye of a Needle: Recurrent Intraocular Inflammation Following Intravitreal Injection. The Vitreoretinal Surgery Foundation Resident/Fellow Case Review Conference, Edina, MN, 2025.

Zhou A, Flaxel CA, Wilson DA, and Scruggs BA. Crystal Clear: Pars Plana Vitrectomy for Cholesterol Crystals in Coats-Like Response. 2025 Young Ophthalmologist Video Competition, American Academy of Ophthalmology, Orlando, FL, 2025.

Zhou A, Willcocks EJ, McHugh JW, and Houghton OM. A case-control study of CMV retinitis in patients with multiple myeloma. American Society of Retina Specialists, Long Beach, CA, 2025.

Zhou A, Welk G, and Scruggs BA. Creating a community eye care clinic. Mayo Clinic Ophthalmology Grand Rounds, Rochester, MN, 2025.

Zhou A, Kraker JA, and Scruggs BA. A rare case of incontinentia pigmenti in a male infant. Retina World Congress, Fort Lauderdale, FL, 2025.

Zhou A, Willcocks EJ, McHugh JW, and Houghton OM. A case-control study of CMV retinitis in patients with multiple myeloma. Association for Research in Vision and Ophthalmology, Salt Lake City, UT, 2025.

Zhou A and Scruggs BA. Through the Eye of a Needle. Mayo Clinic Ophthalmology Grand Rounds, Rochester, MN, 2025.

Zhou A, Poonja S, Chodnicki KD, Tajfirouz DA, and Chen JJ. The Intermittently Outstanding Pupil: A Case of Isolated Unilateral Episodic Mydriasis from Oculomotor Schwannoma. North American Neuro-Ophthalmology Society, Tuscon, AZ, 2025.

Zhou A, Hodge DO, Pecoraro TY, Welk GM, and Mohney BG. The Natural History of Intermittent Exotropia followed for a Minimum of Three Years. American Association for Pediatric Ophthalmology and Strabismus, Salt Lake City, UT, 2025.

Zhou A, Poonja S, Chodnicki KD, Tajfirouz DA, and Chen JJ. The Intermittently Outstanding Pupil: A Case of Isolated Unilateral Episodic Mydriasis from Oculomotor Schwannoma. Mayo Clinic Ophthalmology Grand Rounds, Rochester, MN, 2025.

Zhou A, Willcocks EJ, McHugh JW, and Houghton OM. Risk Factors for and Outcomes of CMV Retinitis in Patients with Multiple Myeloma. Pan-American Retina and Vitreous Society, Fort Lauderdale, FL, 2024.

Zhou A, Samreen A, and Thoendel MJ. An unusual case of multidrug-resistant Klebsiella pneumoniae and vancomycin-resistant Enterococcus faecium skin and soft tissue infection in an immunocompromised host. World Congress on Infectious Diseases, Paris, France, 2024.

Zhou A, Li Z, Kong J, Paul W, Burlina P, Mocharla R, Joshi N, Gu S, Nanegrungsunk O, Bressler SB, Cai C, Liu A, Moini H, Sepehrband F, and Bressler NM. Estimating visual acuity with habitual correction in clinical practice settings from fundus photos using artificial intelligence in eyes with diabetic macular edema. Association for Research in Vision and Ophthalmology, Seattle, WA, 2024.

Zhou A, Leon C, O'Connor C, Johannesen C, and Ranasinghe P. The physician gender pay gap in Maryland: current state and future directions. American College of Physicians, Boston, MA, 2024.

Zhou A, Koch RM, and Bundrick JB. Sustained Oculocardiac Reflex in a Patient with Severe Panophthalmitis. Society of Hospital Medicine, San Diego, CA, 2024.

Zhou A, Bothun ED, Schimmenti LA, Iezzi R, Klee EW, and Macke E. Genetics FEVR: A New Phenotype and Two New Variants of Familial Exudative Vitreoretinopathy. Women in Ophthalmology Summer Symposium, Marco Island, FL, 2023.

D. Scholastic Performance

YEAR	COURSE TITLE	GRADE
DUKE UNIVERSITY		
2015	HONORS CHEMISTRY	A
2015	MULTIVARIABLE CALCULUS	B+
2015	BIOLOGICAL BASES OF BEHAVIOR	A
2015	ACADEMIC WRITING (ANTI-HEROES IN LITERATURE & FILM)	A+
2016	GENETICS AND EVOLUTION	A
2016	ORGANIC CHEMISTRY I	B
2016	READINGS IN GENRE (DOCTORS' STORIES)	A-
2016	SPECIAL TOPICS IN NEUROSCIENCE (COMPUTING AND THE BRAIN)	A
2016	MOLECULAR BIOLOGY	A-
2016	ORGANIC CHEMISTRY II	B-
2016	SPANISH: INTRO CULTURAL STUDIES (FEMINIST MOVEMENTS)	A
2016	PROBABILITY	A
2017	INTRODUCTORY BIOCHEMISTRY	A
2017	PRINCIPLES OF ANIMAL PHYSIOLOGY	A
2017	INTRODUCTION TO CULTURAL ANTHROPOLOGY	A
2017	CELLULAR AND MOLECULAR NEUROBIOLOGY	A
2017	GENERAL PHYSICS I	A+
2017	GENERAL PHYSICS II	A+
2017	FUNDAMENTALS OF NEUROSCIENCE	A
2017	INDEPENDENT STUDY IN NEUROSCIENCE (RETINITIS PIGMENTOSA SIGNALING)	A
2017	INTRODUCTORY PSYCHOLOGY	A+
2017	SOCIOLOGICAL INQUIRY	A
2018	THE CHINA DREAM	A

YEAR	COURSE TITLE	GRADE
2018	ANTHROPOLOGY OF CHILDHOOD	A
2018	NEUROETHICS	A
2018	EDUCATIONAL NEUROSCIENCE	A
2018	INDEPENDENT STUDY IN NEUROSCIENCE	A
2018	MODERN APPLICATIONS OF CHEMICAL PRINCIPLES	A
2018	LIFE AND DEATH	A+
2018	SEX AND MONEY	A
2018	INTRODUCTION TO COGNITIVE NEUROSCIENCE	A+
2018	INDEPENDENT STUDY IN NEUROSCIENCE (LIGHT ADAPTATION IN RGCS)	A
2019	ANTHROPOLOGY AND GLOBAL HEALTH	A
2019	NEUROPLASTICITY AND DISEASE	A+
2019	INDEPENDENT STUDY IN NEUROSCIENCE (LIGHT ADAPTATION IN RGCS)	A+
2019	CURRENT RESEARCH IN NEUROSCIENCE	A

THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE

NOTE: DUE TO THE GLOBAL COVID-19 PANDEMIC, FINAL GRADES FOR ALL COURSES BEGINNING IN THE 2020 QUARTER 4 TERM WERE REPORTED AS PASS/FAIL.

2019–2020	SCIENTIFIC FOUNDATIONS OF MEDICINE (ANATOMY, PHYSIOLOGY, PHARMACOLOGY, ETC.)	PASS
2019–2020	GENES TO SOCIETY I (IMMUNOLOGY, MICROBIOLOGY, HEMATOLOGY, DERMATOLOGY)	PASS
2019–2020	GENES TO SOCIETY II (BRAIN, MIND, BEHAVIOR, SPECIAL SENSES)	PASS
2019–2020	CLINICAL FOUNDATIONS OF MEDICINE	PASS
2019–2020	LONGITUDINAL AMBULATORY CLERKSHIP (YEAR 1)	PASS
2019–2020	FOUNDATIONS OF PUBLIC HEALTH: EPIDEMIOLOGY, ETHICS & HEALTH SYSTEMS	PASS
2019–2020	SCHOLARLY CONCENTRATIONS (OPHTHALMOLOGY – PATHOLOGIC MYOPIA RESEARCH)	PASS
2019–2020	TOPICS IN INTERDISCIPLINARY MEDICINE (HEALTH DISPARITIES, NUTRITION, PAIN, DISASTER MEDICINE, HIGH-VALUE CARE)	PASS
2020–2021	WOMEN'S HEALTH CLERKSHIP (OB/GYN)	PASS
2020–2021	ANESTHESIOLOGY CLERKSHIP	HONORS
2020–2021	LONGITUDINAL AMBULATORY CLERKSHIP (YEAR 2)	PASS
2020–2021	GENES TO SOCIETY III (CARDIOVASCULAR, PULMONARY, RENAL)	PASS
2020–2021	GENES TO SOCIETY IV (GI, ENDOCRINE, MUSCULOSKELETAL, REPRODUCTIVE)	PASS
2020–2021	TRANSITION TO THE WARDS	PASS
2020–2021	SCHOLARLY CONCENTRATIONS (YEAR 2)	PASS
2020–2021	TOPICS IN INTERDISCIPLINARY MEDICINE (SUBSTANCE USE DISORDERS, PATIENT SAFETY)	PASS
2021–2022	NEUROLOGY CLERKSHIP	PASS
2021–2022	MEDICINE CLERKSHIP	PASS
2021–2022	ADVANCED AMBULATORY CLERKSHIP	PASS
2021–2022	HOSPITALIST ELECTIVE (COLLABORATIVE INPATIENT MEDICAL SERVICE)	HONORS
2021–2022	RETINA CARE AND RESEARCH ELECTIVE	HONORS
2021–2022	PSYCHIATRY CLERKSHIP	PASS
2021–2022	SURGERY CLERKSHIP	PASS
2021–2022	EMERGENCY MEDICINE CLERKSHIP	PASS
2021–2022	TOPICS IN INTERDISCIPLINARY MEDICINE (PALLIATIVE CARE, METABOLISM, REGENERATIVE MEDICINE)	PASS
2021–2022	INDEPENDENT STUDY (USMLE STEP 2 PREPARATION)	PASS
2022–2023	PEDIATRICS CLERKSHIP	PASS
2022–2023	DERMATOLOGY ELECTIVE	COMPLETED
2022–2023	TRANSLATIONAL SCIENCE INTERSESSION (INFECTIOUS DISEASE)	PASS