BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Aweidah, Hamzah

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

POSITION TITLE: Ophthalmology Resident

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
Jordan University of Science and Technology, Irbid	MD	09/2005	06/2011	Medicine
Israel National Board Certification	OTH		2019	Ophthalmology Board Certification
Hebrew University-Hadassah Medical School, Jerusalem	Other training	2012	2013	Medical internship
Hebrew University-Hadassah Medical School, Jerusalem	Resident	06/2014	09/2019	Ophthalmology
Hadassah-Hebrew University Medical Center, Jerusalem	Fellow	10/2019	05/2020	Comprehensive Ophthalmology and Cataract Surgery Fellowship
Hadassah-Hebrew University Medical Center, Jerusalem	Fellow	06/2020	07/2021	Vitreoretinal Fellowship
University of Pittsburgh, Pittsburgh, Pennsylvania	Postdoctoral Fellow	08/2021	06/2024	Postdoctoral Fellow in Vitreoretinal Research
University of Pittsburgh Medical Center, Pittsbrgh, Pennsylvania	Resident	07/2024	06/2025	Preliminary General Surgery Residency
University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania	Resident	07/2024	present	Ophthalmology

A. Personal Statement

My path in ophthalmology has not followed a straight line, but it has been intentional at every step. At every turn, it has been guided by a deep and enduring curiosity about the eye and the stories it tells through disease. Now, as an ophthalmology resident at the University of Pittsburgh Medical Center (UPMC), I see this chapter not simply as training, but as a deliberate investment in a lifelong calling within academic medicine in the United States I completed my initial ophthalmology residency and fellowship training outside the United States. During that time, I was fortunate to gain broad clinical experience, teach trainees, and become deeply involved in research. As my interests in academic ophthalmology continued to grow, I began to see the United States as a place where I could further develop as a clinician, researcher, and educator. When I decided to transition my career, I also made the deliberate choice to repeat residency training. While this was not an easy decision, it felt necessary. I wanted to truly understand the U.S. clinical and academic system from the inside—its workflows, expectations, and training culture—rather than stepping into it halfway. This experience has allowed me to integrate more naturally into a system that was initially unfamiliar and has given me a stronger foundation for a future academic role here. What continues to inspire me about ophthalmology is its unique harmony of precision, innovation, and discovery. It is a field where the smallest structures hold profound significance, and where science and patient care are inseparably intertwined. During my earlier training, I had the opportunity to work on a gene therapy study for achromatopsia. When I uncovered unexpected genetic variant, I witnessed firsthand how curiosity at the bedside can ignite breakthroughs in the lab. That moment solidified my commitment to academic medicine—a space where questions are not only welcomed, but pursued with intention. My research has since focused on inherited retinal diseases, particularly PRPF31-associated retinitis pigmentosa. I am currently involved in developing the first non-human primate model of this

condition using CRISPR/Cas9 gene editing—work that aims to better understand disease progression and open the door to gene-based therapies. What drives me is not just the science itself, but the journey it represents: from patient to discovery, and back again to patient care. It is this cycle of learning, questioning, and advancing that I find deeply meaningful. Residency has been the point where all these threads have come together. In the clinic, on consults, and during call, I find the greatest fulfillment in moments when science informs care, and care inspires new questions. These are the moments that remind me why I chose this path and reaffirm my commitment to academic ophthalmology—where healing, teaching, and discovery exist side by side. Having intentionally reshaped my path to be part of academic ophthalmology in the U.S., I am especially eager to learn from those who have walked this road before me. Understanding how clinician-educators balance patient care, research, mentorship, and long-term vision is invaluable as I continue to define my own trajectory. The Heed Ophthalmic Foundation Residents Retreat represents more than an opportunity—it is a community where shared purpose, mentorship, and inspiration converge. I am committed to a future in academic ophthalmology that is grounded in compassionate patient care, meaningful research, and dedicated teaching. The mission of the Heed Foundation resonates deeply with my own aspirations. It would be a true honor to be part of a program that nurtures the next generation of leaders—those who will not only advance the field, but shape its future with curiosity, integrity, and purpose.

B. Positions and Honors

Positions and Scientific Appointments

2020 - 2021	Instructor in Ophthalmology, Faculty of Biomedical Engineering, Ariel University, Ariel
2016 - 2021	Physician-Scientist, The Center for Retinal and Macular Degenerations (CRMD), Hadassah-Hebrew University Medical Center, Jerusalem
2014 - 2021	Instructor in Ophthalmology, Hebrew University-Hadassah Medical School, Jerusalem
2013 - 2021	Researcher, Eyal Banin Lab, Hadassah- Hebrew University Medical Center, Jerusalem

Honors

2026	Advocacy Ambassador, American Academy of Ophthalmology (AAO)
2022	Clinical Research Fellowship Award (CRFA), Foundation Fighting Blindness
2021	Hebrew University Fellowship for Postgraduate Training, Hadassah- Hebrew University Medical Center
2021	Harvey Lincoff Travel Grant, The Association for Research in Vision and Ophthalmology (ARVO)
2020	Young Ophthalmologist “Learning from the learners” Best Surgical Video Award, European Society of Cataract and Refractive Surgery (ESCRS)
2019	Michaelson Prize for Outstanding Young Investigator, Hadassah- Hebrew University Medical Center
2013	Internship Excellence degree, Hadassah- Hebrew University Medical Center
2011	Selected to participate in official student exchange program at Charité Medical Center in Berlin, Jordan University of Science and Technology

C. Contribution to Science

1. A central focus of my research has been improving our understanding and potential treatment of inherited retinal degenerations, particularly through gene therapy. I co-authored a review on PRPF31-associated retinitis pigmentosa, an autosomal dominant form of RP with incomplete penetrance and variable presentation. I am currently working on developing a non-human primate model of this condition using CRISPR/Cas9-mediated knockdown. The goal of this model is to better study disease progression at the molecular level and to provide a platform for evaluating gene-based approaches, including adeno-associated virus (AAV)–mediated gene augmentation therapy.
    a. Aweidah H, Xi Z, Sahel J, Byrne L. PRPF31-retinitis pigmentosa: Challenges and opportunities for clinical translation. Vision Research. 2023 December; 213:108315-. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0042698923001396 DOI: 10.1016/j.visres.2023.108315

2. My research has also explored cell-based regenerative approaches for retinal disease. I led a study examining the survival of neural progenitor cells derived from human embryonic stem cells after subretinal transplantation in rodent models. This work showed that transplanted cells can survive in the subretinal space and provided preclinical insight into graft viability, helping to inform future development of cell replacement therapies for degenerative retinal conditions.
    a. Aweidah H, Matsevich C, Khaner H, Idelson M, Ejzenberg A, Reubinoff B, Banin E, Obolensky A. Survival of Neural Progenitors Derived from Human Embryonic Stem Cells Following Subretinal Transplantation in Rodents. Journal of Ocular Pharmacology and Therapeutics. 2023 June 01; 39(5):347-358. Available from: https://journals.sagepub.com/doi/full/10.1089/jop.2022.0161 DOI: 10.1089/jop.2022.0161
3. I have contributed to studies examining the genetic and clinical features of inherited retinal diseases. In a cohort of Jewish patients with achromatopsia, we identified a deep intronic variant in CNGB3 as a relatively common cause, expanding the known mutation spectrum and underscoring the value of assessing non-coding regions in genetic testing. In a separate study of 228 patients with RPGRIP1-associated retinal degeneration, we described the natural history, mutation spectrum, and genotype–phenotype relationships. Together, this work has helped refine molecular diagnosis and provided information relevant to patient counseling and consideration for emerging gene therapy studies.
    a. A deep intronic substitution in CNGB3 is one of the major causes of achromatopsia among Jewish patients. Molecular vision. 2021 January. PubMed Central PMCID: PMC8477987
    b. Beryozkin A, Aweidah H, Carrero Valenzuela R, Berman M, Iguzquiza O, Cremers F, Khan M, Swaroop A, Amer R, Khateb S, Ben-Yosef T, Sharon D, Banin E. Retinal Degeneration Associated With RPGRIP1: A Review of Natural History, Mutation Spectrum, and Genotype–Phenotype Correlation in 228 Patients. Frontiers in Cell and Developmental Biology. 2021 October 14; 9:-. Available from: https://www.frontiersin.org/articles/10.3389/fcell.2021.746781/full DOI: 10.3389/fcell.2021.746781
4. My work has also examined rare retinal vascular conditions using advanced imaging techniques. In a study of perifoveal exudative vascular anomalous complex (PEVAC), we used optical coherence tomography angiography (OCTA) to assess changes in retinal vascular density. This study provided quantitative imaging data that helped improve understanding of the vascular environment around PEVAC lesions and contributed to ongoing efforts to better define the clinical and imaging features of this condition, with potential implications for diagnosis and management.
    a. Aweidah H, Cosette D, Lishinsky-Fischer N, Eshak T, Batash T, Chowers I, Jaouni T, Levinger N, Levy J. Perifoveal Exudative Vascular Anomalous Complex (PEVAC): Retinal Vascular Density Findings. Journal of Clinical Medicine. 2024 November 15; 13(22):6879-. Available from: https://www.mdpi.com/2077-0383/13/22/6879 DOI: 10.3390/jcm13226879
5. During the COVID-19 pandemic, I was involved in efforts to adapt ophthalmic care delivery. I led a study describing the implementation of a hybrid telehealth medical retina clinic during a period of provider quarantine, showing that remote triage and virtual consultations could be used safely in a subspecialty setting. In a related study, we examined the broader impact of the pandemic on ophthalmology practice patterns across Israel. Together, this work provided early insights that helped inform approaches to maintaining continuity of care during a public health emergency and supported the integration of telemedicine into retinal practice.
    a. Aweidah H, Safadi K, Jotkowitz A, Chowers I, Levy J. Hybrid Telehealth Medical Retina Clinic Due to Provider Exposure and Quarantine During COVID-19 Pandemic . Clinical Ophthalmology. 2020 October; Volume 14:3421-3426. Available from: https://www.dovepress.com/hybrid-telehealth-medical-retina-clinic-due-to-provider-exposure-and-q-peer-reviewed-article-OPTH DOI: 10.2147/OPTH.S276276
    b. Safadi K, Kruger J, Chowers I, Solomon A, Amer R, Aweidah H, Frenkel S, Mechoulam H, Anteby I, Ben Eli H, Lavy I, Jaouni T, Landau D, Tiosano L, Greifner G, Ofir S, Levi Vineberg T, Levy J. Ophthalmology practice during the COVID-19 pandemic. BMJ Open Ophthalmology. 2020 April; 5(1):e000487-. Available from: https://bmjophth.bmj.com/lookup/doi/10.1136/bmjophth-2020-000487 DOI: 10.1136/bmjophth-2020-000487

D. Scholastic Performance

Scholastic Performance

YEAR	COURSE TITLE	GRADE
	JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY	
	ISRAEL NATIONAL BOARD CERTIFICATION	