R. Sameen Meshkin, MD
Heed Resident Retreat – Personal Statement

My goal is to build a career in academic ophthalmology as a vitreoretinal surgeon who integrates excellence in patient care with leadership in medical education and impactful clinical research. Throughout my training at Mass Eye and Ear and Harvard Medical School, I have come to recognize that a career in academics is not without challenges; for that reason, the mentorship and perspective offered at the Heed Resident Retreat are especially valuable to me. Having spoken with prior attendees, I am struck by how often they described seeing the path ahead more clearly and feeling better equipped to navigate unexpected obstacles. I intend to approach the retreat with specific questions: how to balance clinical productivity with protected research time, how early-career faculty build sustainable research programs, and how to cultivate mentorship that evolves over time.

During residency, I have developed a research portfolio spanning surgical outcomes and health economics. My scholarly work includes over 40 peer-reviewed publications (28 during residency) in journals such as *Ophthalmology*, *Ophthalmology Retina*, *RETINA*, and the *Journal of Vitreoretinal Diseases*, and more than 40 national presentations at AAO, ASRS, ARVO, AUPO, and The Retina Society. My research has been supported by more than $400,000 in grant funding. I have led investigations into long-term outcomes of recurrent retinal detachment repair, introducing "double-operation success" as a novel metric; that work subsequently inspired my VRSF-funded project investigating effects of vitamin D on cellular behaviors associated with PVR pathogenesis. Through collaboration with the ASRS Health Economics Committee, I have also led time-driven, activity-based cost analyses defining breakeven thresholds for vitreoretinal procedures to inform value-based care and national reimbursement advocacy efforts. Looking ahead, I will continue to advance surgical retina research through collaboration with the DRCR Retina Network on the Protocol AP treatment arm, leveraging validated artificial intelligence architectures to quantify intraoperative elements such as instrument–tissue interaction and anatomic landmark identification, to enable reproducible surgical phenotyping embedded within prospective clinical trial infrastructure.

In parallel with my research, I have developed a strong commitment to education and mentorship. I have led national and institutional educational initiatives, including development of a surgical video curriculum adopted by the AAO and AUPO and the creation of Harvard Medical School's first virtual ophthalmology elective during the COVID-19 pandemic. I have been fortunate to receive the Mass General Brigham Resident/Fellow as Teacher Award and the *Real World Ophthalmology* Extraordinary Mentorship Award. Beyond formal curricula, I have mentored more than 30 trainees across multiple levels, guiding them from project conception through presentation and publication.

I will be pursuing vitreoretinal surgery fellowship at Duke Eye Center. My long-term vision is to serve as a residency program director while integrating surgical outcomes research, health economics, and medical education scholarship. I aim to build a surgical practice, contribute to clinical trials, and develop innovative approaches to surgical education, including applications of artificial intelligence. I view the Heed Resident Retreat as an important step in refining this path as I transition into fellowship and build the foundation for a career defined by clinical excellence, meaningful scholarship, and educating the next generation of ophthalmologists.