BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
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NAME: Mark R Johnson

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
Auburn University	B.S.	08/2014	05/2018	Biomedical Sciences
University of Alabama at Birmingham Heersink School of Medicine	M.D.	08/2019	05/2023	Doctor of Medicine

A. Personal Statement

My work in research has been focused on addressing practical clinical questions in ophthalmology that can directly inform patient care. I have pursued this primarily through clinically oriented projects in retina.

My early exposure to research began in a pulmonary fibrosis laboratory, where I worked full time during college summers. In this setting, I gained familiarity with basic molecular techniques, including Western blotting and PCR, and contributed to figure generation for publications. I was mentored by both an MD-PhD trainee and a clinician-scientist principal investigator, which provided early exposure to how scientific research can be integrated with clinical practice.

During medical school, I became involved in clinically focused research in ophthalmology, working with a retina group in Birmingham, Retina Consultants of Alabama, to conduct retrospective analyses of surgical outcomes. This work resulted in a publication evaluating visual outcomes in patients with and without age-related macular degeneration undergoing repair for retinal detachment. This study addressed a clinically relevant question and provides data that can inform discussions about preoperative counseling and visual acuity outcome expectations.

I am currently involved in a prospective study evaluating the optimal duration of chlorhexidine application prior to intravitreal injections. This study addresses a practical gap in clinical practice, and our preliminary results suggest that a 30-second application provides sufficient reduction in ocular surface flora. These findings provide evidence-based guidance for injection protocols with chlorhexidine which did not exist before.

These experiences with the retina group reflect my broader research interest in translational and clinically impactful studies that directly inform patient care. I am particularly interested in pursuing research that addresses practical clinical questions in retina and uveitis.

B. Positions, Scientific Appointments and Honors

Eagle Scout, Alabama Scout Troop 254, Birmingham, AL, 2013
Certified Ophthalmic Assistant (COA), 2023
Auburn University; Auburn, Alabama *Bachelor of Science in Biomedical Sciences*

- ***summa cum laude***

University of Alabama at Birmingham Heersink School of Medicine

- **Intro to Clinical Medicine 1 Top 10% Commendation**, 2020
- **Intro to Clinical Medicine 2 Top 10% Commendation**, 2021
- **Preclinical honors**, 2021
- **Clerkship honors: internal medicine, general surgery, neurology, OB/GYN**
- **Quartile: 1st**, 2023
- **Alpha Omega Alpha (AOA),** 2022
- **2023 Lanning B. Kline Award for Excellent in Ophthalmology**
  - Awarded yearly to one medical student at UAB

University of Alabama at Birmingham Ophthalmology Residency

- **Social chair** – 2025-2026. Elected position based on resident vote
- **Chief resident** – 2026-2027. Elected position based on resident vote

C. Contributions to Science

- **Residency Research**

  The project I am most excited about during residency is a prospective study on optimal timing for chlorhexidine prior to intravitreal injections. My mentor, Dr. Mason, published a study in 2013 that provided the recommendation to leave betadine on the surface of the eye for 30 seconds prior to intravitreal injection. (Povidone-iodine contact time and lid speculum use during intravitreal injection, Duncan Friedman et al.) We are now replicating this experiment with chlorhexidine, since many practices are moving away from betadine to increased patient comfort. However, no studies have yet looked at the optimal time to leave chlorhexidine on the surface of the eye. We have now collected over 100 samples of conjunctival swabs before and after chlorhexidine at various time points, and our preliminary results demonstrate 30 seconds as sufficient to decrease bacterial load on the ocular surface.

  1. Chlorhexidine Contact Time During Intravitreal Injection. **Mark Johnson**, Jason Crosson, Gerald McGwin Jr, John O Mason 3rd. Abstract submitted 03/2026 to The Retina Society 2026 Meeting.

- **Medical School Research**

  During medical school, I conducted a retrospective chart review with Retina Consultants of Alabama examining visual outcomes in patients with existing maculopathy, specifically AMD, who sustained macula-involving retinal detachments compared to those without existing maculopathy. As a medical student, I also wrote a case series with photos for publication on the University of Utah Moran CORE website about Chronic Post-Op Endophthalmitis.

  1. Paulk BP, Eloubeidi D, Swain T, Mason JO, Curcio CA, **Johnson MR**, Crosson JN. "Visual outcomes in patients with and without age-related macular degeneration, with concomitant macula-involving rhegmatogenous retinal detachment." BMC Ophthalmology. **https://pubmed.ncbi.nlm.nih.gov/36474227/**
  2. **Johnson MR**, Shakoor A. "Chronic Postoperative Endophthalmitis." Moran CORE. Published 8/2022. https://morancore.utah.edu/section-09-intraocular-inflammation-and-uveitis/chronic-postoperative-endophthalmitis/

- **Undergraduate Research**

  During undergrad, I spent my summers working full time in a pulmonary basic-science lab that focused on idiopathic pulmonary fibrosis and the role of oxidative stress in this disease. I also learned how to use Adobe Illustrator to make graphics for publication

  1. Locy ML, Rangarajan S, Yang S, **Johnson MR**, Bernard K, Kurundkar A, Byun J, Peenathur S, Zhou Y, Thannickal VJ. "Fibronectin o,o'-Dityrosine Crosslinking Attenuates Adhesion Signaling and Confers Protease Resistance." Science Signaling. https://pubmed.ncbi.nlm.nih.gov/32788339/
  2. Johnson DB, Chon J, **Johnson MR**, Balko JM. "Biomarkers for Immune Therapy in Melanoma." Seminars in Cutaneous Medicine and Surgery. https://www.ncbi.nlm.nih.gov/pubmed/30040089

D. Scholastic Performance

Auburn University; Auburn, Alabama *Bachelor of Science in Biomedical Sciences*

- **GPA: 3.97/4.00**
- ***summa cum laude***

University of Alabama at Birmingham Heersink School of Medicine, Medical Doctor

- **Alpha Omega Alpha (AOA)**
- **Top 10% Intro to Clinical Medicine I and Intro to Clinical Medicine II**
- **Quartile: 1st**
- **Clerkship honors: internal medicine, surgery, OBGYN, neurology**
- **Clerkship high pass: family medicine, psychiatry**
- **USMLE Step 1: 259**