BIOGRAPHICAL SKETCH

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NAME: Hermsen, Claire

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

POSITION TITLE: Heed Fellowship Applicant

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
University of Wisconsin – Madison	BS	08/2015	05/2019	Molecular Biology
University of Wisconsin School of Medicine and Public Health	MD	08/2019	06/2023	Medicine
University of Wisconsin Department of Ophthalmology and Visual Sciences		07/2023	06/2027	Ophthalmology Residency

A. Personal Statement

An interest in science has been foundational to my educational journey and decision to pursue medicine. My first exposure to ophthalmology research occurred as an undergraduate, where I worked in Dr. Leonard Levin's neuro-ophthalmology research lab. In this role I learned to plan experiments, carry out benchtop research, troubleshoot unexpected findings, and analyze results. In medical school, I participated in a variety of research projects and scholarly work that reflected my varied interests. I wrote a case report on a patient with *MFRP*-related nanophthalmos with Dr. Melanie Schmitt. I also studied the relationship between breastfeeding in infancy, retinal thickness, and macular pigment optical density with Dr. Julie Mares, and gave an oral presentation on this work at a local conference. I explored interests in teaching and physician wellness through a project studying how an ergonomics curriculum could impact resident slit lamp positioning with Dr. Anna Momont, and I presented this work at a national conference. I was even able to share our work on best practices when integrating social work services into a student-run free clinic via a manuscript published in the Journal of Student-Run Clinics. As a resident, I have continued to use research as an avenue to explore my interests and share knowledge within the field of ophthalmology. Projects have included examining patients with tubulointerstitial nephritis and uveitis who have been prescribed biologics with Dr. Laura Kopplin (presented at a national conference), as well as studying genes that lead to inherited retinal degenerations with Dr. Kimberly Stepien (presented at a national conference). Throughout and beyond my residency training, I plan to use research as an avenue to explore my clinical interests and expand our field's shared understanding of various eye diseases.

B. Positions, Scientific Appointments and Honors

Positions and Scientific Appointments

2026-2027 Chief Resident, University of Wisconsin Department of Ophthalmology and Visual Sciences
2023-2027 Resident Wellness Committee, University of Wisconsin Department of Ophthalmology
2025-2026 Botox Clinic Resident Coordinator, University of Wisconsin Department of Ophthalmology
2019-2022 Leader, ReSpectacle University of Wisconsin School of Medicine and Public Health Chapter
2019-2020 Southside Clinic Coordinator, MEDiC Student-Run Free Clinics
2019-2020 Leader, Women in Medicine Interest Group
2019-2020 Leader, Ophthalmology Interest Group
2018, 2020 Ophthalmic Technician, LIGA International Flying Doctors of Mercy

2016-2019 Surgical Technician, Pinnacle Cataract and Laser Institute
2016-2019 Ophthalmic Technician, Valley Eye Associates

Honors

2023 Cora and Edward Van Liere Award (for highest academic achievement of medical school class)
2022 Alpha Omega Alpha Inductee (top 20% of MD senior class selected)
2020 UWSMPH Quality Improvement Project Award Recipient
2019 Dr. Alice R. McPherson Medical Scholarship (merit scholarship awarded to top two students)
2019 Undergraduate Certificates Earned: Global Health, Leadership
2019 Honors in the Liberal Arts
2018 Phi Beta Kappa Honor Society Inductee (5% of undergraduate senior class invited)

C. Contributions to Science

1. Undergraduate Research: I spent several semesters working in the laboratory of neuro-ophthalmologist Dr. Leonard Levin. Our work focused on a novel class of neuroprotective drugs known as phosphine-borane complexes, and their potential for rescuing retinal ganglion cells from ischemic injury. My roles included performing manual segmentation on rodent OCT scans, performing cell culture and staining, and quantifying differentially stained retinal ganglion cells. My work in the lab provided a first exposure to ophthalmology and basic science research, gave me a foundation in experimental planning and execution, and strengthened my data analysis skills.

2. Medical School Research: I worked with Dr. Julie Mares, whose laboratory studied nutritional factors that influence eye health in the CAREDS2 (Carotenoids in Age-Related Eye Disease Study 2) cohort. We investigated the relationship between breastfeeding in infancy, retinal thickness, and macular pigment density in adulthood. This project strengthened my statistical skills, and I was able to present my findings at our department's grand rounds as well as at an academic conference. In addition to this project, I was also able to publish a case report with pediatric ophthalmologist Dr. Melanie Schmitt describing an interesting case of *MFRP*-related nanophthalmos. I also worked with Dr. Anna Momont to understand how an ergonomics curriculum could impact resident positioning at the slit lamp. Finally, I spent a great deal of time as an undergraduate volunteering with a program called Resource Navigators, which acted as an adjunct to social workers in primary care settings. Then, as a medical student I became the clinic coordinator for the MEDiC Southside free clinic, where I worked to expand the Resource Navigator program to our clinic. My co-coordinator and I wrote a paper describing this partnership with the goal of helping other free clinics implement similar programs.

1. "Association between breastfeeding, retinal thickness, and macular pigment optical density in the Carotenoids in Age-Related Eye Disease Study 2 (CAREDS2)"
   Oral Presentation, University of Wisconsin Department of Ophthalmology Learners Day, June 2021
2. **Vanden Heuvel C**, Aldred B, Boulter T, Sullivan R, Ver Hoeve J, Schmitt M, "*MFRP* variant results in nanophthalmos, retinitis pigmentosa, variability in foveal avascular zone" Ophthalmic Genet. 2022 July 26;1-6. PMID: 35880649
3. "Efficacy of an ergonomics curriculum on ophthalmology resident slit lamp positioning and attitudes towards ergonomics"
   Poster Presentation, Wisconsin Ophthalmology Research Day, June 2022
   Poster Presentation, Women in Ophthalmology Summer Symposium, August 2022
4. Fleischman A, **Vanden Heuvel C**, Habtermariam Tesfamichael D, McGinn Valley T, Jones K, "Addressing Social Determinants of Health in a Free Clinic Setting: A Student-Run Free Clinic and Community Resource Navigator Program " J Stud Run Clin 9;1 2023 Feb 14

3. Ophthalmology Residency Research: As a resident, I have had the opportunity to work on several interesting clinical projects. First, I worked with Dr. Laura Kopplin to review cases of Tubulointerstitial Nephritis and Uveitis (TINU) treated with various biologic agents. I was able to present this work at a national conference and am working on writing a manuscript describing these findings. Currently, I am working with Dr. Kimberly Stepien, an expert in inherited retinal degenerations (IRDs). We have studied two IRD-related genes, cone-rod homeobox (*CRX*) and potassium voltage-gated channel modifier subfamily V member 2 (*KCNV2*). These projects provide insight into the pathophysiology of these rare IRDs, and will help us better understand candidacy for and response to emerging gene therapies.

1. "Efficacy of biologic agents in tubulointerstitial nephritis and uveitis"

Poster Presentation, Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, May 2024

2. “Clinical phenotypes of *CRX*-associated retinopathies”
   Poster Presentation, Wisconsin Ophthalmology Research Day, June 2025
   Poster Presentation, Women in Ophthalmology Summer Symposium, August 2025

D. Scholastic Performance

YEAR	COURSE TITLE	GRADE
	UNIVERSITY OF WISCONSIN-MADISON (UNDERGRADUATE)	
2015	ENGLISH X04 (Electives)	T
2015	COM ARTS 105 (Public Speaking)	T
2015	PSYCH 202 (Introduction to Psychology)	T
2015	SPANISH 204 (Fourth Semester Spanish)	T
2015	MATH 221 (Calculus & Analytic Geometry 1)	T
2015	SPANISH 101 (First Semester Spanish)	T
2015	SPANISH 102 (Second Semester Spanish)	T
2015	SPANISH 203 (Third Semester Spanish)	T
2015	ZOOLOGY 151 (Introductory Biology)	T
2015	ENGLISH X19 (Electives)	T
2015	ENGLISH X25 (Electives)	T
2015	CHEM 109 (Advanced General Chemistry)	A
2015	MED HIST 212 (Bodies, Diseases, and Healers)	A
2015	MED HIST 284 (Physician in Hist)	A
2015	POLI SCI (Intro to American Politics)	A
2015	SOC 131 (Criminal Justice in America)	A
2016	BIOLOGY 152 (Introductory Biology)	A
2016	CHEM 343 (Intro Organic Chemistry)	A
2016	HIST SCI 286 (Honors Seminar: Sci, Tech, Med)	A
2016	NTP 699 (Directed Study in Research)	A
2016	CHEM 344 (Intro Organic Chemistry Lab)	A
2016	CHEM 345 (Intmed Organic Chemistry)	A
2016	GENETICS 466 (Principles of Genetics)	A
2016	NTP 699 (Directed Study in Research)	A
2016	STAT 371 (Intro Applied Stats-Life Sci)	A
2017	CHEM 327 (Fundamentals of Analytical Sci)	A
2017	MUSIC 113 (Music in Performance)	A
2017	NTP 699 (Directed Study in Research)	A
2017	PHYSICS 207 (General Physics)	B
2017	PSYCH 581 (Hormones, Brain, and Behavior)	A
2017	AFROAMER 156 (Black Music & Am Cultrl Hist)	A
2017	BIOCHEM 507 (General Biochemistry I)	AB
2017	GENETICS 545 (Genetics Laboratory)	A
2017	ONCOLOGY 401 (Intro-Experimental Oncology)	A
2017	PHYSICS 208 (General Physics)	B
2018	BIOCHEM 508 (General Biochemistry II)	AB
2018	BIOCHEM 625 (Mechanisms-Vitamins & Minerals)	AB
2018	LEGAL ST 400 (Topics: Legal Studies & Soc Sci)	A
2018	LITTRANS 209 (Masterpieces – Fr Lit & Culture)	A
2018	MUSIC 113 (Music in Performance)	A

YEAR	COURSE TITLE	GRADE
2018	HISTORY 469 (Making the American Landscape)	A
2018	NUTR SCI 132 (Nutrition Today)	A
2018	NUTRI SCI 203 (Introduction to Global Health)	A
2018	ZOOLOGY 570 (Cell Biology)	A
2019	ANAT&PHY 335 (Physiology)	S
2019	ANAT&PHY 337 (Human Anatomy)	A
2019	POP HLTH 370 (Publ Hlth – Local-Globl Perspect)	A
2019	ZOOLOGY 400 (Topics in Biology)	A
	UNIVERSITY OF WISCONSIN SCHOOL OF MEDICINE AND PUBLIC HEALTH (MEDICAL SCHOOL)	
2019	FAM MED 711 (The Healer's Art)	S
2019	POP HLTH 712 (Integrating Med and PH)	CR
2019	MED SC-M 770 (Pts. Prof. and Public Health)	S
2019	MED SC-M 771 (Body in Balance)	S
2020	FAM MED 712 (Hlth Care-Diverse Communities)	CR
2020	EMER MED 930 (Wilderness Medicine)	S
2020	MED SC-M 772 (Food, Fasting, & Fitness)	S
2020	MED SC-M 773 (Human Family Tree)	S
2020	MED SC-M 774 (Invaders and Defense)	S
2020	MED SC-M 775 (Mind & Motion)	S
2021	MED SC-M 810 (Care Across the Life Cycle)	S
2021	MED SC-M 813 (Surgical and Procedural Care)	S
2021	MED SC-M 811 (Chronic and Preventive Care)	S
2021	MED SC-M 812 (Acute Care)	S
2022	MED SC-M 902 (Ambulatory Acting Internship)	S
2022	REHAB MED 920 (Rehab Med Clinical Elective)	S
2022	OPHTHALM 911 (Intro to the Visual System)	S
2022	OPHTHALM 910 (Indep Rdg & Rsch – 4th Yr Med)	S
2022	POP HLTH 915 (Internl Hlth Systems & Policy)	S
2022	RADIOL 920 (Diagnostic Radiol Elective)	S
2022	SR MED 927 (Extramur Elect -Ophthalmology)	S
2022	PATH 920 (General Pathology Clerkship)	S
2022	SR MED 927 (Extramur Elect – Ophthalmology)	S
2022	MEDICINE 938 (Inpt Acting Internship – Med)	S
2022	MEDICINE 971 (Infectious Disease Elective)	S
2022	PEDIAT 935 (Surgical Neonatal ICU)	S
2022	PATH 923 (Sickle cell disease)	S
2023	ANESTHES 920 (Clinical Anesthes Elective)	S
2023	MEDICINE 940 (Allergy & Clinical Immunology)	S
2023	DERM 953 (Dermatology Elective)	S
2023	PATH 921 (Transfusion Med Customized)	S
2023	MED SC-M 722 (Clinicl Anatomy & Radiology)	S
2023	RADIOL 914 (Physician Financial Wellness)	S
2023	SURGERY 919 (Individual Clinical Elect Surg)	S

In the undergraduate coursework, transfer credits are denoted with T. In medical school, core/required courses are graded as S (satisfactory) or U (unsatisfactory). Electives are graded as CR (credit) or N (no credit).