



Vision:

To improve human health by applying the scientific method to prevent and cure disease.

Mission

To train the next generation of physician scientists prepared to innovate and transform health care and biomedical research.





The curriculum of the program strives to integrate training in basic biomedical science and clinical investigation

Medical Graduate Medical

summer	MS1	summer	MS2	summer	Graduate Years			MS3	MS4
Research rotation	Medical school courses	Research rotation	Medical school courses	USMLE Step 1	Grad Courses	Qual Exam	Research	Clinical clerkships	Internship Electives (exempt from AHEC internship)
ICR course	Research or grad courses*	ICR course	Research or grad courses*	Research rotation	Research	Research	Research		Clinical Research
					Qual Exam	Research	Doctoral submission		
					*Fundamentals of Clinical Medicine				
Monthly: Program Meetings, DDLS, CTS seminars									
Yearly: Student Research Day, Retreat, Welcome Party, Graduation Party									

Undergraduate Institutions



Arkansas	Johns Hopkins	Vanderbilt
Agnes Scott	Miami University-Ohio	University of Pennsylvania
Boston College	Michigan State	Yale
Brigham Young University	Middlebury College	Washington University
Centre College	Pomona College	Wabash
Davidson	Roanoke	Wheaton
Denison	Transylvania	Western Kentucky
DePauw	UCLA	University of Kentucky
Emory	University of Cincinnati	University of Texas -Austin
Hanover	University of Florida	University of Georgia
Indiana University	Cornell University	



Number of students	30
% women	25%
% in-state at matriculation	30%
Average GPA	3.8
Average MCAT	34
Application numbers	80 – 120 / year
Time to dual degree	7.8 years
PhD Programs	College of Medicine
	College of Pharmacy
	College of Arts/ Sciences - Statistics
	College of Arts/Science - Sociology
	Biomedical Engineering



50% publish articles from research done before entering MD/PhD program



80% secure extramural funding for graduate training (NIH, AHA etc.)



Pipeline for Center for Clinical and Translational Science Workforce



Average of
6.5 publications/student

- *Science*
- *Nature*
- *PNAS*
- *Nature Medicine*
- *Nature Structural Biology*
- *Journal of Biological Chemistry*
- *Journal of Virology*
- *J Am Coll Surg*
- *Experimental Neurology*
- *Neurobiology of Aging*
- *J Neuroscience Methods*
- *Trends in Cardiovascular Medicine*





PAPSCR Conference First Place Poster Award– Erin Wolf Horrell

P.E.O. Scholar awards-Erin Wolf Horrell (educational awards for women who are pursuing a doctoral level degree at an accredited college or university)

TERPNET Conference First Place Poster Award – Kristin Linscott

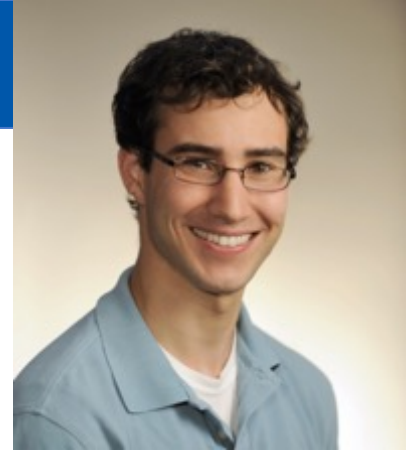
NIH F30 Fellowship – Edita Klimyte, Eseosa Ighodaro, Jacqueline Kulbe

Robert Terry Neurodegenerative Diseases – Eseosa Ighodaro

Halcomb Fellowship in Engineering and Medicine – Scott Thalman

Patent/commercial potential –Yuan Wen, “MyoVision:Software for Automated Analysis of Skeletal Muscle Immunohistochemistry”

Student Publications



Ben Fowler:

Demonstrated that HIV/AIDS drugs that have been used for the last 30 years could be repurposed to treat age-related macular degeneration



Established that anti-retroviral nucleosides (nucleoside reverse transcriptase inhibitors; NRTIs)—the class of drugs first developed decades ago to treat HIV—target the innate immune complex known as the NLRP3 inflammasome, a pathway that is involved in AMD pathogenesis

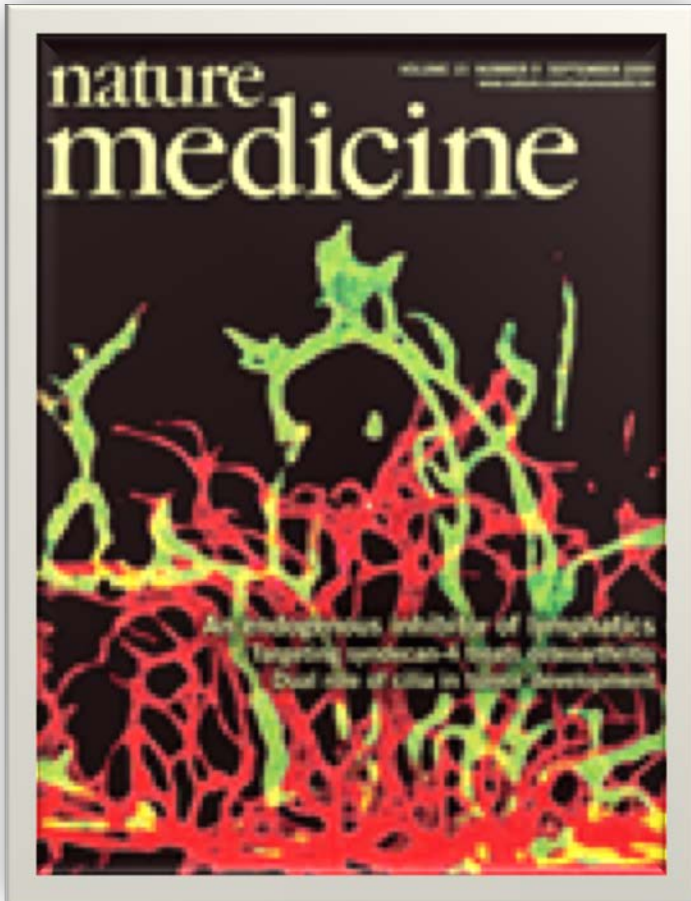
Nucleoside reverse transcriptase inhibitors possess intrinsic anti-inflammatory activity.

Fowler et al.

Science. 2014 346(6212):1000-3

Student Publications

***Nature Medicine* Classic Collection**, a series of landmark articles that we had the privilege to publish over the past 15 years that illustrates why *Nature Medicine* is the “**Home of Translational Research.**”



Cardiovascular Disease

Alternatively spliced vascular endothelial growth factor receptor-2 is an essential endogenous inhibitor of lymphatic vessel growth.

Romulo J C Albuquerque, et al.
Nature Medicine **15**, 1023-1030 (2009)

Although endogenous inhibitors of blood vessel growth have been studied extensively, specific inhibitors of lymphatic vessel growth have not been identified. This study reports on the identification of truncated, secreted versions of mouse and human VEGFR-2 receptors generated by alternative splicing. The mouse protein acts as an endogenous inhibitor of lymphatic vessel growth in the cornea and skin, and its administration had therapeutic effects in mouse models of corneal injury and transplantation.



Emory - PTSP	University of Michigan	UCSF
Johns Hopkins	University of Virginia	UCSF
Mayo Clinic	UT Southwestern	UCLA - PTSP
Miami – Miller	University of Kentucky	University of Washington
Ohio State University	University of Louisville	Vanderbilt
Georgetown	Children's Hospital of The King's Daughters	Washington University
Indiana University		Wake Forest University