

Joshua Scott Wesalo

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Education

University of Pittsburgh-Carnegie Mellon University Medical Scientist Training Program
Matriculated 2 June 2014; Expected graduation May 2022
Cumulative GPA: 4.00

Franklin & Marshall College, Lancaster, PA
Bachelor of Arts, 11 May 2013, Magna Cum Laude
Minor: Applied Mathematics
Majors: • Chemistry
• Economics
Cumulative GPA: 3.88

Research Experience

- Summer 2016 – Present
Graduate Student Researcher, Department of Chemistry, University of Pittsburgh • Advisor: Alexander Deiters, PhD.
- Summer 2015
Research Rotation, Department of Chemistry, University of Pittsburgh • Advisor: Alexander Deiters, PhD.
Project: *Progress toward a photocaged morpholino oligonucleotide with a double lariat structure for microRNA knockdown and in vivo gene silencing.*
- Summer 2014
Research Rotation, Department of Pharmacology and Chemical Biology, University of Pittsburgh • Advisor: Patrick Pagano, PhD.
Project: *Isoform-specific NADPH oxidase inhibitors suppress TNF α -induced endothelial cell dysfunction.*
- Summer 2013 – Summer 2014
Research Assistant, Chemistry Department, Franklin & Marshall College, Lancaster, PA.
Eyer Research Fellow, Clinic for Special Children, Strasburg, PA.
Projects: *Semisynthesis of ganglioside GM3, Analysis of serum amino acids by UHPLC.*
- Fall 2012 – Spring 2013
Independent Research, Franklin & Marshall College, Lancaster, PA • Advisor: Ken Hess, PhD.
Project: *Extraction, purification, and quantification of gangliosides in bovine buttermilk.*
(Continued from Spring 2012).
- Summer 2012
Summer Undergraduate Internship Program–Clinical and Translational Sciences Award (SUIP – CTSA), Institute for Translational Medicine and Therapeutics, University of Pennsylvania, Philadelphia, PA. • Advisors: Vladimir Muzykantov, MD, PhD and Elizabeth Hood, PhD.
Project: *Targeting nanotherapeutics to injured blood vessel linings and quantifying VCAM, a marker of injury.*
- Spring 2012
Independent Research, Franklin & Marshall College, Lancaster, PA. • Advisor: Ken Hess, PhD.
Project: *Extraction, purification, and quantification of gangliosides in bovine buttermilk.*
(Continued from Summer 2011).

- Summer 2011
Hackman Scholar, Franklin & Marshall College, Lancaster, PA • Advisors: Ken Hess, PhD and Ryan Mehl, PhD.
Project: *Extraction, purification, and quantification of gangliosides in bovine buttermilk.*
- Summer 2010
Hackman Scholar, Franklin & Marshall College, Lancaster, PA • Advisors: Ken Hess, PhD and Ryan Mehl, PhD.
Project: *Development of a practical and reproducible assay for serum ganglioside levels in GM3 synthase deficiency patients.*

Clinical Experience

- Fall 2014 – Present
Guerrilla Eye Service (volunteer eye care missions).
- Fall 2017
Longitudinal Clinical Clerkship, Ophthalmology (medical and surgical retina), University of Pittsburgh-Carnegie Mellon University Medical Scientist Training Program • Advisor: Andrew Eller, MD.
- Summer 2016
Neurology and Psychiatry Clerkship, University of Pittsburgh School of Medicine.
- Spring 2012
Primary Care Scholars Program, Penn State Hershey College of Medicine.
- Junior Year (Fall 2011–Spring 2012)
Primary Care Preceptorship Program, Lancaster General Hospital.
- Fall 2011
Volunteer, Transport Department, Lancaster Regional Medical Center.

Leadership Experience

- Guerrilla Eye Service Mission Leader and Scheduling Coordinator, 2017 – Present.
- Medical Scientist Training Program Student Workshop Coordinator, 2017 – 2018.
- Medical Scientist Training Program Ethics Chair, 2017 – 2018.
- Medical Scientist Training Program Retreat Coordinator, 2017.
- Scaife Hall (Medical School Building) Improvement Representative, 2016 – Present.
- Medical Scientist Training Program Interviewing Committee Member, 2016 – Present.
- Medical Scientist Training Program Welcoming Committee Co-Chair, 2015.
- Secretary, University of Pittsburgh School of Medicine Health and Wellness Committee, 2015.
- Member, Student Athletic Advisory Council, Fall 2012 – Spring 2013.
- Section leader (low brass), Franklin & Marshall College Orchestra, Fall 2012 – Spring 2013.
- Captain, Cross Country Team, 2011 and 2012 Seasons.

Extracurricular Activities

- Club Cross Country, University of Pittsburgh (2014 – Present).
- Franklin & Marshall College Orchestra, Trombone, College Career (Fall 2009 – Spring 2013).
- Inter-Disciplinary Advancement Club — Bi-weekly meetings with a presentation and discussion (Fall 2012 – Spring 2013).

- Harbaugh Club — Coeducational eating club that meets monthly to hear professors speak (Fall 2011 – Spring 2013).
- Varsity Cross Country, Indoor Track, and Track & Field (NCAA Division III), College Career (Fall 2009 – Spring 2013).
- Junto Society, Junior and Senior Years (Fall 2011 – Spring 2013) — Invitation-only society for intellectual improvement in the style of Benjamin Franklin's junto.

Work Experience

- Summer 2013 – Summer 2014
Research Assistant, Chemistry Department, Franklin & Marshall College, Lancaster, PA.
Eyler Research Fellow, Clinic for Special Children, Strasburg, PA.
- Fall 2010 – Spring 2013
Math Tutor, Franklin & Marshall College.
- Fall 2010 – Spring 2011
Peer Advisor, Bonchek House, Franklin & Marshall College.

Selected Honors

- Carson Scholars Fund Scholarship (2005 and 2006).
- F&M John Marshall Scholar — for outstanding GPA and extracurricular activities (2009 – 2013).
- National Merit Scholarship (2009 – 2013).
- F&M Phyllis C. Whitesell Prize Honorable Mention (2009) — for excellent student writing.
- Eric C. Rackow, MD Endowed Achievement Scholarship for the Pre-Healing Arts (2010)
- Isaac E. Roberts Prize in Biology — for student with highest grades in biology courses.
- Honors List, every semester.
- Theodore Alexander Saulnier, Jr. Prize in Chemistry — Student majoring in Chemistry who in the opinion of the faculty demonstrates an especially searching mind in probing the frontiers of the unknown.
- Theodore E. Woodward, M.D. Healing Arts Prize — outstanding senior who will be pursuing post-graduate study in a health professions field.
- Magna Cum Laude.
- Phi Beta Kappa Society.

Professional Memberships

- American Heart Association (2017 – Present).
- American Chemical Society (2015 – Present).
- American Medical Association (2014 – Present).
- Allegheny County Medical Society (2014 – Present).

Presentations

Wesalo, J. S. Oral Presentation. "Speeding up control of biomolecular function through the Staudinger reduction." *Biological Chemistry Student Seminar Series*. 25 Apr 2017. University of Pittsburgh, Pittsburgh, PA.

Wesalo, J. S.; Vázquez-Maldonado, L. A.; Liu, J.; Tsang, M.; Deiters, A. Poster presentation. "Light-activated circularized morpholino oligonucleotides for RNA knockdown and gene

silencing in zebrafish.” *Pitt-CMU MSTP Annual Scientific Retreat*. 19 Aug 2016. University of Pittsburgh, Pittsburgh, PA.

Wesalo, J. S. Oral presentation. “Laboratory Synthesis of GM3: A Bridge to the Cure.” *GM3 Synthase Deficiency Research Summit*. 11 Oct 2016. Children’s Hospital of Pittsburgh, Pittsburgh, PA.

Wesalo, J. S.; Meijles, D. N.; Cifuentes-Pagano, E.; Pagano, P. J. Poster presentation. “Isoform-specific NADPH oxidase inhibitors for the investigation of the role of NADPH oxidase in tumor necrosis factor- α -induced endothelial dysfunction.” *Pitt-CMU MSTP Annual Scientific Retreat*. 21 Aug 2014.

Wesalo, J. S. Oral presentation. “GM3 Synthase Deficiency.” *Genomic Medicine and the Plain Populations of North America*. 17 Jul 2013. Franklin & Marshall College, Lancaster, PA.

Wesalo, J. S. Oral presentation. “Targeting nanotherapeutics to injured vascular endothelium and quantifying VCAM, a marker of endothelial injury.” *Franklin & Marshall College Autumn Research Fair*. 19 Oct 2012. Franklin & Marshall College, Lancaster, PA.

Wesalo, J. S. Oral presentation. “Targeting nanotherapeutics to injured vascular endothelium and quantifying VCAM, a marker of endothelial injury.” *CTSA Summer Internship Program Symposium*. 27 Jul 2012. University of Pennsylvania, Philadelphia, PA.

Wesalo, J. S.; Mehl, R. A.; Hess, K. R. Poster presentation. “From Making Pancakes to Saving Lives: The Quest for a Cure for GM3 Synthase Deficiency in Buttermilk.” *Franklin & Marshall College Autumn Research Fair*. 23 Sept 2011. Franklin & Marshall College, Lancaster, PA.

Wesalo, J. S.; Mehl, R. A.; Hess, K. R. Poster presentation. “Hot on the Ganglioside Trail: Towards a Practical and Reproducible Assay for Serum Ganglioside Levels in GM3 Synthase Deficiency Patients.” *Franklin & Marshall College Autumn Research Fair*. 24 Sept 2010. Franklin & Marshall College, Lancaster, PA.

MCAT: 37S (98%ile)

USMLE Step 1: 257 (91–96%ile)