Zachary Sebo, PhD

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Professional Objective

Obtain a tenure-track faculty position at a research-intensive institution.

Research Objective

My primary aim is to gain a molecular understanding of metabolic regulation in vivo. I focus on the interface of metabolic syndrome and cancer. I am also interested in the metabolic derangements that underlie aging. I use genetically engineered mouse models (GEMMs) and functional genomic methods to gain insight into these processes.

Education

PhD: Molecular, Cellular and Developmental Biology (2020)
Yale University | New Haven, CT

BS: Biology (2014)
University of Missouri – Kansas City (UMKC) | Kansas City, MO

Distinctions

NRSA Postdoctoral Fellowship (T32)	2020-2022	National Cancer Institute
Spangler Award for Outstanding PhD Thesis	2021	Yale University
NSF Graduate Research Fellowship	2014-2019	National Science Foundation
Keystone Symposium Scholarship (Obesity)	2017	Keystone Symposia
Victoria Finnerty Travel Award	2014	Genetics Society of America
Great Lakes National Scholarship (GLNS)	2013	GLNS Program
SEARCH Undergraduate Research Grant	2011-2013	UMKC
Chancellor's Scholarship	2010-2014	UMKC

Laboratory & Research Experience

Northwestern University	2020-present	Navdeep Chandel Lab
Yale University	2015-2020	Matthew Rodeheffer Lab
Mayo Clinic	2013 summer	Yi Guo & Ying Peng Lab
Stowers Institute for Medical Research	2011-2014	Tissue Culture Core Lab
University of Missouri – Kansas City	2011-2014	Leonard Dobens Lab

Other Experience Including Teaching

- Reviewed research articles for *Molecular Metabolism* and *International Journal of Obesity*
- Mentored students in UChicago researcHStart and Northwestern CURE programs
- Teaching Fellow for MCDB210 Developmental Biology at Yale University (2016, 2017)

Publications

- **Zachary L. Sebo** and Matthew S. Rodeheffer. "Prepubertal androgen signaling is required to establish male fat distribution." *Stem Cell Reports*. In Press.
- **Zachary L. Sebo** and Matthew S. Rodeheffer. "Testosterone metabolites differentially regulate obesogenesis and fat distribution." *Molecular Metabolism* Volume 44, February 2021, 101141

Publications continued

- **Zachary L. Sebo**, Elizabeth Rendina-Ruedy, Gene P. Ables, Dieter M. Lindskog, Matthew S. Rodeheffer, Pouneh K. Fazeli, and Mark C. Horowitz. "Bone marrow adiposity: basic and clinical implications." *Endocrine reviews* 40, no. 5 (2019): 1187-1206.
- **Zachary L. Sebo** and Matthew S. Rodeheffer. "Assembling the adipose organ: adipocyte lineage segregation and adipogenesis in vivo." *Development* 146, no. 7 (2019): dev172098
- **Zachary L. Sebo**, Elise Jeffery, Brandon Holtrup, and Matthew S. Rodeheffer. "A mesodermal fate map for adipose tissue." *Development* 145, no. 17 (2018): dev166801.
- Mark C. Horowitz, Ryan Berry, Brandon Holtrup, **Zachary Sebo**, Tracy Nelson, Jackie A. Fretz, Dieter Lindskog et al. "Bone marrow adipocytes." *Adipocyte* 6, no. 3 (2017): 193-204.
- Jeffery, Elise, Allison Wing, Brandon Holtrup, **Zachary Sebo**, Jennifer L. Kaplan, Rocio Saavedra-Peña, Christopher D. Church, Laura Colman, Ryan Berry, and Matthew S. Rodeheffer. "The adipose tissue microenvironment regulates depot-specific adipogenesis in obesity." *Cell Metabolism* 24, no. 1 (2016): 142-150.
- Han B. Lee, **Zachary L. Sebo**, Ying Peng, and Yi Guo. "An optimized TALEN application for mutagenesis and screening in Drosophila melanogaster." *Cellular logistics* 5, no. 1 (2015): e1023423.
- Rahul Das, **Zachary Sebo**, Laramie Pence, and Leonard L. Dobens. "Drosophila tribbles antagonizes insulin signaling-mediated growth and metabolism via interactions with Akt kinase." *PloS one* 9, no. 10 (2014): e109530.
- **Zachary L. Sebo**, Han B. Lee, Ying Peng, and Yi Guo. "A simplified and efficient germline-specific CRISPR/Cas9 system for Drosophila genomic engineering." *Fly* 8, no. 1 (2014): 52-57.

A full list of publications with links can be found on PubMed or Google Scholar.

Presentations

Talks

- **Zachary L. Sebo** and Matthew S. Rodeheffer. "Anti-obesogenic effects of androgen signaling in males." Molecular, Cellular and Developmental Biology Department Research in Progress Symposium. Yale University, New Haven, CT. October 2019.
- **Zachary L. Sebo**, Elise Jeffery, Brandon Holtrup, and Matthew S. Rodeheffer. "A mesodermal fate map for adipose tissue." Molecular, Cellular and Developmental Biology Department Research in Progress Symposium. Yale University, New Haven, CT. November 2018.
- **Zachary L. Sebo**, Elise Jeffery, Brandon Holtrup, and Matthew S. Rodeheffer. "A sexually dimorphic mesodermal fate map for adipose tissue." Keystone Symposium on Obesity and Adipose Tissue Biology. Keystone, CO. January 2017.
- **Zachary L. Sebo** and Matthew Rodeheffer. "A molecular, cellular and tissue-scale analysis of adipose development." Program in Integrative Cell Signaling and Neurobiology of Metabolism Research in Progress Talks. Yale School of Medicine, New Haven, CT. January 2016.

Posters

- **Zachary L. Sebo**, Elise Jeffery, Brandon Holtrup, and Matthew S. Rodeheffer. "A sexually dimorphic mesodermal fate map for adipose tissue." Molecular, Cellular and Developmental Biology Departmental Retreat. Woods Hole, MA. November, 2017
- **Zachary L. Sebo**, Elise Jeffery, Brandon Holtrup, and Matthew S. Rodeheffer. "A sexually dimorphic mesodermal fate map for adipose tissue." Keystone Symposium on Obesity and Adipose Tissue Biology. Keystone, CO. January 2017.

Presentations Continued

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- **Zachary L. Sebo**, Paige Radtke, Daryl Gohl, Yi Guo and Ying Peng. "Targeted engineering of the drosophila genome using Transcription Activator-Like Effector Nucleases." National Drosophila Research Conference. San Diego, CA. March, 2014.
- **Zachary L. Sebo**, Paige Radtke, Daryl Gohl, Yi Guo and Ying Peng. "Genome-wide exploration of the epigenetic control mechanisms in development and metabolism using the drosophila InSITE collection." Midwest Drosophila Research Conference. Monticello, IL. November, 2013.
- **Zachary L. Sebo**, Paige Radtke, Daryl Gohl, Yi Guo and Ying Peng. "Targeted engineering of the drosophila genome using Transcription Activator-Like Effector Nucleases." Mayo Clinic SURF Symposium. Rochester, MN. July, 2013.
- **Zachary L. Sebo**, Rahul Das and Leonard Dobens. "Examining the role of the gene *tribbles* in insulin signaling using Drosophila as a model." SEARCH Symposium at the University of Missouri-Kansas City. Kansas City, MO. April, 2013.
- **Zachary L. Sebo** and Leonard Dobens. "The Trbl pseudokinase domain is necessary for C/EBP transcription factor turnover." SEARCH Symposium at the University of Missouri-Kansas City. Kansas City, MO. April, 2012.