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Education

1998-02 BA - University of Colorado, Boulder, CO. graduation date: Winter 2002

2005-11 PhD - University of Utah, Salt Lake City, UT. PhD, Dept. of Human Genetics, Laboratory of Dr. Carl S. Thummel. graduation date: Fall 2011

Research experience

2000-05 Undergraduate Research Assistant/ Technician / Lab Coordinator - University of Colorado Dept. of MCDB, Laboratory of Dr. Min Han

2005-11 Ph.D. candidate - University of Utah, Salt Lake City , UT, Dept. of Human Genetics, Laboratory of Dr. Carl S. Thummel

2011-2017 Postdoc – Carnegie Institute Dept. of Embryology, Laboratory of Dr. Allan C. Spradling

2017- present Assistant Professor UTSouthwestern Department of Physiology

Publications

Kniazeva M, **Sieber MH**, McCauley S, Zhang K, Watts JL, and Han M. (2003). Suppression of the ELO-2 FA elongation activity results in alterations of the fatty acid composition and multiple physiological defects, including abnormal ultradian rhythms, in *Caenorhabditis elegans*. **Genetics** 163, 159-169.

Kniazeva M, Crawford QT, **Sieber M**H, Wang CY, and Han M (2004). Monomethyl branched-chain fatty acids play an essential role in *Caenorhabditis elegans* development. **PLoS Biology** 2, E257.

Tucker M, **Sieber MH**, Morphew M, and Han M. (2005). The *Caenorhabditis elegans aristaless* orthologue, *alr-1*, is required for maintaining the functional structural integrity of the amphid sensory organs. **Molecular Biology of the Cell** 16, 4695-4704.

Sieber MH and Thummel CS (2009). **(Cover article)** The *DHR96* nuclear receptor controls triacylglycerol homeostasis in *Drosophila*. **Cell Metabolism 10**, 481-490.
(Commentary by) Kuhnlein, R.P. (2009). Putting the brakes on dietary fat breakdown. **Cell Metabolism** 10(6), 438-439.

Sieber MH and Thummel CS (2012) Coordination of triacylglycerol and cholesterol homeostasis by *DHR96* and the *Drosophila LipA* homolog *magro* **Cell Metabolism** 15(1), 122-127.

Tennessen JM, Bertagnolli NM, Evans J, **Sieber MH,** Cox J, Thummel CS (2014) Coordinated metabolic transitions during *Drosophila* embryogenesis and the onset of aerobic glycolysis **G3** 4(5), 839-850.

Sieber MH and Spradling AC. (2015) Steroid signaling establishes a female metabolic state and regulates SREBP to control oocyte lipid accumulation. **Current Biology** 25(8), 993-1004.

Sieber MH, Thomsen MB, and Spradling AC. (2016) Electron transport chain remodeling by GSK3 during oogenesis connects nutrient state to reproduction. **Cell** 164(3), 420-432.

Sieber MH, Spradling AC (2017) "The role of Metabolic states in Development and Disease" **Current Opinions in Genetics and Development** 45, 58-68

Awards and Fellowships

2000-01 University of Colorado Health Science Cancer research fellowship.
2001-02 University of Colorado, Boulder, undergraduate research fellowship
2007 University of Utah Molecular Biology Program retreat poster award
2008 NIDDK Keystone Symposia scholarship
2008-11 NIH Developmental Biology training grant fellowship
2010 Keystone Symposia conference assistant
2010 Poster prize 2nd place- National *Drosophila* Research Conference
2012-15 Jane Coffin Child Fund postdoctoral fellowship
2016 Carnegie Postdoctoral Innovation and Excellence (PIE) award

Institutional Service

2005 Molecular Biology Program student recruiting committee co-coordinator
2006-07 Molecular Biology Program 1st year graduate student orientation organizer
2006-10 University of Utah Molecular Biology Program Steering Committee student representative.
2007 Dept. of Human Genetics student advisory committee.
2013 Organizer of the Carnegie Institution Department of Embryology Centennial symposium.
2014-15 Organizer – Carnegie Postdoctoral and Student Invited Speaker Series
2016 Postdoc Co-organizer – The Allied Genetics Conference, Physiology and Growth platform session

Invited Talks and Posters

2007 *Drosophila* Research Conference - Poster title: "Roles for the *DHR96* nuclear receptor in lipid metabolism and the starvation response"
2008 Keystone Symposium *Nuclear Receptors: Orphan Brothers* - Poster title: "Regulation of Lipid Homeostasis by the *Drosophila* DHR96 Nuclear Receptor"
2009 **Platform talk**- *Drosophila* Research Conference. Title: "Regulation of lipid homeostasis by the *Drosophila* DHR96 nuclear receptor"
2009 **Platform talk**- University of Utah Bioscience Symposium. Title: "Regulation of lipid homeostasis by the *Drosophila* DHR96 nuclear receptor" **(One student selected per year)**
2010 Keystone Symposium *Nuclear Receptors: Development, Physiology and Disease* - Poster title: "Regulation of lipid homeostasis by the *Drosophila* DHR96 nuclear receptor"
2010 *Drosophila* Research Conference - Poster title: "Regulation of lipid homeostasis by the *Drosophila* DHR96 nuclear receptor"
2011 **Platform talk** - *Drosophila* Research Conference title: "Coordinate Regulation of Intestinal Triacylglycerol and Cholesterol Homeostasis in *Drosophila"*
2011 CSHL 76th Annual Symposium on Quantitative Biology Poster title: "Coordinate Regulation of Intestinal Triacylglycerol and Cholesterol Homeostasis in *Drosophila*
2014 **Platform talk** - *Drosophila* Research Conference title: "Steroid Signaling and *SREBP* coordinate germline lipid accumulation with dietary nutrients in *Drosophila"*
2014 **Invited talk**- region ASCB meeting on the Biology of Lipids title: "Steroid

signaling and *SREBP* coordinate germline lipid accumulation with the establishment of a female metabolic state."

2014 **Platform talk** - CSHL Germ cell meeting. title "Steroid signaling and *SREBP* coordinate germline lipid accumulation with the establishment of a female metabolic state."

2016 **Platform Talk** - The Allied Genetics Conference(GSA) Title: "Electron Transport Chain Remodeling by GSK3 during Oogenesis Connects Nutrient State to Reproduction"

2016 **Platform Talk** – CSHL Germ Cell meeting Title: "Electron Transport Chain Remodeling by GSK3 during Oogenesis Connects Nutrient State to Reproduction"

Teaching

2007 Teaching Assistant - BIOL 2030, Genetics, Dept. of Biology, University of Utah

2008 Guest lecturer (3 lectures) - BIOL 2030, Genetics, Dept. of Biology, University of Utah

2012 Carnegie summer undergraduate lecture series

2012-13 Co-instructor (*Drosophila* Section) NIH course on Stem Cell Biology (NIH campus)

2012-2014 Volunteer Carnegie Bioeyes Science outreach program

Students mentored

Katherine Lumbsden (2004)
Jim Evans (2005)
Jyoti Misra (2009)
Rebecca Sommer (2010)
Jui-ko Chang (2012)
Weiren Liu (2013)
Christina Simbolon (2013)
Michael Thomson (2014)
Liang-Yu Pang (2015)

References

Allan Spradling Ph.D. (Post-doctoral advisor)
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E-mail: spradling@ciwemb.edu

Carl S. Thummel Ph.D.(Thesis advisor)
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