

CURRICULUM VITAE LAUREN ADELE FOWLER

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EDUCATION

Postdoctoral Fellow	Nutritional Epidemiology, 2019-present – Nutrition and Obesity Research Center, University of Alabama at Birmingham, Birmingham, AL
Ph.D.	Biology (Nutrition), April 2019 – Department of Biology University of Alabama at Birmingham, Birmingham, AL
B.S.	Marine Biology, December 2005 – Department of Biology Auburn University, Auburn, AL

CERTIFICATIONS

CIRTL Fellow	Teaching Certification, Spring 2013 - Center for the Integration of Research, Teaching, and Learning (CIRTL) at the University of Alabama at Birmingham
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PREVIOUS EMPLOYMENT

Senior Aquarist – McWane Science Center (October 2008-May 2012) Birmingham, AL

- Coordinated daily care of all aquatic animals
- Testing of water parameters to maintain water quality at acceptable levels
- Assisted in maintaining current aquarium systems, plumbing, and filtration equipment, as well as construction of new exhibits
- Supervised junior aquarists, interns, and volunteers
- Educated public about aquarium species and marine science
- Responsible for ordering, acquisition, and quarantine of new animals

RESEARCH INTERESTS

- Nutrition and its effects on obesity and the metabolic syndrome
- Ethnic disparities associated with the development of Type 2 Diabetes
- Statistical applications in nutrition and obesity studies
- Nutritional epidemiology
- Nutritional requirements for growth and reproduction of aquatic organisms
- Utilization of the zebrafish model system for translational studies in human nutrition and metabolic health

GRADUATE RESEARCH EXPERIENCE - UAB

- *Laboratory of Dr. Stephen Watts* (dissertation advisor), Department of Biology (Spring 2012-Spring 2019). Research focused on aquatic animal nutrition and the use of aquatic animals in translational research for nutrition and obesity.
- *Laboratory of Dr. Barbara Gower* (primary advisor for the pre-doctoral T32 fellowship), Nutrition and Obesity Research Center (Fall 2015-present). Conducted secondary analyses of data from clinical research studies and large cohort studies evaluating ethnic disparities in Type 2 Diabetes and its associated co-morbidities.

UNDERGRADUATE RESEARCH EXPERIENCE - Department of Biological Sciences, Auburn University.

- *Laboratory of Dr. Nanette Chadwick* (Spring 2005 – Summer 2005). Conducted experiments relating to the physiological ecology and metabolism of anemones and clownfish.
- *Laboratory of Dr. Jack Feminella* (Spring 2004 – Spring 2005). Assisted with graduate students' experiments relating to aquatic stream ecology and invertebrate community diversity studies.

MANUSCRIPTS

In Preparation

1. **Fowler, L.A.**, Judd, S., & Gower, B.A. The Impact of Ethnicity on the Insulin-Hypertension Association in Older Adults: a REGARDS Study. Projected Journal: TBD
2. **Fowler, L.A.** & Gower, B.A. (2019). Amount of VAT mass Affects the Accuracy of Proxy Indices of Insulin Sensitivity in African American and Caucasian American Adults. Projected Journal: Diabetes Care.

3. **Fowler, L.A.**, Dennis, L.N., Barry, R.J., Davis, J.L., Powell, M.L., & Watts, S.A. Sex-Specific Differences in the Development of Obesity in a Zebrafish Model. Projected Journal: PLOS ONE
4. **Fowler, L.A.**, Powers, A.D., Williams, M.B., Barry, R.J., Davis, J.L., Powell, M.L., D'Abramo, L.R., & Watts, S.A. Effect of Saturated Fat Source on Weight Gain, Nutrient Allocation, and Lipid Metabolism in Zebrafish. Projected Journal: TBD
5. Yuan, Y., Jensen, K., Bru, S., Lawrence, A., Powell, M., Barry, J., **Fowler, L.A.**, and Watts, S.A. Feed Intake as an Estimate of Attractibility in Shrimp. Projected Journal: TBD

Submitted

1. **Fowler, L.A.**, Dennis, L.N., Dawson, J.A., Barry, R.J., Davis, J.L., Powell, M.L., Yuan, Y., Williams, M.B., Makowsky, R., & Watts, S.A. Dietary Intake of Both n-6:n-3 Fatty Acid Ratio and Total Lipid Positively Influences Outcomes in Adiposity and Reproductive Health in a Zebrafish Model.

Accepted

1. **Fowler, L.A.**, Williams, M.B., Dennis-Cornelius, L.N., Barry, R.J., Powell, M.L., Yuan, Y., & Watts, S.A. (2019, in press). Evaluation of Commercial and Laboratory Diets on Growth, Body Composition, and Reproduction in the Zebrafish *Danio rerio*. *Zebrafish*.
2. **Fowler, L. Adele***, Williams, Michael B.*, D'Abramo, Louis R., & Watts, Stephen A. (2018, in press). *Zebrafish Nutrition in Moving Forward in Zebrafish in Biomedical Research: Biology, Husbandry, Diseases, and Research Applications*. S. Cartner and J. Eisen, Editors. *Indicates co-first authorship.

Published

1. **Fowler, L. Adele**, Dennis, Lacey N., Barry, R. Jeff, Powell, Mickie L., Watts, Stephen A., & Smith Jr., Daniel L. (2016). *In Vivo* Determination of Body Composition in Zebrafish (*Danio rerio*) by Quantitative Magnetic Resonance. *Zebrafish*, 13(3), 170-176. [PMID 26974510].
2. Paul, Latoya T., **Fowler**, Lauren A., Barry, Robert J., & Watts, Stephen A. (2013). Evaluation of the *Moringa oleifera* leaf as a dietary micronutrient replacement." *Journal of Nutritional Ecology and Food Research*, 1, 322-328. [PMID 4998195]

PRESENTATIONS AND PUBLISHED ABSTRACTS

1. **Lauren A. Fowler**, Jeannie Tay, Laura L.T. Goree, Amy M. Goss, Nikki C. Bush, W. Timothy Garvey, and Barbara A. Gower. The Influence of Visceral Adipose Tissue Accumulation on the Accuracy of Surrogate Indices for Insulin Sensitivity. Oral Presentation. American Diabetes Association 2017 Annual Meeting, San Diego, CA.
2. **Lauren A. Fowler**, Jeannie Tay, Laura L.T. Goree, Amy M. Goss, Nikki C. Bush, W. Timothy Garvey, and Barbara A. Gower. The Influence of Visceral Adipose Tissue Accumulation on the Accuracy of Surrogate Indices for Insulin Sensitivity. Oral and Poster Presentations. UAB Diabetes Research Day 2017, Birmingham, AL.
3. **L. Adele Fowler**, Lacey N. Dennis, James L. Davis, Mickie L. Powell, Robert J. Barry, John A. Dawson, Yuan Yuan, Michael B. Williams, and Stephen A. Watts. The Influence of Sex on Fat Mass Accumulation in a Zebrafish Model. Poster Presentation. 8th Aquatic Animal Models of Human Disease 2017 Annual Meeting, University of Alabama Birmingham, Birmingham, AL.
4. **Fowler, Lauren A.**; Robert Makowsky; James L. Davis, and Stephen A. Watts. Visualization of Dietary Lipid Effects on Adiposity in Zebrafish with Linear Modeling and Contour Plots. Poster Presentation. Alabama Academy of Science 2016 Annual Meeting, University of North Alabama, Florence, AL.
5. **Fowler, L.A.**; Dennis, L.N.; Barry, R.J.; Powell, M.L.; Watts, S.A.; and Smith, D.L. *In vivo* Determination of Body Composition in the Zebrafish *Danio rerio* by Quantitative Magnetic Resonance. Poster Presentation. Obesity Week 2015 Annual Meeting, Los Angeles, CA.
6. Watts, S.A.; Dennis, L.N.; **Fowler, L.A.**; Yuan, Y.; Barry, R.J.; and Powell, M.L. Evaluation of Commercial Diets in the Zebrafish *Danio rerio*. Aquaculture America 2015, New Orleans, LA.
7. **Fowler, L.A.**; Dennis, L.N; Powell, M.L; Dawson, J.A; Barry, R.J; Davis, J.L; Gower, B.A; and Watts, S.A. Effects of Varying Levels and Ratios of Dietary Lipids on Growth, Body Composition, and Reproductive Success in the Zebrafish *Danio rerio*. Oral Presentation. Society for Integrative and Comparative Biology 2015 Annual Meeting, West Palm Beach, FL.
8. **Fowler, L.A.**; Dennis, L.N; Powell, M.L; Dawson, J.A; Barry, R.J; Davis, J.L; Gower, B.A; and Watts, S.A. Effects of Dietary Lipid Composition on Weight Gain and Body Composition in a Zebrafish Model. Poster Presentation. Obesity Week 2014 Annual Meeting, Boston, MA.
9. **L. A. Fowler**, L.T Paul, and S.A. Watts. Evaluation of *Moringa oleifera* as a short-term nutrient source for animal health. Poster Presentation. Society for Integrative and Comparative Biology 2014 Annual Meeting, Austin, TX.
10. **L. A. Fowler**. Evaluation of *Moringa oleifera* as a short-term nutrient source for animal health. Oral Presentation. Graduate Student Research Days 2014, UAB.

11. **L. Adele Fowler**, Latoya Paul, and Steve Watts. 2013. Evaluation of *the Moringa oleifera* leaf as a dietary micronutrient replacement in the zebrafish *Danio rerio*. Oral Presentation. Alabama Academy of Sciences, Samford University, AL.

GRANTS AND TRAVEL AWARDS

- **Travel Award**, \$1,000. UAB Diabetes Research Center (2017). To present at the American Diabetes Association Annual Meeting in San Diego, CA.
- **Travel Award**, \$100. American Society of Nutrition's Emerging Leader Poster Competition at ASN's 2017 Annual Meeting in Chicago, IL.
- **Research Grant**, \$250. Alabama Academy of Science (2015).
- **Travel Award**, Society for Integrative and Comparative Biology (2014 and 2015). Charlotte Magnum Award for Student Housing Support at the SICB 2014 and 2015 Annual Meetings.
- **Travel Grant**, \$540. UAB Department of Biology (Spring 2015). For presenting at the 2015 SICB Annual Meeting in West Palm Beach, FL.

FELLOWSHIPS

- **NIH T32 Postdoctoral Fellowship** (UAB NORC 5T32DK062710) (2019 – present). Competitive award that provides research training opportunities in the fields of nutrition and obesity through the Nutrition and Obesity Research Center at UAB. Primary mentor: Barbara Gower.
- **NIH T32 Predoctoral Fellowship** (UAB NORC 5T32HL105349). Renewed for 4 years (2013-2017). Competitive award that provides research training opportunities in the fields of nutrition and obesity. Primary mentor: Barbara Gower.

HONORS, AWARDS, AND ACHIEVEMENTS

- 2018 Outstanding PhD Student of the Year, Department of Biology, UAB.
- 2017 Selected Finalist in the American Society for Nutrition's Emerging Leader Poster Competition at the EB/ASN 2017 Meeting. **Placed 2nd** in the Experimental Animal Models Research Interest Group.
- **2014 and 2016** Recipient of the "Creativity is a Decision" Award (Graduate Student Division). Sponsored by UAB NORC and Pfizer.
- 2014 Graduate Student Research Days, UAB - **1st Place in Session**.

- 2014 Outstanding Master's Student of the Year, Department of Biology, UAB.

WORKSHOPS AND SHORT COURSES

- **CCTS Research Training Program for Clinical Research**
University of Alabama at Birmingham, October 4-November 14, 2016
- **UAB Microbiome Resource Workshop**
University of Alabama at Birmingham, September 14, 2016
- **Short Course on Mathematics in Obesity Research**
University of Alabama at Birmingham, June 13-17, 2016
- **8th Annual Mouse Metabolic Phenotyping Consortium Course**
Isotope Tracers in Metabolic Research
Case Western Reserve University, Cleveland, Ohio, November 16-20, 2015
- **Short Course on Strengthening Causal Inference in Behavioral Obesity Research**
University of Alabama at Birmingham, July 20-24, 2015.

TEACHING EXPERIENCE

- **Co-Instructor**, Department of Biology, UAB.
 - *BY 655/755 Biometry* (Spring 2018). Introductory course for graduate students involving the application and implementation of statistical analyses in the biological sciences using RStudio Statistical Software.
- **Graduate Teaching Assistant**, Department of Biology, UAB. Courses include:
 - *BY 261L Introduction to Microbiology Laboratory* (Taught in Fall 2012, Spring 2013, and Fall 2018). Coursework includes bacterial culture, staining and inoculation techniques, and the use of biochemical tests to identify unknown cultures.
 - *BY 116L Human Physiology Laboratory* (Taught in Fall 2017, Summer 2018, and Spring 2019). Introductory course to discuss and test specific aspects of human physiology, often using themselves as test subjects. Coursework utilizes computer-based experiments conducted with the PhysioEx 7.0 and BIOPAC programs.
- **Undergraduate Teaching Assistant**, Department of Biology, Auburn University.
BIOL 1001 Introduction to Biology Laboratory (Spring 2004). Introductory biology course for non-majors.

PROFESSIONAL SOCIETIES

- World Aquaculture Society
- Alabama Academy of Sciences
- Society of Integrative and Comparative Biology
- The Obesity Society
- American Association for the Advancement of Science
- Phi Sigma
- American Society of Nutrition

SERVICE

Academic and Professional

- **Peer Reviewer**, *Aquaculture Journal* (2018).
- **Judge**, UAB Undergraduate Summer Expo (2013 and 2017). Judged posters for undergraduate summer research projects.
- **Volunteer Organizer**, 8th Aquatic Animal Models of Human Disease Conference (2017). Registration and AV Support.
- **Weekly Contributor**, Obesity and Energetics E-Newsletter published through UAB NORC and the UAB Office of Energetics (2016-present).
- **Student Volunteer**, Obesity Week (2015). Session Room Monitor.
- **Speaker Host**, UAB Department of Biology Seminar Series (Spring 2015). Hosted seminar speaker Dr. Nanette Chadwick from Auburn University.
- **Poster Presenter**, Darwin Day, UAB (2015 and 2018). Sponsored by the Department of Biology.
- **Judge**, Gorgas Paper Competition, Alabama Academy of Science (2015). Judged high school science projects for scholarship program.
- **Volunteer Organizer**, UAB (Fall 2012-Fall 2017). Assisted with set-up and hosting of biology department picnic, which is held annually for student recruitment.
- **Volunteer Organizer**, Earth Day, UAB (2013). Assisted with set-up and representation of department of biology research at UAB.
- **Mentor**, UAB (Fall 2013- Spring 2014). Mentorship of high school student from Jefferson County International Baccalaureate School through research work-study program.
- **Mentor**, Department of Biology (Stephen Watts' lab), UAB (2012-present). Mentor for multiple undergraduate and junior graduate students in the Watts lab.

Community Service

- **Mentor**, Lovelady Center, Birmingham, AL. (Fall 2016-Spring 2017). Participated in program that taught science to children at the Lovelady Women's Shelter.
- **Mentor**, Avondale Elementary, Birmingham, AL. (Fall 2013). Participated in pilot program that assisted 5th grade students with development of science fair projects.
- **Volunteer Counselor**, Birmingham Crisis Center, Birmingham, AL. (2010-2012). Telephone counselor for crisis line.