

CURRICULUM VITAE

KAYLA ASHLYN LEWIS, BS

PERSONAL INFORMATION

Gender: Female

Race: Caucasian

Date of Birth: April 5, 1993

Place of Birth: Lancaster, South Carolina, USA

Country of Citizenship: United States of America

Work/School Address: MT412, 1720 11th Avenue South | Birmingham, AL 35223

Office: (205) 934-2355

EDUCATION

<u>Institution</u>	<u>Dates Attended</u>	<u>Discipline</u>	<u>Degree</u>	<u>Year Conferred</u>
<i>University of Alabama at Birmingham</i> Birmingham, Alabama, United States	2014- Present	Molecular Biology GPA: 4.0	Ph.D.	Expected 2019
<i>The University of Alabama</i> Tuscaloosa, Alabama, United States	2011-2014	Microbiology GPA: 3.81	B.S.	May 2014

PROFESSIONAL EXPERIENCE

University of Alabama at Birmingham, School of Nursing 5/2017 – Present

Gulf States Young Breast Cancer Survivors Network

Center for Disease Control and Prevention (CDC PH-15-111-071).

Role: *Research Assistant*

Duties: Manage website resources for the SurviveAL program, write blog posts directed towards the every day obstacles encountered by young breast cancer survivors, and analyze program evaluations associated with the annual workshop and support groups.

Principal Investigator:

Karen Meneses, PhD, RN

MT 502H1

1720 11nd Avenue South

Birmingham, AL 35223

Phone: (205) 996-7038

University of Alabama at Birmingham, School of Nursing 5/2017 – Present

Think Well: Healthy Living to Improve Cognitive Function

Susan G. Komen, North Central Alabama Affiliate (CGA-2015-AL100-UNSN73-00011).

Role: *Research Assistant*

Duties: Create evidence-based program on healthy living to improve cognitive function for breast cancer survivors focusing on nutrition, physical activity, stress reduction, and sleep.

Coordinate with community leaders to tailor the program to each community. Deliver programs to communities in urban and rural areas of Alabama. Collect program evaluations.

Principal Investigator:

Karen Meneses, PhD, RN

MT 502H1

1720 2nd Avenue South

Birmingham, AL 35294-1210

Phone: (205) 996-7038

University of Alabama at Birmingham, School of Nursing

5/2017 – Present

Young Breast Cancer Survivorship Network

Women's Breast Health Fund, Community Foundation of Greater Birmingham.

(No Number Assigned).

Role: *Research Assistant*

Duties: Conduct support groups for young breast cancer survivors. Create educational content to deliver at support groups. Coordinate facility rental and catering for events. Assist with the Annual Young Breast Cancer Survivorship Network Workshops. Assist with content and speaker selection for workshops. Assist with venue rental, catering, and organization of program for the workshop. Collect program evaluations and conduct data analysis. Assist with annual report.

Principal Investigator:

Karen Meneses, PhD, RN

MT 502H1

1720 2nd Avenue South

Birmingham, AL 35294-1210

Phone: (205) 996-7038

University of Alabama at Birmingham, Department of Biology

8/2014—4/2017

Introductory Biology for Majors (BY123)

Department of Biology

Role: *Laboratory Instructor*

Duties: Design and deliver lectures to enrolled undergraduate students. Facilitate and aid students in laboratory experiments. Generate and proctor laboratory exams, including practical stations.

Supervisor:

Alan Whitehead, MS

CH 275

1300 University Blvd.

Birmingham, AL 35233

Email: storm@uab.edu

Birmingham Southern College, Department of Biology

8/2016-12/2016

Organismal Biology (BI115)

Department of Biology

Role: *Laboratory Instructor*

Duties: Design and deliver lectures to enrolled undergraduate students. Facilitate and aid students in laboratory experiments, including a fetal pig dissection. Generate and proctor laboratory exams, including practical stations. Mentor an undergraduate teaching assistant.

Supervisor:

Andy Gannon, PhD

Department of Biology

900 Arkadelphia Rd

Birmingham, AL 35254

Email: agannon@bsc.edu

RESEARCH INTERESTS

Keywords: cancer prevention, breast cancer, secondary prevention, molecular biology epigenetics, health disparities, underserved populations, phytochemicals, metastatic potential

FUNDING

GTDR15329376 (Meneses/Demark-Wahnefried)

05/2017 – 08/2018

Susan G. Komen National Award

\$37,500

Graduate Training in Breast Cancer Disparities Research

The purpose of this training grant is to establish a training program for graduate students seeking careers dedicated to understanding and eliminating disparities in breast cancer outcomes across population groups.

Role: Trainee/Recipient

Graduate Teaching Assistant (Department of Biology)

05/2016—05/2017

UAB Department of Biology

\$21,000

The purpose of this funding source is to train graduate students as instructors at the college level, and to provide funds for tuition and living expenses for a PhD student in the Department of Biology

Role: Pre-doctoral student

RESEARCH TRAINING

Title & Description

Year(s)

Responsible Conduct of Research

2017

UAB Graduate School

Birmingham, Alabama

- This training program is a 6-module online CITI training program that covers research, ethics, and society, research misconduct, data management, plagiarism, authorship, and basics of the IRB processes. There was also an 8-hour in-person training session involving case studies and faculty facilitators.

**Using Animals for Teaching, Testing, and Research/ Species
Training/ Rodent Surgery Training**

2017

UAB Learning System

Birmingham, Alabama

- This training program certifies individuals to work with animals, specifically mice. These protocols include 8 modules on the appropriate techniques and ethical requirements for working with animals in research

RESEARCH PROJECTS

Title

Year(s)

The effects of SAHA and EGCG on metastatic potential in triple negative breast cancer

2014 – Present

(Dissertation Research)

Role: Graduate Student Investigator

- This dissertation examines the effects of SAHA, a clinical HDAC inhibitor, and EGCG, a green tea polyphenol that acts as a DNMT inhibitor, on metastatic potential in triple negative breast cancer. This study utilizes three triple negative breast cancer cell lines, one ER-positive cell line, and a non-cancerous control. Different genes involved in epithelial to mesenchymal transition are being investigated in addition to phenotypic migration, invasion, and mammosphere-formation assays.
- *Dissertation Committee Members:* Trygve O. Tollefsbol, PhD (Chair); Stephen Watts, PhD; Melissa Harris, PhD; David Schneider, PhD; Upender Manne, PhD.

Stress response and age-related memory retention study

2012-2014

Role: Undergraduate Investigator

- This was undergraduate research conducted at The University of Alabama under the mentorship of Dr. Matthew Jenny. My project involved *in vitro* work of the MTF-1 transcription factor involved in metal homeostasis and oxidative stress; zebrafish culture and maintenance; maze-training zebrafish to analyze age-related memory retention

Cancer immunotherapy research

2010

Role: Summer Research Intern

- This was a summer research project conducted at the Medical University of South Carolina under the mentorship of Dr. Natalie Sutkowski of the Hollings Cancer Institute. My project involved performing DNA sequence homology for antibodies specific for nucleolin, a tumor antigen

HONORS AND AWARDS

<u>Title</u>	<u>Year(s)</u>
CIRTL Associate Center for the Integration of Teaching, Research and Learning, University of Alabama at Birmingham	2017
Department of Biology Travel Grant University of Alabama at Birmingham	2016
Graduate Student Research Days, Oral Presentation, 2nd Place University of Alabama at Birmingham	2016
Outstanding Graduate Student Department of Biology, University of Alabama at Birmingham	2016
<i>Magna Cum Laude</i> The University of Alabama	2014
University Honors The University of Alabama	2014
National Merit Scholarship Recipient The University of Alabama	2011-2014
Presidential Scholarship Recipient The University of Alabama	2011-2014
President's List/Dean's List The University of Alabama	2011-2014

MENTORING

Jason Shryock University of Alabama at Birmingham An undergraduate mentored in cell culture and basic laboratory protocols	2016
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PROFESSIONAL ASSOCIATIONS

<u>Title & Description</u>	<u>Year(s)</u>
<i>Member</i> , Phi Kappa Phi, Graduate Student Honors Society	2015-present
<i>Member</i> , UAB Graduate Student Association	2014-present

BIBLIOGRAPHY

Publications in Peer-Reviewed Journals

1. **Kayla A. Lewis**, Trygve O. Tollefsbol. (2017). The influence of an epigenetics diet on the cancer epigenome. *Epigenomics*. doi:10.2217/epi-2017-0077
2. Kendra Royston, Neha Udayakumar, **Kayla Lewis**, Trygve Tollefsbol. (2017). A novel combination of Withaferin A and Sulforaphane inhibits epigenetic machinery, cellular viability and induces apoptosis of breast cancer cells. *Int. J. Mol. Sci.* doi:10.3390/ijms18051092
3. **Kayla Lewis**, Trygve Tollefsbol. (2016). The regulation of the telomerase reverse transcriptase subunit through epigenetic mechanisms. *Front. Genet.* doi: 10.3389/fgene.2016.00083

Publications in Peer-Reviewed Journals (In Preparation)

4. Jacqueline B. Vo, Timiya S. Nolan, Jennifer Bail, **Kayla A. Lewis**, Silvia Gisiger-Camata, Karen Meneses. (In Preparation). Think Well: Addressing cognitive changes among breast cancer survivors through healthy living.
5. Silvia Gisiger-Camata, Timiya S. Nolan, Jacqueline B. Vo, Jennifer Bail, **Kayla A. Lewis**, Karen Meneses. (In Preparation). Supporting young breast cancer survivors: Lessons learned from a community-based program.

Peer-Reviewed Abstracts

1. **Kayla A. Lewis**, Trygve O. Tollefsbol. (2017). The effects of SAHA and EGCG on metastatic potential in triple negative breast cancer. Abstract accepted as a poster presentation to the Tenth American Association for Cancer Research Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved.
2. **Kayla A. Lewis**, Jacqueline B. Vo, Silvia Gisiger-Camata, Karen Meneses. (2017). Engaging cancer survivors to deliver cognitive changes education to improve survivorship. Abstract accepted as a poster presentation to the UAB Community Engagement Institute.
3. **Kayla A. Lewis**, Trygve O. Tollefsbol. (2017). The effects of SAHA and EGCG on metastatic potential in triple negative breast cancer. Abstract accepted as a poster presentation to the UAB Comprehensive Cancer Center Annual Retreat, Birmingham, AL

SCIENTIFIC PRESENTATIONS

National

1. **Kayla A. Lewis**, Trygve O. Tollefsbol. (2016). The effects of SAHA and EGCG on the expression of miR-221/222 in triple negative breast cancer. Poster presentation at the AICR Annual Conference, Washington, D.C.

Local

2. **Kayla A. Lewis**, Trygve O. Tollefsbol. (2016). Plant-derived breast cancer treatments. Oral presentation at UAB Graduate Student Research Days, Birmingham, AL.

TEACHING EXPERIENCE

Academic

Title

Year(s)

Laboratory Instructor

2014-2017

Introductory Biology for Majors (BY123)

Department of Biology, University of Alabama at Birmingham

<i>Laboratory Instructor</i> Organismal Biology (BI115) Department of Biology, Birmingham Southern College	2015
<i>Guest Lecturer</i> Cell Biology (BY330) Department of Biology, University of Alabama at Birmingham Lecture content: Surface area-to-volume ratio of cells; dimensional analysis for laboratory calculations	2017
<i>Guest Lecturer</i> Introduction to Microbiology (BY260) Department of Biology, University of Alabama at Birmingham Lecture content: Structure and function of different portions of prokaryotic cells; classification of prokaryotic cells based on nutrient and oxygen requirements	2017
<i>Guest Lecturer</i> Biology for Non-Majors (BY101) Department of Biology, University of Alabama at Birmingham Lecture content: Basics of cancer; how cancers are diagnosed	2017
<i>Guest Lecturer</i> Smart Chat The South Carolina Governor's School for Science and Mathematics Lecture content: Career options beyond medical school for college biology majors to a group of high school seniors	2016
<i>Tutor</i> Advanced Molecular Genetics (BY433/633) Department of Biology, University of Alabama at Birmingham	2015-present

Community-Based Health Education Seminars

<u>Presentation</u>	<u>Year(s)</u>
Think Well: Healthy Living to Improve Cognitive Function Guin, Marion County, Alabama	2017

PROGRAM DEVELOPMENT/PLANNING

<u>Presentation</u>	<u>Year(s)</u>
Think Well IV Think Well: Healthy Living to Improve Cognitive Function Madison & Marion Counties, Alabama Seminars (2)	2017 – Present

“Get Connected” Support Groups
Young Breast Cancer Survivors Network
Birmingham, Alabama

2017

TEACHING TOOL DEVELOPMENT

<u>Title & Description</u>	<u>Year(s)</u>
Think Well: Healthy Living to Improve Cognitive Function University of Alabama at Birmingham School of Nursing Curriculum, PowerPoint Presentation, Tipsheet, Blog Posts, Website	2017
Young Breast Cancer Survivors Network Gulf States Breast Cancer Survivors Network Resources, Blog Posts, Social Media Handles	2017

COMMUNITY SERVICE

<u>Title</u>	<u>Year(s)</u>
Susan G. Komen Race for the Cure Birmingham, Alabama	2017
National Survivors’ Day Susan G. Komen North Central Alabama	2017
Volunteer Church of the Highlands Worship Team Birmingham, Alabama	2015-present
Volunteer Church of the Highlands Small Groups Birmingham, Alabama	2015-present
After School Mentor Holt Elementary School Holt, Alabama	2014
Volunteer Boys and Girls Club of West Alabama Alberta, Alabama	2011-2013