

# HOPE KATHERINE LIMA

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## **EDUCATION**

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### **THE OHIO STATE UNIVERSITY**

*November 2020*

#### **Dietetic Internship, ISPP for PhDs**

Distance internship conducted with Winthrop University and Levine Children's Hospital in Rock Hill, SC and Charlotte, NC from May 2019 to September 2020

### **NORTH CAROLINA STATE UNIVERSITY**

*May 2018*

#### **PhD in Nutrition Science**

**Dissertation:** Optimizing Medical Nutrition for Exclusively Human Milk Fed Infants

*Major advisor:* April Fogleman, PhD, RD, IBCLC

### **NORTH CAROLINA CENTRAL UNIVERSITY**

*May 2016*

#### **Bachelor of Science in Family and Consumer Sciences**

ACEND Accredited Didactic Program in Dietetics

### **NORTH CAROLINA STATE UNIVERSITY**

*December 2014*

#### **Master of Science in Animal Science**

#### **Master of Science in Nutrition Science**

**Thesis:** The Role of Maternal Nutrition on Fetal Development and Programming

*Major advisors:* Jack Odle, PhD and Lin Xi, PhD

### **WEST VIRGINIA WESLEYAN COLLEGE**

*May 2012*

#### **Bachelor of Science in Biology**

Concentration in Ecology

## **CERTIFICATIONS AND LICENSURE**

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- American Heart Association – Basic Life Support **2022**
- FARE Certificate of Training in Pediatric Food Allergy **2022**
- Registered Dietitian; CDR #86152120 **2020**
  - SC License 2119
- International Board Certified Lactation Consultant **2018**
  - L-135916

## **ACADEMIC APPOINTMENTS & EXPERIENCE**

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### **Assistant Professor of Human Nutrition**

*August 2018 – Present*

Winthrop University, Department of Human Nutrition

*Assistant professor responsible for undergraduate and graduate education (in-person and online) and directing a research laboratory focused on breastfeeding, human milk composition, and maternal and child health.*

**Research Assistant / Teaching Assistant***January 2015 – May 2018*

North Carolina State University, Department of Food, Bioprocessing, & Nutrition Science  
*Conducted research under Dr. April Fogleman assessing the impact of pasteurization techniques on the nutritional, immunological, and bacteriological components of human milk. Assisted in undergraduate nutrition courses with grading and lecturing.*

**Research Assistant / Teaching Assistant***January 2013 – December 2014*

North Carolina State University, Department of Animal Science  
*Conducted research in the lab of Dr. Jack Odle and Dr. Lin Xi focusing on impact of maternal nutrition on fetal development and programming. Assisted in undergraduate animal science and nutrition courses with grading and lecturing.*

**TEACHING EXPERIENCE**

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**WINTHROP UNIVERSITY****Undergraduate Courses**

Introduction to Nutrition Lab – NUTR 222<sup>†</sup>  
Food & Nutr. in Cultural Perspective – NUTR 370  
Nutr. Education Theory & Practice – NUTR 380  
Undergraduate Research in Dietetics – NUTR 400<sup>#</sup>  
Nutrition through the Life Span – NUTR 421<sup>†</sup>  
Food Science Principles – NUTR 423  
Community Nutrition – NUTR 428<sup>†</sup>  
Thesis Research – HONR 450H<sup>#</sup>  
Research in Dietetics – NUTR 500<sup>#</sup>

**Graduate Courses**

Nutr. Biochem. & Metabolism – NUTR 521<sup>\*†</sup>  
Introduction to Medical Lactation – NUTR 535<sup>†</sup>  
Medical Lactation Therapy – NUTR 536<sup>†</sup>  
Clinical Lactation Practicum – NUTR 590<sup>#†</sup>  
Seminar in Food & Nutrition – NUTR 600<sup>\*†</sup>  
Graduate Dietetic Research – NUTR 601<sup>#</sup>  
Global Nutrition – NUTR 611  
Maternal and Child Nutrition – NUTR 620<sup>\*†</sup>  
Vitamin & Mineral Metabolism- NUTR 624<sup>\*</sup>  
Thesis – NUTR 695/696<sup>#</sup>

**CENTRAL CAROLINA COMMUNITY COLLEGE****Undergraduate Courses**

Principles of Biology Laboratory – BIO 110L  
Biological Chemistry – BIO 180  
Biological Chemistry Laboratory – BIO 180L

**NORTH CAROLINA STATE UNIVERSITY****Undergraduate Courses**

Animal Nutrition – ANS 230  
Animal Nutrition Laboratory – ANS 231  
Agricultural and Life Sciences Seminar – ALS 398H  
Maternal and Infant Nutrition – NTR 510

*# - Independent Research/Practicum Course; \* - Online Course; † - Developed or Major Revision*

**SELECT PUBLICATIONS & WRITTEN MATERIALS**

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*Published*

Collins RA, Lima HK. Surgical performance of En Bloc Total Capsulectomy breast implant removal with uninterrupted breastfeeding. Journal of Human Lactation. 2022. DOI: 10.1177/08903344221127195

Butler C, Matsumoto A, Rutherford C, **Lima HK**. Comparison of the effectiveness of four commercial DNA extraction kits on fresh and frozen human milk samples. *Methods and Protocols*. 2022. 5(63). DOI: 10.3390/mps5040063

Nulty AK, **Lima HK**, Chauvenet C, Thompson AL. Maternal, Child, and Family Nutrition. In: Kriby RS and Verbiest S ed. *Kotch's Maternal and Child Nutrition*. 4<sup>th</sup> ed. Burlington, MA:Jones & Bartlett Learning;2022:381-414.

**Lima HK**, Vogel K, Hampel D, Wagner-Gillespie MK, Fogleman AD. Effect of light exposure during pumping and Holder pasteurization on vitamin concentrations in human milk. *Journal of Human Lactation*. 2020. DOI: 10.1177/0890334420906828

**Lima HK**, Vogel K, Wagner-Gillespie MK, Wimer C, Dean LL, Fogleman AD. Nutritional comparison of raw, Holder pasteurized, and shelf-stable human milk products. *Journal of Pediatric Gastroenterology and Nutrition*. 2018. 67(5):649-653. DOI: 10.1097/MPG.0000000000002094

**Lima HK**, Xi L, Jacobi SK, Man C, Sommer J, Flowers W, Blikslager A, Gonzales L, Odle J. Supplementation of maternal diets with docosahexaenoic acid and methylating vitamins impacts growth and development of fetuses from malnourished gilts. *Current Developments in Nutrition*. 2017. 1(12). DOI: 10.3945/cdn.117.001958.

**Lima HK**, Wagner-Gillespie MK, Perrin MT, Fogleman AD. Bacteria and bioactivity in Holder pasteurized and shelf-stable human milk. *Current Developments in Nutrition*. 2017. 1:e001438

**Lima HK**, Cohen RS, Young TE. Supplemental feedings for high-risk preterm infants. *Journal of the American Medical Association Pediatrics*. 2016. 170(11):1112.

Cooke JD, Cavender HM, **Lima HK**, Grover LM. Antidepressants that inhibit both serotonin and norepinephrine reuptake impair long-term potentiation in hippocampus. *Psychopharmacology*. 2014. 231(23):4429-41.

#### *In Review*

**Lima H**, Perrin M, Wagner-Gillespie M. Human Milk Options. In: *HMBANA Best Practices*.

#### *In Preparation*

**Lima HK** and Mattos S. Assessing the landscape of lactation education: results of an international survey.

Ganio Molinari M, Licata A, Culp R, Brown M, **Lima HK**. Provider perceptions of roles in providing lactation education, support, and medical management in primary care settings.

Licata A, Sawyer S, Carney K, Rice S, **Lima HK**. Point-of-selection nutrition education improves student food choices and perceptions of campus dining

## **SELECT ABSTRACTS & PRESENTATIONS**

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### *INVITED TALKS / LECTURES*

**Provider Perceptions of IBCLCs in Primary Care Settings** *May 2022*  
*Children's Hospital of Philadelphia Ambulatory Breastfeeding Consortium*

**What is an Elimination Diet and When Should a Nursing Mother Try One?** *May 2022*  
*Bowling Green State University Seminar Guest Lecture*

<b>Implications of Eating Disorders on Pregnancy and Lactation</b> <i>Memphis Area Lactation Consultant Association Quarterly Meeting</i>	<i>April 2022</i>
<b>Inclusivity in Lactation</b> <i>North Carolina WIC Quarterly Training</i>	<i>March 2022</i>
<b>Improving Access to Human Milk and Support of Human Milk Feeding</b> <i>North Carolina State University Seminar Series</i>	<i>November 2021</i>
<b>Women’s Healthcare Professionals Panel</b> <i>Carolina BEBEs</i>	<i>November 2021</i>
<b>Survey Development Methods</b> <i>Winthrop University Research Explorations</i>	<i>November 2021</i>
<b>Introduction to Lactation</b> <i>Rock Hill Lifelong Learning Organization</i>	<i>November 2021</i>
<b>Developing Skills for Reading and Evaluating Research</b> <i>Appalachian Breastfeeding Network Webinar Series</i>	<i>January 2021</i>
<b>Supporting Lactation as a Dietitian</b> <i>North Carolina Central University Dietetic Internship Training</i>	<i>August 2020</i>
<b>Nutrition During Lactation</b> <i>North Carolina WIC Quarterly Training</i>	<i>March 2020</i>
<b>Eating Disorder Treatment</b> <i>The Ohio State University Dietetic Internship Spring Orientation</i>	<i>January 2020</i>
<b>Evidence Based Donor Human Milk Feeding and Best Practices for Pumping</b> <i>Appalachian Breastfeeding Network Webinar Series</i>	<i>January 2020</i>
<b>Approaching Supplementation: Options Outside of Formula and Returning to Work</b> <i>North Carolina WIC Quarterly Training</i>	<i>November 2019</i>
<b>Latch Assessment and Management of Low Milk Supply: The Role of an IBCLC</b> <i>Carolina Birth Junkies Regional Meeting</i>	<i>September 2019</i>
<b>Current Trends in Breastfeeding</b> <i>Charlotte Dietetic Association Regional Meeting</i>	<i>September 2019</i>
<i>CONFERENCE ORAL PRESENTATIONS</i>	
<b>The Impact of Multiple Freeze/Thaw Cycles on the Nutritional and Bacteriological Components of Human Milk</b> <i>Choice J and Lima HK. OLCA Annual Breastfest Conference; Dublin, OH</i>	<i>May 2022</i>
<b>Provider Perceptions of IBCLCs in Primary Care Settings</b> <i>Ganio Molinari M and Lima HK. OLCA Annual Breastfest Conference; Dublin, OH</i>	<i>May 2022</i>
<b>Inclusivity in Lactation</b> <i>Lima HK. OLCA Annual Breastfest Conference; Dublin, OH</i>	<i>May 2022</i>

**Nutritional, Immunological, and Bacteriological Differences Between Pasteurized Human Milk Products** *May 2022*

Lima HK. *OLCA Annual Breastfest Conference; Dublin, OH*

**What is an Elimination Diet and When Should a Nursing Mother Try One?** *May 2022*

Lima HK. *OLCA Annual Breastfest Conference; Dublin, OH*

**Breastfeeding and Prevention of Chronic Disease** *May 2022*

Lima HK. *OLCA Annual Breastfest Conference; Dublin, OH*

**The Importance of Exclusive Breastfeeding** *April 2022*

Lima HK. *South Carolina WIC State Conference; virtual*

**Supporting Breastfeeding in the Early Weeks** *August 2021*

Lima HK. *Carolina Birth Junkies Annual Conference; Rock Hill, SC*

**What is an Elimination Diet and When Should a Nursing Mother Try One?** *March 2021*

Lima HK. *Lactation Unlocked Conference; virtual*

**Lactation Support for Parents with Anorexia Nervosa** *March 2021*

Lima HK and Evans K. *GOLD Lactation Online Conference; virtual*

**Validation of Methodology for Use in Detection of Bovine Milk Adulteration in Human Milk Samples** *January 2021*

Dawson L and Lima HK. *SCINBRE Symposium, 3-Minute Madness; Columbia, SC*

**Evidence-based Donor Human Milk Feeding: Is All Donor Human Milk the Same?** *May 2019*

Lima HK. *OLCA Annual Breastfest Conference; Dublin, OH*

**The Impact of Food and Nutrition on Health and Chronic Disease: From Birth to Death** *March 2019*

Lima HK, Evans K, McDonald J, Thompson L. *The World of Food: Interdisciplinary Perspectives on What We Eat and Grow; Rock Hill, SC*

**Nutrients, Bacteria, and Bioactivity in Holder Pasteurized and Shelf-Stable Human Milk** *March 2018*

Lima HK. *HMBANA Conference; Denver, CO*

**How Does Donor Milk Banking Support Breastfeeding?** *March 2016*

Lima HK and Fogleman AD. *United States Breastfeeding Committee Conference; Washington, D.C.*

#### *POSTER PRESENTATIONS*

**Society for Nutrition and Education Behavior** *October 2022*

McClain M, Arnold N, Roy M, Farris A, Welborn A, Sastre L, Lima HK, Nunnery D. Medical provider perceptions of nutrition education and referral to registered dietitians for pregnant clients.

**Showcase of Undergraduate Research and Creative Endeavors** *May 2022*

Butler C, Matsumoto A, Rutherford C, Lima HK. Comparison of commercial DNA extraction kits for use on human breastmilk.

**Showcase of Undergraduate Research and Creative Endeavors** *May 2022*

Choice J, Lima HK. Impact of multiple freeze thaw cycles on nutritional integrity, microbial content, and bioactivity of human milk.

**International Lactation Consultant Association Annual Conference** *July 2021*

Ganio Molinari M, Culp R, Brown M, Lima HK. Assessing healthcare provider perceptions and roles: A survey on lactation practices in primary care settings.

**North Carolina Academy of Nutrition and Dietetics Regional Meeting** *April 2021*

Butler C, Matsumoto A, Rutherford C, Lima HK. Comparison of commercial DNA extraction kits for use on human breastmilk.

**Summer Undergraduate Research Experience Symposium** *January 2021*

Choice J, Lima HK. Impact of multiple freeze thaw cycles on nutritional integrity, microbial content, and bioactivity of human milk.

**Showcase of Undergraduate Research and Creative Endeavors** *May 2020*

Garrett E, Evans K, Guenther C, Lima HK. Implications of the gut-brain-microbiome axis and stress response for maladaptive eating behavior: A literature review.

**South Carolina Academy of Nutrition and Dietetics Conference** *April 2020*

Sawyer S, Carney K, Rice S, Lima H, and Licata A. Point-of-selection nutrition education improves student food choices and perceptions of campus dining.

**South Carolina Academy of Nutrition and Dietetics Conference** *April 2020*

Garrett E, Evans K, Guenther C, Lima HK. Implications of the gut-brain-microbiome axis and stress response for maladaptive eating behavior: A literature review.

**North Carolina Academy of Nutrition and Dietetics Conference** *March 2020*

Ganio Molinari M, Culp R, Brown M, Van Scyoc S, Arnold N, Sastre L, Nunnery D, and Lima HK. Assessing healthcare provider perceptions and roles: Validation of a survey on lactation practices.

**South Carolina INBRE Symposium** *January 2020*

Dawson L, Matsumoto A, Rutherford C, Henderson C, Perrin M, and Lima H. Validation of methodology for use in detection of bovine milk adulteration in human milk samples.

**Summer Undergraduate Research Experience Symposium** *December 2019*

Dawson L, Matsumoto A, Rutherford C, Henderson C, Perrin M, and Lima H. Validation of methodology for use in detection of bovine milk adulteration in human milk samples.

**The World of Food: Interdisciplinary Perspectives on What We Eat and Grow** *March 2019*

Lima HK, Vogel K, Hampel D, Wagner-Gillespie M, Fogleman AD. Effect of light exposure during pumping and Holder pasteurization on vitamin concentrations in human milk.

**North Carolina Lactation Consultant Association Annual Conference** *April 2018*

Lima HK, Vogel K, Hampel D, Wagner-Gillespie M, Fogleman AD. Effect of light exposure during pumping and Holder pasteurization on vitamin concentrations in human milk.

**North Carolina State University Graduate Research Symposium** *April 2018*

Lima HK, Wagner-Gillespie M, Hubble C, Vogel K, Perrin MT, Fogleman AD. Effect of Holder pasteurization and retort processing on bioactive components and nutritional content of human milk.

**North Carolina Lactation Consultant Association Annual Conference** *July 2017*

Lima HK, Wagner-Gillespie M, Hubble C, Vogel K, Perrin MT, Fogleman AD. Effect of Holder pasteurization and retort processing on bioactive components and nutritional content of human milk.

**Experimental Biology Conference**

**March 2017**

Lima HK, Wagner-Gillespie M, Hubble C, Vogel K, Perrin MT, Fogleman AD. Effect of Holder pasteurization and retort processing on bioactive components and nutritional content of human milk.

**Swine in Biomedical Research Conference**

**May 2014**

Lima HK, Jacobi SJ, Man C, Walker K, Sommer J, Flowers W, Blikslager A, Gonzales L, Xi L, Odle J. Effects of choline, b-vitamins and docosahexaenoic acid (DHA) supplementation on biological, molecular and genomic characteristics of intra-uterine growth retardation (IUGR) in a feed restricted swine model.

**Experimental Biology Conference**

**March 2014**

Lima HK, Jacobi SJ, Man C, Walker K, Sommer J, Flowers W, Blikslager A, Gonzales L, Xi L, Odle J. Effects of methylating vitamins and docosahexaenoic acid (DHA) supplementation on intrauterine growth retardation (IUGR) in a feed restricted swine model.

**WV Academy of Sciences STaR Symposium**

**April 2012**

Lima HK, Sullivan J. Male body size, male-male dominance and courtship displays effect female mate choice in *Melospiza undulatus* (budgerigars).

**West Virginia Wesleyan Animal Behavior Symposium**

**April 2011**

Lima HK, Minkemeyer VM, Johnson C. The effect of enrichment on activity levels of captive *Canis latrans* (coyote).

**WV-INBRE Symposium**

**August 2010**

Lima HK, Cooke JD, Grover LM. The effect of antidepressant medications on brain-derived neurotrophic factor signaling and synaptic plasticity.

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## **GRANTS**

*Funded*

**Effect of Single Ingredient and Blend Galactagogue Supplements on Increasing Milk Supply in Lactating Women Experiencing Diagnosed or Perceived Low Milk Supply**, Funded by the Academy of Nutrition and Dietetics McCormick Science Institute Research Award (May 2022-May 2024) (\$5,000.00), Ongoing, PI Hope Lima

**Effect of Single Ingredient and Blend Galactagogue Supplements on Increasing Milk Supply in Lactating Women Experiencing Diagnosed or Perceived Low Milk Supply**, Funded by the Winthrop University Internal Biomedical Research Fund (May 2022-May 2023) (\$5,000.00), Ongoing, PI Hope Lima, Co-PI Noelle Brinkley, MS Student

**WE at Winthrop**, Funded by the Winthrop University College of Arts and Sciences (May 2022 – February 2023) (\$1,100.00), Complete, PI Joshua Kirvin with Co-PI Hope Lima

**The Impact of MB-EAT on Physiological Stress as Measured by Urinary Cortisol**, Funded by Winthrop University Research Council (May 2020 - June 2021) (\$3,000.00), Complete, PI Ashley Licata with Co-Investigators Hope Lima and Jessie Hoffman

**Commission on Dietetic Registration Faculty Fellowship**, Funded by the Academy of Nutrition and Dietetics Foundation (May 2019 – September 2020) (\$10,000.00), Complete, PI Hope Lima

**Bovine Adulteration of Human Milk**, Funded by the Winthrop University Internal Biomedical Research Fund (May 2019-May 2020), (\$1,100.00) Complete, PI Hope Lima

*Submitted*

**Effect of Single Ingredient and Blend Galactagogue Supplements on Increasing Milk Supply in Lactating Women Experiencing Diagnosed or Perceived Low Milk Supply**, McCormick Science Institute (May 2023-May 2026) (\$10,000 renewable for 2 additional years at \$10,000), PI Hope Lima

*Rejected*

**Determining the Optimal Duration of a Cow's Milk Protein Elimination Diet in Breastfeeding Moms**, Academy of Nutrition and Dietetics Foundation (\$1,100.00), PI Hope Lima with Co-PI Wan Shen

**Determining the Optimal Duration of a Cow's Milk Protein Elimination Diet in Breastfeeding Moms**, Winthrop University Internal Biomedical Research Fund (\$5,000.00), PI Hope Lima

**Impact of Multiple Freeze/Thaw Cycles on Nutritional Integrity, Microbial Content, and Bioactivity of Human Milk**, Academy of Nutrition and Dietetics Foundation Ann A. Hertzler Memorial Research Grant (\$15,000.00)

**The Role of Lysozyme, Lactoferrin, and sIgA in the Activation of TLR4**. National Institutes of Health Ruth L. Kirschstein National Research Service Award (\$113,028.00)

## **SERVICE**

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Winthrop University Faculty Conference Secretary	2022 - Present
Interdisciplinary Studies Conference Planning Team	2021 – 2023
Human Nutrition Library Liaison	2021 – Present
College of Arts and Sciences Diversity and Inclusion Committee	2020 – Present
• Co-Chair 2022 – Present	
Undergraduate Research Advisory Committee	2020 – Present
Journal Human Lactation Expert Reviewer	2020 – Present
College of Arts and Sciences Faculty Assembly Secretary	2020 – 2022
Appalachian Breastfeeding Network SC Representative	2018 – Present
Health Professions Connection	2019 – Present
MS in Human Nutrition Self Study Coordinator	2019-2020
International Breastfeeding Journal Expert Reviewer	2019 – Present
Winthrop University College of Arts and Sciences Research Committee	2018-2020
Chemical Hygiene Officer – Human Nutrition Lab	2018 – 2021

## **AWARDS & HONORS**

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<b>CDR Faculty Fellow</b>	2019 – 2020
Academy of Nutrition and Dietetics Foundation	
<b>North Carolina Breastfeeding Coalition Representative</b>	2016
United States Breastfeeding Committee Conference	
<b>Experimental Animal Nutrition RIS Poster Award Recipient</b>	2013
Experimental Biology Conference	

**Senior Researcher of the Year: Biology** 2012  
Department of Biology, West Virginia Wesleyan College

**WV Academy of Sciences Undergraduate Poster Competition** 2012  
WV Academy of Sciences Annual Conference

### **PROFESSIONAL AFFILIATIONS**

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International Lactation Consultant Association	2019 – Present
Appalachian Breastfeeding Network	2018 – Present
South Carolina Breastfeeding Coalition	2018 – Present
Academy of Nutrition and Dietetics	2014 – Present
North Carolina Breastfeeding Coalition	2015 – 2019
American Society for Nutrition	2013 – Present