

Kevin W. Huggins, Ph.D.

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Education

- 1999 – 2003 Postdoctoral Fellow, Department of Pathology and Laboratory Medicine, University of Cincinnati College of Medicine, Cincinnati, OH
- 1993 – 1999 Wake Forest University, Winston-Salem, NC
Degree: Ph.D. (Molecular and Cellular Pathobiology)
Major Professor: John S. Parks, Ph.D.
- 1987 – 1992 University of North Florida, Jacksonville, FL
Degree: B.S. (Biology)

Professional Experience

- 2012 – present Coordinator, Nutrition Science Undergraduate Program, Department of Nutritional Sciences, Auburn University
- 2010 – present Associate Professor, Department of Nutrition, Dietetics, and Hospitality Mgmt, Auburn University
- 2003 – 2010 Assistant Professor, Department of Nutrition and Food Science, Auburn University, AL
- 1992 – 1993 Chemistry Laboratory Instructor, Department of Natural Sciences, University of North Florida, Jacksonville, FL

2. Assigned Duties/Allocation of Time

Year	Teaching (%)	Research (%)	Outreach (%)	Service (%)
2023	64.2	30.8	0	5
2022	64.2	30.8	0	5
2021	64.2	30.8	0	5
2020	64.2	30.8	0	5
2019	64.2	30.8	0	5
2018	64.2	30.8	0	5
2017	60	35	0	5
2016	60	35	0	5
2015	60	35	0	5
2014	56	39	0	5
2013	56	39	0	5
2012	56	39	0	5
2011	56	39	0	5
2010	50	45	0	5
2009	60	35	0	5
2008	60	35	0	5
2007*	35	55	0	10
2005-2006	40	55	0	5
AVERAGE	57.0	37.7	0	5.3

*denotes the shift from academic year to calendar year appointments.

Areas of Expertise:

Teaching: general nutrition, nutritional genomics, research methods, and biochemical and molecular techniques. Research: metabolic diseases, phospholipase A₂ action and regulation, dietary lipid absorption, mechanisms of insulin resistance, insulin signal transduction, lipoprotein metabolism, oxidative stress and inflammatory gene expression and metabolism in animal models of obesity, type 2 diabetes, and transgenic/knockout mice.

Research:

The candidate's research is in the area of diabetes. Specifically, the candidate's research is focused on understanding the molecular mechanisms of insulin resistance. This condition is characterized by the peripheral tissues inability to respond to insulin. This condition is central to the development of type 2 diabetes. The candidate's research group is studying this process through dietary and molecular approaches (see Section 4B.5a)

Teaching:

Courses taught:

NTRI 2000: Nutrition and Health

NTRI 2010: Basic Sports Nutrition

NTRI 4820: Macronutrients

NTRI 4930: Undergraduate Research and Study

NTRI 5830/6830: Nutritional Genomics

NTRI 6620: Sports Nutrition

NTRI 7520/7526: Macronutrients

NTRI 7050/7056: Methods of Research/Distance Education Methods of Research

NTRI 7990/8990: Research Thesis/Dissertation

NTRI 8970: Advanced Topics in Nutrition – Nutritional Genomics, Atherosclerosis, Lipid Metabolism, Sports Nutrition, Longevity

3. HONORS AND AWARDS

2018 Auburn University Program Assessment Excellence Award (Nutrition Science)

2011 Named to Editorial Board of *Frontiers in Nutrigenomics*

2000 – 2003 National Research Service Award, National Institutes of Health

1998 – 1999 Wake Forest University Graduate Fellowship

Membership in Professional Organizations

Member, American Society of Nutrition

Member, International Society for the Study of Fatty Acids and Lipids

Member, American Society for Biochemistry and Molecular Biology

4. SCHOLARLY CONTRIBUTIONS

A. TEACHING

1. Courses Taught

* denotes graduate level teaching

Term and Year	Course	Lecture Hours	Laboratory Hours	Enrollment
Spring 2023	NTRI 4820: Macronutrients	3	0	39
	*NTRI 7520/7520 D01: Macronutrients (team-taught)	2	0	11
	NTRI 5830: Nutritional Genomics	3	0	30
Fall 2022	NTRI 2010: Basic Sports Nutrition	3	0	38
	NTRI 7050/7050 D01: Methods of Research	2	0	9

Summer 2022	NTRI 2010: Sports Nutrition	3	0	6
	*NTRI 8970: Atherosclerosis	3	0	6
Spring 2022	NTRI 4820: Macronutrients	3	0	46
	*NTRI 7520/7520 D01: Macronutrients (team-taught)	2	0	22
	NTRI 5830/6830: Nutritional Genomics	3	0	31
Fall 2021	NTRI 2010: Basic Sports Nutrition	3	0	35
	NTRI 7050: Methods of Research	2	0	25
Summer 2021	NTRI 6620: Sports Nutrition	3	0	11
	NTRI 2010: Basic Sports Nutrition	3	0	15
Spring 2021	NTRI 4820: Macronutrients	3	0	44
	*NTRI 7520/7526: Macronutrients (team- taught)	2	0	27
	NTRI 5830: Nutritional Genomics	3	0	46
Fall 2020	NTRI 2010: Basic Sports Nutrition	3	0	43
	NTRI 7050/7056: Methods of Research	2	0	21
Summer 2020	NTRI 8970/8976: Adv. Topics in Nutrition – Advanced Sports Nutrition	3	0	9
Spring 2020	NTRI 4820: Macronutrients	3	0	69
	*NTRI 7520/7526: Macronutrients (team- taught)	2	0	13
	NTRI 5830/6830: Nutritional Genomics	3	0	46
Fall 2019	NTRI 2010: Basic Sports Nutrition	3	0	50
	NTRI 7050/7056: Methods of Research	2	0	12
Summer 2019	NTRI 2000: Nutrition and Health	3	0	11
	NTRI 8970/8976: Adv. Topics in Nutrition	3	0	6
Spring 2019	NTRI 4820: Macronutrients	3	0	57
	*NTRI 7520/7526: Macronutrients (team- taught)	2	0	20
	NTRI 5830: Nutritional Genomics	3	0	49
Fall 2018	NTRI 2010: Basic Sports Nutrition	3	0	47
	NTRI 7050/7056: Methods of Research	2	0	16
Summer 2018	NTRI 6620: Sports Nutrition	3	0	9
	NTRI 8970/8976: Adv. Topics in Nutrition – Advances in Nutrigenetics	3	0	8
Spring 2018	NTRI 4820: Macronutrients	3	0	57
	*NTRI 7520/7526: Macronutrients (team- taught)	2	0	17
	NTRI 5830: Nutritional Genomics	3	0	34
Fall 2017	NTRI 2000: Nutrition and Health	3	0	153
	NTRI 2010: Basic Sports Nutrition	3	0	47
	NTRI 7050/7056: Methods of Research	2	0	15
	NTRI 4980: Undergraduate Research	0	2	1
Summer 2017	*NTRI 7050/7056: Methods of Research	2	0	9
	*NTRI 8970/8976: Adv. Topics in Nutrition – Molecular Sports Nutrition	3	0	11

Spring 2017	NTRI 4820: Macronutrients	3	0	39
	*NTRI 7520/7526: Macronutrients (team-taught)	3	0	19
	NTRI 5830: Nutritional Genomics	3	0	30
Fall 2016	NTRI 2000: Nutrition and Health	3	0	248
	NTRI 2010: Basic Sports Nutrition	3	0	35
	*NTRI 7050/7056: Methods of Research	2	0	17
	*NTRI 7980: Nonthesis Research	0	1	1
	*NTRI 7986: Nonthesis Research	0	1	1
	*NTRI 8990: Research and Dissertation	0	1	1
Summer 2016	NTRI 2000: Nutrition and Health	3	0	6
	NTRI 8970/8976: Advanced Topics	3	0	6
Spring 2016	NTRI 4820: Macronutrients	3	0	47
	*NTRI 7520/7526: Macronutrients (team-taught)	3	0	22
	NTRI 5830: Nutritional Genomics	3	0	38
	NTRI 4980: Undergraduate Research	0	2	2
	NTRI 7960: Special Problems	0	2	1
Fall 2015	NTRI 2000: Nutrition and Health	3	0	178
	NTRI 2010: Basic Sports Nutrition	3	0	34
Summer 2015	NTRI 2000: Nutrition and Health	3	0	17
	NTRI 5620/6620: Sports Nutrition	3	0	13
Spring 2015	NTRI 4820: Macronutrients	3	0	67
	*NTRI 7520: Macronutrients (team-taught)	3	0	12
Fall 2014	NTRI 2010: Basic Sports Nutrition	3	0	48
	NTRI 4980: Undergraduate Research	0	1	2
	NTRI 5830: Nutritional Genomics	3	0	12
Summer 2014	NTRI 2000: Nutrition and Health	3	0	18
	*NTRI 6620: Sports Nutrition	3	0	9
	*NTRI 7050: Methods of Research (team-taught)	1	0	5
Spring 2014	NTRI 4820: Macronutrients	3	0	66
	NTRI 7520: Macronutrients (team-taught)	3	0	10
	NTRI 4980: Undergraduate Research	0	1	1
Fall 2013	NTRI 2010: Basic Sports Nutrition	3	0	64
	NTRI 4090: Professional Issues in Dietetics and Nutrition	1	0	6
	*NTRI 7050: Methods of Research	2	0	9
Summer 2013	NTRI 2000: Nutrition and Health	3	0	21
	NTRI 5620/6620: Sports Nutrition	3	0	10
Spring 2013	NTRI 4820: Macronutrients	3	0	58
	*NTRI 7520: Macronutrients (team-taught)	3	0	10
Fall 2012	NTRI 2010: Basic Sports Nutrition	3	0	34
	*NTRI 7050/7056: Methods of Research	2	0	6
Summer 2012	NTRI 2000: Nutrition and Health	3	0	15
	NTRI 4980: Undergraduate Research	0	2	1

	*NTRI 7520: Macronutrients (team-taught)	2	0	9
Spring 2012	NTRI 2000: Nutrition and Health	3	0	137
	*NTRI 8990: Research and Dissertation	1	0	1
Fall 2011	NTRI 2010: Basic Sports Nutrition	3	0	35
	*NTRI 7050: Methods of Research	2	0	13
	*NTRI 7056: Methods of Research (Distance)	2	0	6
	*NTRI 8990: Research and Dissertation	0	1	1
Summer 2011	NTRI 2000: Nutrition and Health	3	0	27
	*NTRI 7050: Methods of Research	2	0	8
Spring 2011	NUFS 2000: Nutrition and Health	3	0	161
	*NUFS 7520: Macronutrients (team-taught)	2	0	13
	NUFS 4980: Undergraduate Research	0	2	1
	*NUFS 8990: Research and Dissertation	0	1	1
Fall 2010	NUFS 2000: Nutrition and Health	3	0	142
	NUFS 2000: Nutrition and Health	3	0	142
	NUFS 4980: Undergraduate Research	0	2	1
	*NUFS 8990: Research and Dissertation	0	1	1
Summer 2010	NUFS 2000: Nutrition and Health	3	0	38
	NUFS 8990: Research and Dissertation	0	1	1
Spring 2010	NUFS 2000: Nutrition and Health	3	0	142
	NUFS 2000: Nutrition and Health	3	0	142
	*NUFS 7050: Methods of Research	2	0	6
	*NUFS 8990: Research and Dissertation	0	3	1
Fall 2009	NUFS 2000: Nutrition and Health	3	0	142
	NUFS 2000: Nutrition and Health	3	0	142
	*NUFS 7930: Advanced Independent Study	3	0	1
Summer 2009	NUFS 2000: Nutrition and Health	3	0	44
	*NUFS 7050/7056: Methods of Research	2	0	8
	*NUFS 8990: Research and Dissertation	0	2	2
Spring 2009	NUFS 2000: Nutrition and Health	3	0	142
	*NUFS 8990: Research and Dissertation	0	2	2
Fall 2008	NUFS 2000: Nutrition and Health	3	0	142
	NUFS 2000: Nutrition and Health	3	0	142
	NUFS 4980: Undergraduate Research	0	3	1
	*NUFS 8990: Research and Dissertation	0	2	1
Summer 2008	NUFS 2000: Nutrition and Health	3	0	21
	NUFS 4980: Undergraduate Research and Study	0	2	1
	*NUFS 8970: Advanced Topics in Nutrition – Nutritional Genomics	2	0	4
	*NUFS 8990: Research and Dissertation	0	3	3
Spring 2008	NUFS 2000: Nutrition and Health	3	0	140
	*NUFS 7050/7056: Methods of Research	2	0	11
	*NUFS 8990: Research and Dissertation	0	2	2
Fall 2007	NUFS 2000: Nutrition and Health	3	0	139
		0	2	1

	NUFS 4980: Undergraduate Research and Study *NUFS 8990: Research and Dissertation	0	2	3
Summer 2007	NUFS 2000: Nutrition and Health *NUFS 7990: Research and Thesis *NUFS 8990: Research and Dissertation	3 0 0	0 1 2	42 1 2
Spring 2007	* NUFS 7050/7056: Methods of Research *NUFS 7990: Research and Thesis *NUFS 8990: Research and Dissertation	2 0 0	0 1 1	17 1 1
Fall 2006	NUFS 2000: Nutrition and Health *NUFS 7990: Research and Thesis	3 0	0 1	134 1
Summer 2006	*NUFS 7280: Laboratory Research Methods in Nutrition and Food Science (team-taught) *NUFS 7990: Research and Thesis *NUFS 8970: Advanced Topics in Nutrition – Nutritional Genomics	1 0 2	1 1 0	5 1 9
Spring 2006	NUFS 2000: Nutrition and Health *NUFS 7050/7056: Methods of Research (team-taught) *NUFS 7990: Research and Thesis	3 1 0	0 0 1	141 9 1

2. Graduate Students Completed

a. Major Professor (Doctoral)

<u>Name</u>	<u>Thesis Title</u>	<u>Year</u>
Olivia Altonji	The effect of omega-3 fish oil supplementation on cognition and neuroinflammation in a mouse model of Western diet induced obesity	2022
Donny Lamb	The effects of resistance training with or without peanut protein supplementation on skeletal muscle and strength adaptations in older, untrained individuals	2020
Yueru Li	The protective effects of stearidonic acid on adipogenesis and neurotoxicity	2016
Current Position:	Associate Professor – Ocean University of China	
Yinghui Rong	The Effects of Stearidonic Acid on 3T3-L1 Adipocytes	2012

Current Position: Postdoctoral Fellow, State University of New York

Juan Yang Role of Calcium-Independent Phospholipase A₂ in Insulin-Stimulated Glucose Uptake in 3T3-L1 Adipocytes 2009

Current Position: Research Associate, School of Public Health, University of California at Berkeley, Berkeley, CA

Lance Ratcliff Resting Metabolism and Metabolic Responses to Solid and Liquid Meals in Sedentary and Exercising College-Age Males 2008

Current Position: Dean, Health Sciences and Educations, Truman State University, Kirksville, MO.

b. Major Professor (Master of Science)

<u>Name</u>	<u>Thesis Title</u>	<u>Year</u>
Katherine Kinnaird	The Role of Vitamin D in Post-Stroke Rehabilitation: A Narrative Review (Non-Thesis)	2023
Kennedy Fitzgerald	Omega-3 polyunsaturated fatty acids and mild and traumatic brain injury (Non-Thesis)	2022
Patrick Goodwin	Nutrient Timing and its Implication on Athletic Performance (Non-Thesis)	2021
Larissa Hatch	Fruits, Vegetables and, New Orleans Community Gardens (Non-Thesis)	2021
Simone Weingarten	Omega-3 Fatty Acids and Traumatic Brain Injury (Non-Thesis)	2019
Sarah Cooper	Western Dietary Patterns and the Implications for the Human Gut Microbiota (Non-Thesis)	2019
Emily Dodd	The Ketogenic Diet and Inflammatory Disease (Non-Thesis)	2018
Carly Davis	Current Thoughts on Early Life High Sugar Exposure	2017

	and Fetal Programing of the Metabolic Syndrome (Non-Thesis)	
Courtney Kurtz	Immunomodulatory Effects of Vitamin D in Multiple Sclerosis Patients (Non-Thesis)	2017
Brandon Willingham	Vitamin D and Athletic Performance (Non-Thesis)	2014
Emily Jenkins	The Effect of Ketogenic Diets on Athletic Performance (Non-Thesis)	2013
Meghan Phillips	Do branched-chain amino acids decrease muscle breakdown following exercise? (Non-Thesis)	2013
Mary Kate Kirby	A Review of the Effects of Creatine Supplementation In Brain and Muscle (Non-Thesis)	2012
Kathryn E. Colbert	Influence of Dietary Starches Differing in Glycemic Index on Pro-Oxidant and Anti- Oxidant Gene Expression and Insulin Sensitivity in a Mouse Model	2007

c. Committee Member

<u>Name</u>	<u>Degree (Department)</u>	<u>Year</u>
Kristen Smith	PhD (Nutrition, Dietetics, & Hosp. Mgmt.)	2022
Xiaowen Ding	PhD (Nutrition, Dietetics, & Hosp. Mgmt.)	2022
Rongzi Li	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt.)	2021
Claire Leis	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2021
Andrea Hebert	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2021
Katherine Fields	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2020
Lisa Clarke	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2020
Paije Nobles	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2020
Abbigail Hickey	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2020
Kara McCracken	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2020
Lauren Woodie	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt.)	2019
Bulbul Ahmed	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt.)	2019
Yijing Qi	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt.)	2019
Emily Thompson	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2019
Camille Harris	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2018
Janae Pyle	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2018
Dorkas Mukigi	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt.)	2018

Emily Kilgo	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2018
Marina Sycheva	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2017
Christopher Wyatt	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2017
Lauren Lynch	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2017
Talia Tornabene	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2017
Vishal Kothari	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt)	2016
Yuwen Luo	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt)	2016
Chen Zheng	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt)	2016
Kathryn Heidt	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2016
Katie Vines	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2016
Shaddra Rege	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt)	2016
Yijing Qi	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2016
Maleah Holland	Ph.D. (Kinesiology)	2016
Taylor Rodick	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2014
Andrea Carter	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2014
Ty-Anne Tench	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2014
Gauri Desai	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt)	2014
Guang Ren	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt)	2014
Maja Ahuja	Ph.D. (Pharmacal Sciences)	2013
Derris Burnett	Ph.D. (Animal Sciences)	2013
Kristen E. Rowland	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2013
Seul Gi Park	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt)	2013
Manuj Ahuja	Ph.D. (Pharmacal Sciences)	2013
Sruthi Kumar	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2013
Kariharan Thiruchelvan	Ph.D. (Pharmacal Sciences)	2012
Denali Lord	M.S. (Nutrition, Dietetics, & Hosp. Mgmt)	2012
Desiree Saunders	Ph.D. (Anatomy, Physiology, & Pharmacology)	2012
Albert Zhang	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt)	2012
Chenchen Yu	Ph.D. (Nutrition, Dietetics, & Hosp. Mgmt)	2012
Frank Newell	M.S. (Nutrition, Dietetics, and Hosp. Mgmt.)	2011
Paul Harrington	M.S. (Nutrition and Food Science)	2009
Senthilkumar S. Karuppagounder	Ph.D. (Pharmacal Sciences)	2009
Yi-feung Du	Ph.D. (Biological Sciences)	2009
Brian Shonesy#	Ph.D. (Pharmacal Sciences)	2009
Subramaniam Uthayathas	Ph.D. (Pharmacal Sciences)	2008
Desiree Saunders	M.S. (Nutrition and Food Science)	2008
Parameshwaran	Ph.D. (Pharmacal Sciences)	2008
Kodeeswaran#		
Shalini Kaushik	M.S. (Nutrition and Food Science)	2008
Carmen Teodorescu#	Ph.D. (Nutrition and Food Science)	2007
Catrina Sims	Ph.D. (Pharmacal Sciences)	2007
Julie T. Baker	M.S. (Nutrition and Food Science)	2007
Maryanne G. Gragg	M.S. (Nutrition and Food Science)	2007
Jason Patten	M.S. (Nutrition and Food Science)	2007
Brenda White	M.S. (Nutrition and Food Science)	2007
Nayana Wijayawardhane	Ph.D. (Pharmacal Sciences)	2007

James Papizan	M.S. (Nutrition and Food Science)	2007
Ling Tang	Ph.D. (Animal Sciences)	2006
Carmen Teodorescu	M.S. (Nutrition and Food Science)	2005
Lance Ratcliff	M.S. (Nutrition and Food Science)	2004

d. Outside Reader

<u>Name</u>	<u>Degree (Department)</u>	<u>Year</u>
Melissa Rumbley	Ph.D. (Kinesiology)	2022
Sharay Setti	Ph.D. (Pharmacal Sciences)	2021
Mohammed Aldawsari	Ph.D. (Pharmacal Sciences)	2017
Brooks Mobley	Ph.D. (Kinesiology)	2017
Jessica Brooks	Ph.D. (Chemistry)	2016
Kasturi Pawar	Ph.D. (Pharmacal Sciences)	2013
Bessy Thrash	Ph.D. (Pharmacal Sciences)	2009
Brandi K. Brunson	Ph.D. (Anatomy, Physiology, & Pharm.)	2007
Deepa Bedi	Ph.D. (Anatomy, Physiology, & Pharm.)	2007
Ruletha D. Baker	Ph.D. (Chemistry)	2006
Cornelius L. Varnado	Ph.D. (Chemistry)	2006
Patrick M. Kanju	Ph.D. (Pharmacal Sciences)	2005
Thirumalini Subramaniam	Ph.D. (Pharmacal Sciences)	2005
Kristen Clarke	Ph.D. (Anatomy, Physiology, & Pharm.)	2005
Shawn McNulty	Ph.D. (Fisheries & Allied Aquacultures)	2004

3. Graduate Students Presently Serving

a. Major Professor

<u>Name</u>	<u>Degree (Department)</u>	<u>Progress to Date</u>
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b. Committee Member

<u>Name</u>	<u>Degree (Department)</u>	<u>Progress to Date</u>
AJ Jackson	Ph.D. (Nutritional Sciences)	Research
Megan Robinson	Ph.D. (Nutritional Sciences)	Research
Patel Priyadarshni	Ph.D. (Nutritional Sciences)	Research
Nilophar Zandieh	Ph.D. (Nutritional Sciences)	Research
James Vaughn	M.S. (Nutritional Sciences)	Coursework

4. Undergraduate Students Mentored/Currently Mentoring

<u>Name</u>	<u>Degree Program (College)</u>	<u>Year</u>
Catherine Maige	Nutrition, Dietetics, & Hosp. Mgmt (Hum. Sci.)	2017-2020
Mallory Papich	Biomedical Sciences (COSAM)	2016
Kelsey Herrera	Nutrition, Dietetics, & Hosp. Mgmt (Hum. Sci.)	2016
Bishop Cunningham	Nutrition, Dietetics, & Hosp. Mgmt (Hum. Sci.)	2014
Olivia Demarta	Nutrition, Dietetics, & Hosp. Mgmt (Hum. Sci.)	2014
Kathryn Whitehead	Nutrition, Dietetics, & Hosp. Mgmt (Hum. Sci.)	2014
Taylor Hicks	Nutrition, Dietetics, & Hosp. Mgmt (Hum. Sci.)	2014
Dana Woods	Biomedical Sciences (COSAM)	2010
M. Elise McClanahan	Biomedical Sciences (COSAM)	2008
Michelle Bushnell	Biomedical Sciences (COSAM)	2008
Virginia Planz	Biomedical Sciences (COSAM)	2008
Stephanie Qualls	Nutrition and Food Science (Human Sciences)	2007
Michael Carra	Biomedical Sciences (COSAM)	2005
Taylor McCain	Biomedical Sciences (COSAM)	2005
Kathryn Colbert	Nutrition and Food Science (Human Sciences)	2004

5. Courses and Curricula Developed

NUFS 2000: Nutrition and Health. This course was offered prior to the candidate's arrival at Auburn. The candidate contributed to the improvement of the course by introducing the use of classroom response units (i.e. "clickers"). This technology allows students to respond to in-class questions in the form of quizzes or verbal discussions. Students are able to see their responses and to know immediately if they got the question right or wrong. This greatly improves student's ability to test their knowledge on a given topic and helps them focus on areas where they need improvement. Since inception of the "clickers" in Spring 2008 semester, attendance and in-class participation has improved significantly.

NUFS 7280: Laboratory Methods in Nutrition and Food Science. This course was offered prior to my arrival at Auburn. The candidate contributed to the improvement of the course by including a series of lectures and labs on molecular biology and spectrophotometric techniques that are routinely used in the candidate's laboratory. The new topics included are polymerase chain reaction, cloning, utilization of gene knockout technology, and fluorescence spectroscopy.

NUFS 7050/7056: Research Methods in Human Sciences. This course was offered prior to the candidate's arrival at Auburn. The candidate contributed to the improvement of the course by including a component on Ethics in Research in the class. This topic focuses on defining plagiarism, fabrication of research data, and ethics in animal and human research studies. In addition, the candidate discusses "real-world" scenarios in terms of choosing and interacting with major professors, who should be included as an author on manuscripts, and the ethics of manuscript and grant reviews.

NUFS 5830: Nutritional Genomics. The candidate developed this course to introduce undergraduate students to the field of nutritional genomics. This course aims to identify the genetic variations that account for why some individuals react differently to dietary components. Understanding these diet-gene interactions raises the possibility of individualizing nutritional intake for optimal health and disease prevention on the basis of an individual's genome. Topics covered include transcription factors and gene expression, phytoestrogens, epistasis and gene interactions, molecular mechanisms of longevity and calorie restriction, maternal nutrition and disease development, epigenetics, and green tea polyphenols and gene regulation.

6. Other Contributions to Teaching

a. Academic Advising

Currently, I advise undergraduate students in the Nutrition Science option. The majority of these students meet with me on a semester basis to discuss their schedules for the following term. The candidate has prepared several letters of recommendation as part of their applications for scholarships and/or professional schools. In addition, the candidate has written numerous letters of recommendations from undergraduate students in dietetics and wellness majors for applications to nursing school, pharmacy school, dietetic internship, law school, physician's assistant graduate programs and graduate school.

b. Guest Lectures

The candidate was invited to serve as guest lecturer in BCHE 3180 (Nutritional Biochemistry) and in NUF5 7520: Macronutrients (Topic: Nutritional Genomics; Summer 2007). In addition, the candidate provided a guest lecture for the Auburn University's Cellular and Molecular Biosciences Teaching Enhancement Program in Summer 2006 (Topic: Heart Disease).

c. Journal Club

While at Auburn University, the candidate has participated in a weekly journal club with faculty in the Boshell Diabetes and Metabolic Diseases Research Program and graduate and undergraduate students to discuss recently published articles in the area of diabetes, obesity and nutrition research. This journal club provides the ability to stay abreast of recent advances in the candidate's research field as well as to enhance the critical thinking skills of students involved in this research area.

d. Student Achievements

The candidate has assisted his graduate and undergraduate students in receiving funding and/or awards for their research projects as shown below:

Malone-Zallen Graduate Research Fellowship (2019): Awarded to Olivia Altonji. Role: Mentor. Total Award: \$2,000

2nd Annual Boshell Diabetes and Metabolic Diseases Research Day Poster Presentation Award (2009): Awarded to Juan Yang, graduate student, for poster entitled “Localization of adiponectin receptor-1 to lipid raft plasma membrane domains in 3T3-L1 adipocytes”. Role: Mentor. Total Award: \$100

Department of Nutrition and Food Science Graduate Research Award (2009): Awarded to Yinghui Rong, graduate student, for research proposal entitled “Influence of dietary fatty acids and lipid rafts on Toll-like receptor 4-mediated inflammation in macrophages”. Role: Mentor. Total Award: \$1,000 – research supplies.

8th International Conference of the International Society for the Study of Fatty Acids and Lipids New Investigator Award (2008): Awarded to Juan Yang, graduate student to present research findings at the 8th International Conference of the International Society for the Study of Fatty Acids and Lipids in Kansas City, KS, May 17-22, 2008. Role: Mentor. Total Award: \$1,000 – complimentary registration and reduced hotel room rate.

Auburn University Graduate Student Research Day Poster Presentation Award (2008): First place, awarded to Juan Yang, graduate student, for poster entitled “Inhibition of phospholipase A2 decreases insulin-stimulated glucose uptake in 3T3-L1 adipocytes”. Role: Mentor. Total Award: \$150

Jim Fyffe Travel Grant (2008): Awarded to Juan Yang, graduate student, to present her research findings at the Keystone Symposia on Diabetes Mellitus, Insulin Action, and Resistance, Breckenridge, CO, January 22-27, 2008. Role: Mentor. Total Award: \$1,500

Auburn University Undergraduate Research Fellowship (2006): Awarded to Stephanie Qualls, undergraduate student – NUFS (May 2006 – April 2007). Role: Mentor. Total Award: \$3,400 (Fellowship: \$2,000, Project Funds: \$1,400)

Auburn University Cellular and Molecular Biosciences Summer Undergraduate Research Fellowship (2005): Awarded to Taylor McCain, undergraduate student - COSAM (May – July 2005). Role: Mentor. Total Award: \$5,000 (Fellowship: \$3,000, Project Funds: \$2,000)

Auburn University Cellular and Molecular Biosciences Summer Undergraduate Research Fellowship (2004): Awarded to Kathryn Colbert, undergraduate student - NUFS (May – July 2004). Role: Co-Mentor (Dr. Margaret C. Craig-Schmidt, Co-Mentor). Total Award: \$5,000 (Fellowship: \$3,000, Project Funds: \$2,000)

7. Teaching Philosophy and Self-Assessment

a. Philosophy

My teaching philosophy is centered on the principal that teaching and contributing to the growth of a new generation of leaders is one of the most important tasks that is bestowed upon someone. Therefore, teaching should be taken with a sense of mission and responsibility to share with students the best of our knowledge and ideas. My goal as a teacher is to not only provide students with information but to also provide them with the inspiration to learn both in and outside the classroom. To accomplish this, I have developed a teaching philosophy that attempts to challenge students to do their best both at the undergraduate and graduate level. Depending on the level of the student (undergraduate versus graduate), I have developed specific teaching styles to better incorporate this overall philosophy. However, both styles focus on being well-organized, demonstrating enthusiasm, and providing a learning environment where all students are treated with respect and given an equal opportunity to reach their full potential.

In the undergraduate setting, I strive to provide a firm foundation of knowledge in the area of nutrition to the students so that they can have a sound knowledge base on what nutrition is and why it is important in determining the overall health of an individual. I see this as an opportunity to provide a learning experience for students that can impact their life in a positive way by providing them with information that they can use for the rest of their life. Therefore, I communicate my knowledge not only through formal lectures but through the use of real-world examples of how nutrition can impact their everyday life. Most of this is done by assimilating the latest research information and disseminating it in a way that students can understand and relate it to basic practices for eating a healthy diet. I also strive to eliminate certain misconceptions related to nutrition or nutrition advice.

I credit my experience in undergraduate research as the single most influential factor in my career as a scientist and teacher. I believe strongly in providing undergraduate opportunities in my laboratory for students who want to participate in a research project. I provide students with background knowledge of various laboratory techniques and then give them hands on experience as part of a research project so that they can see these techniques in an actual research setting. In addition, I try to provide as much detail about the research process so that these students can truly understand what is involved in performing research. I have mentored two undergraduate students in the AU Cellular and Molecular Biosciences Undergraduate Research Fellowship and one student has received the AU Undergraduate Research Fellowship Award.

My approach to graduate teaching takes a different approach focusing on critical thinking and reasoning skills. While still building a firm foundation on fundamental knowledge and concepts, I also emphasize the concept of critical thinking by helping students to be able to identify a question and designing a series of methods to help answer or address the question. Through one-on-one mentoring, I foster graduate student's critical thinking and reasoning skills by emphasizing thorough analysis of the published literature, development of effective and testable hypotheses, understanding limitations of research studies, and providing constructive criticism related to their research projects. I also emphasize that students be able to communicate effectively both orally and through written work.

My teaching philosophy also centers around creating an inclusive learning environment where all students feel welcome and encouraged to participate actively in the learning process. I try to

identify each student's strengths and weaknesses and adapt my teaching strategies accordingly to ensure that every student has the opportunity to succeed.

b. Self-Assessment

I am very committed to the concept of self-assessment in continuing to strive to become a better instructor. For my teaching style in the classroom, feedback from the students is my greatest source of information to try and improve the courses that I teach. This usually comes from the end-of-semester evaluations. These are useful in knowing what I am doing well in the class and what needs to be improved. In addition, I also get student feedback about the course by giving my own end-of-semester questionnaire so that I can get more specific feedback about course content, course textbook and overall topics discussed in the course. I also ask, "what did you like most and least about the course"? I constantly update my courses every semester to incorporate these changes. Though peer evaluation of teaching I have taken the recommendations from faculty from within my department to help improve and clarify my teaching in the classroom setting.

B. RESEARCH/CREATIVE WORK

My research has focused on the role of nutrition, specifically dietary lipids, in health and disease. Using cell culture and animal models, I have focused on the molecular mechanisms of how lipids influence the development and progression of atherosclerosis, obesity and type 2 diabetes. My current research is focused on the role of dietary omega-3 fatty acids on adipose tissue, skeletal muscle and brain. Specifically, we are addressing how omega-3 fatty acids influence 1) adipocyte differentiation and metabolism, 2) protein synthesis in skeletal muscle, and 3) autophagy function in neuronal cells.

2. Publications:

Student contributions are marked with an asterisk (*), students who have been trained in my laboratory for work that was included in their theses and dissertations is marked with an asterisk

a. Refereed Journal Articles

*Yi L, Zheng C, Babu JR, Xue C, Ai Q, and **Huggins KW**. Neuroprotective Effect of Stearidonic Acid on Amyloid β -Induced Neurotoxicity in Rat Hippocampal Cells. *Antioxidants* 2022 Nov 28;11(12):2357. doi: 10.3390/antiox11122357

Moore, JH, Smith KS, Chen, D, *Lamb, DA, Smith MA, Osburn SC, Ruple, BA, Morrow CD, **Huggins KW**, McDonald, JR, Brown, MD, Young, KC, Roberts, MD, and Fruge, AD. Exploring the effects of six weeks of resistance training on the fecal microbiome of older adult males: secondary analysis of a peanut protein supplemented randomized controlled trial. *Sports*. 2022 Apr 22;10(5):65. doi: 10.3390/sports10050065

- Mesquita, PHC, *Lamb DA, Godwin JS, Osburn SC, Ruple BA, Moore JH, Vann CG, **Huggins KW**, Fruge AD, Young KC, Kavazis AN and Roberts MD. (2021) Effects of resistance training on the redox status of skeletal muscle in older adults. *Antioxidants* 2021 Feb 26;10(3):350. doi: 10.3390/antiox10030350
- *Lamb DA, Moore JH, Mesquita PHC, Smith MA, Vann CG, Osburn SC, Fox CD, Lopez HL, Ziegenfuss TN, **Huggins KW**, Goodlett MD, Fruge AD, Kavazis AN, Young KC, and Roberts MD. (2020) Resistance training increases muscle NAD⁺ and NADH concentrations as well as NAMPT protein levels and global sirtuin activity in middle-aged, overweight, untrained individuals. *Aging (Albany NY)*. 2020 May 5;12(10):9447-9460. doi: 10.18632/aging.103218. Epub 2020 May 5.
- *Lamb DA, Moore JH, Smith MA, Vann CG, Osburn SC, Ruple BA, Fox CD, Smith KS, Altonji OM, Power ZM, Cerovsky AE, Ross CO, Cao AT, Goodlett MD, **Huggins KW**, Fruge AD, Young KC, and Roberts MD. (2020) The effects of resistance training with or without peanut protein supplementation on skeletal muscle and strength adaptations in older individuals. *J Int Soc Sports Nutr*. 2020 Dec 14;17(1):66. doi: 10.1186/s12970-020-00397-y.
- Mesquita PHC, Lamb DA, Parry HA, Moore JH, Smith MA, Vann CG, Osburn SC, Fox CD, Ruple BA, **Huggins KW**, Fruge AD, Young KC, Kavazis AN, and Roberts MD. (2020) Acute and chronic effects of resistance training on skeletal muscle markers of mitochondrial remodeling in older adults. *Physiol Rep*. 2020 Aug;8(15):e14526. doi: 10.14814/phy2.14526.
- Woodie, LN, *Altonji OM, **Huggins KW**, and Greene, M.W. (2019) The high-fat diet and the effects of its consumption on the hypothalamus and hippocampus. *CAB Reviews* 14 (011): 1-9, 2019
- Kephart, WC, Pledge CD, Roberson PA, Mumford PW, Romero MA, Mobley CB, Martin JS, Young KC, Lowery RP, Wilson JM, **Huggins KW**, Roberts MD. The three-month effects of a ketogenic diet on body composition, blood parameters, and performance metrics in crossfit trainees: A pilot study. *Sports* 6(1), 1; doi:[10.3390/sports6010001](https://doi.org/10.3390/sports6010001), 2018
- Rodick TC, Seibels DR, Babu JR, **Huggins KW**, Ren G, Mathews ST. Coenzyme Q10: Potential role in health and disease conditions. *Nutrition and Dietary Supplements* 10:1-11, 2017
- Li Y, Rong Y, Bao, L, Nie, B, Ren G, Zheng C, Amin R, Arnold RD, Jeganathan RB, **Huggins KW**. Suppression of adipocyte differentiation and lipid accumulation by stearidonic acid (SDA) in 3T3-L1 cells. *Lipids in Health and Disease* – 16:181 doi: 10.1186/s12944-017-0574-7, 2017
- Li, Y, Geng X, Bao L, Elasad A, **Huggins KW**, Dunham R, Liu Z. A deletion in the Hermansky-Pudlak syndrome 4 (Hsp4) gene appears to be responsible for albinism in channel catfish. *Molecular Genetics and Genomics* – 292:663-670, 2017

- Holland M, Kephart W, Mumford P, Mobley C, Lowery R, Shake J, Patel R, Healy J, McCullough D, Kluess H, **Huggins K**, Kavazis A, Wilson J, Roberts M. Effects of a putative ketogenic diet with and without exercise training on adipose tissue and liver physiology in rodents. *Am J Physiol Regul Integr Comp Physiol* 311:R337-R351, 2016
- Desai GS, Zheng C, Geetha T, Mathews ST, White BD, **Huggins KW**, Zizza CA, Broderick TL, Babu JR. The pancreas-brain axis: insight into disrupted mechanisms associating type 2 diabetes and Alzheimer's disease. *J. Alzheimer's Dis.* 42:347-356, 2014
- Arsiwalla D, Lord D, **Huggins KW**, Simmons KP, Ulrich PV, Gropper SS. Associations among eating regulation and body mass index, weight, and body fat in college students: the moderating role of gender. *Eat Behav.* 15:321-327, 2014
- Rege S, Kumar S, Wilson D, Tamura L, Geetha T, Mathews ST, **Huggins KW**, Broderick TL, Jeganathan RB. Resveratrol protects the brain of obese mice from oxidative damage. *Oxidative Medicine and Cellular Longevity.* 2013; 2013:419092. doi: 10.1155/2013/419092
- Symon G, Nanayakkara G, Boncher T, Acevedo O, Wyble J, Patel S, Patel A, Shane ME, Bonokowski B, Wiczorek J, Rong Y*, **Huggins K**, Smith F, Amin RH. Design, development and evaluation of novel dual PPAR δ /PPAR γ agonists. *Bioorganic & Medicinal Chemistry Letters* 23:873-879, 2013
- Gropper SS, Newell FH, Zaremba-Morgan A, Keiley MK, White BD, **Huggins KW**, Simmons KP, Connell LJ, Ulrich PV. The impact of physical activity on body weight and fat gains during the first 3 years of college. *International Journal of Health Promotion and Education* 50:296-310, 2012
- Shonesy BC, Thiruchelvam K, Parameshwaran K, Rahman EA, Karuppagounder SS, **Huggins KW**, Pinkert CA, Amin R, Dhanasekaran M, Suppiramaniam V. Central insulin resistance and synaptic dysfunction in intracerebroventricular-streptozotocin injected rodents. *Neurobiol Aging* 33:430.e15-18, 2012
- Tzou YM, Huang TS, Singh N, **Huggins KW**, Chin BA. Tobacco osmotin expression in *Escherichia coli*, purification, and antimicrobial assay. *Biotech Letters* 33:539-543, 2011
- Ratcliff L*, Gropper SS, White, BD, Shannon D, **Huggins KW**. Resting metabolism and metabolic responses to solid and liquid meals in sedentary and exercising college-age males. *International Journal of Sport Nutrition and Exercise Metabolism* 21:11-18, 2011
- Colbert KE*, **Huggins KW**. Dietary glycemic index increases adipose tissue mass but does not influence pro-oxidant and antioxidant gene expression in normal C57BL/6 mice. *Nutrition Research* 30:141-150, 2010

- Wang J, Wernette CM, Judd RL, **Huggins KW**, White BD. Guanethidine treatment does not block the ability of central leptin administration to decrease blood glucose concentrations in streptozotocin-induced diabetic rats. *Journal of Endocrinology* 198:541-548, 2008
- Kanju P#, Parameshwaran K, Vaithianathan T, Sims C, **Huggins K**, Bendiske J, Ryzhikov S, Bahr BA, Suppiramaniam V. Lysosomal dysfunction produces distinct alterations in synaptic α -amino-3-hydroxy-5-methylisoxazolepropionic acid and N-methyl-d-aspartate currents in hippocampus. *Journal of Neuropathology and Experimental Neurology* 66:779-788, 2007
- Labonte ED, Kirby RJ, Schildmeyer NM, Cannon AM, **Huggins KW**, Hui DY. Group 1B phospholipase A₂-mediated lysophospholipid absorption directly contributes to postprandial hyperglycemia. *Diabetes* 55: 935-941, 2006
- Huggins KW**, Camarota LM, Howles PN, Hui DY. Pancreatic triglyceride lipase deficiency minimally affects dietary fat absorption but dramatically decreases dietary cholesterol absorption in mice. *Journal of Biological Chemistry* 278: 42899-42905, 2003
- Huggins KW**, Boileau AC, Hui DY. Protection against diet-induced obesity and obesity-related insulin resistance in group 1B phospholipase A₂ deficient mice. *American Journal of Physiology* 283: E994-E1001, 2002
- Huggins KW**, Colvin PL, Burleson ER, Kelly K, Sawyer JK, Barrett PHR, Rudel LL, Parks JS. Dietary n-3 polyunsaturated fat increases the fractional catabolic rate of medium-sized high density lipoprotein particles in African green monkeys. *Journal of Lipid Research* 42: 1457-1466, 2001
- Richmond BL, Boileau AC, Zheng S, **Huggins KW**, Granholm NA, Tso P, Hui DY. Compensatory phospholipid digestion is required for normal cholesterol absorption in pancreatic phospholipase A₂ gene-targeted mice. *Gastroenterology* 120: 1193-1202, 2001
- Parks JS, **Huggins KW**, Gebre AK, Burleson ER. Phosphatidylcholine fluidity and structure affect lecithin:cholesterol acyltransferase activity. *Journal of Lipid Research* 41: 546-553, 2000
- Huggins KW**, Burleson ER, Sawyer JK, Kelly K, Rudel LL, Parks JS. Determination of the tissue sites responsible for the catabolism of large high-density lipoprotein in African green monkeys. *Journal of Lipid Research* 41: 384-394, 2000
- Huggins KW**, Curtiss LK, Gebre AK, Parks JS. Effect of long chain polyunsaturated fatty acids in the sn-2 position of phosphatidylcholine on the interaction with recombinant high density lipoprotein apolipoprotein A-I. *Journal of Lipid Research* 39: 2423-2431, 1998.

d. Published Abstracts

- Roberson PA, Kephart WC, Pledge C, Mumford PW, **Huggins KW**, Martin JS, Young KC, Lowery RP, Wilson JM, Roberts MD. The physiological effects of 12-weeks of ketogenic

- dieting while cross-training. *Medicine and Science in Sports and Exercise* 49 (5S):275, 2017
- Ratcliff L*, Gropper SS, Shannon DM, **Huggins KW**. Resting metabolism and meal-induced metabolic responses in sedentary and exercising college-age males. *FASEB Journal* 23: 911.4, 2009
- Huggins KW**, Colbert KE*. Dietary glycemic index does not influence prooxidant and antioxidant gene expression in adipose tissue of C57BL/6 mice. *FASEB Journal* 22: 1088.6, 2008
- Craig-Schmidt MC, Teodorescu CA#, Colbert KE*, Newland MC, **Huggins KW**. Opposing effects of methylmercury and n-3 long-chain polyunsaturated fatty acids on oxidative status. *FASEB Journal* 22: 1093.1, 2008
- Yang J*, **Huggins KW**. Inhibition of calcium-independent phospholipase A₂ results in decreased insulin-stimulated glucose uptake in 3T3-L1 adipocytes. *Keystone Symposia on Diabetes Mellitus, Insulin Action, and Resistance*, Breckenridge, CO, January 22-27, 2008. #351/p.106, 2008
- Wijayawardhane NK#, Vaitianathan T, Pandiella TN, Colbert K*, **Huggins KW**, Breese CR, Vaglenova J, Suppiramaniam V. Postnatal aniracetam treatment ameliorates learning and memory deficits in rat offspring exposed to prenatal ethanol. *Neuroscience Meeting Planner*, #10.4, Atlanta, GA: Society for Neuroscience, 2006
- Huggins KW**, Young SC, Hui DY. Decreased cholesterol absorption in pancreatic triglyceride lipase-deficient mice. *Gastroenterology* 124 (Suppl. 1): A-435, 2003
- Huggins KW**, Hui DY. Decreased postprandial fat absorption in pancreatic phospholipase A₂ deficient mice consuming a high fat diet. *Gastroenterology* 122 (Suppl. 1): A-58, 2002
- Riddle TM, Schildmeyer NM, **Huggins KW**, Phan C, Hui DY. HIV protease inhibitor therapy increases hyperlipidemia via increased lipoprotein synthesis in the liver. *FASEB Journal* 16: A398, 2002
- Huggins KW**, Boileau AC, Hui DY. Resistance to diet-induced obesity in female mice lacking the pancreatic phospholipase A₂ gene. *Gastroenterology* 120: (Suppl. 1): A-42, 2001
- Huggins KW**, Wang JC, Gebre AK, Tansey EP, Parks JS. Trans fatty acids reduce lecithin:cholesterol acyltransferase reactivity. *Circulation* 96: I-659, 1997
- Huggins KW**, Gebre AK, Parks JS. Long chain polyunsaturated fatty acids (PUFA) decreased apoA-I-phosphatidylcholine (PC) interaction. *Circulation* 94: I-97, 1996

e. Conference Proceedings

- Li, Y, Altonji, O., Maige, C., and **Huggins KW**. The effect of w-3 polyunsaturated fatty acids on the eicosanoid profile in H19-7 hippocampal cells: A lipidomic analysis. Poster presentation – 12th Annual Boshell Diabetes and Metabolic Research Day, 2019
- Li, Y, Altonji, O., Maige, C., and **Huggins KW**. The effect of w-3 polyunsaturated fatty acids on the eicosanoid profile in H19-7 hippocampal cells: A lipidomic analysis. Poster presentation – 53rd Annual Southeastern Regional Lipid Conference, Cashiers, NC, 2018
- Li Y, Zheng C, Nie B, Rege, SD, Jeganathan RB, Arnold RD, **Huggins KW**. Neuroprotective effect of amyloidB-induced neurotoxicity in H19-7 hippocampal cells. Poster presentation - 51st Annual Southeastern Regional Lipid Conference, Cashiers, NC. November 9-11, 2016
- Li Y, Nie B, Zheng C, Jeganathan RB, Arnold RD, **Huggins KW**. The protective effect of stearidonic acid on amyloidB40-induced neurotoxicity in H19-7 hippocampal cells. Poster presentation - 9th Annual Boshell Diabetes Research Day, Auburn, AL. February 26, 2016
- Li Y, Rong Y, **Huggins KW**. The effect of stearidonic acid on adipogenesis and inflammation in 3T3-L1 cells. Poster presentation. 7th Annual Boshell Diabetes and Metabolic Diseases Research Day, March 2014, Auburn, AL
- Zaremba Morgan, A., Keiley, M.K., Gropper, S.S., Connell, L.J., Simmons, K.P., Ulrich, P.V. Newell, F.H., White, B.D., & **Huggins, K.W.** (2013, February). *Strength training may reduce or prevent percent body fat and weight gains for females during the college years.* Poster presented at the joint 2013 Annual Conference of the Southeastern Council on Family Relations (SECFR) and the Alabama Association for Marriage and Family Therapy (ALAMFT), Birmingham, AL.
- Rong Y*, **Huggins KW**. Suppression of adipocyte differentiation by stearidonic acid through decreased adipogenic gene expression. 3rd Annual Boshell Diabetes and Metabolic Diseases Research Day, Auburn, AL, March 2010
- Abdel-Rahman EA, Shonesy BC, Thiruchelvam K, Parameshwaran K, **Huggins KW**, Amin R, Dhanasekaran M, Suppiramaniam V. Insulin signaling, synaptic deficits and Alzheimer's disease: A role for integrin linked kinase. 3rd Annual Boshell Diabetes and Metabolic Diseases Research Day, Auburn, AL, March 2010
- Yang J*, **Huggins KW**. Localization of adiponectin receptor-1 to lipid raft plasma membrane domains in 3T3-L1 adipocytes. 2nd Annual Boshell Diabetes and Metabolic Diseases Research Day, Auburn, AL, March 2009
(contribution 60%, designed experiments, assisted in data collection and analysis, revised abstract)

- Yang J*, **Huggins KW**. A potential novel role for calcium-independent phospholipase A₂ in insulin-stimulated glucose transport in 3T3-L1 adipocytes. 8th International Conference of the International Society for the Study of Fatty Acids and Lipids Conference, Kansas City, Kansas, May 2008
(contribution 60%, designed experiments, assisted in data collection and analysis, revised abstract)
- Shonesy BC, Karikaran T, Karuppagounder SS, Parameshwaran K, **Huggins KW**, Suppiramaniam V. Brain specific insulin resistance and synaptic plasticity. 18th Annual Graduate Research Forum, Auburn University, AL. March 2008
(contribution 15%, assisted in designing experiments, analyzed data, revised abstract)
- Colbert KE*, **Huggins KW**. Dietary glycemic index does not influence pro-oxidant and anti-oxidant gene expression in adipose tissue of C57BL/6 mice. 1st Annual Boshell Diabetes Research Symposium, Auburn, AL, March, 2008
(contribution 50%, designed experiments, assisted in data collection and analysis, revised abstract)
- Yang J*, **Huggins KW**. Inhibition of phospholipase A₂ decreases insulin-stimulated glucose uptake in 3T3-L1 adipocytes. 1st Annual Boshell Diabetes Research Symposium, Auburn, AL, March 2008
(contribution 60%, designed experiment, assisted in data collection and analysis, revised abstract)
- Teodorescu CA#, Colbert KE*, Craig-Schmidt MC, **Huggins KW**. Dietary fish oil reduces oxidative stress in rats. 2007 Diet and Optimum Health Conference, Portland, OR, May 2007
(contribution 50%, trained student – CAT, designed experiments, analyzed data, revised abstract)
- Huggins KW**, Hui DY. Dietary regulation of intestinal ATP-binding cassette transporter-1. FASEB Summer Research Conference, Saxtons River, VT, July 2002
(contribution 90%, designed experiments, collected and analyzed data, prepared abstract)
- Huggins KW**, Burleson ER, Sawyer JK, Kelly K, Rudel LL, Parks JS. Tissue sites responsible for the catabolism of large high density lipoprotein in African Green monkeys. Arteriosclerosis, Thrombosis, and Vascular Biology 1st Annual Conference, Denver, CO, May 2000
(contribution 60%, designed experiments, collected and analyzed data, prepared abstract)
- Huggins KW**, Moriguchi E, Colvin PL, Rudel LL, and Parks JS. Metabolism of high-density lipoprotein subfractions. 7th Annual South East Lipid Research Conference, Lake Lanier, GA, September 1998
(contribution 50%, designed experiments design, analyzed and collected data, prepared abstract)

3. Papers and Lectures

a. Papers at Professional Meetings

1. Presentations with Abstracts

Published abstracts listed above with candidate as first author represent either an oral or poster presentation at a national meeting. Student contributions are marked with an asterisk.

b. Invited Symposium Lectures

Invited Speaker: Targeting Obesity Conference. *Which Diet is Right For You – A Critical Analysis*. Organized by the Healthy Alabama Nutrition and Fitness Coalition and the Alabama Cooperative Extension System, Birmingham, AL, October 2004. Attended by over 100 delegates comprising health care workers, dietitians, social workers, county agents, and lay individuals.

c. Other Universities

University of Florida, Department of Food Science and Human Nutrition, Invited Speaker. *Resistance to diet-induced obesity in pancreatic phospholipase A₂-deficient mice*. March 2001. Attended by over 30 undergraduate students, graduate students, and faculty.

University of North Florida, Department of Natural Sciences, Invited Speaker. *Trans fatty acids and LCAT reactivity*. November 1997. Attended by over 20 undergraduate students and faculty.

d. Invited Departmental/Organization Seminars

Auburn University Cellular and Molecular Biology Teaching Enhancement Award, Guest Lecture. *Nutrition and Heart Disease*. June 2009. Attended by 14 students and 2 faculty members.

Auburn University Cellular and Molecular Biology Teaching Enhancement Award, Guest Lecture. *Heart Disease*. July 2006. Attended by 6 students and 4 faculty members.

4. Grants

a. Grants Funded

Diabetes Education and Research Foundation: Huggins KW. Protective Role of Supplemental Omega-3 Fatty Acids on Resolution of Inflammation in the Insulin-Resistant Mouse Brain. 2018-2019 (extended until 2021) Role: PI, \$20,000

The Peanut Institute Foundation: Peanut protein supplementation to augment muscle growth and improve markers of muscle quality and health in older individuals. 2019-2020. Role: Co-I. PI – Drew Fruge (Auburn University) and Michael Roberts (Auburn University), \$175,000

Internal Grants Program: Validation of anti-proliferative effects of stearidonic (omega-3 [n-3]) in prostate cancer. 2017-2019. Role: Co-I. PI - Mahmoud Mansour (Auburn University), \$28,101.66

Diabetes Education and Research Foundation: **Huggins KW**. Stearidonic acid as a potential nutritional therapy for obesity and type 2 diabetes. January 1, 2013 – December 31, 2015. Role: PI, \$15,000

Animal Health Grant-College of Veterinary Medicine, Auburn University. Omega-3 stearidonic acid as an experimental prevention therapy for prostate cancer. \$50,000. Funding period: 10/1/12 - 9/30/14. Role - co-PI; PI - Mahmoud Mansour (Auburn University)

Alabama Agricultural Experiment Station Competitive Hatch Grant: **Huggins KW**. Anti-obesity and anti-diabetic actions of stearidonic acid. October 1, 2011 – September 30, 2013. Role: PI, \$50,000

Diabetes Education and Research Foundation: Judd RL and **Huggins KW**. Diabetes Research Day. 2010. Role: Co-PI. - \$5,000

Alabama Agricultural Experiment Station Hatch Proposal: **Huggins KW** and Craig-Schmidt MC. Lipid rafts and regulation of diet-induced inflammation and oxidative stress. October 1, 2008 – September 30, 2012. Role: Principal Investigator - ~ \$5,000/year

Auburn University Competitive Research Grant: Genetic ablation of calcium-independent phospholipase A₂ in adipocytes: **Huggins KW**. Implications for insulin resistance and diabetes. May 1, 2008 – April 30, 2009. Role: Principal Investigator - \$7,500

Alabama Agricultural Experiment Station Equipment Grant: Craig-Schmidt MC, **Huggins KW**. Request for gas chromatograph. 2008. Role: Co-Investigator - \$11,264

Alabama Agricultural Experiment Station Foundation Grant: **Huggins KW**, Mathews ST, Judd RL. Influence of a high glycemic diet on oxidative stress and glucose metabolism. October 1, 2005 – September 30, 2007. Role: Principal Investigator - \$107,590

Alabama Agricultural Experiment Station Competitive Request for Funds FY '07: White BD, Mathews ST, **Huggins KW**. Lack of central leptin and insulin resistance: a potential connection between obesity and type 2 diabetes. January 1, 2007 – September 30, 2007. Role: Co-Investigator, \$45,365

Alabama Agricultural Experiment Station Hatch Project: Craig-Schmidt MC, Newland MC, Schwartz D, **Huggins KW**. Maximizing maternal and infant nutrition. October 1, 2004 – September 30, 2009. Role: Cooperator, ~ \$5,000/year

Alabama Agricultural Experiment Station Hatch Project: White BD, **Huggins KW**, Mathews ST. Lack of central leptin and insulin resistance: A potential connection between obesity and type 2 diabetes. October 1, 2004 – September 30, 2007. Role: Co-Investigator - ~ \$10,000/year

Auburn University Biogrant Program: **Huggins KW**, Judd RL. Role of PLA₂-1B in insulin-stimulated glucose transport. May 1, 2004 – April 30, 2006. Role: Principal Investigator \$42,000

National Institutes of Health: Role of pancreatic lipase in dietary lipid absorption. **Huggins KW**. June 1, 2000 – May 31, 2003. Role: Principal Investigator, \$109,164

C. SERVICE

a. University service

1. Service to the University

Member, Academic Program Review Committee (2020 – 2023)

Chair, Radiological Safety Committee (2021-present)

Member, Radiological Safety Committee (2016-present)

Member, Faculty Research Committee (2013-2016)

Judge, This is Research Student Symposium (2015)

Ad hoc grant proposal reviewer, Animal Health and Disease Research Program, College of Veterinary Medicine, Auburn University, October 2009

Member, Competitive Research Grant Committee (2009-2012)

Member, Undergraduate Summer Fellowship Research Committee for the CMB Peak of Excellence (2004-present)

Reviewed 30-40 undergraduate applications for 9-10 summer fellowships in which students perform research in a CMB faculty's laboratory.

Co-Chair, 14th Annual Boshell Diabetes and Metabolic Diseases Research Day, April 2023

Co-Chair, 13th Annual Boshell Diabetes and Metabolic Diseases Research Day, February 2021

Co-Chair, 12th Annual Boshell Diabetes and Metabolic Diseases Research Day, February 2019
Co-Chair, 11th Annual Boshell Diabetes and Metabolic Diseases Research Day, February 2018
Co-Chair, 10th Annual Boshell Diabetes and Metabolic Diseases Research Day, February 2017
Co-Chair, 9th Annual Boshell Diabetes and Metabolic Diseases Research Day, February 2016
Co-Chair, 8th Annual Boshell Diabetes and Metabolic Diseases Research Day, February 2015
Co-Chair, 7th Annual Boshell Diabetes and Metabolic Diseases Research Day, March 2014
Co-Chair, 6th Annual Boshell Diabetes and Metabolic Diseases Research Day, March 2013
Co-Chair, 5th Annual Boshell Diabetes and Metabolic Diseases Research Day, March 2012
Co-Chair, 4th Annual Boshell Diabetes and Metabolic Diseases Research Day, March 2011
Co-Chair, 3rd Annual Boshell Diabetes and Metabolic Diseases Research Day, March 2010
Co-Chair, 2nd Annual Boshell Diabetes and Metabolic Diseases Research Day, March 2009
Co-Chair, 1st Boshell Diabetes and Metabolic Diseases Research Day, March 2008
Member, Senate Faculty Welfare Committee (2007-2010)
Faculty Mentor, Teaching Enhancement Award Program (2006)
Member, Biogrant Committee, (2004-2007), College of Human Sciences representative
Discussion leader, AU-CMB Program Review (2003)

2. Service to the College

2022 – present: Member, Curriculum Committee

2017: Faculty representative, College of Human Sciences Preview Day

2005 – present: Ad-hoc grant proposal reviewer: I reviewed the following Hatch proposals for the College of Human Sciences:

- Black women's experiences living with lupus (Be WELL) Study. PI: David Chae, Human Development and Family Studies, April 2017

- Role of sequestosome 1 in insulin signaling. PI: RB Jeganathan, Department of Nutrition, Dietetics, and Hospitality Management, April 2011
- Nutrition and physical activity practices of after-school programs: Do they promote healthy behaviors? PI: SS Gropper, Department of Nutrition, Dietetics, and Hospitality Management, April 2011
- Dietary, lifestyle/behavioral and psychosocial factors associated with body weight, composition and size/shape changes among children and teens/young adults: Can intervention prevent excessive gains? PI: SS Gropper, Department of Nutrition and Food Science, April 2010
- Utilization of tagatose in foods to provide improved nutritional health. PI: LN Bell, Department of Nutrition and Food Science, April 2009
- Characterization of fetuin-A in insulin action and glucose homeostasis. PI: ST Mathews, Department of Nutrition and Food Science, August 2008
- How does central leptin normalize blood glucose concentrations in STZ-induced diabetic rats? PI: B. Douglas White, Department of Nutrition and Food Science, April 2008
- Dietary, environmental, and lifestyle factors associated with weight status among college students and other at risk populations. PI: SS Gropper and CA Zizza, Department of Nutrition and Food Science, April 2005

3. Service to the Department of Nutritional Sciences

2004: Member, Department of Nutrition and Food Science Faculty Search Committee

2011: Member, Department of Nutrition, Dietetics, and Hospitality Management Faculty Search Committee (HRMT position)

2012-13: Member, Department of Nutrition, Dietetics, and Hospitality Management Faculty Search Committee (HRMT position)

2012 – present: Nutrition Science Undergraduate Program Coordinator

2013-2016: Departmental Senator

2013 – present: Chair, Undergraduate/Graduate Research Fellowship Committee

2013: Member, Department of Nutrition, Dietetics, and Hospitality Management Faculty Search Committee (DPD Director position)

2013: Chair, Department of Nutrition, Dietetics, and Hospitality Management Faculty Search Committee (ISSPY Director and Clinical Instructor position)

2014: Chair, Faculty Scholarship Committee

2014: Chair, Department of Nutrition, Dietetics, and Hospitality Management Faculty Search Committee (ISSPY Director and Clinical Instructor position)

2015-2016: Chair, Department of Nutrition, Dietetics, and Hospitality Management Faculty Search Committee

2016: Member, Department of Nutrition, Dietetics, and Hospitality Management Faculty Search Committee (Cluster Hire position)

2017: Chair, Department of Nutrition, Dietetics, and Hospitality Management Faculty Search Committee (Community Nutrition position)

2022 – present: Departmental Senator

2023: Member, Department of Nutritional Sciences Faculty Search Committee

2023: Member, Department of Nutritional Sciences/School of Hospitality Management Financial Advisor Search Committee

2023: Member, Department of Nutritional Sciences Administrative Assistant Search Committee

b. Professional Service

1. Manuscript review

Ad Hoc Reviewer: The candidate has reviewed articles for the following journals:

- Lipids
- Journal of Lipid Research
- Journal of Food Science
- Nutrition Research
- American Journal of Cardiology
- PLOS One
- Nutrients
- Antioxidants

2016: Abstract Reviewer, American Society for Nutrition

2006: Member, Nutrition Analysis Software and Media Focus Group, McGraw-Hill, Inc.

Reviewed diet analysis software and ancillary materials for McGraw Hill.

2006: Reviewer, textbook for McGraw-Hill, Inc. *Contemporary Nutrition*, 7th ed. by Wardlaw and Smith

2005: Reviewer, textbook for Pearson Education, Inc. *Nutrition: An Applied Approach* by Thompson and Manore

b. Community Service

Member, Nutrition Advisory Board, Auburn High School 2017 - 2021

Spokesperson, interviewed by *The Auburn Plainsman* concerning the effects of soft drink consumption and obesity, July 2011

Spokesperson, interviewed by *The Auburn Plainsman* concerning the effects of smoking on the body, June 2009

Spokesperson, interviewed by *The Auburn Plainsman* concerning multivitamin supplements, June 2009

Spokesperson, interviewed on WANI 1400 AM, a commercial News/Talk radio station serving the Auburn/Opelika area, concerning the 2nd Annual Boshell Diabetes and Metabolic Diseases Research Day, March 2009

Spokesperson, interviewed by *The Auburn Plainsman* concerning healthy choices at fast food restaurants, July 2008

Spokesperson, interviewed by *The Auburn Plainsman* concerning healthy eating choices at fast food restaurants, March 2008

Spokesperson, interviewed by *The Auburn Plainsman* concerning the 1st Annual Boshell Diabetes Research Symposium, March 2008

Guest speaker, presented educational seminar to the Auburn/Opelika Mended Hearts chapter, the seminar was entitled “Inflammation: the link between obesity, diabetes, and heart disease?” May 2007

Guest Speaker, presented educational seminar to the Independent Living Conference, Teaching Life Skills for Foster Children in the State of Alabama. Conference was sponsored by the Alabama Department of Human Resources. The seminar was entitled “Understanding Food Labels”, Auburn, AL, June 2006. The candidate was assisted by his graduate students, Kathryn E. Colbert and Lance Ratcliff

Guest Speaker, presented educational seminar to the Auburn District of the American Dietetics Association, the seminar was entitled “Fad Diets”, Auburn, AL, September 2004.

Spokesperson, interviewed by *The Auburn Plainsman* concerning the incidence of obesity in the United States, October 2003