

Jamie I. Baum, PhD

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Current Position: Assistant Professor of Nutrition, University of Arkansas

Education

Institution and Location	Degree	MM/YY	Field of Study
University of Illinois, Urbana-Champaign	B.S.	05/00	Dietetics
University of Illinois, Urbana-Champaign	Ph.D.	08/04	Nutritional Science
Pennsylvania State College of Medicine, Hershey	Postdoctoral	08/06	Cellular & Molecular Physiology

Research Focus: The research mission of my laboratory is to address basic and applied research challenges related to dietary protein intake (e.g. protein source, quality, and quantity) and its impact on body composition, energy metabolism and metabolic health.

Positions

Academic Positions

- 2011-current Assistant Professor of Nutrition, Department of Food Science, Division of Agriculture; Adjunct Faculty, School of Human and Environmental Sciences; Member of Cell and Molecular Biology Program, University of Arkansas, Fayetteville, AR
- 2004-2006 Postdoctoral Fellow, Cellular & Molecular Physiology, Pennsylvania State University, Hershey, PA

Industry positions

- 2009-2011: Nutrition Scientist, Danone Baby Nutrition – Centre for Specialised Nutrition, The Netherlands
- 2009-2011 Science Communications Manager, Danone Baby Nutrition – Centre for Specialised Nutrition, The Netherlands
- 2008-2009 Project Leader, Unilever Food & Health Research Institute, The Netherlands
- 2007-2009 Research Scientist in the area of Energy, Weight Control and Performance, Unilever Food & Health Research Institute, The Netherlands

Service and Volunteer Positions

- 2012-2014 Nutrition educator, Northwest Arkansas Food Bank's Cooking Matters and Shopping Matters courses
- 2011-current Student Committees: 6 PhD committees, 2 MS committees, and 2 Honors Undergraduate Committee
- 2011-current Faculty advisor, Food Science Club

Teaching

Graduate Courses:

Regulation of Metabolism in Human Health and Disease

Undergraduate Courses:

Fundamentals of Nutrition, Food for Health

Honors

- 2015 Bumpers College Alumni Society Outstanding Advising Award, University of Arkansas
- 2015 Travel award from the American Federation for Aging Research
- 2015 Accepted into the National Institute on Aging Butler-Williams Scholars Program
- 2015 Outstanding Mentor Award, University of Arkansas
- 2014 Outstanding Mentor Award, University of Arkansas
- 2013 Junior Faculty Scholarship Awardee, Claude D. Pepper Older Americans Independence Centers
- 2013 Northwest Arkansas Food Bank Outstanding Volunteer Award for work with Cooking Matters and Shopping Matters
- 2012 Recognized in the Northwest Arkansas Gazette for work with Cooking Matters & Shopping Matters
- 2005 Dannon Institute's Nutrition Leadership Institute
- 2004 American Diabetes Association Postdoctoral Mentor-Based Fellow
- 2004 American Society for Nutritional Sciences Proctor & Gamble Graduate Research Awards Abstract Competition Winner
- 2003 American Society for Nutritional Sciences Cargill Predoctoral Fellowship
- 2003 American Society for Nutritional Sciences Energy and Macronutrient Metabolism Research Interest Section Graduate Student Abstract Award

Invited Presentations

- 2015 Invited Speaker: Arkansas Biosciences Institute Fall Research Symposium (Fayetteville, AR)
Title: *"Leucine: Friend or Foe?"*
- 2015 Guest Lecturer: University of Arkansas Upward Bound Program (Fayetteville, AR)
Title: *"Nutrition and Biology: Similarities and Career Opportunities"*
- 2015 Invited Speaker: University of Arkansas Retired Academics (Fayetteville, AR)
Title: *"Smart nutrition for seniors"*
- 2014 Invited Speaker: University of North Carolina Nutrition Research Institute (Kannapolis, NC)
Title: *"The role of dietary protein and the branched-chain amino acid in energy metabolism"*
- 2013 Invited Speaker: Tyson Foods (Fayetteville, AR)
Title: *"Shopping for healthy food on a budget"*
- 2013 Invited Speaker: Hendrix University (Conway, AR)
Title: *"Dietary protein and energy metabolism"*

- 2013 Invited Speaker: University of Texas Medical Branch, Galveston
Title: *"The role of dietary protein in energy metabolism and metabolic health during aging"*
- 2013 Invited Speaker: Arkansas Nutrition Extension Annual Meeting
Title: *"Obesity: Causes and Cures"*
- 2012 Invited Speaker: Ozark Food Processors Association 106th Annual Convention & Exposition
Title: *"Child nutrition and the food industry"*
- 2004 Invited presenter, Kingsbrook Conference on Nutritional and Metabolic Aspects of Low Carbohydrate Diets
- 2003 Invited speaker, St. Jude Children's Hospital Graduate Student Research Symposium

Training

- 2014 7th Annual NIDDK/MMPC Course on Isotope Tracers in Metabolic Research
- 2014 Collaborative Institutional Training Initiative (4267774)

Professional Memberships and Leadership Positions

2000-current American Society for Nutrition (ASN)

ASN Leadership Positions

- 2015 - *Chair-Elect, Nutrient Gene Interactions Research Interest Section (RIS)*
- 2015 - *Chair, ASN Public Information Committee (PIC)*
- 2015- *ASN Public Policy Committee – as PIC representative*
- 2014-15 *Past-Chair, Energy and Macronutrient Metabolism (EMM) RIS*
- 2013-14 *Chair, EMM RIS*
- 2012-15 *FASEB Publications and Communications Committee, ASN representative*
- 2012-14 *Advisory Board Member, Nutrient-Gene Interactions RIS*
- 2012-13 *Chair-Elect, EMM RIS*
- 2007-09 *Industry Representative, EMM RIS*

2007-current Dannon Institute's Nutrition Leadership Institute's Alumni Association

Leadership Positions

- 2011-12 *Past-President Alumni Association*
- 2010-11 *President Alumni Association*
- 2009-10 *President-Elect Alumni Association*
- 2007-09 *Chair: Committee to Promote Nutrition Research*
- 2007-09 *Editor and Contributor: Alumni Newsletter*
- 2007 *Founding Coordinator*

2012-current American Physiological Society

2012-current The Obesity Society

2014-current American Diabetes Association

2015-current Institute of Food Technologists

2015 - Treasurer, Ozark Institute of Food Technologists

Additional Experiences

- 2015 Experimental Biology Minisymposium Chair: *"Protein Intake and Health Implications"*
Experimental Biology Minisymposium Chair: *"Obesity and Inflammation"*
- 2014 Experimental Biology Minisymposium Chair: *"Protein Intake and Health Implications"*
- 2013 Invited attendee: Protein Summit – Washington, DC

- 2013 Experimental Biology Minisymposium Co-Chair: “Protein Intake and Health Implications” and “Dietary Factors Affecting Lipid Metabolism”
- 2011 Symposium co-chair Experimental Biology 2011: “Enteric infections meet the mucosa – how micronutrients regulate gut mucosal barrier function”
Co-Chair: Angus G. Scrimgeour, PhD

Ad hoc Journal Reviewer

Journal of Nutrition, Nutrients, Obesity, International Journal of Obesity, Nutrition & Metabolism, European Journal of Nutrition, British Journal of Nutrition, Journal of Nutrition and Metabolism, Journal of Nutritional Biochemistry

Peer-reviewed Publications (* denotes corresponding author)

Baum JI*, Smith DS, Davis T, Washington TA, Shouse SA (2016). Leucine supplementation does not prevent obesity in male, Sprague-Dawley rats fed a high-fat diet. *Manuscript under review*

Neumann BL, Crowder CM, **Baum JI*** (2016). Consumption of a high protein breakfast for seven days increases postprandial energy expenditure but not appetite when compared to a high carbohydrate breakfast in young women who habitually skip breakfast. *Manuscript under review*

Baum JI*, Howard LR, Prior RL, Lee S-O (2016). Effect of *Aronio melanocarpa* (black chokeberry) supplementation on the development of obesity in mice fed a high-fat diet. *Manuscript under review*

Shinn SE, Proctor A, **Baum JI*** (2016). Egg yolk as means for providing essential and beneficial fatty acids. Review *Manuscript under review*

Perry RA, Brown LA, Lee DE, Brown JL, Green NP, **Baum JI**, Washington TA (2016). Differential effects of leucine supplementation in young and aged mice at the onset of skeletal muscle regeneration. *Manuscript under review*

Crowder CM, Neumann BL, **Baum JI*** (2016). Breakfast protein source does not influence postprandial appetite and food intake in normal weight and overweight young women. *Accepted – Journal of Nutrition and Metabolism*

Glenn JM, Gray M, Steward RW Jr, Moyon NE, Kavouras SA, DiBrezza R, Turner R, **Baum JI**, Stone MS. Effect of 28-day beta-alanine supplementation on isokinetic exercise performance and body composition in female masters athletes. *J Strength Cond Res.* 2016 Jan;30(1):200-7. doi: 10.1519/JSC.0000000000001077.

Baum JI* and Wolfe RR (2015). The link between dietary protein intake, skeletal muscle function and health in older adults. *Healthcare (Review)* 3(3): 529-543. doi:[10.3390/healthcare3030529](https://doi.org/10.3390/healthcare3030529)

Baum JI*, Gray M, Binns A (2015) Breakfasts higher in protein intake improve energy expenditure, increase fat oxidation and reduce hunger in overweight 8-12 year old children. *The Journal of Nutrition* in press. doi: 10.3945/jn.115.214551

Brown LA, Lee DE, Patton JF, Perry RA, Brown JL, **Baum JI**, Smith-Blair N, Greene NP, Washington TA (2015). Diet-induced obesity alters anabolic signaling in mice at the onset of muscle regeneration. *Acta Physiologica* accepted doi: 10.1111/apha.12537

Glenn JM, Gray M, Stewart R, Moyen NE, Kavouras SA, DiBrezza R, Turner R, **Baum J**. Incremental effects of 28 days of beta-alanine supplementation on high-intensity cycling performance and blood lactate in masters female cyclists. *Amino Acids*. 2015 Dec;47(12):2593-600. doi: 10.1007/s00726-015-2050-x.

Bottje W, Kong B-W, Song J, Lee J, Hargis B, Washington T, **Baum JI**, Wing T, Hardiman J. (2014) Gene expression in breast muscle associated with feed efficiency in a single male broiler line using a chicken 44k microarray: III. Potential role of mTORC1 and protein ubiquitination pathways in the phenotypic expression of feed efficiency. *Journal of Biochemistry and Physiology*. 3:125. doi: 10.4172/2168-9652.1000125

Washington TA, Smith D, Davis G, **Baum JI**, Bottje WG. (2013) Monocarboxylate expression at the onset of skeletal muscle regeneration. *Physiological Reports*. 1(4) doi: 10.1002/phy2.75

Shah U, **Baum JI**, Proctor A. (2013) A new outlook on *trans,trans* conjugated linoleic acid (CLA), an overlooked CLA isomer. *Journal of the American Oil Chemists' Society*. 91:521-524. *Review*

Dennis M, **Baum JI**, Kimball SR, Jefferson LS. (2011) Insulin and amino acid induced activation of mTORC1 and assembly of its components. *J Biol Chem*. 286:8287-96.

Baum JI, Kimball SR, Jefferson LS. (2009) Glucagon acts in a dominant manner to repress insulin-induced mammalian target of rapamycin complex 1 signaling in perfused rat liver. *Am J. Physiol. Endoc. Metab*. 297: E410-415.

Baum JI, Yudahl B, Rahn KA, Freund GG, Nakamura M, Layman DK. (2006) Diets with reduced carbohydrates and increased protein stabilize glycemic control and minimize adipose tissue glucose disposal. *J. Nutr*. 136: 1855-1861

Baum JI, O'Connor JC, Seyler JE, Anthony TG, Freund GG, Layman DK. (2005) Leucine reduces the duration of insulin-induced PI3-kinase activity in rat skeletal muscle. *Am J. Physiol. Endoc. Metab*. 288: E86-E91.

Layman DK, Evans E, **Baum JI**, Seyler JE, Erickson DJ, Boileau RA. (2005) Dietary protein and exercise have additive effects on body composition changes during weight loss in adult women. *J. Nutr*. 135: 1903-1910.

Layman DK, Shiue H, Sather C, Erickson DJ, **Baum J**. (2003) Increased dietary protein modifies glucose and insulin homeostasis in adult women during weight loss. *J. Nutr*. 133:405-410.

Layman DK and **Baum JI**. (2003) Impact of dietary protein on glycemic control during weight loss. *J. Nutr*. 134: 968S-973S.

Painter JE, Watgen AB, **Baum JI** (2003) Predicted versus actual nutrient consumption in the diet of university students. *Foodservice Research International*. 14:115-124.

Abstracts

Smith-Blair, N., Weymiller, A., Comstock, N., Collie, S., Shobe, M., Gray, M., **Baum, J.**, Jarrett, A., Thomas, M., Stevens, H. Student Transitional care team pilot study: A novel approach to caring for congestive heart failure patients following discharge. Poster session presented at: National Academies of Practice. 2015 Annual Forum; 2015 April 17-18; Alexandria, VA.

French WW, Shouse SA, Gu X, Lee S-O, **Baum JI**. (2015) A diet high in protein reduces weight gain, food intake and liver weight in obese Zucker rats. *FASEB Journal* 29:129.7. *Oral Presentation and selected to participate in the American Society for Nutrition's Emerging Leaders in Nutrition Science Poster Competition.*

Dunn AC, Neumann BL, Johnson D, Adams JD, and **Baum JI**. (2015) Breakfasts higher in protein increase postprandial energy metabolism in overweight, breakfast skipping women. *FASEB Journal* 29:270.1. *Oral Presentation and selected to participate in the American Society for Nutrition's Emerging Leaders in Nutrition Science Poster Competition.*

Baum JI and Gray M. (2015) A Protein-Based Breakfast Increases Postprandial Fat Metabolism in Overweight and Obese Children. *FASEB Journal* 29:117.3. *Oral Presentation*

Baum JI and Miller JD. (2015) The effects of consuming eggs on the physical development of students participating in a school feeding program in Uganda: a pilot study. *FASEB Journal* 29:270.3. *Oral Presentation*

Baum JI, Shouse SA, Lassiter K, Bottje WG, Dridi S. (2015) Leucine and omega-3 fatty acids regulate cell bioenergetics via mTOR. *FASEB Journal* 29:742.16. *Poster Presentation*

Crowder CM, Neumann BL, **Baum JI**. The effect of breakfast protein source on postprandial hunger and glucose response in women. *FASEB Journal* 29:599.3. *Poster Presentation*

Baum JI, Smith-Blair N, French WW, Washington TA, Greene NP. (2015) Aerobic exercise (EX) training does not improve body composition or glycemic control in type 2 diabetic rats with pulmonary hypertension (PH). *FASEB Journal* 29:1044.6. *Poster Presentation*

Smith DA, Washington TA, Davis G, Williams DV, Shouse SA, **Baum JI** (2014) Supplementation with Leucine Does Not Prevent Development of Obesity in Rats Fed a High-Fat Diet. *FASEB Journal* 28:258.5. *Oral presentation. Recipient of American Society for Nutrition's Energy and Macronutrient Research Interest Section's graduate student abstract award.*

Binns A, Gray M, Seo H-S, Zhang B, Lockett C, Smith K, **Baum JI** (2014) Consumption of an Egg-Based Breakfast Reduces Hunger and Increases Postprandial Energy Metabolism in Normal Weight (NW) and Overweight (OW) School-Aged Children. *FASEB Journal* 28:381.4. *Oral presentation. Featured on American Society for Nutrition's Experimental Biology video blog. Recipient of American Society for Nutrition's Energy and Macronutrient Research Interest Section's graduate student abstract award.*

Baum JI, Shouse SA, Wei J, Wolfe RR (2014) Leucine (leu) and w-3 fatty acids (FA) act synergistically through mTOR to activate translation initiation in young and aged C2C12 myotubes. *FASEB Journal* 28: 820.18. *Poster presentation.*

Binns A, Gray M, **Baum JI** (2014) Differences in Resting Energy Expenditure Among Normal and Overweight School-Aged Children. American College of Sports Medicine. *Poster presentation.*

Zhang B, Lockett CR, **Baum JI**, Gray M, Binns A, Smith K, Seo H-S (2014) Comparison between protein- and carbohydrate-based breakfasts in visual attention toward food and activity-related images. Institute of Food Technologists. *Poster Presentation*

Baum JI, Shouse SA, Gilbert W, Prior RL, Howard LR (2012). The effect of black chokeberry (*Aronia melanocarpa*) on the prevention of obesity in C57BL/6J mice. *FASEB Journal* 27:861.4. *Poster presentation*.

Baum JI, Rannels SL, Kimball SR, Jefferson LS (2006). Glucagon represses insulin signaling through mammalian target of rapamycin (mTOR) in perfused rat liver. *FASEB Journal* 20: A779.12. *Poster presentation*.

Baum JI, Rannels SL, Kimball SR, Jefferson LS (2006). Insulin signaling through the mammalian target of rapamycin (mTOR) pathway to regulatory mechanisms of mRNA translation is repressed by glucagon in perfused rat liver. *Diabetes* 55; Suppl 1: A298. *Poster presentation*

Evans EM, Layman DK, **Baum JI**, Seyler JE, Erickson DJ, Heinrichs KL (2004). Additive effects of dietary protein and exercise on body composition and endocrine changes during weight loss in adult women. North American Association for the Study of Obesity Annual Meeting, Las Vegas, NV. *Poster presentation*

Baum JI and Layman DK (2004). A Paradigm Shift in Glycemic Control using Low Carbohydrate (CHO), High Protein (PRO) Diets. *FASEB Journal* 18: A574.4. *Oral presentation*.

Baum JI, Seyler JE, O'Connor JC, Freund GG, Layman DK (2003) The effect of leucine on glucose homeostasis and the insulin signaling pathway. *FASEB Journal* 17:A811. *Oral presentation*.

Baum JI, Layman DK, Erickson DJ, Boileau R, Painter J, Shiue H, Sather C (2002) Increased dietary protein alters glucose homeostasis during weight loss. *FASEB Journal*. 16: A260. *Oral presentation*.

Baum JI, Martin AM, Tappenden KA, Layman DK (2001) Evaluation of the efficacy of an amylase inhibitor. *FASEB Journal*. 15:A301. *Poster presentation*.

Extension Fact Sheets

Baum JI, Rodibaugh R., and Neumann BL (2015). Nutrition, exercise and muscle. FSFCS88. University of Arkansas Division of Agriculture Research & Extension. <http://www.uaex.edu/publications/pdf/FSFCS88.pdf>

Baum JI, Rodibaugh R., and Johnson D (2015). Protein and weight management. FSFCS89. University of Arkansas Division of Agriculture Research & Extension. <http://www.uaex.edu/publications/pdf/FSFCS89.pdf>

Baum JI and Rodibaugh R. (2015). Coconut oil and coconut water: Are coconuts the new superfood? FSFCS90. University of Arkansas Division of Agriculture Research & Extension. <http://www.uaex.edu/publications/pdf/FSFCS90.pdf>

Baum JI and Rodibaugh R (2014) Breakfast and Its Effect on Weight. FSFCS87. University of Arkansas Division of Agriculture Research & Extension. <http://www.uaex.edu/publications/PDF/FSFCS87.pdf>

Baum JI and Rodibaugh R (2014) The Power of Protein at Breakfast for School-Aged Children. FSFCS86. University of Arkansas Division of Agriculture Research & Extension. <http://www.uaex.edu/publications/PDF/FSFCS86.pdf>

Baum JI and Rodibaugh R (2014) The Power of Protein. FSFCS85. University of Arkansas Division of Agriculture Research & Extension. <http://www.uaex.edu/publications/PDF/FSFCS85.pdf>

Other Publications

YouTube Interview (2015a) School Feeding in Uganda
<https://www.youtube.com/watch?v=7b9AhkchFoc>

YouTube Interview (2015b) Protein Breakfast Increases Fat Metabolism
<https://www.youtube.com/watch?v=omPnw-thd3U>

Nutrition Unscrambled Blog, December 2014 - **Physiological Impacts of Protein and Effects on Weight Management** (Dallas Johnson, Undergraduate Student)
<http://www.nutritionunscrambled.org/2014/12/physiological-impacts-of-protein-and-effects-on-weight-management/>

Nutrition Unscrambled Blog, December 2014 – **The Link Between Nutrition, Exercise and Muscle** (Brianna Neumann, MS Student)
<http://www.nutritionunscrambled.org/2014/12/the-link-between-nutrition-exercise-and-muscle/>

Baum JI. New Research in Fight Against Childhood Obesity. Nutrition Close-Up, Summer 2014. Egg Nutrition Center. <http://www.eggnutritioncenter.org/wp-content/uploads/2014/07/Summer-2014-Close-Up.pdf>

Research Recognized in Popular Press

- <http://swtimes.com/news/ua-study-protein-based-breakfast-burns-more-fat>
- <http://www.uaex.edu/media-resources/news/august2015/08-28-2015-Ark-Breakfast-study.aspx>
 - 8-29 SW Times-Record – UA Study: Protein-based breakfast burns more fat (Jamie Baum)
- <http://news.uark.edu/articles/32141/look-to-protein-breakfasts-to-make-a-dent-in-child-obesity>
- superhumanradio.com – Monday August 24, 2015
 - <http://superhumanradio.com/shr-1705-breakfasts-higher-in-protein-shows-promise-for-overweight-children-new-anti-inflammatory-patch.html>
- 8-31 Medical Xpress – Look to protein breakfasts to make a dent in childhood obesity (Jamie Baum)
- <http://www.foodpolitics.com/2015/08/five-more-industry-funded-studies-with-expected-results-score-47-to-1/> - September 14, 2015
- <http://www.klivfit.com/blog/whyandwhenwebreakfast> - August 17, 2015
- <http://www.nutritionunscrambled.org/2014/05/observations-from-experimental-biology-2014/>
May 28, 2015

Funding

Current Funding

Baum JI (PI) and Borsheim E. (2015-2018) Nutrition intervention to improve energy metabolism, energy intake, and metabolic response in overweight and obese school-aged children. Arkansas Biosciences Institute.

Proctor A (PI), Anthony NB, Baum JI, Lay JO, Shinn SE. Conjugated Linoleic Acid (CLA) Rich Traditional Egg Breakfast Foods to Combat Obesity Related Diseases in Arkansas. Arkansas Biosciences Institute.

Current Funding – Students

Carroll T and **Baum JI (PI)**. (2014-2015) The Ability of Dietary Protein to Reduce Parameters of Non-Alcoholic Fatty Liver Disease. SURF Grant.

Cambias L and **Baum JI (PI)**. (2015-2016) Evaluating how breakfast food form and macronutrient composition affects satiety and food intake over a 24-hour period. University of Arkansas Honors College Research Grant Award.

Inman T and **Baum JI (PI)**. (2015-2016) Defining the role of leucine in skeletal muscle energy metabolism for prevention of type 2 diabetes. University of Arkansas Honors College Research Grant Award.

Kubas G and **Baum JI (PI)**. (2015-2016). Nutrient modulation of the mammalian target of rapamycin (mTOR) to improve muscle function during aging. University of Arkansas Honors College Research Grant Award.

Previously Funded Grants

Washington T, Greene N, **Baum JI**, Bottje W, Wolchok J. (2014-2015). Sarcopenic obesity and skeletal muscle regeneration. Arkansas Biosciences Institute.

Baum JI (PI), Bottje W, Washington T, Smith-Blair N. (2012-2015) Defining the role of leucine in energy metabolism for prevention of obesity and type 2 diabetes. Arkansas Biosciences Institute.

Bottje W (PI), Khong B-W, **Baum JI**, Washington T. (2012-2015) Heat shock proteins, AMPK and cell bioenergetics in muscle and liver cells. Arkansas Biosciences Institute.

Miller JD (PI) and **Baum JI**. (2013) The effects of consuming eggs on the physical development of pre-pubescent students participating in a school feeding program in Uganda. OneEgg/American Egg Board.

Baum JI (PI) and Gray M. (2012-2014) The effects of consuming an egg-based breakfast on energy metabolism, food intake, and glycemic response in school-aged children. American Egg Board.

Baum JI (PI), Lee S-O, Gray M, Ganio M, Washington T, Smith-Blair N. (2013) Equipment grant for purchase of a metabolic measurement system. Arkansas Biosciences Institute.

N Smith-Blair, **Baum JI**, Washington TA. (2013-2014) The impact of aerobic exercise training on the patterns of pulmonary hypertension and skeletal muscle function induced by diabetes mellitus type II. Arkansas Biosciences Institute.

Washington T (PI), **Baum JI**, Bottje W, Smith-Blair N. (2012-2013) Effect of obesity on mitochondrial biogenesis during skeletal muscle regeneration. Arkansas Biosciences Institute.

Baum JI (PI). (2012-2013) The role of leucine and omega-3 fatty acids in skeletal muscle function during aging. NIH/University of Arkansas for Medical Sciences Claude Pepper Older American Independence Center Pilot and Exploratory Studies Program.

Past Funding – Students

Fleming D and **Baum JI (PI).** (2013-2014) The role of dietary leucine in liver metabolism during obesity. University of Arkansas Honors College Research Grant Award.

Dunn A and **Baum JI (PI).** (2013-2014) The importance of breakfast composition on energy metabolism and metabolic health in breakfast-skipping young women. Arkansas Department of Higher Education Student Undergraduate Research Fellowship (SURF) Grant.

French W and **Baum JI (PI).** (2014-2015) The Impact of Aerobic Exercise on Body Composition, Glycemic Control and Skeletal Muscle Function in Type 2 Diabetic Zucker Rats. University of Arkansas Honors College Research Grant Award.

Crowder C and **Baum JI (PI).** (2014-2015) The Effects of Leucine and Omega-3 Fatty Acid Supplementation of Weight Loss and Energy Metabolism in Overweight/Obese Women. University of Arkansas Bumpers College Honors Grant and Honor's College Grant

Student Mentorship

PhD – Committee Chair

- Hexirui Wu (2020)

MS – Committee Chair

- Dameon Smith (2014) – “The role of long-term leucine supplementation on obesity prevention in high-fat fed rats.”
- Brianna Neumann (2016) – “Does protein quality impact postprandial energy metabolism following breakfast?”
 - First place - University of Arkansas Food Science Club Graduate Student Poster Competition 2015
 - Food Science Departmental Scholar Award, MS (2015)
 - Nominated, Bumpers Distinguished Scholars Award, MS (2016)
- Charlayne Mitchell (2017)

Honor's Undergraduate:

- Spring 2014 - Davis Fleming (BS, Biology) – “The role of dietary leucine supplementation in liver metabolism during obesity”
- Fall 2014 - Amy Dunn (BS, Biology) – “The effect of breakfast composition on energy metabolism, energy intake and glycemic control in women”
- Spring 2015 - William French (BS, Biology) – “A diet high in protein reduces weight gain, food intake and liver weight in obese Zucker rats”
 - First place - University of Arkansas Food Science Club Undergraduate Student Poster Competition
 - 2014 Senior of Significance
 - 2015 Razorback Classic Recipient
- Spring 2015 - Christina Crowder (BS, Dietetics) – “The effects of protein source on postprandial satiety and glycemic response in overweight/obese women”

- Second place - University of Arkansas Food Science Club Undergraduate Student Poster Competition
- Second place – Ozark Food Processors Association Student Poster Competition
- Bumpers College Outstanding Thesis Gold Ribbon Finalist
- Spring 2016 – Timothy Carroll (BS, Biology) – “The ability of dietary protein to reduce parameters of nonalcoholic fatty liver disease”
 - 2015 Senior of Significance
- Spring 2016 – Tommy Inman (BS, Biology) – “Defining the role of leucine in skeletal muscle energy metabolism for prevention of type 2 diabetes”
- Spring 2016 – Gabrielle Kubas (BS, Biology) – “Nutrient modulation of the mammalian target of rapamycin (mTOR) to improve muscle function during aging”
- Spring 2016 – Lauren Cambias (BS, Dietetics) – “Evaluation of breakfast food form and macronutrient composition affects satiety and food intake over a 24 hour period”

Undergraduate Summer Research Mentorship

Summer 2015 – Brazilian Summer Research Experience – Enela Silva, Adriana Divinia Campos, Joao Pedro Marinho Guimaraes

Summer 2013 - Derrick Williams, Jr. – “The role of leucine supplementation on skeletal muscle metabolism during high-fat feeding”

- Presented poster at the 2013 Annual Biomedical Research Conference for Minority Students. “The role of leucine supplementation on skeletal muscle metabolism during high-fat feeding.”