Natalie Mudd

nmudd@purdue.edu | (317)473-5861

Summary

Passionate and motivated graduate research assistant and former collegiate swimmer seeking an opportunity to learn and innovate in the food and beverage industry. Strong expertise in working in and leading teams, strategic thinking, and organization.

EDUCATION

Purdue University West Lafayette, IN
M.S., Food Science (Protein Chemistry) August 2020 - May 2022

- Relevant coursework: Food Ingredient Technology; Food Chemistry; Food Nutrition
- Thesis: Antioxidant capacity of cricket proteins using *in vitro* and *in vivo* methods
- Teaching Assistant: Sensory Science (to be completed spring semester 2022)
- Ross Fellowship Recipient: 2-year stipend and tuition coverage
- GPA: 3.53

Purdue University West Lafayette, IN
B.S., Neurobiology and Physiology; Minor, Psychology August 2016 - May 2020

- Division I Women's Swim Team
- Academic All-Big Ten (2017, 2018, 2019, 2020)
- GPA: 3.59

RESEARCH EXPERIENCE

Department of Food Science, Purdue University

Graduate Research Assistant to Dr. Andrea Liceaga August 2020-Present

- Objective: To determine the bioactive properties of an underutilized protein source
- Analyzed the bioactive properties of cricket peptides *in vitro*
- Designed and executed experiments to test the antioxidant properties of cricket peptides *in vivo* using *C. elegans*
- Performed statistical analysis on data sets using JMP, Minitab, and excel
- Facilitated communications between lab groups to broaden laboratory resources

Undergraduate Research Assistant to Dr. Andrea Liceaga May 2019-May 2020

- Objective: To determine the bioactive properties of an underutilized protein source
- Expressed bioactive peptides of canary seeds via enzymatic hydrolysis
- Performed assays on canary seed proteins to analyze their bioactive properties
- Developed and refined skills in reading, analyzing, and interpreting peer-reviewed journals
- Assisted in the Sensory Evaluation lab by preparing samples and administering tests

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Department of Nutrition, Purdue University
Undergraduate Research Assistant to Dr. Jessica Ellis May 2017- August 2018

- Objective: To determine functionality of an enzyme in the brain, Acyl-CoA synthetase 6, using transgenic mice as an *in vivo* model
- Performed motor and neurosensory assessment on mice
- Collected measurements of cells using imageJ analysis suite
- Developed skills in reading, analyzing, and interpreting peer-reviewed journals
- Work in this lab was acknowledged in the following peer review article:
  Fernandez, R., Kim, S., … Ellis, J. (2018). Acyl-CoA synthetase 6 enriches the neuroprotective omega-3 fatty acid DHA in the brain. Proceedings of the National Academy of Science of the United States of America. https://doi.org/10.1073/pnas.1807958115

ADDITIONAL RELEVANT EXPERIENCE

The Hatchery Chicago, Summer Intern June 2020-August 2020

- Collaborated with startup food and beverage companies to grow their business
- Assisted in marketing campaigns to increase awareness of members products and services
- Conducted rapid market analysis to determine current and future food trends
- Gained an understanding of how a food a beverage company operates cross-functionally
- Devised a Post-Covid Plan to guide members in reopening and growing their food and beverage business

Product Development for Graduate Case Study Course Spring 2021

- Worked with industry leading CPG company seeking ideation for "better-for-you" products
- Conducted research on healthier alternatives to traditional ingredients
- Formulated four high fiber brownie products: original, vegan, gluten-free, low-sugar
- Conducted sensory evaluation and market analysis
- Communicated with and presented to leadership of the CPG company

Soybean Innovation Competition Finalist 2020 & 2021

- Devised and executed a plan to create a novel product from soybean material
- Designed a product: soy-based plastic water bottle (2020); soy-based flocculating agent for water treatment (2021)
- Conducted market analysis and patent searches
- Improved skills in product development, team collaboration, project management, and scientific communication

SKILLS

Lab/computer: Protein Hydrolysis, Product development, Bioactive Assays, Rodent Handling, Cell Culture, Statistical Analysis, Python, R
General: Innovative Thinking, Teamwork, Communication, Critical thinking and planning, Time management