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## EDUCATION

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<b>PhD in Food Science</b> , University of Guelph	April 2025
<b>MSc in Food Science</b> , University of Guelph	August 2021
<b>Professional Culinary Chef Certificate</b> , Kul IN, Culinary Institute, Sisak, Croatia	May 2018
<b>BSc in Biological and Pharmaceutical Chemistry</b> , University of Guelph	December 2017

## EXPERIENCE

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**PhD/ MSc Graduate Research Assistant:** *University of Guelph, Marangoni Lab*  
*September 2018- April 2025*

- **PhD:** Plant protein functionality in food systems, focusing on structure-function relationships in high protein plant-based cheese
  - Successfully developed innovative methodology and formulations for a sustainable plant-based cheese product that can match dairy cheese's mechanical and sensory properties.
    - Developed a new methodology for analyzing plant-based cheese properties, including melt and stretch, which has now been adapted at the industry level
  - Examined fat mimetics of plant-based cheese to determine techniques for reducing oil loss, focusing on emulsion properties and oleogel substitution mechanisms
  - Determined how different plant proteins influence plant-based cheese mechanical and macroscopic properties.
    - Characterized the functional properties of the plant-based proteins and determined if certain protein characteristics can be related to physical and molecular changes in the cheese system.
    - Used advanced synchrotron analysis to identify structure changes across both commercial and plant-based cheese.
  - Successfully managed multiple industry partnerships and spearheaded meetings to ensure all stakeholders were up to date and understood the latest research finding
  - Successfully managed a team of graduate students and actively communicated to ensure a thorough understanding of results.
  - Published four first-author scientific research and seven second author papers surrounding plant based alternatives and wrote IP leading to patent surrounding plant-based cheese technology.
- **MSc** Thesis: Fiber-Reinforced Protein-Starch Composite as the Basis for Meat Analogues
  - Successfully developed a novel process for the creation of a fibrous plant-based meat analogue
  - In-depth analysis of plant proteins and polysaccharide interactions and how they impact plant-based food systems.
  - Extensive analytical experience developing methodology and using rheometer, texture analyzer, bright field and confocal microscopy, differential scanning calorimeter, spectrophotometer, zetasizer, Fluorescence spectrometer, mastersizer, and FTIR.

**Graduate Teaching Assistant:** *University of Guelph*

- Food Processing -Winter 2020/2023, Introduction to Nutritional and Food Science- Fall 2022, Principles of Food Science- Winter 2019/2024
- *Topics in Food Science 4220-Fall 2021*
  - Assisted in developing a new undergraduate course for The University of Guelph focused on sustainable proteins.
  - Proposed course ideas to students and actively assisted in gathering and identifying key information. Communicated with students to ensure learning outcomes were reached

**Independent Chemistry Research Project:** *University of Guelph, Department of Chemistry September-December 2017*

- Impact of DNA Base Pair Substitutions on The Binding of Ochratoxin-A to a 31-mer G-Quadruplex Forming DNA Aptamer
- Performed thermal melting tests, UV-VIS concentration determination and fluorescence spectroscopy binding titrations

**Chemical Science Research Assistant:** *University of Guelph Ridgetown Campus, May- December 2016*

- Responsible for organizing and running the research laboratory, including ordering supplies, scheduling projects and teaching incoming students.
- Performed chemical extraction of mycotoxin and pesticides and fully analyzed samples by LCMS/MS.

**Undergraduate Student Research Award:** *University of Guelph Ridgetown, May- December 2016*

- Bioconversion of energy crops and residuals to biofuels and co-products.
- Independently examined the derivation process for yeast oil and determined the best method for analysis by GC-FID.
- Optimized new method for quantitation of fatty acid methyl esters and wrote a standard operating procedure for the gas chromatography system.

ADDITIONAL EXPERIENCE

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**Reviewer for scientific journals:** Food Hydrocolloids, Food Structure, and Current Research in Food Science

**Scouts Canada Volunteer**

*2009-present*

Sub Camp Chief: Dorchester International Cub Camporee (weekend camp)

- Organization and planning a 3-day program for 150-350 youth and adults, including activities, challenges, and contests. As well as ensure safety guidelines are followed
  - ❖ *Scouts Canada Scholarship (awarded to 17 individuals across Canada)*
  - ❖ *Scouts Canada Bar to The Medal of Good Service*

AWARDS AND RECOGNITION

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| • AOCS First Place Oral Presentation                   | 2025      |
| • Ontario Graduate Scholarship                         | 2022-2025 |
| • Braithwaite Travel Grant                             | 2024/2025 |
| • American Oil Chemists' Society Honored Student Award | 2024      |

- American Oil Chemists' Society Award -Protein and Co-products 2023
- Latornell Graduate Scholarship 2021
- Ontario Volunteer Service Award -10 years 2021
- Arthur D. Latornell Graduate Research Travel Scholarship 2019
- Robb Graduate Student Travel Grant 2019
- Dr. Chester Meyers Graduate Scholarship 2019
- Robert Orr Lawson Scholarship 2019
- Scouts Canada Bar to The Medal of Good Service 2019
- Food Safety and Quality Assurance Graduate Internship Award 2019
- Queen Elizabeth II Graduate Scholarship in Science and Technology 2019
- Scouts Canada Medal of Good Service 2017
- Undergraduate Student Research Award (NSERC) 2016
- Industrial Undergraduate Student Research Award (NSERC) 2015
- Scouts Canada Scholarship (awarded to 17 individuals across Canada) 2013

## PATENTS

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[Plant-Based Cheese Product Comprising Low Solubility Protein](#)

A Marangoni, S Dobson - US Patent App. 18/296,286, 2024

[Plant-based cheese product and method of making a plant-based cheese product](#)

JG Moca, AM Hibnick, I Karakaplan, SL Dobson- US Patent App. 17/733,732, 2023

## PUBLICATIONS

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Dobson, S., & Marangoni, A. G. (2025). Evaluating the effect of plant protein functionalities on the performance of high-protein plant-based cheese. *Food Chemistry (in press)*.

Dobson, S., & Marangoni, A. G. (2025). Exploration of structural differences between dairy and plant-based cheese. *Food Structure*, 44, 100424. <https://doi.org/10.1016/j.foostr.2025.100424>

Koekuyt, H. A., Dobson, S., & Marangoni, A. G. (2025). Lipid complexation improves the mechanical properties and functionality of legume starch gels. *Food Hydrocolloids*, 167, 111401. <https://doi.org/10.1016/j.foodhyd.2025.111401>

Czapalay, E. S., Dobson, S., & Marangoni, A. G. (2025). Legume Starch and Flour-Based Emulsion Gels as Adipose Tissue Mimetics in Plant-Based Meat Products. *Future Foods*, 100578. <https://doi.org/10.1016/j.fufo.2025.100578>

Hanley, L., Dobson, S., Stobbs, J., & Marangoni, A. G. (2025). Physicochemical and functional characterization of plant protein isolates and their influence on plant-based mozzarella cheese performance. *Food Hydrocolloids*, 164, 111222. <https://doi.org/10.1016/j.foodhyd.2025.111222>

Sanders, C., Stobbs, J. A., Dobson, S., & Marangoni, A. G. (2024). Impact of protein sources on the functionality of plant-based cheeses formulated with saturated and unsaturated fat. *Physics of Fluids*, 37(1). <https://doi.org/10.1063/5.0238556>

Sanders, C., Dobson, S., & Marangoni, A. G. (2024). Effect of saturated and unsaturated fat on the physical properties of plant-based cheese. *Current Research in Food Science*, 9, 100832.

<https://doi.org/10.1016/j.crfs.2024.100832>

Dobson, S., & Marangoni, A. G. (2024). Fat stabilization techniques for the reduction of oil loss in high protein plant-based cheese. *Food Hydrocolloids*, 156, 110362.

<https://doi.org/10.1016/j.foodhyd.2024.110362>

Sanders, C., Dobson, S., & Marangoni, A. G. (2024). Influence of protein addition in plant-based cheese. *MRS Bulletin*. <https://doi.org/10.1557/s43577-024-00737-2>

Hanley, L., Dobson, S., & Marangoni, A. G. (2024). Legume milk-based yogurt mimetics structured using glucono- $\delta$ -lactone. *Food Research International*, 184, 114259.

<https://doi.org/10.1016/j.foodres.2024.114259>

Dobson, S., & Marangoni, A. G. (2023). Methodology and development of a high-protein plant-based cheese alternative. *Current Research in Food Science*, 7, 100632.

<https://doi.org/10.1016/j.crfs.2023.100632>

Dobson, S., Stobbs, J., Laredo, T., & Marangoni, A. G. (2023). A facile strategy for plant protein fiber formation without extrusion or shear processing. *Innovative Food Science and Emerging Technologies*, 86. <https://doi.org/10.1016/j.ifset.2023.103385>

Dobson, S., Pensini, E., Dupuis, J. H., Yada, R. Y., & Marangoni, A. G. (2023). Synergistic interactions between pea protein isolate and rapid-swelling starch. *Food Hydrocolloids*, 142.

<https://doi.org/10.1016/j.foodhyd.2023.108753>

Dobson, S., Laredo, T., & Marangoni, A. G. (2022). Particle filled protein-starch composites as the basis for plant-based meat analogues. *Current Research in Food Science*, 5(May), 892–903.

<https://doi.org/10.1016/j.crfs.2022.05.006>

Ghazani, S. M., Dobson, S., & Marangoni, A. G. (2022). Hardness, plasticity, and oil binding capacity of binary mixtures of natural waxes in olive oil. *Current Research in Food Science*, 5(December 2021), 998–1008. <https://doi.org/10.1016/j.crfs.2022.06.002>

## PRESENTATIONS

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Dobson, S., and Marangoni A. G. Evaluating the effect of plant protein functionalities on the performance of high-protein plant-based cheese. American Oil Chemists' Society annual meeting. Portland, Oregon, USA, April 27- April 30, 2025, (Oral presentation – *Award winner*)

Dobson, S., Czapalay, E., and Marangoni A. G. Legume Starch and Flour-Based Emulsion Gels as Adipose Tissue Mimetics in Plant-Based Meat Products. American Oil Chemists' Society annual meeting. Portland, Oregon, USA, April 27- April 30, 2025, (Oral presentation)

Dobson, S., and Marangoni A. G. Exploration of structural differences between dairy and plant-based cheese as observed through synchrotron investigative technologies. American Oil Chemists' Society annual meeting. Montreal, Quebec, Canada, April 28- May 1, 2024, (Oral presentation – *Honoured student*)

Dobson, S., and Marangoni A. G. Oil structuring via minor incorporation of cellulosic and wax components for reduction of oil loss in high protein plant-based cheese. American Oil Chemists' Society annual meeting. Montreal, Quebec, Canada, April 28- May 1, 2024, (Oral presentation)

Dobson, S., Marangoni A. G. Protein functionality in high-protein plant-based cheese. 19<sup>th</sup> Food Colloids Conference. Thessaloniki, Greece, April 14<sup>th</sup>-18<sup>th</sup>, 2024. (Poster)

- Dobson, S., Marangoni A. G. Protein functionality in high-protein plant-based cheese. Guelph Food Engineering Conference. Guelph, Ontario April 5<sup>th</sup>, 2024. (Poster- Best PhD poster award)
- Dobson, S., Marangoni A. G. Protein functionality in high-protein plant-based cheese. American Oil Chemists' Society annual meeting. Denver, Colorado, USA, April 30- May 3, 2023, (Invited panellist)
- Dobson, S., Marangoni A. G. Oil modulation in high-protein plant-based cheese. American Oil Chemists' Society annual meeting. Denver, Colorado, USA, April 30- May 3, 2023, (Oral presentation)
- Dobson, S., Pensini, E., Dupis, J., Yada, R. and Marangoni, A.G. Interactions Between Dilute Suspensions of Pea Protein Isolate and Rapid Swelling Starch. 16<sup>th</sup> International Hydrocolloids Conference. Guelph, Ontario. October 23-26, 2022. (Oral Presentation)
- Dobson, S., Stobbs, J.A., Laredo, T. and Marangoni, A.G. Fiber-reinforced protein starch composites as the bases for meat analogues. 5<sup>th</sup> Food Structure & Functionality Symposium: Structuring Foods for a Sustainable World. Cork, Ireland, Sept 18-21, 2022 (Oral Presentation)
- Dobson, S., Stobbs, J.A., Laredo, T. and Marangoni, A.G. Fiber reinforced protein starch composites as the bases for meat analogues. Edible Soft Matter Conference, Netherlands, July 9-13, 2022 (Oral Presentation)
- Dobson, S, Marangoni A. G. Particle-filled protein-starch composites and suspensions as models for exploring interactions in plant-based meat analogues. CAOCS: Canadian Lipids and Proteins Conference. February 4-5, 2022 (Invited Speaker)
- Dobson, S., Marangoni A. G. Protein Functionality in Plant-Based Foods. Plant Protein Science and Technology Forum. Webinar. October 26, 2021. (Oral Presentation)
- Dobson, S., Marangoni A. G. Protein Functionality in Plant-Based Foods. Bridge2Food Research Conference Plant-Based Foods & Proteins Americas 2021. October 19-20, 2021 (Invited speaker)
- Dobson, S., Marangoni A. G. Synergistic Interactions in Protein Particle-Filled Starch Composites Used as Plant-Based Meat Analogues. 4th Food Structure and Functionality Symposium. October 19-20, 2021 (Poster)
- Dobson, S., Marangoni A. G. Synergistic Interactions in Protein Particle-Filled Starch Composites Used as Plant-Based Meat Analogues. AOCS: Plant Protein Science and Technology Forum. October 12-14, 2021 (Poster)
- Dobson, S., Marangoni A. G. Protein Starch Interactions to Create Structure in Plant-Based Foods. Soybean 360: Agro Processing in Sub-Saharan Africa. November 30- December 1, 2020 (Invited Speaker)