



Deshani C. Mudannayake (BSc, MSc, PhD)
Professor in Food Science and Technology

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Academic Profile

Professor Deshani C. Mudannayake is a Food Science and Technology academic at Uva Wellassa University (UWU), with academic training from the University of Peradeniya, Sri Lanka, and The University of Melbourne, Australia. Her academic and research interests span food science and technology, dairy science, food chemistry and microbiology, food analysis, animal product processing, functional foods, probiotics and prebiotics, inulin-type fructans, bioactive compounds, and innovative seaweed-based food applications.

She has been an academic at Uva Wellassa University since 2007, progressing through the academic ranks from Lecturer to Senior Lecturer (Grade II), Senior Lecturer (Grade I), and Professor. Over her academic career, she has contributed to undergraduate and postgraduate education, research supervision, competitive research funding, scientific publication, curriculum development, quality assurance, and professional and community engagement.

Her work reflects a strong commitment to translating food science research into innovative, functional and health-oriented food applications, with a particular interest in dairy foods, beneficial microorganisms and bioactive food components. Passionate about dairy food innovation, she aspires to mentor young researchers and contribute to advancing global dairy, food and health science.

Academic Qualifications

- PhD in Food Science, The University of Melbourne, Australia (2016).
- MSc in Food Science, The University of Melbourne, Australia (2007).
- BSc (Honours) in Agriculture, University of Peradeniya, Sri Lanka (2005).

Academic & Professional Experience

- Professor in Food Science and Technology, Department of Food Science and Technology, Faculty of Animal Science and Export Agriculture, Uva Wellassa University (05/03/2024–present).
- Senior Lecturer (Grade I), Department of Animal Science, Uva Wellassa University (22/10/2018–04/03/2024).
- Senior Lecturer (Grade II), Department of Animal Science, Uva Wellassa University (09/10/2015–22/10/2018).
- Lecturer, Department of Animal Science, Uva Wellassa University (22/10/2007–09/10/2015).
- Research Project Assistant, Culture Division, Dairy Innovation Australia, Werribee, Victoria, Australia (02/2007–07/2007); conducted bulk cheese starter culture fermentation simulation trials.
- Temporary Demonstrator, Faculty of Veterinary and Agricultural Sciences, The University of Melbourne, Australia (05/2014–11/2014); conducted laboratory practicals for Food Microbiology (FOOD 90023).
- Postgraduate teaching: Lecturer/Visiting Lecturer for Dairy Chemistry (AS 5109-2), Postgraduate Institute of Agriculture, University of Peradeniya (2022, 2023).
- Member of the postgraduate teaching panel for Research Methodology and Scientific Writing (GRD 602-3), Faculty Higher Degree Committee, Uva Wellassa University, since 2020.

Current & Recent University Responsibilities

- Director, Quality Assurance, Uva Wellassa University (from 01/02/2024–present).
- Member of the Senate, Uva Wellassa University (from 11/2019–present).
- Member of the Faculty Board, Faculty of Animal Science and Export Agriculture (since 2015–present).
- Coordinator, Dairy Processing and Research Laboratory, Department of Animal Science (from 2015–present).
- Head, Department of Food Science and Technology, Faculty of Animal Science and Export Agriculture (01/02/2026–01/06/2026).
- Head, Department of Animal Science, Faculty of Animal Science and Export Agriculture (01/01/2021–01/01/2024).
- Coordinator for establishment of the Department of Food Science and Technology, Uva Wellassa University (2022).
- Chairperson, Faculty Higher Degree Committee, Faculty of Animal Science and Export Agriculture (10/01/2019–10/01/2021); previously Secretary (12/10/2017–10/01/2019).
- Chairperson, Board of Study: Food Science and Technology, Postgraduate Unit, Uva Wellassa University.
- Member, Boards of Management of the Postgraduate Unit and External Degree Programs, Uva Wellassa University.
- Member of the Subject Benchmark Panel for preparation of the Food Science and Technology Subject Benchmark Statement, nominated by the University Grants Commission, Sri Lanka (December 2022).

Teaching Areas

Undergraduate teaching and course coordination have included Principles of Food Science (ANS 141-2), Food Chemistry (ANS 242-2), Food Microbiology (ANS 301-3), General Microbiology (ANS 103-1), Food Analysis (ANS 401-2), Animal Product Processing Technology (ANS 371-3), Dairy Product Technology and Value Addition (ANS 343-3), Principles of Food Science and Animal Product Technology (ANS 102-2), Food Preservation & Processing (ANS 352-2), and Food Packaging Technology (ANS 358-1).

Teaching responsibilities have included lecture delivery, examination setting and marking, undergraduate research supervision and industrial training supervision in Food Science & Technology and Dairy Science.

Research Interests

- Inulin-type fructans present in Sri Lankan plants and their utilization as prebiotic ingredients.
- In-vitro colonic fermentation of prebiotics.
- Effects of inulin fructans on in-vitro growth of gut microbiota.
- Functional dairy and meat products.
- Bioactive compounds and gut microbiome.

Recent Research Themes

- Utilization of fucoxanthin, a brown-seaweed-derived carotenoid, in dairy products.
- Development of functional noodles incorporating *Sargassum crassifolium*.
- Extraction, purification and in-vitro fermentation of inulin-type fructans from *Asparagus*, *Garlic* and *Dahlia* species, with applications in dairy and meat products.
- Development of tomato-lycopene-incorporated functional products.
- Development of *Ulva lactuca* incorporated crackers.
- Extraction of carrageenan from *Kappaphycus alvarezii* using different methods.
- Microencapsulation of probiotic bacteria using chitosan and inulin.

Research Grants

- Uva Wellassa University MPhil Grant (2024): Enhancing the viability of *Lactobacillus rhamnosus* GG through microencapsulation of ultrasound-treated wall materials (soy protein isolate and inulin) and developing a probiotic beverage. Grant No. UWU/RG/MPhil/2024/12. Duration: 2 years. Principal Investigator. Ongoing.
- Uva Wellassa University Capital Grant (2022): Phytochemistry of selected Sri Lankan brown seaweeds (*Sargassum* and *Padina* spp.) and development of a nutraceutical product. Grant No. UWU/RG/2018/038. Co-Investigator. Completed.
- National Research Council Investigator Driven Grant (2018): Extraction, purification and chemical characterization of inulin-type fructans from different *Asparagus* species grown in Sri Lanka and their utilization as potential prebiotic ingredients in dairy products. Grant No. NRC 18-094. Principal Investigator. Completed in 2022.
- Uva Wellassa University Capital Grant (2018): Development of functional chicken sausage incorporating inulin derived from *Garlic* (*Allium sativum*) and *Dahlia* (*Dahlia pinnata*) and probiotic bacteria. Grant No. UWU/RG/2018/038. Principal Investigator. Completed in 2022.

- Higher Education for Twenty First Century (HETC) Project Grant (2011): Synbiotic dairy beverage incorporating Sri Lankan plant-derived inulin-type fructans. Grant No. UWU/O-A&S/N4. Principal Investigator. Completed in 2015.
- CARP Grant (2011): Development of synbiotic yoghurt by incorporating cold water extract of *Dioscorea alata* (Raja ala) with combination of probiotic bacteria. Grant No. NARP/11/UWU/ASEA/02. Principal Investigator. Completed in 2012.

Research Outreach & Community Engagement

- Team Leader and Dairy Scientist, Development of a Case Study on Drought Resilient Dairy Farming in Monaragala District, Sri Lanka, funded by OXFAM Sri Lanka and principally funded by the EU under the EGSD project.
- Team Leader, Improving the Livelihood of Dairy Entrepreneurs (MSMEs) in selected DS divisions in Badulla District, Sri Lanka, funded by the European Union under the Integrated Economic Development of Central and Uva Provinces project, in collaboration with Humanity & Inclusion.
- Coordinator and resource person for workshops on Good Agricultural Practices and Good Dairy Management Practices for Livestock Development Instructors in Uva and Central Provinces, in collaboration with DAPH, OXFAM Sri Lanka and UADF (2021).
- Resource person for the 100-Hour Short Course on Selected Topics of Agriculture and Bio System Technology (2016) and the Bio System Technology workshop for A/L teachers in Uva Province (2015).

Postgraduate Research Supervision

- Ms. I.P.A.U.N.K. Illippangama, MPhil – Functional chicken sausage incorporating inulin derived from Garlic and Dahlia and probiotic bacteria. Principal Supervisor. Completed in 2024.
- Ms. G.G.N. Jayarathne, MPhil – In-vitro prebiotic properties of inulin-type fructans derived from three *Asparagus* species grown in Sri Lanka. Principal Supervisor. Completed in 2023.
- Ms. W.K. Meegahawaththa, MPhil – Extraction, purification and chemical characterization of inulin-type fructans from three *Asparagus* species and their utilization as potential prebiotic ingredients in dairy products. Principal Supervisor. Research work completed.
- Ms. Bawanthi Balasooriya, MPhil – Enhancing viability of *Lactobacillus rhamnosus* GG through microencapsulation using ultrasound-treated soy protein isolate and inulin and developing a probiotic beverage. Principal Supervisor. Ongoing.
- Ms. D.M. Kavindi Dissanayake, MPhil – Effect of double-coat microencapsulation on viability of *Lactobacillus rhamnosus* and *Bifidobacterium* spp. in dairy products. Co-supervisor, Postgraduate Institute of Agriculture, University of Peradeniya. Ongoing.

Selected Publications

Full Papers

- L. Panapitiya, D.C. Mudannayake. *Saccharomyces boulardii*: a probiotic yeast for gut health and food innovation. *Microbiology Australia*. (2026), Vol 47 (2): 134 - 140. <https://doi.org/10.1071/MA26129>
- D.C. Mudannayake, W. K. Meegahawaththa, A.U. Illippangama, H.M.J.C. Pitawala, K.M.S. Wimalasiri, K. F.S.T. Silva. Extraction, purification and structural characterization of inulin-type fructans from

different selected *Asparagus* species. *Bioactive Carbohydrates and Dietary Fibre*. (2025), 34:100486. <https://doi.org/10.1016/j.bcdf.2025.100486>.

- N.V.P Anjali , D.C. Mudannayake, Egg-Based Mousse Ice Cream Incorporated with Lavulu [*Pouteria campechiana* (Kunth) Baehni] Flour as a Colorant and an Antioxidant, *Journal of Agriculture and Value Addition*, (2024), Vol.7(2):1-19, <https://doi.org/10.4038/java.v7i2.135>.
- D.C. Mudannayake, D.D. Jayasena, K.M.S. Wimalasiri, C.S. Ranadheera and S. Ajlouni. Inulin fructans: Fermentability in the human colon, health benefits and quantification, *Food Science and Preservation* (2024). 2024; 31(6):896-911 DOI: <https://doi.org/10.11002/fsp.2024.31.6.896>
- D.C. Mudannayake, K.G.B.B.H. Balasooriya, T.H.K.U. Ananda, B.V.A.S.M. Bambaranda. *Kappaphycus alvarezii* Seaweed Powder Incorporated Dairy Ice Cream as a Potential Functional Food. *Sri Lankan Journal of Applied Sciences*. (2024), 3.1, 14-20
- D.I. Egodavitharana, S. Manikkrama, B.V.A.S.M. Bambaranda, D.C. Mudannayake Utilization of *Sargassum crassifolium* seaweed powder as a functional ingredient in wheat noodles, *Journal of Applied Phycology*, (2024). (Publisher: Springer nature) <https://doi.org/10.1007/s10811-024-03290-2>.
- S.S. Fernando, C. Jo, D. C. Mudannayake and D.D. Jayasena. An overview of the potential application of chitosan in meat and meat products, *Carbohydrate Polymers* 324 (2024) 121477. (Publisher: Elsevier). <https://doi.org/10.1016/j.carbpol.2023.121477>.
- H.I.U. Thilakarathna, G.N. Jayarathna, D.C. Mudannayake. Probiotic ice cream incorporated with Blue Pea flower (*Clitoria ternatea*) as a natural colorant and dehydrated Banana flour as a potential prebiotic ingredient, *Food and life*, (2023), 2: 67-75. <https://doi.org/10.5851/fl.2023.e7>
- D.I. Egodavitharana, B.V.A.S.M. Bambaranda and D.C. Mudannayake, Phytochemical composition of two green seaweeds (*Ulva lactuca* and *Ulva fasciata*) and their utilization as a functional ingredient in crackers, *Journal of Aquatic Food Product Technology* (2023), (Publisher: Taylor & Francis). Manuscript DOI: 10.1080/10498850.2023.2174394
- A.U. Illippangama, D.D. Jayasena, C. Jo and D. C. Mudannayake. Inulin as a Functional ingredient and their application in meat products. *Carbohydrate Polymers*. 275 (2022) 118706. (Publisher: Elsevier) <https://doi.org/10.1016/j.carbpol.2021.118706>
- D.C. Mudannayake, D.D. Jayasena, K.M.S. Wimalasiri, C.S. Ranadheera and S. Ajlouni, Inulin fructans-food applications and alternative plant sources: a review, *International Journal of Food Science and Technology* (2022) <https://doi.org/10.1111/ijfs.15947> (2022).
- G.N. Jayarathna, D.D. Jayasena and D.C. Mudannayake. Garlic Inulin as a Fat Replacer in Vegetable Fat Incorporated Low-Fat Chicken Sausages. *Journal of Food Science of Animal Resources* (2022) 42 (2): 295-312. <https://doi.org/10.5851/kosfa.2022.e5>
- S. H. D. K Silva, D. C. Mudannayake and B. V. A. S. M. Bambaranda, Bioactive, Microbiological, and Sensory Properties of *Sargassum cristaeifolium* and *Sargassum crassifolium* Herbal Tea, *Advances in Technology*. (2022), 2 (1), 38-49. <https://doi.org/10.31357/ait.v2i1.5456>
- D.L.D.A.S. Premasiri, D.U. Rajawardana, D.C. Mudannayake and I.G.N. Hewajulige, Isolation, Characterization and Identification of Industrially Beneficial Probiotic Lactic Acid Bacteria from Goat Milk, *The Journal of Agricultural Sciences- Sri Lanka*. (2021) Vol. 16 (2): 369-382. <http://doi.org/10.4038/jas.v16i2.9341>
- H.M.I.A. Uduwerella, P.C. Arampath and D.C. Mudannayake. Physicochemical and Functional Properties of Pumpkin Seed Flour of *Cucurbita maxima* and *Cucurbita moschata* Species. *Tropical Agricultural Research* (2021) 32(2):201-211. <http://doi.org/10.4038/tar.v32i2.8467>

- W. K. Meegahawaththa, I. D. Singhalage, D. C. Mudannayake, Tomato (*Lycopersicon esculentum* L.) peel powder as a source of natural antioxidant and a colorant in stirred yoghurt, *Journal of Food and Life* (2020). 2: 87-97. <https://doi.org/10.5851/fl.2020.e10>
- D.C. Mudannayake, N. Ong, M. Broome. Effect of yeast extract on cell growth of three *Lactococcus lactis* ssp. *cremoris* strains in cheese bulk starter. *Journal of Agriculture and Value addition* (2019). Vol 2 (2): 44-59
- D.C. Mudannayake, N. Ong, M. Broome. The effect of yeast extract supplementation on activity of bulk starter in cheese manufacturing: A laboratory simulation. *Journal of Agriculture and Value addition* (2018). Vol 1 (2): 19-32.
- D.C. Mudannayake, K.F.S.T. Silva, K.M.S. Wimalasiri, S. Ajlouni. In-vitro prebiotic properties of partially purified *Asparagus falcatus* and *Taraxacum javanicum* Inulins. *Journal of Food and Nutritional Disorders*. (2016). Vol 5 (6). doi: 10.4172/2324-9323.1000213
- D.C. Mudannayake, K.M.S. Wimalasiri, K.F.S.T. Silva, S. Ajlouni. Effect of *Asparagus falcatus* and *Taraxacum javanicum* Inulins on growth of *L. acidophilus* La-5 and *B. animalis* subsp *lactis* Bb-12, co-cultured in skim milk. *Tropical Agricultural Research*. (2016). Vol 27(2), 171-181.
- D.C. Mudannayake, K.M.S. Wimalasiri, K.F.S.T. Silva, S. Ajlouni, (2015). Comparison of properties of new sources of partially purified inulin to those of commercially pure Chicory inulin. *Journal of Food Science*, 80 (5), 950-960. doi: 10.1111/1750-3841.12857
- D.C. Mudannayake, K.M.S. Wimalasiri, K.F.S.T. Silva, S. Ajlouni, (2015). Selected Sri Lankan food plants and herbs as potential sources of inulin-type fructans, *Journal of National Science foundation of Sri Lanka*, 43 (1), 33-41. doi:<http://dx.doi.org/10.4038/jnsfsr.v43i1.7913>
- U. S. Alwis, D.C. Mudannayake, D.D. Jayasena, K.J.H. Ubeyarathna. (2014). Evaluation of *Salmonella* cross contamination at retail chicken meat outlets in Kandy, Sri Lanka. *CNU journal of Agricultural Science* (41), pp 35-40.
- D. R Jayawickrama, P.B Weerasinghe, D. D. Jayasena, D.C. Mudannayake (2013) Effects of supplementation of urea-molasses multinutrient block (UMMB) on the performance of dairy cows fed with good quality forage-based diets with rice straw as night feeding. *CNU journal of Agricultural Science*. (40), pp 123-129. <http://dx.doi.org/10.7744/cnujas.2013.40.2.123>

Conference papers

- Kaushalya G, Neelawala, S.N.S.L.H.P., Mudannayake, D.C. (2022). A study on household buffalo curd consumption pattern in dry and intermediate zone of Sri Lanka. The paper presented in the Annual Research Sessions in the Faculty of Applied Sciences, University of Vavuniya, Sri Lanka, 3rd November, 2022.
- P.P.W. Anurudhdhi, B.V.A.S.M. Bambaranda, D.I. Egodavitharana, M. Yesna, D.C. Mudannayake (2024). Development of butter incorporating brown sea weed powder as a source of fucoxanthine. Annual Scientific Sessions of the Nutrition Society of Sri Lanka 27th and 28th January 2024. pp 40. (oral)
- Balasooriya, K.G.B.B.H., D.M.K.S. Dissanayake, D.C. Mudannayake, A.M.N.L. Abesinghe (2024). Viability of microencapsulated *Streptococcus thermophilus* STI-15 in stressed conditions with ultrasound treated soy protein isolate as wall material. National Symposium of Agriculture and Life Sciences, Uva Wellassa University, 5th January 2024. pp. 44 (oral)

- Pamarathna, W.K.M.H.S., K.M.N.T.K. Bandara, K.G.W.K. Katukurunda, D.C. Mudannayake, D.K.D.D. Jayasena (2024). Asparagus (*Asparagus falcatus* L) inulin as a fat replacer in chicken nuggets. National Symposium of Agriculture and Life Sciences, Uva Wellassa University, 5th January 2024. pp.54. (Oral)
- Yesna, M., B.V.A.S.M. Bambaranda, D.C. Mudannayake, C.S. Hamit, P.P.W. Anuruddhi (2024). Effect of extraction methods on the yield and quality of carrageenan from *Kappaphycus alvarezii*. National Symposium of Agriculture and Life Sciences, Uva Wellassa University, 5th January 2024 pp.74 (Oral)
- Jayasinghe, J.M.U.G., U.G.A.M.A.R.K. Athapaththu, K.W.D.M.J.C. Wickremasinghe, D.C. Mudannayake (2024). Development of value-added spicy butter through the addition of hot pepper (*Capsicum chinense*) powder. National Symposium of Agriculture and Life Sciences, Uva Wellassa University, January 2024. pp. 108 (Oral)
- Keshani, K.H.L., A.M.N.L. Abesinghe, D.C. Mudannayake (2024). Development of probiotic ice cream; Viability of probiotic bacteria (*Lactobacillus acidophilus*, *Bifidobacterium* spp. and *Streptococcus thermophilus*) during frozen storage. National Symposium of Agriculture and Life Sciences, Uva Wellassa University, 5th January 2024. pp.110 (Oral).
- W.A.S. Chaturangika, D.M.K.S. Dissanayake, A.M.N.L. Abesinghe, D.C. Mudannayake (2023). Effect of microencapsulation of *Streptococcus thermophilus* STi-15 in soy protein isolate-inulin matrix on their viability. IRCUWU 2023, 17-18 August 2023 (oral).
- K.G.B.B.H. Balasooriya, D.C. Mudannayake, A.M.N.L. Abesinghe (2023). Effect of power ultrasound on soy protein isolate as wall material in microencapsulation of *Streptococcus thermophilus* STI-15. IRCUWU 2023, 17-18 August 2023 (oral).
- D.M.K.S. Dissanayake, S.N.S.L.H.P. Neelawala, D.C. Mudannayake (2022), Utilization of Lycopene as a natural antioxidant and colorant in butter. 6th International Research Conference of Uva Wellassa University, IRCUWU 2022, 28-29 July 2022 (oral)
- A.D.S.M. Dharmasena, B.V.A.S.M. Bambaranda, D.C. Mudannayake (2022), Evaluation of bioactive properties of herbal tea developed using pink and white colour *Nelumbo nucifera* petals. 6th International Research Conference of Uva Wellassa University, IRCUWU 2022, 28-29 July 2022 (oral)
- W.M.M.S. Wanninayake, D.C. Mudannayake, K.N. Wijayasekara, W.A.S.B. Aththanayake (2022), Implementation of a Hazard Analysis and Critical Control Point (HACCP) plan for the yoghurt production line at MILCO (Pvt) Ltd, Polonnaruwa. 6th International Research Conference of Uva Wellassa University, IRCUWU 2022, 28-29 July 2022 (oral)
- T.H.K.U. Ananda, B.V.A.S.M. Bambaranda, D.C. Mudannayake (2022), Evaluation of quality parameters on seaweed powder (*Kappaphycus alvarezii*) incorporated ice cream. 6th International Research Conference of Uva Wellassa University, IRCUWU 2022, 28-29 July 2022 (oral)
- G. G. N. Jayarathna, W. K. Meegahawaththa, K. M. S. Wimalasiri, K. F. S. T. Silva, D. C. Mudannayake (2021), Utilization of Inulin Derived from Asparagus Species as Potential Prebiotic Ingredients in Synbiotic Processed Cheese. 10th International Conference on Fermented Foods, Health Status and Social Well-being, 17-18 December 2021 (oral).
- M. A. A. Dileeka, G. G. N. Jayarathne, B. V. A. S. M. Bambaranda, D. C. Mudannayake, Effect of *Kappaphycus alvarezii* Seaweed Powder Incorporation on Development of Potentially Functional Processed Cheese (2021). 10th International Conference on Fermented Foods, Health Status and Social Well-being, 17-18 December 2021 (oral).

- D.I. Egodavitharana, B.V.A.S.M. Bambaranda, D.C. Mudannayake (2021), Development of potentially functional Seaweed cracker incorporating Sea Lettuce (*Ulva lactuca* and *Ulva fasciata*), International Conference on Innovation and Emerging Technologies ICIET 2021, 25-26 November 2021 (oral)
- S.Manikkrama, B.V.A.S.M. Bambaranda, D.C. Mudannayake (2021), Development of a noodle product incorporating dehydrated *Sargassum crassifolium* seaweed powder. International Conference on Innovation and Emerging Technologies ICIET 2021, 25-26, November 2021 (oral)
- S.H.D.K Silva, B.V.A.S.M. Bambaranda, D.C. Mudannayake (2021), Herbal tea utilizing two brown seaweeds; *Sargassum cristaeifolium* and *Sargassum crassifolium*, International Conference on Innovation and Emerging Technologies ICIET 2021, 25-26, November 2021 (oral)
- K.P.Dilshani, H.M.G.S.Bandara, D.C. Mudannayake (2021), Physicochemical, textural and sensory evaluation of no sugar prebiotic biscuit prepared with inulin and stevia (2021). International Conference on Innovation and Emerging Technologies ICIET 2021, 25-26, November 2021 (oral)
- 20. H.I.U. Thilakarathna, G.G.N. Jayarathna, D.C. Mudannayake, (2021) Probiotic Ice Cream incorporated with Blue Pea Flower (*Clitoria ternatea*) and Dehydrated Banana Flour, International Research Conference IRCUWU 2021, 1-2 July 2021 (oral).
- D.M. Priyankara, K.F.S.T. Silva, D.C. Mudannayake, A.M.N.L. Abesinghe, R.M.C.L. Rajapakshe, A. Epa, K.K.T.N. Ranaweera (2021), Effect of feeding silage incorporated ration on production performances of temperate crossbred dairy cows in Dry Zone of Sri Lanka. International Research Conference IRCUWU 2021, 1-2 July 2021 (oral).
- D.C. Mudannayake, K.M.S. Wimalasiri, Kahandage F.S.T Silva, S. Ajlouni (2020). Synbiotic dairy beverage fortified with inulin fructans derived from *Asparagus falcatus* and *Taraxacum javanicum*. EFFoST online Conference (Elsevier). 10-12 November 2020, (Poster).
- A.M.H.S. Alweera, R.M.S. Gunathilaka, D.C. Mudannayake (2020), Extension of Shelf Life in Set Yoghurt by Altering the Starter Culture, International Research Conference IRCUWU 2020, July 29-30, 2020 (Poster).
- D.V.C.B. Kularathne, D.C. Mudannayake, M.K. Ranasinghe, G.G.N. Jayarathne, Quality Characteristics of Probiotic Milk Incorporated with Stevia (*Stevia rebaudiana*) Leaf Extract Powder as Natural Sweetener, International Research Conference IRCUWU 2020, July 29-30, 2020 (Poster).
- H.M.G.S. Bandara, W.M.A.A. Kulasinghe, D.C. Mudannayake, Development of Fruit Incorporated Paneer Based Dairy Snack Bar, International Research Conference IRCUWU 2020, July 29-30, 2020 (Oral).
- M.A.A. Dileeka, D.C. Mudannayake, B.V.A.S.M. Bambaranda, G.G.N. Jayarathna, Evaluation of Chemical and Sensory Acceptability of *Kappaphycus alvarezii* Powder Incorporated Functional Processed Cheese, International Research Conference IRCUWU 2020, July 29-30, 2020 (Oral).
- N.V.P. Anjali, E.D.N.S. Abeyrathne, D.C. Mudannayake, A.A.D.I. Adhikari, Egg Based Mouse Ice Cream Incorporated with Lavulu [*Pouteria campechiana* (kunth) Baehni] Flour as a Colorant and an Antioxidant, International Research Conference IRCUWU 2020, July 29-30, 2020 (Oral).
- R.S. Hapuarachchi, D.C. Mudannayake, R.M.S. Gunathilake, Determination of Viability of Probiotic Bacteria in Garlic (*Allium sativum* L.) and Red Onion (*Allium cepa* L.) Incorporated Prebiotic Butter, International Research Conference IRCUWU 2020, July 29-30, 2020 (Poster).
- T.M.N.D. Thennakoon, S.S.K. Madage, M.D. Jayasinghe, W.U.D. Medis, D.C. Mudannayake, Effect of Guar Gum and Carboxymethyl Cellulose on Heating Behaviour of Coconut (*Cocos nucifera*) Milk, International Research Conference IRCUWU 2020, July 29-30, 2020 (Oral).

- U.G.R.P. Wijerathne, D.C.S. Gunasekara, D.C. Mudannayake, Evaluation of Probiotic Activity of Drinking Yoghurt in the Presence of Two Natural Fruit Pulps, International Research Conference IRCUWU 2020, July 29-30, 2020 (Poster).
- A.D.R. Karunarathne, S.K.D. Wijesinghe, D.C. Mudannayake, A.G.A.W. Alakolanga, D.D. Jayasena, Development of Low-fat Chicken Meat Paste with Dried Bitter Gourd (*Momordica charantia*) Powder, International Research Conference IRCUWU 2019, Feb 7-9, 2019 (Oral).
- A.G.R.L. Aluthwaththa, N. Perera, D.C. Mudannayake, Probiotic Viability of Cow Milk Kefir during Storage, International Research Conference IRCUWU 2019, Feb 7-9, 2019 (Oral).
- G.G.N. Jayarathna, I.P.A.U. N.K. Illippangama, S. Anand Kumar, D.C. Mudannayake, D.D. Jayasena, Effect of Inulin as a Fat Replacer on quality Traits of Chicken Sausages, International Research Conference IRCUWU 2019, Feb 7-9, 2019 (Oral).
- G.P.S. Pathirana, D.C. Mudannayake, Development of Ginger (*Zingiber officinale*) Incorporated Functional Milk Dessert, International Research Conference IRCUWU 2019, Feb 7-9, 2019 (Oral).
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- R.M.S.K. Rathnayake, S.M.A.B. Samarasinghe, D.C. Mudannayake, Effect of Different Coagulants and Fat Content on the Quality of Ricotta Cheese, International Research Conference IRCUWU 2019, Feb 7-9, 2019 (Oral).
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- A.R.S. Bandara, M.K. Ranasinghe, D.C. Mudannayake, Effect of Microbiological and Chemical Factors on Flavour of Spray Dried Full Cream Milk Powder, International Research Conference IRCUWU 2019, Feb 7-9, 2019 (Poster).
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- M.P.I. Priyadarshani, D.C. Mudannayake, Development of Reduced Fat, Inulin Incorporated Prebiotic Butter, 2 nd International Research Symposium IRSUWU 2018 February 1-2, 2018 (Oral)
- J.M.N.H. Premerathne, D.C. Mudannayake, Development of Garlic (*Allium sativum* L.) Incorporated Synbiotic Butter. 2 nd International Research Symposium IRSUWU 2018 February 1-2, 2018 (Oral)
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- S.K. Balasuriya, D.C. Mudannayake. Effect of Cow Milk and Goat Milk on Growth and Survival of *Bifidobacterium animalis* in Presence of Bee Honey, 2 nd International Research Symposium IRSUWU 2018 February 1-2, 2018 (oral).
- T. Dishwarathani, D.C. Mudannayake, U.L.P. Mangalika, J.M.D.R. Jayawardana. Effect of Coagulation Temperature on Yield, Chemical, Sensory and Textural Properties of Buffalo Milk Paneer, 2 nd International Research Symposium IRSUWU 2018 February 1-2, 2018 (oral).

- K. Kemasinthuja, D.C. Mudannayake, W.A.S.B. Aththanayaka. Effect of two packaging materials on shelf life of UHT milk. International research symposium 2017, Uva Wellassa University of Sri Lanka, 19-20 January 2017. (poster)
- M.T. Shereen, A.M.N.L. Abeysinghe, D.C. Mudannayake. Development of Soursop (*Anona muricata* L.) incorporated probiotic Drinking yoghurt. International research symposium 2017, Uva Wellassa University of Sri Lanka, 19-20 January 2017. (poster)
- H.H.S. Prabodika, D.C. Mudannayake, S.C. Gamage. Study of Increment of the cooling efficiency of raw milk using standard deep freezers. International research symposium 2017, Uva Wellassa University of Sri Lanka, 19-20 January 2017. (poster)
- A.G.T.K. Sanjeewanee, D.C. Mudannayake, A.M.N.L. Abeysinghe. Antibacterial effect of *Lantana Camera* L. flowers on keeping quality of raw milk. Proceedings International Conference of Wayamba University of Sri Lanka 2016, 19-20 August 2016 (oral).
- D.C. Mudannayake, K.M.S. Wimalasiri, K.F.S.T. Silva, S. Ajlouni. Inulin powder from *Asparagus falcatus* and *Taraxacum javanicum* as potential alternative inulin sources for the food industry, 11th Graduate Research Conference 2013, Dookie campus, The University of Melbourne, Australia (oral)
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- K.A.H.S. Keenavinna, D.C. Muannayake, A.M.N.L. Abeysinghe, K. Jayarathne. Identification of best pasteurization-time combination for retarding microorganism counts in raw cream as ingredient of butter: Approach to improve microbiological quality of butter. Research Symposium 2011: Uva Wellassa University. pp 98.
- N.M.P.K. Upananda, A.M.N.L. Abeysinghe, D.C. Mudannayake. Development of Ginger flavoured pasteurized milk with incorporation of Ginger (*Zingiber officinale*) extract and sugar. Research Symposium 2011: Uva Wellassa University. pp 104
- S.V.G.A. Samaranayake, D.C. Mudannayake, A.M.N.L. Abeysinghe, W.U.S. Alwis. Application of green supply chain management approach for a community based dairy factory. Research Symposium 2011: Uva Wellassa University. pp 107
- T.B. Karunarathne, A.M.N.L. Abeysinghe, D.C. Mudannayake, D.M.J.N. Danasekara. Development of Egg less cake incorporating yoghurt. Research Symposium 2011: Uva Wellassa University. pp 110
- S.A.V. Padmaraja, A.M.N.L. Abeysinghe, D.C. Mudannayake, M.N.P. Perera. Evaluation of different culture types and development of a set yoghurt with cost optimized culture option. Research Symposium 2011: Uva Wellassa University. pp 112
- C.N.P. Gunawardana, D.C. Mudannayake, M.N.P. Perera. Effect of different pasteurization temperature- time combinations on shelf life of raw cream in relation to its microbiological, chemical and physical properties. Research Symposium 2011: Uva Wellassa University. pp 134.
- D.R. Jayawickrama, D.C. Mudannayake, D.K.D.D. Jayasena, W.M.P.B. Weerasinghe. Effect of supplementation of nitrogen through urea molasses multnutrient block (UMMB) on the

performance of dairy cows fed with good quality forage based diets while using rice straw as night feeding. Research Symposium 2011: Uva Wellassa University. pp 137.

- U.S. Alwis, D.C. Mudannayake, D.K.D.D. Jayasena, J.K.H. Ubeyrathne. Evaluation of salmonella cross contamination at retail chicken meat outlets in Kandy area. Research Symposium 2011: Uva Wellassa University. pp 140.
- D.C. Karunarathne, A.M.N.L. Abeysinghe, D.C. Mudannayake, K.F.S.T. Silva. Determination of optimum Citric acid concentration and pressing weight for marinated ready to cook paneer with maximum organoleptic properties. Research Symposium 2010: Uva Wellassa University. pp 13.
- Y.G.C. Indika, D.C. Mudannayake, A.M.N.L. Abeysinghe, J. K. Vidanaarachchi, D.A.M. Arsecularatne, Development of molded sherbet bar on a stick with frozen yoghurt core and lime (*Citrus aurantifolia*) shell. Research Symposium 2010: Uva Wellassa University. pp 14.
- I.M.V.E Illankoon, D.C. Mudannayake, A.M.N.L. Abeysinghe, M.P.K. Jayarathne, K.F.S.T. Silva, Development of buttermilk pudding incorporating skim milk powder, condensed Coconut (*Cocos nucifera*) milk and Kitul (*Caryota urens*) treacle. Research Symposium 2010: Uva Wellassa University. pp 15.
- B.M.U. Basnayake, D.C. Mudannayake, A.M.N.L. Abeysinghe, C.P. Samarasekara, K.F.S.T. Silva, The effect of overrun and storage temperature on melting resistance of ice cream. Research Symposium 2010: Uva Wellassa University. pp 16
- M.K. Ranasinghe, D.C. Mudannayake, A.M.N.L. Abeysinghe, L. Rupasinghe, J.K. Vidanarachchi. Development of value-added stirred yoghurt rippled with cooking chocolate syrup, Research Symposium 2010: Uva Wellassa University. pp 17.
- S.M.A.B. Samarasinghe, D.C. Mudannayake, A.M.N.L. Abesinghe, K.F.S.T. Silva, K.E. Udayathilake. Development of a hazard analysis and critical control point (HACCP) plan for the yoghurt production line at MILCO company (pvt) ltd, digana. Research Symposium 2010: Uva Wellassa University. pp 18.
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- E.D.N.S. Abeyrathne, D.C. Mudannayake, H.W. Cyril (2010). Development of a crispy snack by incorporation of chicken gizzard and liver with rice flour. Research Symposium 2010: Uva Wellassa University. pp 165.

Books

- Deshani C. Mudannayake (2023). Carbohydrates in Foods: A Simple and Comprehensive Guide. ISBN 9786249872943.
- A.M.N.L. Abesinghe, D.C. Mudannayake & K.K.T.N. Ranaweera (2023). Farmer Manual on Drought Resilient Dairy Farming in Dry Zones of Sri Lanka. K.F.S.T. Silva (Ed.). DevPro Guarantee Limited. ISBN 9786249872905.
- D.C. Mudannayake, A.M.N.L. Abesinghe, R.M. Himali Tharangani & A. Athapatthu (2025). Code of Practice for Ethical Milk Production, Collection and Marketing to Ensure the Quality of Milk in Sri Lanka. ISBN

Academic & Professional Service

- Reviewer for national and international peer-reviewed journals including Food Frontiers, Applied Food Research, Food Microbiology Australia, Hydrocolloids, Food Science and Nutrition, World Journal of Microbiology and Biotechnology, Food Science and Preservation, Carbohydrate Polymers, International Journal of Food Science and Technology, Food Research International, International Journal of Dairy Technology, Critical Reviews in Food Science and Nutrition, Journal of Functional Foods, Food Science of Animal Resources and Sri Lanka Journal of Food and Agriculture.
- Reviewer and/or Editorial Board Member for the Journal of Agriculture and Value Addition and Journal of Technology and Value Addition.
- Reviewer and Editorial Board Member for the International Research Conference of UWU (2017, 2018, 2019, 2022, 2024) and other national/international conferences and symposia.
- Chairperson, National Symposium of Agriculture and Life Sciences 2026 (NSALS 2026), Uva Wellassa University.
- Chair, Food Science and Bioprocesses Technical Session, International Research Conference of Uva Wellassa University (2024).
- Chairperson and moderator, Dairy Forum 2021, Uva Wellassa University.
- Contributor to curriculum revision of the BSc (Animal Science) / BSc (Animal Production and Food Technology) and BSc (Aquatic Resources Technology) degree programmes.
- Team leader/member for programme review and self-evaluation activities, including course/module design and development, learning environment and student support, innovative and healthy practices, and student assessment and awards.
- Academic mentor for undergraduate students in BSc (Animal Science), BSc (Animal Production and Food Technology) and BSc (Aquatic Resources Technology) programmes since 2010.

Awards & Scholarships

- Four UWU Research Awards for 2023 and 2024 scientific publications in two indexed and two non-indexed journals, awarded at the UWU Research Award Ceremony held on 21 May 2026.
- Best Paper Award, Food Science and Bioprocesses Technical Session, 7th International Research Conference of Uva Wellassa University (2023), for research on power ultrasound-treated soy protein isolate as a wall material in microencapsulation of *Streptococcus thermophilus* STI-15.
- Best Paper Award, Aquatic Sciences Technical Session, National Symposium of Agriculture and Life Sciences, Uva Wellassa University (2024), for research on extraction methods and quality of carrageenan from *Kappaphycus alvarezii*.
- UWU Research Award 2021 for scientific publication in an indexed journal (awarded in 2023).
- UWU Research Award 2020 for scientific publication in a refereed non-indexed journal (awarded in 2022).
- UWU Research Award 2015 for scientific publication in an indexed journal (awarded in 2017).
- Scholarship for PhD programme under the HETC Project, Ministry of Higher Education, Sri Lanka (2011).
- Gold Medal for best performance in Agricultural Economics and Business Management, BSc Agriculture degree, University of Peradeniya (2005).
- Gold Medal for best performance in Principles of Agribusiness Management, BSc Agriculture degree, University of Peradeniya (2005).

- Highest GPA in First Year, Second Semester (2001), Faculty of Agriculture, University of Peradeniya: 3.70/4.00.
- Highest GPA in Third Year, First Semester (2004), Department of Food Science and Technology, University of Peradeniya: 3.79/4.00.
- Highest GPA in Third Year, Second Semester (2004), Department of Food Science and Technology, University of Peradeniya: 3.86/4.00.

National Contribution

- Moderator, World Milk Day 2026 webinar – AGRITECH: The use of wearables in dairy farming to close the feedback loop (01 June 2026).
- Resource person, Working Group meeting on the Draft Sri Lanka Standard Specification for Raw and Processed Milk (DSL 181), Sri Lanka Standards Institution (26 October 2022).
- Jury member for DASIS Award evaluation 2020, Sri Lanka Inventors Commission (30–31 March 2021).
- Panel of Judges, Sahasak Nimawum 2020 International Inventions & Innovations Competition, Sri Lanka Inventors Commission.
- Jury member for evaluation of inventions in Uva Province, Sri Lanka Inventors Commission (02 June 2018).
- Expert participant, academic stakeholder meeting on introduction of a new Food Science and Technology degree programme at Wayamba University of Sri Lanka (19 February 2016).
- Panel member, Uva Province School Inventions Exhibition (November 2008).
- Resource person, Animal Science Practical Workshop for A/L Agriculture students in Uva Province (2008).

Professional Memberships

- Life Member, Sri Lanka Association for the Advancement of Science (SLAAS), Membership No. 10598/E2.
- Life Member, Sakura Science Club, Japan.
- Member, Institute of Food Science and Technology Sri Lanka (IFTSL).

Selected Professional Development

Training and workshops include programmes on animal genetic resources, the Japan–Asia Youth Exchange Programme in Science (Sakura Science), scientific writing and publication, human research ethics, biosafety, literature review, statistical software, climate-smart agriculture, university staff procedures, programme self-evaluation, research management, cheese technology, essential-oil extraction, research competencies, teaching in higher education, effective undergraduate teaching, and survey research/data analysis using SPSS.

Research Profiles

ResearchGate – <https://www.researchgate.net/profile/Deshani-Mudannayake>

Google Scholar – <https://scholar.google.com/citations?user=5cRNNDEAAAAJ&hl=en>