

**N. E. Wedamulla**  
**Lecturer (Probationary)**

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## 1. PROFILE

A scientist in the field of Food Science and Technology, graduated in Agricultural Sciences and mastered in Analytical Chemistry with research interests on Food analysis, 3D Food Printing, Functional Foods, and Sustainable Utilization of Food Waste. The objective is to perform above the expectation set in the organization, where I can demonstrate my technical, analytical and soft skills and contribute to the development and better understanding of science for benefit.

## 2. EDUCATIONAL QUALIFICATIONS

MSc. in Analytical Chemistry (University of Peradeniya, Sri Lanka)

BSc. in Agricultural Technology and Management (University of Peradeniya, Sri Lanka)

## 3. ACADEMIC HONOURS (AWARDS, RECOGNITIONS AND SCHOLARSHIPS)

1. Recognized as a Tire 2\* Researcher (Agriculture) as per the UGC Circular No.05/2018 based on h-index.

## 4. PUBLICATIONS

### 4.1 Peer Reviewed Journal Articles

1. Wedamulla, N. E., Fan, M., Choi, Y. J., & Kim, E. K. (2023). Combined effect of heating temperature and content of pectin on the textural properties, rheology, and 3D printability of potato starch gel. *International Journal of Biological Macromolecules*, 253, 127129.
2. Fan, M., Choi, Y. J., Wedamulla, N. E., Zhang, Q., Kim, S. W., Bae, S. M., ... & Kim, E. K. (2023). Use of a Silkworm (*Bombyx mori*) Larvae By-Product for the Treatment of Atopic Dermatitis: Inhibition of NF- $\kappa$ B Nuclear Translocation and MAPK Signaling. *Nutrients*, 15(7), 1775.
3. Wedamulla, N. E., Fan, M., Choi, Y. J., & Kim, E. K. (2023). Effect of pectin on printability and textural properties of potato starch 3D food printing gel during cold storage. *Food Hydrocolloids*, 137, 108362.
4. Wijerama, H. J. K. S. S., Shanika, M. K. A., Wedamulla, N. E., & Wijesinghe, W. A. J. P. (2023). Evaluation of the Antioxidant Potential of Soursop (*Annona muricata* L.) Fruit at Different Maturity Stages. *Journal of Agricultural Sciences (Sri Lanka)*, 18(3).
5. Fan, M., Wedamulla, N. E., Choi, Y. J., Zhang, Q., Bae, S. M., & Kim, E. K. (2022). *Tenebrio molitor* larva trypsin hydrolysate ameliorates atopic dermatitis in C57BL/6 mice by targeting the TLR-mediated MyD88-dependent MAPK signaling pathway. *Nutrients*, 15(1), 93.
6. Choi, Y. J., Fan, M., Wedamulla, N. E., Tang, Y., Bae, S. M., Hwang, J. Y., & Kim, E. K. (2022). Inhibitory effects of *Centella asiatica* (L.) Urban on enlarged prostate through

- androgen receptor and PI3K/Akt signaling pathways. *Food & Function*, 13(19), 10235-10247.
7. Fan, M., Choi, Y. J., Wedamulla, N. E., Tang, Y., Han, K. I., Hwang, J. Y., & Kim, E. K. (2022). Heat-Killed *Enterococcus faecalis* EF-2001 attenuate lipid accumulation in diet-induced obese (DIO) mice by activating AMPK signaling in liver. *Foods*, 11(4), 575.
  8. Wedamulla, N. E., Fan, M., Choi, Y. J., & Kim, E. K. (2022). Citrus peel as a renewable bioresource: Transforming waste to food additives. *Journal of Functional Foods*, 95, 105163.
  9. Fan, M., Choi, Y. J., Wedamulla, N. E., Bae, S. M., & Kim, E. K. (2022). Anti-Obesity Effect of Promod 278P Hydrolysate of *Allomyrina dichotoma* Larvae in Diet-induced Obese Mice. *Food Supplements and Biomaterials for Health*, 2(3).
  10. Wedamulla, N. E., & Wijesinghe, W. A. J. P. (2021). Application of polysaccharides in food technology: A review. *Trends in Carbohydrate Research*, 13(2), 35-49.
  11. Wedamulla, N. E., & Wijesinghe, W. A. J. P. (2021). Batoko plum (*Flacourtia inermis*) peel extract attenuates deteriorative oxidation of selected edible oils. *Grasas y Aceites*, 72(3), e416-e416.
  12. Nanayakkara, S.U.G., Wedamulla, N.E., Wijesinghe, W.A.J.P. (2020). Effect of *Flacourtia inermis* peel extract on oxidative stability of sunflower oil and virgin coconut oil. *Journal of Technology and Value Addition*, 2: 81-92.

#### 4.2 Books/Book Chapters

1. Madhujith, T., Wedamulla, N. E., & Gamage, D. A. S. (2022). Biological macromolecules as antioxidants. In *Biological Macromolecules* (pp. 139-164). Academic Press.
2. Madhujith, T., Wedamulla, N. (2020). Functional Foods and Health. In: De Silva, R.P., Pushpakumara, G., Prasada, P., Weerahewa, J. (eds) *Agricultural Research for Sustainable Food Systems in Sri Lanka*. Springer, Singapore. [https://doi.org/10.1007/978-981-15-3673-1\\_14](https://doi.org/10.1007/978-981-15-3673-1_14).
3. Wijesinghe, W.A.J.P., Wedamulla, N.E. (2020). Chapter 15 – Exploring the potential of using micro and macroalgae in cosmetics. *Handbook of Algal Technologies and Phytochemicals*. Ravishankar, G.A and Rao, A.R. (Ed)., 1st ed. CRC Press. Taylor & Francis Group. pp 149-159. ISBN13: 978-0-367-14979-6.

#### 4.3 Abstracts/Extended Abstracts

1. Choi, Y. J., Wedamulla, N. E., Fan, M., Qun, Z., Lee, B. J., & Kim, E. K. (2022). Fermented oyster extract attenuates dexamethasone-induced muscle atrophy via PI3K/Akt/mTOR pathway in C2C12 myoblasts. *한국식품영양과학회 학술대회발표집*, 637-637.
2. Fan, M., Choi, Y. J., Wedamulla, N. E., Zhang, Q., & Kim, E. K. (2022). Applicability of silkworm powder-corn starch blends to 3D food printer: Effect of particle size on viscoelastic behavior and structural properties of 3D-printed foods. *한국식품영양과학회 학술대회발표집*, 470-470.
3. Wedamulla, N. E., Fan, M., Choi, Y. J., Qun, Z., & Kim, E. K. (2022). Gelatinization temperature modifies the 3D printability and textural properties of pectin added potato starch gel. *한국식품영양과학회 학술대회발표집*, 469-469.

4. Choi, Y. J., Fan, M., Wedamulla, N. E., Qun, Z., & Kim, E. K. (2022). Isoquercetin ameliorates benign prostatic hyperplasia via IGF-1/PI3K/Akt/mTOR pathway. *한국식품영양과학회 학술대회발표집*, 604-604.
5. Wijerama, S.S., Shanika, M.K.A., **Wedamulla, N.E.**, W.A.J.P. Wijesinghe. Evaluation of antioxidants at different maturity stages of soursop (*Annona muricata*) fruit. International Symposium on Agriculture and Environment, University of Ruhuna, pp 71.
6. Madushani, R.V.C. Sandarekha, K.A.S.M. Wijesinghe, W.A.J.P. **Wedamulla, N.E.**, Wijerama, H.J.K.S.S. (2021). Study on physicochemical properties of selected edible oils available in Sri Lankan local market. Proceedings of the International Symposium on Agriculture and Environment, pp 126.
7. Madushani, R.V.C. Sandarekha, K.A.S.M. Wijesinghe, W.A.J.P. **Wedamulla, N.E.** (2021). Comparative study on physicochemical properties of sunflower oil, palm oil and virgin coconut oil available in Sri Lankan market. 5 th International Research Conference of Uva Wellassa University, pp 207.
8. Silva, B.N.N., Kasun, H., **Wedamulla, N.E.**, Wijesinghe, W.A.J.P. (2021). Development of soursop (*Annona muricata* L.) incorporated probiotic frozen yoghurt fermented by *Lactobacillus acidophilus*. 5 th International Research Conference of Uva Wellassa University, pp 221.
9. Ganegoda, G.W.P.M., Arachchi, M.P.M., Wijesinghe, W.A.J.P., **Wedamulla, N.E.** (2021). Development of herbal tea bag from potato leaves (*Ipomea batatus* (L.) Lam) and evaluation of its physicochemical and sensory parameters. 5 th International Research Conference of Uva Wellassa University, pp 229.
10. Kokuhennadi, H.O., **Wedamulla, N.E.**, Arachchi, M.P.M., Wijesinghe, W.A.J.P. (2021). Quality evaluation of *Caryota urenus* (Kithul) palm treacle. 5 th International Research Conference of Uva Wellassa University, pp 230.
11. Wewelwala, N.A.C.S., Kahandage, K.P.M., **Wedamulla, N.E.**, Wijesinghe, W.A.J.P. (2021). A case study in analyzing chemical and microbial properties of orthodox black tea manufacturing in Uva high region. 5 th International Research Conference of Uva Wellassa University, pp 231.
12. Kularathne, G.M.S.K., Ranathunga, R.A.A. Wijesinghe, W.A.J.P., **Wedamulla, N.E.** (2020). Assessment of peanut varieties grown in Sri Lanka for peanut butter production. Proceedings of the International Research Conference of Uva Wellassa University, pp 307.
22. Siriwardhana, W.M.T.L., Ratnayake, M.Y.U., Wijesinghe, J., Jeewanthi, P.W. (2020).
13. Shanika, M.K.A., **Wedamulla, N.E.**, Wijesinghe, W.A.J.P. (2020). Development of madan (*Syzygium cumuni* L.) incorporated novel yoghurt. Proceedings of the International Research Conference of Uva Wellassa University, pp 283.
14. Nanayakkara, S.U.G., **Wedamulla, N.E.**, Wijesinghe, W.A.J.P. (2019). Utilization of Lovi (*Flacourtia inermis*) peel extract to retard rancidity of edible oils. Proceedings of the 18th Singapore International Conference on Agricultural, Food and Biological Sciences, pp 74.
15. Narayana, S.D.T.U., **Wedamulla, N.E.**, Wijesinghe, W.A.J.P., Rajakaruna, R.A.M.A.T. and Wijerama, H.J.K.S.S. Extraction of Anthocyanin from Hinembille (*Antidesma alexiteria*) fruit as a natural food colourant. International Research Conference of Uva Wellassa University 2019 February 7-8, p 239.
16. Jayasinghe, J.M.M.S., Hewapathirana, H.P.D.T., Wijesinghe, W.A.J.P. and **Wedamulla, N.E.** Development of an edible film using coconut protein isolate. International Research Conference of Uva Wellassa University 2019 February 7-8, p 240.
17. Rathnayake, H.K.N.D., Alakolanga, A.G.A.W., **Wedamulla, N.E.** and Wijenayake, A.D. The effect of moisture content of desiccated coconut on the quality of virgin coconut oil. International Research Conference of Uva Wellassa University 2019 February 7-8, p 233.

18. Nanayakkara, S.U.G., **Wedamulla, N.E.**, Wijesinghe, W.A.J.P., Rajakaruna, R.A.M.A.T. and Wjerama, H.J.K.S.S. Effect of Hinembilla (*Antidesma alexiteria*) extract on oxidative stability of selected edible oils. International Research Conference of Uva Wellassa University 2019 February 7-8, p 243.
19. Sarathchandra, G.L.P., Wijenayake, A.D. **Wedamulla, N.E.** and Wijesinghe, W.A.J.P. Development of a coconut milk beverage incorporated with Cinnamon and Ginger. International Research Conference of Uva Wellassa University 2019 February 7-8, p 278.
20. Namalgamuwa, N.G.N.A., Wijenayake, A.D., Wijesinghe, W.A.J.P. and **Wedamulla, N.E.** Development of cocnut (*Cocos nucifera*) water jelly. International Research Conference of Uva Wellassa University 2019 February 7-8, p 284.
21. **Wedamulla, N.**, Priyadarshana, Y.A. and Madujith, T. Fatty acid composition of seed oils of six underutilized fruit crops in Sri Lanka. Ruhuna 4<sup>th</sup> International Science and Technology Conference 2017 January 26, p 53.
22. **Wedamulla, N.**, Madhujith, T. and Bandara, B.M.R. Antioxidant activity of five medicinal plants with potential anticancer properties, PGIS Research Congress 2015 October 9-10, p 98.
23. **Wedamulla, N.** and Madhujith, T. Antioxidant activity of two dragon fruit (*Hylocereus* spp.) species cultivated in Sri Lanka In Abstract of Annual Scientific Sessions of Nutrition Society of Sri Lanka, Taj Samudra, Colombo, 2-3 February 2013, edited by R. Silva, 35, Sri Lanka, 2013.

#### 4.4 Scientific Presentations

Nanayakkara, S.U.G., **Wedamulla, N.E.**, Wijesinghe, W.A.J.P. (2019). Utilization of Lovi (*Flacourtia inermis*) peel extract to retard rancidity of edible oils. Proceedings of the 18th Singapore International Conference on Agricultural, Food and Biological Sciences, pp 74.

#### 4.5 Theses/Dissertations

- BSc: Antioxidant and antimicrobial properties of five medicinal plants with potential anticancer properties (<http://dlib.pdn.ac.lk/handle/1/5779>).
- MSc: Antioxidant activity of two dragon fruit (*Hylocereus* spp.) species cultivated in Sri Lanka.

### 5. PATENTS

1. National Patent (22526) – A method for manufacturing a fresh Dragon fruit (*Hylocereous polyrhizus* L.) pulp incorporated novel set yoghurt (In process).
2. National Patent (22525) – A method for manufacturing a Madan fruit (*Syzygium cumini* L.) incorporated novel set yoghurt (In process).

### 6. RECENT RESEARCH PROJECTS INVOLVED

- Study of consumer preference and physiochemical properties of commercially available edible oils in Badulla district
- Extraction of anthocyanins from the peel of selected local fruits grown in Sri Lanka as a natural food colourant and its utilization to retard rancidity of edible oils.

## **7. GRANTS RECEIVED**

- Research Grant Uva Wellassa University of Sri Lanka- 2018 (UWU/RG/2018/004)
- Short Term Research Grant Uva Wellassa University of Sri Lanka- 2020 (UWU/RG-ST/2020/001)

## **8. THESIS SUPERVISION**

- Extraction of Anthocyanin from Hinembilla (*Antidesma alexiteria*) Fruit as a Natural Food Colorant
- Effect Of Fruit Extracts on Oxidative Stability of Selected Edible Oils
- Effect of Moisture Content of Desiccated Coconut on the Quality of Virgin Coconut Oil
- Development of an Edible Film Using Coconut Protein Isolate
- Development of Cinnamon and Ginger Incorporated Coconut Milk Beverage
- Development of Coconut (*Cocos nucifera*) Water Jelly

## **9. TEACHING CONTRIBUTION**

- Food Analysis
- Agricultural and Food Waste Utilization Technology
- Food Engineering

## **10. WORK EXPERIENCE**

- Demonstrator- Department of Food Science and Technology, Faculty of Agriculture, University of Peradeniya, Sri Lanka ([http://agri.pdn.ac.lk/dept/food\\_home.php](http://agri.pdn.ac.lk/dept/food_home.php)).
- Demonstrator- Food Technology, University College of Ratmalana, University of Vocational Technology, Sri Lanka (<http://univotec.ac.lk/>).

## **11. EDITOR/REVIEWER ASSIGNMENTS**

- Act as a reviewer of indexed journal: Biomass Conversion and Biorefinery, Springer Nature

## **12. TRAININGS AND WORKSHOPS ATTENDED**

- Research management tools and techniques, Staff development, Uva Wellassa University
- Application of statistics using excel and SPSS in research, Uva Wellassa University International Collaboration Centre

## **13. PERSONAL INFORMATION**

Surname : Wedamulla  
Name : Nishala  
Gender : Female  
Marital Status : Married  
Nationality : Sri Lankan