

Nadeeshani DEHEL GAMAGE



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A highly motivated researcher with strong multidisciplinary experience in **Microalgal biotechnology, Food science, Agriculture, Aquaculture, and Fisheries**. I possess well-developed technical and interpersonal skills and am driven by a passion for acquiring and sharing advanced knowledge through active participation in research and academia. My ultimate goal is to contribute meaningfully to global advancement by developing economically and environmentally sustainable, nature-based solutions that address cutting-edge scientific and technological challenges. As an energetic professional with a solid background in both research and practical applications, I seek opportunities where my skills can make a positive and lasting impact.

ACADEMIC AND PROFESSIONAL QUALIFICATIONS

- **Doctor of Philosophy (Ph.D.) in Biotechnology**

Research Title: Microbiome Engineering in Microalgal Biofilms for Enhanced Eco-physiology and Lipid Production: A Case Study of *Amphora* sp.

Key Research Areas: Ecophysiology of microalgae, Microalgal-bacterial interactions, Lipid Analysis, microbiome analysis (Molecular biology, Metabarcoding and bioinformatic analysis), and Metabolomics

Institution: Institute of Marine Substances and Organisms (ISOMer), Nantes University, France

Duration: 15 November 2022 – 14 November 2025

Funded by: French Ministry of Higher Education, Research and Innovation, France

- **Joint Masters in Aquaculture, Environment and Society Plus**

Erasmus Mundus Scholar – From 31st August 2020 to 31st August 2022

First semester- University of the Highlands and Islands (UHI), Scotland

Second semester- University of Crete (UoC), Greece

Third Semester- Nantes University, France

Fourth Semester (Research)- Nantes University, France

Fourth semester research project – “Bioprospecting of Oleaginous *Amphora* sp. NCC169, a Benthic Diatom from Atlantic Mudflat Coast Ecosystems: Characterization of Biomass, Pigment, Lipid and Fatty Acid Composition”

Institution: Institute of Marine Substances and Organisms (ISOMer), Nantes University, France

Duration: From 24th January 2022 to 30th June 2022

Funded by: The Erasmus+ Programme of the European Union.

- **Master of Philosophy in Agriculture**

Research title – “Systematic survey on flora with cosmetic potential, development of agronomic and post-harvest aspects for selected medicinal plants”

Institution: Faculty of Agriculture and Plantation Management, Wayamba University of Sri Lanka

Duration: From 01st of December 2017 to 01st March 2020

Funded by: ALBION CO., Ltd, Japan

- **Bachelor of Science in Food Production and Technology Management - Specialized in Aquaculture and Fisheries**
Grade: 2nd Class Upper Division – 3.60/4.00 GPA
Institution: Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka
Duration: From 17th October 2011 to 06th of February 2016

Final year research project – “Utilization of Tuna (*Thunnus* sp.) offal for fish oil extraction, quality evaluation, and effect of Tocopherol on oxidative rancidity in extracted oil”.
Institution: Conducted in Industrial Technology Institute, Colombo 07, Sri Lanka
Duration: From 23rd March 2015 to 23rd July 2015

In plant training – Studied the manufacturing & quality assurance practices of VSS products (PVT) Ltd, Dankotuwa, Sri Lanka.
Area of involvement of the organization: Virgin Coconut Oil manufacturing, Oil quality assessment
Duration: From 24th October 2015 to 26th December 2015
- **Diploma in Human Resource Management,**
Institution: Chartered Institute of Personnel Management Sri Lanka – CIPM SL
Duration: From 24th June 2017 to 18th August 2018

WORK EXPERIENCE

- **Research Assistant** 02nd April 2017 – 31st December 2019
Institute of Traditional Plants in Sri Lanka
Godella, Dankotuwa, Sri Lanka
- **Demonstrator** 04th April 2016 – 03rd April 2017
Department of Aquaculture and Fisheries,
Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka

GRANTS

- **Competitive Doctoral Fellowship**, ED-VAAME Doctoral School
Nantes University, France From 15th November 2022- 14th November 2025
- **Erasmus Mundus Scholarship** From 31st August 2020 to 31st August 2022
- **Industry-Sponsored M.Phil. Fellowship**
Funded by ALBION Co., Ltd., Japan From 01st of December 2017 to 01st March 2020

AWARDS

- **Youth Scholarship Award** for Global Conference on Aquaculture Millennium+20, organized and conducted by the Food and Agriculture Organization of the United Nations (FAO), collaborating with the Ministry of Agriculture and Rural Affairs (MARA) of the People’s Republic of China and the Network of Aquaculture Centres in Asia-Pacific (NACA) in Shanghai, China 22nd - 24th September 2021
- **Dr. Paul Perera Gold Medal** for outstanding performance award in the Department of Aquaculture and Fisheries, Wayamba University of Sri Lanka 10th August 2016
- **Best Presenter Award** in the technical session on Aquaculture and Fisheries of Undergraduate Research Symposium, Wayamba University of Sri Lanka 1st October 2015
- **Best Student Presenter Award** in the 3rd International Conference on Fisheries and Aquaculture, The International Institute of Knowledge Management (TIKM), Negombo, Sri Lanka 25th August 2016

- **Best Presenter Award** in the technical session on Agriculture & Environment at the Asian International Conference on Multidisciplinary Research 2019, Colombo, Sri Lanka 10th May 2019
- **The Merit Presentation Award** in the session on Innovations in Agriculture at the Wayamba University Research Congress 2019, Wayamba University of Sri Lanka 11th July 2019
- **Best Student Award** in the International Conference on Agriculture and Food Security 2019, Institute of Academic Researchers (IAR), Colombo, Sri Lanka 08th - 09th August 2019
- **Session's Best Presentation Award** in the session on Agriculture Production, Crop Science, Ecology and Forestry at the 6th International Conference on Agriculture 2019, The International Institute of Knowledge Management (TIIKM), Bangkok, Thailand 22nd - 23rd August 2019
- **Best Overall Presentation Award** in the 6th International Conference on Agriculture 2019, The International Institute of Knowledge Management (TIIKM), Bangkok, Thailand 22nd - 23rd August 2019

INVITED SPEECHES

- **Invited Speaker** 16th April 2024
Can algae-bacteria partnerships accelerate the growth and lipid production of benthic diatoms? Webinar: *When Algae Meet Bacteria: Coexistence, Growth, and Applications*, organized by the European Algae Biomass Association (EABA)

OUTREACH ACTIVITIES

- **Resource Person** 13th May 2018
Training programme on “The low salted high quality dry fish production using hybrid solar drier” for selected fishing entrepreneurs at Egodawaththa in Chilaw (North Western Province, Sri Lanka) which was jointly organized by Department of Aquaculture and Fisheries, Wayamba University of Sri Lanka and Department of Fisheries and Aquaculture, North Western Province cum Ministry of Fisheries and Aquatic Resources Development
- **Resource Person** 30th December 2017
“The low salted dried fish production training programme using solar driers” at Sainthamaruthu in Ampara district (Eastern province, Sri Lanka) for selected dried fish producers; event was organized by divisional secretariat in subordinates with National Enterprise Development Authority cum Ministry of Industry and Commerce
- **Resource Person** 15th September 2016
“The low salted dried fish production training programme” at Kayts in Jaffna district (Northern Province, Sri Lanka) for selected fishing entrepreneurs; organized by divisional secretariat in subordinates with National Enterprise Development Authority cum Ministry of Industry and Commerce
- **Group Leader** 20th January 2014
Organized an exhibition (open for public) on “Diabetes and your food” at the Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka
- **Group Leader**
Organized a workshop on “Diabetes and your food” for 100 students of Sandalankawa Central College, Makandura, Gonawila, Sri Lanka

PUBLICATIONS

Journal Articles

- **Gamage ND.**, Mossion A., Délérís P., Delavat F., Tirichine L., Rabesaotra V., Lebeau T., Wielgosz-Collin G., & Méléder V. 2026. Co-culturing with bacteria modulates fatty acid composition in benthic diatom biofilms for lipid-based biotechnologies: A case study of *Amphora* sp. *Algal Res.* 93, 104449. <https://doi.org/10.1016/j.algal.2025.104449>

- **Gamage ND.**, Délérís P, Tirichine L, Wielgosz-Collin G, Lebeau T, Mossion A, & Méléder V. 2026. Characterising key bacterial taxa of the benthic diatom *Amphora* sp. biofilms in a porous substrate photobioreactor. *Bioresour. Technol. Rep.* 34, 102686. <https://doi.org/10.1016/j.biteb.2026.102686>
- **Gamage ND.**, Mossion A., Khan M., Karim R., Rabesaotra V., Wielgosz-Collin G., Lebeau T., & Méléder V. 2026. Co-culturing Bacteria with Monospecific Microalgal Biofilms for Improved Biomass and Lipid production. *J. Biotechnol.* 414, 111-123. <https://doi.org/10.1016/j.jbiotec.2026.03.007>
- Arnaldo MDG., **Gamage, ND.**, Jaffrenou, A., Rabesaotra, V., Mossion, A., Wielgosz-Collin G., Méléder V. 2024. Comparison of different small-scale cultivation methods towards the valorization of a marine benthic diatom strain for lipid production. *Algal Res*, 77, 103327. <https://doi.org/10.1016/j.algal.2023.103327>
- **Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. 2021. Global Perspective of Plant-Based Cosmetic Industry and Possible Contribution of Sri Lanka to the Development of Herbal Cosmetics: A Review, *Journal Evidence-Based Complementary and Alternative Medicine*, vol. 2022, Article ID 9940548, 26 pages, 2022. <https://doi.org/10.1155/2022/9940548>
- **Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. Ethnopharmacological Survey on Medicinal Plants Used for Cosmetic Treatments in Traditional and Ayurveda Systems of Medicine in Sri Lanka, *Evidence-Based Complementary and Alternative Medicine*, vol. 2021, Article ID 5599654, 15 pages. <https://doi.org/10.1155/2021/5599654>
- **Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. 2021. Emerging Herbal Cosmetic Production in Sri Lanka: Identifying Possible Interventions for the Development of the Herbal Cosmetic Industry, *Scientifica*, vol. 2021, Article ID 6662404, 12 pages. <https://doi.org/10.1155/2021/6662404>
- **Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. 2021. Effect of Drying Methods and Type of Packaging Materials on Phytochemical Content and Total Antioxidant Capacity of Five Medicinal Plants with Cosmetic Potential over Three Months Storage at Ambient Temperature. *World Journal of Agricultural Research*, 9(2): 73-79. <http://doi.org/10.12691/wjar-9-2-5>
- **Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. 2021. Assessment of Phytochemical Contents and Total Antioxidant Capacity of Five Medicinal Plants with Cosmetic Potential under Three Different Drying Methods. *World Journal of Agricultural Research*, 9(1): 24-28. <http://doi.org/10.12691/wjar-9-1-4>
- Jayasinghe, JMPK. & **Gamage, DGND.**, 2017. Environmental Concerns of Utilization of Coastal Acid Soils in Mangrove Areas with Special Reference to Aquaculture. Publication of Seacology - Sudeesa Magrove Museum, 1(1), pp. 9-11. [ResearchGate](https://www.researchgate.net/publication/318111111)

Book Chapter

- Jayasinghe, JMPK., **Gamage, DGND.** & Jayasinghe, JMHA., 2019. Combating Climate Change Impacts for Shrimp Aquaculture Through Adaptations: Sri Lankan Perspective. In: A. Sarkar, S. Sensarma & G. VanLoon, eds. Sustainable Solutions for Food Security. s.l.:Springer, Cham, pp. 287-309. https://doi.org/10.1007/978-3-319-77878-5_15

Newsletter

- **Gamage, DGND.**, Senthuran, N. & Herath, HMGK. 2021. Seaweed Aquaculture in Sri Lanka: Challenges and Policy Recommendations for the Sustainable Development of the Industry. *FAO Aquaculture News (FAN) Magazine*. pp. 21-22. [FAO](https://www.fao.org/aquaculture/news/2021/02/seaweed-aquaculture-in-sri-lanka)
- Wijesekara, RGS. & **Gamage, DGND.**, 2017. Natural & Eco-friendly Seedling Containers as an Alternative for Polythene used in Agriculture. *Agriculture and Forestry Newsletter*, 2(1), pp. 7-8. [SLAAS](https://www.slaas.lk/)

Scientific Communications

- **Oral presentation - Gamage DGND**, Arnaldo MDG, Mossion A, Wielgosz-Collin G, Lebeau T, Méléder V. Lipid production of the marine benthic diatom *Amphora* sp. NCC169 under biotic stress in a biofilm porous substrate photobioreactor. Special session: Exploring dynamics of cellular reserves in algae, 8th International Society for Applied Phycology (ISAP) Congress, 16-21 June 2024, Porto, Portugal.
- **Oral presentation - Gamage DGND**, Arnaldo MDG, Mossion A, Wielgosz-Collin G, Lebeau T, Méléder V. Can an algae-bacteria partnership accelerate the growth and lipid production of oleaginous benthic diatoms? In: Connan S, Creis E, Jacquemin B, Markov G, Potin P (eds.), *Scientific Opportunities for a Global Algal Revolution: Program and Book of Abstracts*, p. 58. 8th European Phycological Congress (EPC 08), 20–26 August 2023, Brest, France. [ResearchGate](#)
- **Oral presentation - Gamage, DGND.**, Arnaldo, MDG., couzinet-mossion, A., Wielgosz-collin, G., Méléder, V. 2022. Unravelling lipid production and fatty acids profile of oleaginous *Amphora* sp. NCC169 for lipid based industrial applications: A benthic diatom from Atlantic mudflat coast ecosystems, Young Algaeneers Symposium (YAS-2022), 13th -14th June 2022 (Online). [ResearchGate](#)
- **Oral presentation** - Arnaldo, MDG, Mossion, A, Cointet, E, **Gamage, DGND**, Beignon, T, Vuillemin, H, Wielgosz-Collin, G, Méléder, V. 2022. Optimizing high value lipid production of *Amphora* sp. NCC169 from North-East Atlantic mudflats using porous substrate photobioreactor, Young Algaeneers Symposium (YAS-2022), 13th -14th June 2022 (Online). [ResearchGate](#)
- **Oral presentation - Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. (2019). Effect of drying methods on the total flavonoid content, total phenolic content and total antioxidant capacity of five plant leaves with potential use in cosmetics. 4th International research symposium on pure and applied sciences, Kelaniya, 25th October 2019. University of Kelaniya. 54. [Repository-UoK](#)
- **Oral presentation - Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. (2019). Identifying the best growing requirements of *Ocimum tenuiflorum* L. (Heen maduruthala) to produce quality raw materials: cosmetic potential medicinal plant. 6th International conference on Agriculture, Bangkok, 22nd -23rd August 2019. Thailand AGRICO 2019. 29. [ResearchGate](#)
- **Oral presentation - Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. (2019). Identifying the best growing requirements of *Justicia adhatoda* L. to produce quality raw materials: cosmetic potential medicinal plant. International conference on Agriculture and food security 2019, Global Towers Hotel, 8th - 9th August 2019. Colombo, Sri Lanka: AGROFOOD 2019.09. [ResearchGate](#)
- **Oral presentation - Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. (2019). Exploitation of cosmetic potential of medicinal plants in Sri Lanka. In Wayamba University Research Congress. Wayamba University of Sri Lanka, 11th July 2019. Kuliapitiya, Sri Lanka: 42.
- **Poster presentation - Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. (2019). Investigating the optimum growth requirements of *Senna alata* (L.) Roxb. (Emperor's candlesticks) for developing herbal cosmetic industry in Sri Lanka. In National symposium on Agrobiodiversity for climate change adaptation, food and nutrition. Plant Genetic Resource center, 23rd -24th May 2019. Gannoruwa, Sri Lanka:36. [ResearchGate](#)
- **Oral presentation - Gamage, DGND.**, Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. (2019). Investigating the best growing requirements of *Centella asiatica* (L.) Urb. (Giant morphotype) for enhancing the yield to fulfill the existing demand herbal cosmetic industry of Sri Lanka. In Asian International Conference on Multidisciplinary Research 2019. Grand Oriental Hotel, 10th May 2019. Colombo, Sri Lanka: AIMR'19.28. [ResearchGate](#)

- **Oral presentation - Gamage, DGND.,** Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. (2018). Exploration of key manufacturers and medicinal plants used in herbal cosmetic industry of Sri Lanka. In Asian symposium on Medicinal plants, Spices and other Natural products XVI. Hotel Galadari, 12th -14th December 2018. Colombo, Sri Lanka: ASOMPS XVI. 81.
- **Oral presentation - Gamage, DGND.,** Abeysinghe, DC., Wijesekara, RGS., Prathapasinghe, GA., Dharmadasa, RM & Someya, T. (2018). Present status of global and Sri Lankan context in herbal cosmetics. In Wayamba International Conference (WINC 2018). Kuliapitiya, 24th -25th August 2018. Sri Lanka: Wayamba University of Sri Lanka. 265. [ResearchGate](#)
- **Oral presentation - Gamage, DGND & Jayasinghe, JMPK.** (2016). Hydrocarbon exploration in Sri Lanka: Intervention to mitigate impacts on fisheries industry. In International Research Symposium on Sustainable Coastal and Ocean Management. Bandaranaike Memorial International Conference Hall, 18th -19th October 2016. Sri Lanka: Ministry of Mahaweli Development and Environment. 93-94. [ResearchGate](#)
- **Poster presentation - Gamage, DGND & Jayasinghe, JMPK.** (2016). Facing challenges of the environment in sustaining shrimp farming industry in Sri Lanka. In 21st International Forestry and Environment Symposium. Heritance Kandalama, 23rd -24th September 2016. Sri Lanka: Department of Forestry and Environment Science, University of Sri Jayewardenepura. 145. [ResearchGate](#)
- **Oral presentation - Gamage, DGND.,** Madage, SSK., Wijesekara, RGS. & Hewajulige, I (2016). Utilization of Tuna (*Thunnus* sp) offal for fish oil extraction, quality evaluation, and effect of Tocopherol on oxidative rancidity in extracted oil. In 3rd International conference on Fisheries and Aquaculture. Negombo, 24th -25th August 2016. Colombo: The International Institute of Knowledge Management (TIKM). 43. [ResearchGate](#)

ONLINE COURSES

- Algae culture for Biotechnology – Culture collection of Algae & Protozoa (CCAP), Scotland 23rd & 24th April 2023
- Algae Biotechnology - University of California San Diego 30 June 2021
- Academic and Business Writing – University of California, Berkeley 11 May 2015

TRAININGS & WORKSHOPS

- How to Write and Publish your Paper- Communication, Contribute innovative ideas, publish R&D results, synthesize & analyse (18 hours) Started 04th March 2025
- Research data and open science (3 hours) 15th May 2025
- Algae Biotechnology, organized by the EIT Food learning Services and conducted at the University of Cambridge, United Kingdom From 15th to 19th April 2024
- Training on Nano-Biofilm Photobioreactor – Assembling, disassembling, sterilizing, calibration, and programming, etc., conducted by Synoxis Algae, France, at the Institute of Marine Substances and Organisms (ISOMer), Nantes University, France (7 hours) 13th June 2023
- Open Science: Managing and disseminating research data, creating data management plan 30th May 2023
- French Language for intermediate (18 hours) Started 03rd May 2023
- Open Science, science integrity and research ethics (8 hours) 13th April 2023
- English for researchers (18 hours) Started 17th March 2023
- Exchanges and mutual assistance on the experiences of the thesis in all interdisciplinarity - beginning of the thesis, organized by Collège doctoral Pays de la Loire, France 10 March 2023
- Basics of communicating to the general public, organized by the EUniWell Research Training Academy, Nantes University, France 27 February 2023
- French language for beginners (27 hours) Started 30th January 2023
- Training on Research Ethics & Professional Development – Conducted by the University of the Highlands and Islands, Scotland From September 2021 to November 2021

TEACHING

- **“Microalgal Biotechnology”** - under the module *“Refinement and Development of Marine Natural Products”* (2 hours) for master’s students enrolled in the Joint Master in Aquaculture, Environment and Society (JMEM-ACES PLUS and STAR) and the Master in Environment, Ecosystems and Marine Bioproduction (EBM)
From 2023 to 2025
- Lucas Herve, St. Joseph High School Loquidy (Collège et Lycée St Joseph du Loquidy), France
-Taught about quantification of microalgal cells and practical (4 hours) 28th February 2024
- Murtaza Khan , Master M2 (Nutrition health and mobility), University Clermont Auvergne, France
-Supervised the research on “Studying the impact of bacterial influence on lipid production in the oleaginous marine benthic Diatom, *Amphora* sp. NCC169”, experimental design, theoretical guidance, results analysis and writing, etc. (6 months) 12th January 2024 – 11th July 2024
- Rejaul Karim, M1 (Erasmus Mundus Aquaculture, Environment and Society STAR),
-Supervised the short-term research on “Non-destructive methods to monitor growth within a biofilm bioreactor (PSBR), experimental design, theoretical guidance, results analysis and writing, etc. (3 months) From 1st June 2023- 31st August 2023
- Undergraduate teaching of Wayamba University of Sri Lanka
-As a demonstrator, conducted practical and tutorial sessions for undergraduates, organizing and participating field visits, evaluating practical exams in the Departments of Aquaculture and Fisheries, etc. (1 year)
From 04th April 2016 – 03rd April 2017

MEMBERSHIPS

The French lipid research group (**GERLI**)

13th April 2026

REFEREES

Prof. Vona MÉLÉDER-TARD
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I do hereby certify that the aforementioned information is true and accurate to the best of my knowledge.

Yours respectfully,



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Nadeeshani DEHEL GAMAGE