

CURRICULUM VITAE

Bhagini Erandi Pathirana

BVSc (Peradeniya), MSc (Osaka), PhD (Sydney), FSLCVS
<https://scholar.google.com/citations?user=A-KDgloAAAAJ&hl=en>
<https://orcid.org/0000-0002-1795-5423>
<https://publons.com/researcher/4706057/erandi-pathirana/>



Official Position and Affiliation:

Head, Department of Aquatic Bioresources
Faculty of Urban and Aquatic Bioresources
The University of Sri Jayewardenepura, Nugegoda, Sri Lanka
Contact : 0711225499, erandi@sjp.ac.lk

EDUCATION

PHD IN AQUATIC ANIMAL HEALTH AND MICROBIOLOGY (2016-2020)

Sydney School of Veterinary Science, Faculty of Science, The University of Sydney, Australia

- **Thesis title:** Environmental influences on the Pacific oyster (*Crassostrea gigas*) microbiome and disease associated with *Ostreid herpesvirus-1* (OshV-1)

MASTER`S DEGREE IN BIOLOGICAL SCIENCES (2010-2012)

Faculty of Science, Osaka Prefecture University, Japan

- **Thesis title:** Isolation and characterization of microsatellite markers from the genome of *Rhithrogena japonica* and their application in analyses of populations

BACHELOR'S DEGREE IN VETERINARY SCIENCE (1998-2003)

Faculty of Veterinary Medicine and Animal Science, University of Peradeniya, Sri Lanka

- BVSc Second Class (Upper Division)
- Rank: 1/59 in the batch 1997/98

ACADEMIC DISTINCTIONS, AWARDS AND ACCOLADES:

POST-DOCTORAL LEVEL:

- 2024 **Eminent Veterinarian Award 2024** for Sri Lanka (Category – Aquaculture), SAARC Regional Veterinary Association
- 2023 **Fellow**, Sri Lanka College of Veterinary Surgeons
- 2023 Dr. and Mrs. A.R. Mohammed **Award for the best presentation in Animal Health** 75th Annual Scientific Sessions of the Sri Lanka Veterinary Association
- 2020 Dr. and Mrs. A.R. Mohammed **Award for the best presentation in Animal Health** 72nd Annual Scientific Sessions of the Sri Lanka Veterinary Association

GRADUATE LEVEL:

- 2018 **Canadian Excellence Research Chair (CERC) in Aquatic Epidemiology Travel Award** 8th International Symposium on Aquatic Animal Health (ISAAH), American Fisheries Society, Prince Edward Island, Canada
- 2018 **Postgraduate Research Support Scheme (PRSS) Award**, University of Sydney Annual Meeting of the Australian Society for Microbiology, Brisbane, Australia
- 2015 **Endeavour Postgraduate Scholarship**, Australian Government
To pursue doctoral studies at the Sydney School of Veterinary Science, Faculty of Science, University of Sydney, Australia.
- 2010 **Graduate Scholarship, Kobayashi International Scholarship Foundation, Japan**
To pursue graduate studies at the Faculty of Science, Osaka Prefectural University, Japan.

UNDERGRADUATE LEVEL:

- 2004 **Dr. Arunachalam Chinnaiah Memorial Gold Medal**
Best performance at the final BVSc examination, Annual Convocation, University of Peradeniya
- 2003 **Prof. S.T. Fernando Memorial Gold Medal**
Annual Convocation, University of Peradeniya
- 2001 **Distinction for Veterinary Microbiology**, Third BVSc examination.

TEACHING EXPERIENCE

- Dec 2021 - to date **SENIOR LECTURER (Gr. I)**
University of Sri Jayewardenepura
Teaching: Aquatic Animal Health, Aquatic Pathology and Microbiology, Biotechnology, Biochemistry for Aquaculture, Ornamental Fish Culture and Breeding, Mariculture, Practical Aspects of Aquatic Architecture, Marine Mammals, Dangerous Marine Creatures
- June 2012 - Nov 2021 **LECTURER**
Ocean University of Sri Lanka
Subjects taught: Aquatic Animal Health, Fish Pathology, Microbiology (General Microbiology, Seafood Microbiology and Applied Microbiology), Marine Biotechnology & Biomedicine, and Marine Food Technology
- July 2016 – Nov 2018 **GRADUATE TEACHING ASSISTANT**
University of Sydney, Australia
BSc in Animal Veterinary Biosciences programme
Conducted practical classes - fish necropsy examination, fish anaesthesia and water quality testing, conducted tutorial classes - Pacific oyster production
- Apr 2010 – Mar 2012 **GRADUATE TEACHING ASSISTANT**
Osaka Prefecture University, Japan
- June 2009 – Mar 2010 **GRADUATE RESEARCH ASSISTANT**
Osaka Prefecture University, Japan
- May 2004 – Dec 2005 **TEMPORARY LECTURER**
Faculty of Veterinary Medicine and Animal Science, University of Peradeniya

RESEARCH AND RESEARCH EXPERIENCE

Research interests and specializations: Aquatic animal health, environmental influences on the aquatic animal microbiome, bioinformatics and microbiome analysis, sustainable oyster farming in Sri Lanka, bacteriology and efficiency of oyster depuration, development of fish vaccines

INTERNATIONAL RESEARCH GRANTS

- Nov 2021 – July 2024 **PRINCIPAL INVESTIGATOR**
The World Academy of Sciences (TWAS) - Individual Research Grant Award for Basic Sciences 2021
Project: Characterizing the microbiome of *Crassostrea madrasensis* (Indian backwater oyster) for healthy and sustainable oyster farming in Sri Lanka

Value: 12,650 USD

Status: completed

LOCAL RESEARCH GRANTS

Nov 2024 – ONGOING

PRINCIPAL INVESTIGATOR

University Research Grants, University of Sri Jayewardenepura

Project: Sustainable development of commercial oyster production in Sri Lanka through assessment of oyster depuration methods: use of microbiological screening and molecular methods to evaluate the efficiency of depuration

Value: 2.5 million LKR

PUBLICATIONS

Research publications in peer-reviewed, SCI-indexed journals:

- Whittington, R., Buller, N., **Pathirana, E.**, Dhand, N.K., Hair, S., Hick, P.M., Paul-Pont, I. (2024). Investigations of the involvement of *Vibrio* species with *Ostreid herpesvirus-1* in mass mortality events in the Pacific oyster *Crassostrea gigas*. *Aquaculture* 590; 741090. doi: 10.1016/j.aquaculture.2024.741090
- Martin, S. B., de Silva, M. L. I., **Pathirana, E.**, Rajapakse, R.P.V.J. (2023). Polyphyly of the *Dinurinae* Looss, 1907 (*Digenea: Hemiuridae*) and resurrection of the *Mecoderinae* Skrjabin & Guschanskaja, 1954 based on novel collection of *Tubulovesicula laticaudi* Parukhin, 1969 from marine elapid snakes in Sri Lanka. *Parasitology International* 97; 102776. doi: 10.1016/j.parint.2023.102776
- **Pathirana, E.**, Whittington, R., Hick, P. (2022). Impact of seawater temperature on the Pacific oyster (*Crassostrea gigas*) microbiome and susceptibility to disease associated with *Ostreid herpesvirus-1* (OsHV-1). *Animal Production Science* 62; 1040-54. doi: 10.1071/AN21505
- **Pathirana E.**, Fuhrmann, M., Whittington, R., Hick, P. (2019). Influence of environment on the pathogenesis of *Ostreid herpesvirus-1* (OsHV-1) infections in Pacific oysters (*Crassostrea gigas*) through differential microbiome responses. *Heliyon* 5 (7) e02101. doi: 10.1016/j.heliyon.2019.e02101.
- **Pathirana, E.**, McPherson, A., Whittington, R., Hick, P. (2019). The role of tissue type, sampling and nucleic acid purification methodology on the inferred composition of Pacific oyster (*Crassostrea gigas*) microbiome. *Journal of Applied Microbiology* 127; 429-444. doi: 10.1111/jam.14326'
- Evans, O., Kan, J.Z.F., **Pathirana E.**, Whittington, R.J., Dhand, N., Hick, P. 2019. Effect of emersion on the mortality of Pacific oysters (*Crassostrea gigas*) infected with *Ostreid herpesvirus-1* (OsHV-1). *Aquaculture* 505; 157-166. doi: 10.1016/j.aquaculture.2019.02.041
- Premarathna, A.D., Pathirana, I., Rajapakse R.P.V.J., **Pathirana, E.** (2016). Evaluation of efficacy of selected anesthetic agents on blood-spotted crab (*Portunus sanguinolentus*). *Journal of Shellfish Research* 35; 237-240. doi: 10.2983/035.035.0100

Research publications in peer-reviewed journals:

- Premarathna, A.D., Rajapakse, R.P.V.J, **Pathirana, E.**, Senaratne, V.P., Karunarathna, S.C., Jayasooriya, A.P. 2015. Nutritional analysis of some selected fish and crab meats and fatty acid analysis of oil extracted from *Portunus pelagicus*. *International Journal of Scientific & Technology Research* 4; 197-201. <http://www.ijstr.org/research-paper-publishing.php?month=july2015>
- **Pathirana, B.E.**, Takemon, Y., Takayanagi, A., Abbas, E.M., Tanida, K., Shimizu, N., Kato, M. 2012. Isolation of repetitive sequence elements from the genome of mayfly *Rhithrogena japonica* (*Ephemeroptera:Heptageniidae*). *Journal of Advanced Science* 24; 1-7. [https://www.istage.jst.go.jp/article/jsas/24/1+2/24_121207668/ article](https://www.istage.jst.go.jp/article/jsas/24/1+2/24_121207668/article)

Book chapters

Fuhrmann, M., **Pathirana E.**, de Kantzow, M., Hick, P. (2022). Ostreid herpesvirus disease. Kibenge, F.S.B., Baldisserotto, B., Chong, R. S-M. (Eds.), Aquaculture Pathophysiology - Volume II. Crustacean and Mollusc Diseases - 1st edition, Elsevier, Inc., New York, USA, 473-488.

Publication of microsatellite sequences in international gene databases:

Fifty-two microsatellite sequences were identified from the *Rhithrogena japonica* genome and were published in the nucleotide databases of GenBank (National Center for Biotechnology Information (NCBI), USA, DNA Data Bank of Japan (DDBJ) and European Molecular Biology Laboratory (EMBL).

Research abstracts at scientific meetings (selected):

- **Pathirana E.**, Edison, L., Pathirana, I., Maheshika, B., Colonne, C., Kariyawasam, S. (2024). Characterization of the Indian backwater oyster (*Crassostrea madrasensis*) microbiome for healthy and sustainable oyster farming in Sri Lanka. International Union of Biochemistry and Molecular Biology (IUBMB) Biomolecular Horizons 2024 Congress, Melbourne, Australia. September 2024.
- Gamage, G.K.D., Marasinghe, C., Gunawardena, O.B., **Pathirana, E.**, Pathirana, I. (2024). Reproductive hormone dynamics in Catla (*Catla catla*) and Mrigal (*Cirrhinus mrigala*) carps: A comparative study. AgInsight 2024, Sabaragamuwa University of Sri Lanka, September 2024.
- De Silva, M.L.I., **Pathirana, E.**, Martin, S. (2024). Unravelling the hidden diversity: a taxonomic study of fish trematodes in Sri Lanka. Trematodes 2024, Brisbane, Australia, September 2024.
- De Silva, M.L.I., **Pathirana, E.**, Martin, S. (2024). Molecular and Morphological Examination of Intestinal Digeneans from Marine Snakes in Sri Lankan Waters. Trematodes 2024, Brisbane, Australia, September 2024.
- De Silva, M.L.I., **Pathirana, E.**, Martin, S. (2024). First integrated taxonomic approach to catalogue digeneans of marine fishes in Sri Lanka. Parasites in the Pacific 2024, University of Auckland, Auckland, New Zealand, August 2024.
- De Silva, M.L.I., **Pathirana, E.**, Rajapakse, J. (2024). Perception and awareness of fishers and by-catch induced mortalities of marine snakes of Sri Lanka. Islands of the world XIX Conference, University of Mataram, Lombok Island, Indonesia, June 2024.
- Abeysinghe, K.C., Sirisena, D., **Pathirana, E.***, Pathirana, I. (2024). Isolation and characterization of *Vibrio* spp. from fish and packing water associated with ornamental fish exports. Young Graduates' Forum 2024, International Symposium on Agriculture and Environment (ISAE) 2024, Matara, Sri Lanka. May 2024.
- De Silva, M.L.I., Abeyrathna, N.P., Jayaweera, A., **Pathirana, E.**, Martin, S.B., Rajapakse, R.P.V.J. (2023). Bycatch, reproductive status, and parasitic infections of marine snakes of Sri Lanka. Student Conference on Conservation Science (SCCS), Bengaluru, India. October 2023.
- **Pathirana, E.**, Liu, O., Whittington, R., Hick, P. (2023). Impact of constant immersion compared to tidal emersion on the microbiome of Pacific oysters (*Crassostrea gigas*) challenged with *Ostreid herpesvirus-1* (OsHV-1). 75th Annual Scientific Sessions of the Sri Lanka Veterinary Association, The Grand Kandyan Hotel, Kandy. September 2023.
- Gunawardena, O.B., Madumadhawa, M.H.D., Ediriwarna, P., De Silva, S.T.D., **Pathirana, E.**, Pathirana, I.N. (2023). Circulating insulin-like peptide 3 and testosterone concentrations in three male Bengal tigers (*Panthera tigris tigris*). 75th Annual Scientific Sessions of the Sri Lanka Veterinary Association, The Grand Kandyan Hotel, Kandy. September 2023.
- De Silva, M.L.I., Abeyrathne, N., Jayaweera, A., Ranaraja, D.M.A, **Pathirana, E.**, Dutton, H., Bullard, S.A., Rajapakse, R.P.V.J. (2023). Taxonomy of a *Harmotrema* sp. infecting the intestines of *Hydrophis schistosus*, *Hydrophis curtus*, *Hydrophis cyanocinctus* and *Hydrophis spiralis* marine snakes of Sri Lanka. 6th World Congress on Marine Biodiversity, Penang, Malaysia. July 2023.
- Colonne D.K.C., **Pathirana, E.**, De Silva, M.L.I., Pathirana, I. and Rajapakse, R.P.V.J. Occurrence of gut Acanthocephalans in Frigate tuna (*Auxis thazard*) and Mackerel tuna (*Euthynnus affinis*). 10th Ruhuna International Science and Technology Conference (RISTCON), Matara, Sri Lanka. January 2023.
- Gunawardena, O.B., Madumadhawa, M.H.D., Ediriwarna, P., **Pathirana, E.** and Pathirana, I.N. Measuring reproductive hormones in the serum of male and female Bengal tigers (*Panthera tigris tigris*). Young

Graduates' Forum 2022, International Symposium on Agriculture and Environment 2022, Matara, Sri Lanka. December 2022.

- De Silva, M.L.I., Abeyrathne, N., Jayaweera, A., Ranaraja, D.M.A., **Pathirana, E.**, Dutton, H., Bullard, S. and Rajapakse, R.P.V.J. Study on by-catch, reproduction and post-mortem examinations of marine snakes of Sri Lanka. International Conference for Young Marine Researchers (ICYMARE), Bremerhaven, Germany. September 2022.
- **Pathirana, E.**, Whittington, R., Hick, P. Impact of seawater temperature on the Pacific oyster (*Crassostrea gigas*) microbiome and disease susceptibility. 34th Conference of the Australian Association of Animal Sciences, Cairns, Australia. July 2022.
- **Pathirana, E.**, McPherson, A., Whittington, R., Hick, P. Tracing the composition of Pacific oyster (*Crassostrea gigas*) microbiome: impact of sampling and DNA extraction. Third Research Symposium of the Ocean University of Sri Lanka. November 2021.
- Achinthika, PAM and **Pathirana, E.** * Demonstrating the cultivability of marine bacteria using Pacific oyster (*Crassostrea gigas*) microbiome. Third Research Symposium of the Ocean University of Sri Lanka. November 2021.
- Rathnamalala, RIBKD, Ilangagedara D., **Pathirana, E.*** Assessing the efficiency of a conventional water treatment process in improving the quality of water. Third Research Symposium of the Ocean University of Sri Lanka. November 2021.
- Gunaratne, D. and **Pathirana, E.*** Insights into research on infectious diseases in ornamental fish and cultured food fish in Sri Lanka: Trends and gaps. 73rd Annual Scientific Sessions of the Sri Lanka Veterinary Association (virtual conference), Oak Ray Regency Hotel, Kandy. October 2021.
- **Pathirana, E.**, Fuhrmann, M., Whittington, R., Hick, P. (2020). The role of the microbiome in oyster health demonstrated using an experimental *Ostreid herpesvirus-1* (OsHV-1) infection in Pacific oysters (*Crassostrea gigas*). International Veterinary Conference 2020, Sri Lanka Veterinary Association, University of Peradeniya, Sri Lanka. July 2020.
- **Pathirana, E.**, Whittington, R., Hick, P. (2019). The role of tissue type, sampling and nucleic acid purification methodology on the inferred composition of Pacific oyster (*Crassostrea gigas*) microbiome. Sydney School of Veterinary Science (SSVS) Postgraduate Conference 2019, The University of Sydney, Camden, Australia. December 2019.
- **Pathirana, E.**, Fuhrmann, M., Whittington, R., Hick, P. (2018). The role of Pacific Oyster (*Crassostrea gigas*) microbiome in the pathogenesis of *Ostreid herpesvirus-1* infections. 8th International Symposium for Aquatic Animal Health (ISAAH), Charlottetown, Prince Edward Island, Canada. September 2018.
- **Pathirana, E.**, Whittington, R., Tweedie, A., Hick, P. (2018). Tissue preparation and nucleic acid purification influence the outcome of Pacific oyster (*Crassostrea gigas*) microbiome studies. Annual meeting of the Australian Society for Microbiology (ASM) 2018, Brisbane, Queensland, Australia. July 2018.
- **Pathirana, E.**, Whittington, R., Hick, P. (2017). Pacific oyster (*Crassostrea gigas*) microbiome: influence of environment and infection. Marie Bashir Institute Colloquium 2017, The Marie Bashir Institute, Sydney Medical School, The University of Sydney, Sydney, Australia. November 2017.
- **Pathirana, E.**, Whittington, R., Hick, P. (2017). Pacific oyster (*Crassostrea gigas*) microbiome in an experimental *Ostreid herpesvirus-1* (OsHV-1) infection. Sydney School of Veterinary Science (SSVS) Postgraduate Conference 2017, The University of Sydney, Camden, Australia. November 2017.
- Hick, P.M., Evans, O., de Kantzow, M.C., **Pathirana, E.**, Rubio, A., Dhand, N.K., Whittington, R.J. (2017). Pacific Oyster Mortality Syndrome: Closing knowledge gaps to continue farming *Crassostrea gigas* in Australia. Fourth FRDC (Fisheries Research and Development Corporation) Australasian Aquatic Animal Health & Biosecurity Scientific Conference 2017, Cairns, Queensland, Australia. July 2017.
- **Pathirana, B. E.**, Fuhrmann, M., Whittington, R., Hick, P. (2016). Assessing the role of *Vibrio* spp. in the pathogenesis of Pacific oyster (*Crassostrea gigas*) mortality associated with *Ostreid herpesvirus-1* (OsHV-1). Postgraduate Research Conference 2016, Faculty of Veterinary Science, The University of Sydney, Sydney, Australia. November 2016.

- Thilakaratna, W.S., Pathirana, P.B.M., **Pathirana, E.*** (2016). Preliminary investigation: Antibiotic resistance of carp in ponds. NSF Research Summit 2016, BMICH, Colombo, Sri Lanka. July 2016.
- Pathirana, B.M., Thilakaratna, W.S., **Pathirana, E.*** (2016). Antibiotic resistance of bacteria: Natural water bodies vs commercial aquaria in Tangalle, Sri Lanka. Scientific Sessions of the National Aquatic Resources Research and Development Agency (NARA), Colombo, Sri Lanka. March 2016.
- Adikari, A.D.C.T., **Pathirana, E.*** (2016). A preliminary haematological study of *Carassius auratus* (Goldfish). Scientific Sessions of the National Aquatic Resources Research and Development Agency (NARA), Colombo, Sri Lanka. March 2016.
- Handapangoda, O.V., **Pathirana, E.*** (2016). A microbiological study of a local population of *Saccostrea* sp. found in Tangalle. Scientific Sessions of the National Aquatic Resources Research and Development Agency (NARA), Colombo, Sri Lanka. March 2016.
- Wickramanayake, M., Wanasinghe, L., **Pathirana, E.***, Rajapakse, R.P.V.J. Effect of feeding aqueous extracts of *Sargassum crassifolium* and *Ulva fasciata* on biochemical & haematological parameters of laboratory mice. International Symposium on Agriculture & Environment (ISAE) 2016, Faculty of Agriculture, University of Ruhuna, Sri Lanka. January 2016.
- Premarathna, D., Rajapakse, R.P.V.J., **Pathirana, E.**, Jayasooriya, A.P. A study on fatty-acid composition of oil extracted from crab (*Portunus pelagicus*) meat and fish-oil. Peradeniya University International Research Sessions (iPURSE) 2015, University of Peradeniya, Sri Lanka. November 2015.
- Dissanayake, D.S.B., Premarathna, A.D., Rajapakse, R.P.V.J., Pathirana, E., Jayasooriya, A.P. Comparative nutrient analysis of neglected freshwater fish and crab species. Proceedings of the Postgraduate Institute of Science Research Congress 2015, University of Peradeniya, Sri Lanka. October 2015.
- **Pathirana, E.***, Wickramanayake, M., Wanasinghe, L., Wimalarathne, A., Dayarathna, K., Pathirana, I., Kawate N. (2015). Measurement of circulating testosterone concentrations in pond-cultured Nile tilapia, *Oreochromis niloticus*. Proceedings of 67th scientific sessions of the Sri Lanka Veterinary Association, Oak-Ray Regency, Kandy, Sri Lanka. June 2015.
- Nanayakkara, N.P.T.B.L., **Pathirana, E.***, Liyanage, P.D.I.S. and Pathirana, I. (2015). Antibacterial efficacy of spices and seasoning used in household fish processing and preservation. Scientific Sessions of the National Aquatic Resources Research and Development Agency (NARA), Colombo, Sri Lanka. June 2015.
- Rushanthi, D.P.T., **Pathirana, E.***, Liyanage, P.D.I.S. and Pathirana, I. (2015). Bacteria in ornamental fish aquarium water: Are they sensitive to commercial anti-bacterial preparations? Scientific Sessions of the National Aquatic Resources Research and Development Agency (NARA), Colombo, Sri Lanka. June 2015.
- Premaratne, A.D., **Pathirana, E.*** and Pathirana, I. (2014). A study on the anaesthetic effects of clove-oil and carbondioxide in *Portunus sanguinolentus* (blood-spotted crab). Annual scientific sessions of Sri Lanka Association for Advancement of Science (SLAAS), Colombo, Sri Lanka. December 2014.
- Premaratne, A.D., **Pathirana, E.*** and Pathirana, I. (2014). Evaluation of efficacy of selected anaesthetic agents on blood-spotted crab (*Portunus sanguinolentus*). Annual scientific sessions of the Sri Lanka Veterinary Association, Kandy, Sri Lanka. June 2014.
- Ranasinha, A.D.I.D., **Pathirana, E.*** and Pathirana, I. (2014). An assessment of bacterial quality of water, ice and fish in a fishery harbor in Southern Sri Lanka. 1st Ruhuna International Science and Technology Conference (RISTCON), University of Ruhuna, Matara, Sri Lanka. January 2014.
- Chandraratne, G.H.E., **Pathirana, E.**, Pathirana, I. (2014). Assessing the efficacy of some commercially available disinfectants and antiseptics. 1st Ruhuna International Science and Technology Conference (RISTCON), University of Ruhuna, Matara, Sri Lanka. January 2014.
- Liyanage I., **Pathirana E.***, Priyankarage N. and Pathirana I. (2013). Comparative assessment of the nutritional quality of commercially available fish feeds. Proceedings of the National Aquatic Resources Research and Development Agency (NARA), Colombo, Sri Lanka. November 2013.
- **Pathirana, E.**, Abbas, E.M., Takayanagi, A., Takemon, Y., Tanida, K., Shimizu, S., Kato, M. (2013). Isolation and characterization of microsatellite markers from the analysis of conspecific populations of the mayfly

Rhithrogena japonica. Sri Lanka-Japan Collaborative Research Symposium, University of Peradeniya, Peradeniya, Sri Lanka. March 2013.

- **Pathirana, E.**, Abbas, E.M., Takayanagi, A., Takemon, Y., Tanida, K., Shimizu, S., Kato, M. (2012). Isolation and characterization of microsatellite markers from the genome of mayfly *Rhithrogena japonica* and their application in population analysis. Twenty-third Annual Meeting of the Limnological Society of Japan, Nara, Japan. March 2012.
- Abbas, E.M., **Pathirana, E.**, Takayanagi, A., Takemon, Y., Tanida, K., Shimizu, S., Kato, M. (2011). Isolation of short tandem repeats from the genome of mayfly *Rhithrogena japonica*. Seventh Asian Biophysics Association Symposium, New Delhi, India. January 2011.
- Pathirana, D.P.I.N., **Pathirana, B.E.**, Piyadigama, B., Premakumara M.M.K. (2008) A study on depletion of maternally derived antibodies (MDA) and response for the intermediate vaccine type against Infectious Bursal Disease (IBD) in a flock of broiler chickens. Fifth Annual Academic Sessions, University of Ruhuna, Matara. March 2008.
- **Pathirana, B.E.**, Pathirana, D.P.I.N. (2007). A study on myths and attitudes associated with consumption and nutrition of table eggs. Fourth Annual Academic Sessions, University of Ruhuna, Matara, Sri Lanka. January 2007.
- Pathirana, D.P.I.N., **Pathirana, B.E.** (2007) Awareness of Avian Influenza among agriculture students. Fourth Annual Academic Sessions, University of Ruhuna, Matara, Sri Lanka. January 2007.
- **Pathirana, B.E.**, Pathirana, D.P.I.N., de Alwis, M.C.L. (2005). A study of bacteria associated with 'dead-in-shell' chicks in a mid-country hatchery. 57th Annual Scientific Sessions of Sri Lanka Veterinary Association, Colombo, Sri Lanka. May 2005.
- Pathirana, D.P.I.N., **Pathirana, B.E.**, de Alwis, M.C.L. (2005). A serological study on salmonellosis among exotic breeds of chickens and indigenous chickens. 57th Annual Scientific Sessions of Sri Lanka Veterinary Association, Colombo, Sri Lanka. May 2005.

*Contributed as the research supervisor of the research study.

EDITORIAL EXPERIENCE

SCIENTIFIC RESEARCH

- Associate Editor, Asian-Australasian Journal of Bioscience and Biotechnology (March 2020 to December 2023)
- Member, Editorial Committee, Sri Lanka Veterinary Journal – January 2022 to date
- Reviewer, Applied and Environmental Microbiology, American Society for Microbiology, USA
- Reviewer, Aquaculture, Fish and Fisheries, Wiley Online Library, John Wiley & Sons, Inc., USA
- Reviewer, Sustainable Microbiology, Oxford Academic Press, UK.
- Reviewer, Scientific Sessions of the Sri Lanka Veterinary Association, 2021-2024
- Reviewer, Advances in Technology (Journal), Faculty of Technology, University of Sri Jayewardenepura, 2022
- Reviewer, International Symposium on Agriculture and Environment 2024, 2023, 2021 and 2020, University of Ruhuna
- Reviewer, International Conference of Agricultural Sciences - Sabaragamuwa University of Sri Lanka (AgInsights 2024)
- Reviewer, NARA Scientific Sessions 2020, 2024
- Reviewer, Research Symposium of the Ocean University of Sri Lanka, 2020 and 2023
- Track Chair/Wildlife and Aquatic Animal Medicine, Scientific Sessions Committee 2024, Sri Lanka Veterinary Association

INVITED CONTRIBUTIONS AT RESEARCH CONFERENCES

- Chair, Session on Environmental Pollution and Natural Resources Management, 9th International Conference on Multidisciplinary Approaches (ICMA) 2022

- Track chair and Session Chair/ Wildlife and Aquatic Veterinary Medicine, 76th Annual Scientific Sessions, SLVA

RESEARCH SKILLS

Field experimental skills in Aquatic Animal Health

Oyster sampling in the field in Australia and Sri Lanka

Experimental laboratory skills in Aquatic Animal Health:

Oyster husbandry in controlled laboratory environments, sample collection for virology, bacteriology, genetics and histopathology, shellfish necropsy examination, diagnostic bacteriology (both conventional and molecular level) and diagnostic virology (molecular level) of aquatic animal diseases, histopathology in fish parasitic diseases

Molecular Biology techniques:

Microbiome analysis using bioinformatic software (QIIME2, CLC Genomics, PAST); real-time quantitative PCR for both diagnostic bacteriology and virology; conventional PCR; microsatellite analysis using software and PAGE

Soft skills in Computational Biology/Bioinformatics:

Quantitative Insights into Microbial Ecology (QIIME); CLC Genomics; Paleontological Statistics (PAST)

NATA-ACCREDITED LABORATORY EXPERIENCE (Aug 2016 – Feb 2020)

Worked and carried out research in a Veterinary Diagnostic Laboratory accredited by the National Association of Testing Authorities (NATA), Australia, for veterinary testing in microbiology, molecular diagnostics etc.

OVERSEAS PROFESSIONAL TRAINING (SELECTED)

2018 Monash University, Australia

Training course on **Microbiome Analysis** using Quantitative Insights into Microbial Ecology 2 (QIIME2)

2018 Elizabeth Macarthur Agricultural Institute, NSW, Australia

Training course on **Aquatic Veterinary Pathology**

Hands-on experience and theoretical knowledge on gross, microscopic and clinical pathology of fish, crustacean and mollusc diseases

2018 University of Prince Edward Island, Charlottetown, Canada

Workshop on practical **bivalve shellfish disease detection and necropsy**

Conducted by the Fish Health Section of the American Fisheries Society in conjunction with the International Symposium on Aquatic Animal Health (ISAAH).

2018 Centre for Infectious Diseases and Microbiology-Public Health (CIDM-PH) and Marie Bashir Institute, Australia

Workshop on **Microbial Genomics**

2017 Centre for Infectious Diseases and Microbiology-Public Health (CIDM-PH) and Marie Bashir Institute, Australia

Sydney Summer School on **Pathogen Genomics** and Global Health

POSTGRADUATE RESEARCH SUPERVISION

Faculty of Veterinary Medicine, University of Peradeniya

- MPhil degree programme: Co-supervisor
Morphology and morphological characterization and prevalence of parasitic infestations of marine snakes in Sri Lanka: Mr. M.L.I. de Silva (February 2022 – January 2024)

Murdoch University, Perth, Australia

- PhD degree programme: Co-supervisor
First intensive survey for parasites of marine fishes in Sri Lanka: richness, taxonomy and biogeography of the *Opecoelidae* (*Trematoda*): Mr. M.L.I. de Silva

UNDERGRADUATE RESEARCH SUPERVISION

Faculty of Agriculture, University of Ruhuna (as external supervisor)

1. A histopathological study of parasitic digenean metacercariae in varieties of goldfish (*Carassius auratus*): Ms. Maleesha Sandeepani (Primary supervisor)
2. Isolation and characterization of *Vibrio* spp. from fish and packing water associated with ornamental fish exports: Ms. K.C. Abeysinghe, 2023-2024 (Primary supervisor)
3. Comparative analysis of reproductive hormones and morphometric attributes in catla (*Catla catla*) and mrigal (*Cirrhinus mrigala*) carps: Mr. G.K.D. Gamage, 2023-2024 (Co-supervisor)
4. Occurrence of gut *Acanthocephalans* in Frigate tuna (*Auxis thazard*) and Mackerel tuna (*Euthynnus affinis*): Ms. D.K.C. Colonne, 2022-2023 (Co-supervisor)
5. Bacteriological assessment of the efficacy of selected commercial disinfectant products used in the poultry industry: Mr. H.D.A. Wimalarathne (Co-supervisor)

Ocean University of Sri Lanka (June 2012– Oct 2021)

6. A study of Sri Lankan marine snakes: Morphology, Reproductive Biology and Parasitic Infections
Mr. M.L.I. de Silva (Honours degree research: External supervisor: Prof. RPVJ Rajapakse)
7. Assessing the efficiency of conventional water treatment process in improving the quality of water: Mr. R.I.B.K.D. Ratnamalala (Internal supervisor)
8. A review of studies associated with diseases in commercial ornamental fish and food fish cultured in Sri Lanka: Ms. D. Gunaratne (Sole supervisor)
9. Demonstrating the cultivability of marine bacteria using Pacific oyster (*Crassostrea gigas*) microbiome: Ms. P.A.M. Achinthika (Sole supervisor)
10. A review of studies associated with histamine in fish and fishery products available in Sri Lanka: Ms. D. Abeyratne (Sole supervisor)
11. A haematological study of some selected freshwater ornamental fish: Ms. A.D.C.T. Adikari (Sole supervisor)
12. A microbiological study of a local population of Rocky oysters (*Saccostrea* spp.) in Tangalle, Sri Lanka: Ms. O.V. Handapangoda (Sole supervisor)
13. A comparative study on the antibiotic resistance of aquatic microbes: Natural water bodies vs. commercial aquaria: Ms. P.B.M. Pathirana and Mr. W.S. Thilakaratna (Sole supervisor)
14. Antibacterial efficacy, the effects on water quality and toxicity of Kottamba leaves (*Terminalia catappa*):
Ms. N.P. T. B. L. Nanayakkara (External supervisors: Dr. Rasika Jinadasa and Dr. Samanthika Jagoda, CAADDR, University of Peradeniya)
15. Comparative study of some selected biochemical properties of six different species of marine macro algae:
Ms. W. M. L. A. Wanasinghe (External supervisor: Prof. RPVJ Rajapakse, University of Peradeniya)
16. Effect of *Sargassum crassifolium* and *Ulva fasciata* on bodyweight, certain biochemical and haematological parameters of laboratory mice: Ms. W. D. M. C. Wickramanayake. (External supervisor: Prof. RPVJ Rajapakse, University of Peradeniya, Sri Lanka)
17. Growth-related testosterone dynamics in male and female Nile tilapia (*Oreochromis niloticus*): Ms. W. D. M. C. Wickramanayake and Ms. W. M. L. A. Wanasinghe. (External supervisor: Dr. Indunil Pathirana, University of Ruhuna, Sri Lanka)
18. Antibacterial efficacy of spices and seasoning used in household fish processing and preservation: Ms. N.P.T.B.L. Nanayakkara
19. Microbial diversity in ornamental fish aquarium water: Are they sensitive to commercial anti-bacterial preparations? Ms. D.P.T. Rushanthi
20. Nutritional analysis of some selected fish and crab meats and fatty acid analysis of oil extracted from *Portunus pelagicus*: Mr. D.A.G.A.D. Premarathna. (External supervisor: Dr. Anura Jayasooriya, University of Peradeniya)

21. Evaluation of different anaesthetic agents used in the sedation and anaesthesia of blood-spotted crab, *Portunus sanguinolentus*: Mr. D.A.G.A.D. Premaratne
22. Evaluation of a plant-based protein hydrolysate as an ingredient in feed formulation for common carps (*Cyprinus carpio*): Mr. G.H.E. Chandraratne. (External supervisor: Dr. Anura Jayasooriya, University of Peradeniya)
23. An assessment of bacterial quality of water, ice and fish in a fishery harbor in Southern Sri Lanka: Ms. A.D.I.D. Ranasinha
24. Assessing the efficacy of some commercially available, general-purpose disinfectants and antiseptics: Mr. G.H.E. Chandraratne
25. Comparative assessment of the nutritional quality of commercially available fish feeds: Mr. I. Liyanage
26. Study of the genetic variation in exon 4 region k-casein gene in local indigenous and Jamnapari crossbred goats in the North-Western Province of Sri Lanka: Mr. G.A.P.R. Ganepola. (External supervisor: Dr. Basil Alexander, University of Peradeniya)
27. A study on induced breeding of guppy fish, *Poecilia reticulata* by GnRH hormone injection: Ms. Mayuri Samarasinghe. (External supervisor: Dr. Basil Alexander, University of Peradeniya)
28. Isolation and identification of *Vibrio* species from shrimp farms located in Chilaw, Sri Lanka: Ms. K.H.I.U. Kodagoda. (External supervisor: Dr. Rasika Jinadasa, University of Peradeniya)
29. Evaluation of feeding strategies in shrimp farms located in Chilaw, Sri Lanka: Mr. Pandula Ramanayake. (External supervisor: Dr. M.N.M. Fouzi, University of Peradeniya)

POSTGRADUATE RESEARCH REVIEW AND EXAMINATION

Reviewer - MPhil Research

Faculty of Veterinary Medicine and Animal Science, University of Peradeniya

Reviewer – Research Ethics

Faculty of Veterinary Medicine and Animal Science, University of Peradeniya

Panel member/Examiner

Faculty of Graduate Studies, Sabaragamuwa University of Sri Lanka

UNDERGRADUATE RESEARCH REVIEW AND EXAMINATION

Examiner - Faculty of Veterinary Medicine and Animal Science, University of Peradeniya

OTHER CONTRIBUTIONS AT UNIVERSITY LEVEL

Faculty of Urban and Aquatic Bioresources, University of Sri Jayewardenepura

ACADEMIC AND RESEARCH COLLABORATIONS

Initiated and currently coordinating academic and research collaborations with multiple local and foreign institutions.

- University of Sydney, Sydney, Australia
- Murdoch University, Perth, Australia
- Aquaculture Development Centre (belonging to the Western Provincial Council), Pitipana, Negombo

ADMINISTRATION AND QUALITY ASSURANCE

May 2022 - to date

Founder Head, Department of Aquatic Bioresources

Jan 2022 - Dec 2023

First Deputy Proctor, Faculty of Urban and Aquatic Bioresources

May 2022 - to date

Faculty Coordinator/Internal Quality Assurance Cell

2023

Coordinator, first physically held orientation programme of the Faculty

UNIVERSITY LEVEL

- Member, Committee for formulating standard operational procedures (SOP) for examinations (June 2022 to date)
- Member, Committee for formulating a policy for grievance handling of staff and students at the (June 2022 to date)
- Member, Committee for preparing a performance appraisal system for the academics (February 2023 to date)
- Member, Committee for formulating a policy for appointing honorary/adjunct or visiting academic staff (May 2023 to date)
- Member, Committee for formulating a policy for credit transfer
- Faculty Representative, Senate Standing Committee for Quality Assurance
- Faculty Representative, Curriculum Review Committee of the University
- Member, Committee for developing a self-evaluation report (SER) for the Institutional Review 2024
- Patron, Japura Blue Legacy Club (Official student club of the Department of Aquatic Bioresources)

OCEAN UNIVERSITY OF SRI LANKA

2020

Training of trainers

Conducted a training course on Aquatic Animal Health Management for lecturers of Regional Training Colleges of the University

2020

Member, Policies, Procedures and By-Laws Committee of the University

Developed the manual of Academic Procedures and Regulations of the University.

2012

Convener - OCU team for Japan Quiz

Selection and training of undergraduates to participate in the 'Japan Quiz 2012', organized by the Sri Lanka-Japan Business Co-operation Committee of the Ceylon Chamber of Commerce

UNIVERSITY OF RUHUNA

Scientific Assistant to the Vice-Chancellor (April 2006 – March 2008)

- Coordinator for NOMA (Norad's Programme for Master Studies) collaborative projects with the University of Agder, Norway, Bodo University College, Norway etc. from the stage of proposal writing.
- Coordinated collaborative projects with the University of Durham, UK, Ritsumeikan Asia-Pacific University, Japan etc.

Administrative Secretary of the CIDA-Tsunami project, University of Ruhuna, Sri Lanka (2007)

Project title: Restoration of livelihoods in tsunami-affected areas

Member, Delegation of the University of Ruhuna to Bodo University College, Norway (June 2007)

This delegation was headed by the Vice-Chancellor and was aimed at developing a collaborative Master's degree programme between the University of Ruhuna and the Bodo University College, Norway.

Scientific Secretary to the Chairman, Committee of Vice-Chancellors and Directors (CVCD), Sri Lanka (2006)

- Coordinated the workshop on the "Improvement of the Management of the Universities in Sri Lanka" which was held with the participation of Vice-Chancellors, Deans of Faculties and Eminent Professors of the university system of Sri Lanka.
- Coordinated the **maiden CVCD Excellence Awards Ceremony** from the stage of calling applications for awards up to the stage of the awards give-away ceremony

UNIVERSITY OF PERADENIYA

Shadow person-in-charge, project on 'Improving the relevance and quality of undergraduate education' (IRQUE, 2004-2005)

Coordinated a main activity of the competitive project grant secured by the Faculty of Veterinary Medicine, University of Peradeniya. The activity involved planning and implementation of a new industrial placement programme for veterinary students

CONTRIBUTIONS AT NATIONAL LEVEL

- 2024 **Member of the World Bank consultation meeting on priorities for investments in coastal fisheries, aquaculture in Sri Lanka and the blue economy**
Aimed at discussing sector governance issues and recommendations for improving policies, regulations and capacity for effective and sustainable fisheries management
- 2020 – 2024 **Member and Sri Lankan Coordinator of the project team for Marine Aquaculture Development in Sri Lanka (MADS)**
Australian-Government funded project aimed at developing mariculture in Sri Lanka. The project specifically works on the farming of Indian oysters, seaweeds, and Asian Sea Bass. The National Aquaculture Development Authority (NAQDA) and the University of Sydney, Australia are among the other members of this collaborative project.
- 2022 **Guest Speaker/Resource Person** - Marine Turtle Awareness Session on Turtle pathology and necropsy examinations
Marine Environmental Conservation Society of Sri Lanka (MECS)
- 2021 **Member** - Committee convened by the Marine Environment Protection Agency,
Diagnosing the cause/s of marine animal deaths associated with the X-Press Pearl Cargo Shipwreck
- 2021 **Member** of the subcommittee convened by the Ministry of Fisheries
To assess the damage to fisheries associated with the X-Press Pearl Cargo Shipwreck
- 2021 **Member** of the committee convened by the National Science Foundation (NSF)
Preparing a strategic road map and pragmatic action plan on impact assessment, mitigation, damage control and ecosystem restoration associated with the X-Press Pearl Cargo Shipwreck.
- 2021 **Member** of the panel of judges, Interuniversity quiz and poster competition on 'Chemistry of marine pollution' for undergraduates of the Sri Lankan university system
Sri Lanka Society for the Advancement of Science (SLAAS) Section E2
- 2021 Judge, English article writing competition for undergraduates of the Ocean University
OCU chapter of the Students for the Exploration and Development of Space (SEDS)

OUTREACH ACTIVITIES

INTERNATIONAL LEVEL:

- 2023 **Speaker at the TEDx USriJayewardenepura**
First-ever TEDx programme held at a state university in Sri Lanka
Title of the talk: Marine microbiome: the fascinating world within our oceans
- 2021 **Resource person/speaker** - webinar series organized by the Ocean University, in line with the World Ocean Day 2021
Title: Marine microbiome: the fascinating world within our oceans
- 2010 – 2012 Voluntary Member, **Osaka Foundation for International Exchange (OFIX), Japan**
- 2008 – 2012 Member, **International Exchange Club (KoKoC), Osaka, Japan**

Science writer

- Feature article - Your Veterinarian (Official Magazine of the Sri Lanka Veterinary Association, Vol.2 No. 1, Dec 2021) titled, **"Why are marine turtles dying on our shores?"**
- Feature article on Daily Mirror (June 28, 2021) titled, **"Why are turtles dying on our shores?"**

- Feature article on Sunday Lankadeepa (June 27, 2021) titled, “කැප්බැවින්ගේ පැවැත්මට බලපාන තර්ජන”

PROFESSIONAL QUALIFICATIONS

- **Certificate in Teaching in Higher Education (CTHE)**, Staff Development Centre, University of Sri Jayewardenepura (Aug 2020- Feb 2021)

FELLOWSHIP/MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

- 2023 - to date **Fellow**, Sri Lanka College of Veterinary Surgeons
 2024 **Member**, BactiVac network, University of Birmingham, UK
 2020 - to date **Life Member**, Sri Lanka College of Microbiologists (SLCM)
 2016-2017 Student Member, Australian Society for Microbiology
 2014 - to date **Member**, Sri Lanka Association for the Advancement of Science.
 2005- to date **Registered Veterinarian**, Sri Lanka Veterinary Council (Reg. No. 1278).
 2003- to date **Member**, Sri Lanka Veterinary Association.

LANGUAGE PROFICIENCY

English Language

- International English Language Testing System (**IELTS**) - April 2018
 Listening 8.5, Reading 7.5, Writing 7.5, Speaking 7.5, Overall band score **8 out of 9**.
- Test of English as a Foreign Language (**TOEFL**) - August 2005 **657 marks out of 677**.

Japanese Language

- 2009-2010 Japanese Language Proficiency (levels 3 & 4)
 Japan Educational Exchange and Services and the Japan Foundation.
 2010 **Gold medal**, Foreign Students` Japanese Language Speech Competition
 Osaka Prefectural University