

Keerthi Sri Senarathna Atapaththu

PhD (Saitama, Japan), MSc (AIT, Thailand), BSc (Ruhuna, SL)

Contact Information



Office	Department of Limnology and Water Technology, Faculty of Fisheries and Marine Sciences & Technology, University of Ruhuna, Wellamadama, Matara, Sri Lanka
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Academic Qualifications

PhD in Science and Engineering from Saitama University, Japan (2012-2015)

MSc in Aquaculture and Aquatic Resources Management from AIT, Thailand (2008-2010)

BSc (Special) in Fisheries Biology from the University of Ruhuna, Sri Lanka (2000-2005)

Academic Awards & Scholarships

Fellowship of Chulabhorn Research Institute, Thailand (2018)

Japanese Government (Monbukagakusho: MEXT) Scholarships (2012-2015). A full scholarship was awarded by the Japanese government to pursue a Doctoral degree at the Saitama University, Japan.

The C. Kwei Lin Prize (May 2010), For the most outstanding academic performance in the field of Aquaculture and Aquatic Resources Management, AIT, Thailand

ADBJSIP scholarship (2008-2010), A full scholarship was awarded from the Asian Development Bank through AIT to pursue a Master of Science degree in Aquaculture and Aquatic Resources Management at the Asian Institute of Technology, Thailand.

L.C. DE Silva Memorial Gold Medal (2004-2005), For the most outstanding academic performance in BSc (special degree), Faculty of Science, University of Ruhuna.

Research Interests

Abiotic stress on aquatic plants

Aquatic ecology and macroinvertebrates

Life Cycle Assessment (LCA)

Phytoremediation

Fisheries and Aquaculture

Work Experiences

Senior Lecturer, Department of Limnology, FMST, Ruhuna (From Nov 2015-up to date)

Lecturer (Contract), Department of Limnology, FMST, Ruhuna, (Jan 2011- Sep 2012)

Research Associate, Aquaculture and Aquatic Resources Management (AARM), School of Environment Resources and Development (SERD), AIT, Thailand (June 2010 – Dec 2010)

Tutorial and Teaching Assistant, Aquaculture and Aquatic Resources Management (AARM), School of Environment Resources and Development (SERD), AIT, Thailand (Sep-Dec 2009)

Tutorial Assistant, Aquaculture and Aquatic Resources Management (AARM), School of Environment Resources and Development (SERD), AIT, Thailand Jan – May 2009)

Assistant Lecturer, Department of Limnology, FMST, Ruhuna, (Nov 2005 – August 2008)

Demonstrator, Department of Fisheries Biology, Faculty of Science University of Ruhuna, Matara, Sri Lanka. (August 2005- Nov 2005)

Student Demonstrator (temporary) Dept. of Fisheries Biology, University of Ruhuna (October 2004 - April 2005)

Other Professional Roles

Governing board member of the National Aquatic Resources Research and Development Agency (NARA)

Faculty representative of the Senate, University of Ruhuna

Member of the Quality Assurance Cell of the Faculty of FMST

Editor-in-Chief of the Journal of the University of Ruhuna

Editor-in-Chief of the UoR Highlights, University of Ruhuna

Member of the University Ranking Committee

Member of the Technology Transfer Cell (TTC) of the Faculty of FMST

Member of the Curriculum Development Committee of the Faculty of FMST

Publications

International Peer-Reviewed Journals

Rajapaksha, R. P., Wu, M.-L., Wang, Y.-T., Bandara, G., **Atapaththu, K. S. S.**, & Wang, Y.-S. (2024). Long-term alterations of nutrient dynamics and phytoplankton communities in Daya Bay, South China Sea. *Marine Pollution Bulletin*, 208, 116955. Doi <https://doi.org/10.1016/j.marpolbul.2024.116955>.

Pabasara KAE, **Atapaththu KSS**, Sanjaya k, Ganadeepan S and Jayasinghe A (2024). A decadal change in agricultural land use reduce macroinvertebrate diversity in a headwater stream; A case study in Sri Lanka. *Fundamentals and Applied Limnology*. Online published Jan 2024.

Wu M, Zhao H, Han Q, Hui L, Elumalai V, Chen L and **Atapaththu KSS** (2023) Editorial: Macroecology of coastal zones under global changes. *Front. Mar. Sci.* 10:1208448. doi: 10.3389/fmars.2023.1208448

Menik Hitihami M. A. S. V. Gunawardana, Kelum Sanjaya, **Keerthi S. S. Atapaththu**, Ajith L. W. Y. Yapa Mudiyansele, Kanaji Masakorala, Shirani M. K. Widana Gamage (2022). Quantitative prediction of toxin-producing Aphanizomenon cyanobacteria in freshwaters using Sentinel-2 satellite imagery. *J Water Health*. 20(9) 1364-1379. doi: <https://doi.org/10.2166/wh.2022.093>

Gamage, L.K.T., Thushari, G.G.N., **Atapaththu, K.S.S.**, Kumara, H.K.R.S., Senevirathna, J.D.M. (2021). Diversity, Length-Weight Relations, and Condition Factor of Sea Cucumbers in Three Coastal Areas Along the Southern Coast of Sri Lanka. *Turkish Journal of Fisheries and Aquatic Sciences*, 21, 575-588.

Senavirathna, M.D.H.J., Muhetaer, G., **Atapaththu, K.S.S.** and Takashi Fujino (2021). Egeria densa Allelopathy on Microcystis aeruginosa Under Different Light Intensities and Preliminary Insight into Inter-Parameter Relationships. *Water Air Soil Pollut* 232, 135

Weerakoon HPAT, **Atapaththu KSS**, Asanthi HB (2018): Toxicity evaluation and environmental risk assessment of 2-methyl-4-chlorophenoxy acetic acid (MCPA) on non-target aquatic macrophyte Hydrilla verticillata. *Environmental Science and Pollution Research*: 1-12

Atapaththu KSS, Mahfuza P, Takashi A, M. Harun R (2018): Growth and oxidative stress response of aquatic macrophyte Myriophyllum spicatum to sediment anoxia. *Fundamentals and Applied Limnology* 19 (4): 289-29

Atapaththu K.S.S., Asaeda T., Yamamuro M., Kamiya H. (2017): Effects of water turbulence on plant, sediment and water quality in reed (*Phragmites australis*) community. *Ekológia (Bratislava)*, Vol. 36, No. 1, p. 1-9

Atapaththu, K.S.S., Rashid, M.H., Asaeda, T., (2016). Growth and Oxidative Stress of Brittlewort (*Nitella pseudoflabellata*) in Response to Cesium Exposure. Bull. Environ. Contam. Toxicol. 96, 347-353.

Atapaththu, K.S.S. and Asaeda, T. (2015) Growth and stress responses of Nuttall's waterweed *Elodea nuttallii* (Planch) St. John to water movements. Hydrobiologia, 747, 217-233.

Atapaththu, K.S.S., Miyagi, A., Atsuzawa, K., Kaneko, Y., Kawai-Yamada, M. & Asaeda, T. (2015) Effects of water turbulence on variations in cell ultrastructure and metabolism of amino acids in the submersed macrophyte, *Elodea nuttallii* (Planch.) H. St. John. Plant Biology, 17, 997-1004

Herath, S. S and **Atapaththu, K.S.S.** (2013). Sudden weaning of angel fish, *Pterophyllum scalare* (Lichtenstein) (Pisces; Cichlidae) larvae from brine shrimp (*Artemia* sp) nauplii to formulated larval feed. SpringerPlus 2,102.

Herath, S.S, **Atapaththu, K.S.S** and Radampola, K. (2013). Do visual cues from the male fish and the mirror image elicit the egg-laying process of female angel fish; *Pterophyllum scalare* (Lichtenstein)(Pisces; Cichlidae)? Journal of Biology, 01, 100-105.

Book Chapters

Cooray, N. S., U. Premarathna, **K. S. S. Atapaththu**, and T. Priyadarshana. 2022. Development and Challenges of Indian Ocean Blue Economy and Opportunities for Sri Lanka. Global Blue Economy: Analysis, Developments, and Challenges 8:6 in Md. Nazrul Islam and Steven M. Bartell (Ed) Global Blue Economy Analysis, Developments, and Challenges. CRC Press. (Annex 2.2.1.1)

Paranawithana G.N and **Atapaththu K.S.S** (2020). Environmental Engineering (Block 1: Ecology and Ecosystem). Department of Civil Engineering, Faculty of Engineering. Open University of Sri Lanka.

Atapaththu K.S.S and Asaeda T (2016). Responses of Freshwater Macrophytes to Fluctuations in Abiotic Stress Vectors. In Rodney C.E (Ed) Aquatic Plants: Composition, Nutrient Concentration and Environmental Impact. NOVA science publishers

Publication in the non-indexed peer-reviewed journal

Gunawardana, M.H.M.A.S.V., Wijesooriya, M.M., Randima, G.W.A.P., **Atapaththu, K.S.S.**, Sanjaya, K., Masakorala, K. and Gamage, S.M.K.W., 2022. Co-occurrence of microcystin and cylindrospermopsin in hypereutrophic Mahakanadarawa and Nachchaduwa reservoirs. Journal of Science of the University of Kelaniya Sri Lanka, 15 (1), pp.67–97. DOI: <http://doi.org/10.4038/josuk.v15i1.8052>

Sandaruwani, T.D.S., **Atapaththu, K.S.S.** and Asanthi, H.B., 2018. Distribution and abundance of aquatic macrophytes in a forested stream: Case study in Kottawa Forest Reserve. Journal of the University of Ruhuna, 6(1), pp.8–14. DOI: <http://doi.org/10.4038/jur.v6i1.7869>

Kumara H.K.R.S, **Atapaththu K.S.S**, Herath S.S, Vidanapathirana N.P., Marasinghe M.M.K.I. (2023). Exploring ecological functions of rice-fish integration in the agricultural landscape: a review to investigate the feasibility of implementing rice-fish integration in Sri Lanka. Journal of Agro-Technology and Rural Sciences Volume 3, Issue 2; December 2023

Publications in International Conferences

Kariyawasam, K.W.J.V.T., Yapa, Y.M.A.L.W and **Atapaththu, K.S.S** (2023). Application of Sodium Alginate Extracted from Brown Algae: *Sargassum illicifolium* to Encapsulate Indole-3-acetic acid. International Conference of Applied Sciences. Sabaragamuwa University of Sri Lanka.

Dilhani, N.V.M., Yapa, Y.M.A.L.W, Gangabadage, C.S., **Atapaththu, K.S.S.**, and Kumara, P.B.T.P (2023). Microplastics Pollution in Garanduwa Lagoon, Matara Sri Lanka. International Conference of Applied Sciences. Sabaragamuwa University of Sri Lanka.

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- Dilshan W.L.T. , Asanthi H.B., Maithreepala R.A., **Atapaththu K.S.S.** , Costa A.M.K.C.J. , Suranga D.K.A.I. Effect of pH and Light Intensity on the Growth of *Dunaliella Salina*. Proceedings of the 27th International Forestry and Environment Symposium 2023 of the Department of Forestry and Environmental Science, University of Sri Jayewardenepura, Sri Lanka
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- Kumara, D.K.I.P., Madhawa, R.M.L, Kaushalya W.H.U, Kumara H.K.R.S, Herath S.S and **Atapaththu K.S.S** (2023). Effect of Stocking Density of All-Male Nile Tilapia (*Oreochromis niloticus*) on Integrated Rice Production: *Oryza sativa* L. (At362). Proceedings of the 3rd International Symposium on Agriculture, Faculty of Agriculture, Eastern University Sri Lanka.
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- Gunawardane M.H.M.A.S.V, Widana Gamage S.M.K, Wijesooriya M.M, Randima G.W.A.P, Masakorala K, **Atapaththu K.S.S** and Sanjaya K (2021). Cyanotoxins in Sri Lankan Waterbodies: Case study in Chandrika Wewa in Walawa river basin. Proceedings of the International Symposium on Agriculture and Environment. University of Ruhuna.
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- Prasad G.H.D.S, Gamage T.P.D, **Atapaththu K.S.S** and Gomes P.I.A (2020). Effect of Urbanization on Water Quality of Selected Canals in Colombo and its Suburbs; with Special Reference to Diatoms. Proceedings of the International Symposium on Agriculture and Environment. University of Ruhuna
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- Priyadharshani H.M.C, **Atapaththu K.S.S**, Sanjaya K, Priyadharshana T. (2019). Aquatic plant and benthic macroinvertebrate diversity in headwaters of Sapugahadola stream Walasmulla. Proceedings of the International Forestry and Environment Symposium of the Department of Forestry and Environmental Science, University of Sri Jayawardanapura, Sri Lanka.
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- Premarathna M.A.P.N, Asanthi H.B and **Atapaththu K.S.S** (2018). Phytoremediation of Excess Water Hardness in Drinking Water: A Causative Factor for CKDu in Bandagiriya. Proceedings of the International Forestry and Environment Symposium of the Department of Forestry and Environmental Science, University of Sri Jayawardanapura, Sri Lanka
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- Chandrasiri K.S.U, **Atapaththu K.S.S**, Asanthi H.B, Samaradivakara S and Hirimuthugoda N.Y (2018). Influencing Factors and Mechanism for Morphological Alteration of *Apanogeton crispus* and their Genetic Comparison at the Dediyaigala Stream, Sri Lanka. Proceedings of the International Forestry and Environment Symposium of the Department of Forestry and Environmental Science, University of Sri Jayawardanapura, Sri Lanka
-
- Harun, R., **Atapaththu, K.S.S.** & Asaeda, T. (2016). Calcification of *Nitella*: Implication for phytoremediation of cesium contamination. In SIL 2016 Torino Italy.
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- Atapaththu, K.S.S.**, Atsuzawa, K., Kaneko, Y., & Asaeda, T. (2015). Effects of water turbulence on plant growth and ultra-structures of aquatic macrophyte; *Elodea nuttallii*, Ecology, and Civil Engineering Society: 113, Koriyama, Japan
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- Atapaththu, K.S.S**, T. Asaeda and Md Harun Rashid (2014). Growth and stress response of *Nitella* to cesium. Proceedings of the 79th conference of the Japanese Society of Limnology.
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- Atapaththu K.S.S** and T. Asaeda 2014. Stress response of aquatic macrophytes; *Myriophyllum spicatum* to sediment oxygen redox potential. INTERNATIONAL SYMPOSIUM ON RIVER AND LAKE ENVIRONMENT, Chuncheon, KOREA,
-
- Atapaththu, K.S.S** & T. Asaeda (2014). Ecological Significance of turbulence in reed community (*Phragmites japonica*); case study Lake Shinji, Japan. The 17th Symposium of River Ecology Research, Tokyo Japan.
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- Atapaththu, K.S.S.** & T. Asaeda, 2014. Growth and stress responses of submersed macrophytes; *Myriophyllum spicatum* to turbulence and main flow. Proceedings of the Ecology and Civil Engineering Society: 305–308, Tokyo, Japan.
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Atapaththu, K.S.S. Radampola, K and Herath, S.S. (2012). Preliminary study on algal development in indoor fish tanks, Proceedings of the second international symposium, South Eastern University of Sri Lanka. University Park, Oluvil, 32360, Sri Lanka.

Herath, S.S and **Atapaththu, K.S.S.** (2012). Effects of different live feeds on growth performance of fighter fish (*Betta splendens*). Proceedings of the second international symposium, South Eastern University of Sri Lanka. University Park, Oluvil, 32360, Sri Lanka.

Atapaththu, K. and Yakupitiyage, A. (2009). Life Cycle Assessment of Shrimp Farming in Sri Lanka. Poster presentation at the International Symposium on Aquaculture and Fisheries Education, Asian Institute of Technology, Thailand

Conferences and Meetings of Professional Associations

K.S.S. Atapaththu, Ganadeepan Subramaniam, Kelum Sanjaya, and Tilak Priyadarshana (2024). Spatiotemporal Variability of Sri Lankan rainfall from 1990 to 2020. Proceedings of the 5th National Symposium on Agro-Technology and Rural Sciences 2024. University of Colombo Institute for Agro-Technology and Rural Sciences Sri Lanka.

KSS Atapaththu, K Sanjaya, HPL Guruge, MHMASV Gunawardana, WGSM Kumari, ED Jayalath, S Prasad, YMALW Yapa, RA Maithreepala (2022). First Record of the Freshwater Red Algal Genus *Batrachospermum* from Southern Sri Lanka. Proceedings of the 19th Academic Sessions of the University of Ruhuna. P3

Dilhani, N.V.M., Yapa, Y.M.A.L.W, Gangabadage, C.S., **Atapaththu, K.S.S.**, and Kumara, P.B.T.P (2023). Microplastics Pollution in Garanduwa Lagoon, Matara Sri Lanka. International Conference of Applied Sciences. Sabaragamuwa University of Sri Lanka

Kariyawasam, K.W.J.V.T., Yapa, Y.M.A.L.W and **Atapaththu, K.S.S** (2023). Application of Sodium Alginate Extracted from Brown Algae: *Sargassum illicifolium* to Encapsulate Indole-3-acetic acid. International Conference of Applied Sciences. Sabaragamuwa University of Sri Lanka.

Ganadeepan Subramaniam , **K.S.S. Atapaththu**, Kelum Sanjaya , Xin Wang and Tilak Priyadarshana 2023. Analysis of decadal changes of rainfall variability in the southern Sri Lanka. 4th National Symposium on Agro-Technology and Rural Sciences, University of Colombo Institute for Agro-Technology and Rural Sciences, Sri Lanka

HKAE Prasadika, DKAI Suranga, HPL Guruge, **KSS Atapaththu**, HB Asanthi 2022. Formation of Purple Reddish Colour in Salt Pans. Proceedings of the 19th Academic Sessions of the University of Ruhuna. P88.

K.S.S. Atapaththu., S.S. Herath., Kelum Sanjaya., R.D.N. Wijesinghe., P.A.K.N. Dissanayake., R.G.A. Iroshani, K.H. Niroshana., W.A.L Madhushika., K.G.C.A. Bandaratilake, Asanthi, H.B (2021). Issues and challenges of e-learning, and performances of students during the COVID-19 pandemic: A case study of the Faculty of Fisheries and Marine Sciences & Technology, University of Ruhuna, Sri Lanka. Ruhuna Quality Assurance Sessions 43-49

Gunawardana M.H.M.A.S.V., SanjayaK., **Atapaththu K.S.S.**, Yapa Y.M.A.L.W, Masakorala K. and Widana Gamage S.M.K. (2022) Dinoflagellate, peridinium: a successful colonizer in nutrient-poor maussakelle reservoir. Proceedings of the Postgraduate Institute of Science Research Congress, Sri Lanka: 28th-30th October 2022.

KSS Atapaththu, K Sanjaya, HPL Guruge, MHMASV Gunawardana, WGSM Kumari, ED Jayalath, S Prasad, YMALW Yapa, RA Maithreepala (2022). First Record of the Freshwater Red Algal Genus *Batrachospermum* from Southern Sri Lanka. Proceedings of the 19th Academic Sessions of the University of Ruhuna. P3.

Gunawardane M.H.M.A.S.V, Widana Gamage S.M.K, Wijesooriya M.M, Randima G.W.A.P, Masakorala K, **Atapaththu K.S.S** and Sanjaya K (2020). Trophic Status and Spatial Variation of Cyanobacterial Diversity in Lunugamwehera Reservoir, Sri Lanka. Proceedings of the International Research Conference of Uva Wellassa University.

Gunathilaka K.P.D, **Atapaththu K.S.S** and Maithreepala R.A (2019). Combine effect of substrate and water flow rate on *Aponogeton crispus*, *Hydrilla verticillata*, and *Vallisneria natans*. Proceedings of the 25th Anniversary Scientific Sessions of the Sri Lanka Association for Fisheries and Aquatic Resources (SLAFAR).

Yashmika B, Gamage T.P.D, **Atapaththu K.S.S** and Wickramaarachchi T.N (2019). Impact assessment of climate change and land use change on flood behavior of Nilwala River, Matara, Sri Lanka. Proceedings of the 25th Anniversary Scientific Sessions of the Sri Lanka Association for Fisheries and Aquatic Resources (SLAFAR).

Sandaruwani TDS, **Atapaththu KSS**, Asanthi HB (2018): Distribution and abundance of aquatic macrophytes in a forested stream: Case study in Kottawa Forest Reserve. Journal of the University of Ruhuna 6 (1): 8-14

Atapaththu, K.S.S., Asaeda, T., Miyagi, A, Kawai-Yamda, M, Atsuzawa, K & Kaneko, Y. (2018). Metabolic, ultra-structural, and growth responses of Nuttalli's waterweed *Elodea nuttallii* St. John when subject to water flow. 15th Academic Sessions, University of Ruhuna, Sri Lanka

Kaluthrage, N.K, Wedamulla P.G and **Atapaththu, K.S.S.** (2018). Investigation of the best method for extraction of fish anesthetic compounds from common tephrosia (*Kathurupila*); *Tephrosia purpurea* leaves and effects of the extracts on fish (guppies). 5th Ruhuna International Science and Technology Conference, University of Ruhuna, Sri Lanka.

Weerakoon, H.P.A.T, **Atapaththu, K.S.S** & Asanthi, H.B (2017). Stress responses and risk analysis of *Hydrilla verticellata* exposed to pesticide 2-Methyl4Chlorophenoxyacetic Acid (MCPA). Twenty-Third Scientific Sessions of the Sri Lanka Association for Fisheries and Aquatic Resources, 26th May 2017. Colombo, Sri Lanka

Atapaththu, K.S.S, Md. H. Rashid, Kaneko, Y and Asaeda, T (2017). Impacts of Calcium on Brittlewort (*Nitella pseudoflabellata*) exposed to cesium. 14th Academic Sessions, University of Ruhuna, Sri Lanka.

Rupasinghe, J.W and **Atapaththu, K.** (2006). Do women make an impact on Lagoon Fisheries? Case study at Rekawa Lagoon South Sri Lanka. Proceedings of the 10th Conference on Women Studies, Sri Lanka

Atapaththu, K.S.S., and Nissanka, C. (2005) Present status of fishery in Rekawa Lagoon, Sri Lanka. Proceedings of the third Science Symposium of Faculty of Science, University of Ruhuna, Matara, Sri Lanka.
