

Curriculum vitae

Personal Information

Name : Anoja Priyadarshani Attanayake
Age : 41 years
Gender : Female
Nationality : Sri Lankan
School attended : Southlands College, Galle
Marital status : Married, two children
Official address : Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Karapitiya, Galle, Sri Lanka
Email : anoja715@yahoo.com

Educational qualifications

B.Sc. (Sp) Chemistry, second class honours (upper division) 2005, University of Peradeniya, Sri Lanka.

Ph.D. in Biochemistry 2013, University of Ruhuna, Sri Lanka.

Ph.D. thesis title: Antidiabetic effects of some medicinal plant extracts in rats with chemically induced diabetes mellitus

Profession

Nov 2013-up to date Senior Lecturer in Biochemistry, Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Sri Lanka

Feb 2007- Nov 2013 Lecturer in Biochemistry, Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Sri Lanka

Employment history

Nov 2006-Feb 2007, Teaching assistant/Demonstrator in Biochemistry, Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Sri Lanka.

May 2006-Nov 2006 Teaching assistant/Demonstrator in Chemistry, Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka.

June 2005-Jan 2006 Teaching assistant/Demonstrator in Chemistry, Department of Chemistry, Faculty of Science, University of Peradeniya, Sri Lanka.

Short courses/training followed

International certificate course on Laboratory Animal Sciences, conducted in collaboration with Faculty of Medicine, University of Colombo and Utrecht University, Netherlands-2011.

Short course on Molecular Biological Techniques, Institute of Biochemistry and Molecular Biology, University of Colombo, Sri Lanka -2014

International Center of Genetic Engineering and Biotechnology (ICGEB) Course on Fluorescence Microscopy – FluoMicro@ICGEB, ICGEB, New Delhi, India-2019

International Center of Genetic Engineering and Biotechnology (ICGEB) Course on Hybridoma Technology for Monoclonal Antibody Production: Applications in Immunodiagnosics, IBMBB, Sri Lanka-2019

International Virtual Training Program on Generic Drugs hosted by Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre)- Hyderabad, India 2020- Sri Lankan Nominee selected by NASTEC

Research experience

Undergraduate research project on “Particle size analysis and determination of dilution in milk using light scattering methods” under the supervision of Prof. H.M.N. Bandara, Department of Chemistry, Faculty of Science, University of Peradeniya, Sri Lanka

Post graduate (PhD) research project on “Antidiabetic effects of some medicinal plant extracts in rats with chemically induced diabetes mellitus” under the supervision of Prof. C. Pathirana, Department of Biochemistry, University of Ruhuna, Sri Lanka

Principal investigator for research work on “Screening of selected medicinal plant extracts for acetylcholinesterase inhibitory activity: An approach for the discovery of drug lead compounds for Alziemer’s disease” – Completed

Principal Investigator for research work on “Standardization and toxicity assessment of selected Sri Lankan medicinal plant extracts in Wistar rats and in zebrafish” – partially completed

Supervision of post graduate degrees

1. Principal supervisor of the research project on “Nephroprotective activity of a novel herbal nutraceutical mixture derived from selected medicinal plant extracts in rats with chemically induced nephrotoxicity” (PhD)- completed in 2021
2. Principal supervisor of the research project on “Double blind placebo controlled randomized clinical trial of a herbal capsule of *Coccinia grandis* (L.) Voigt in newly diagnosed patients with type 2 diabetes mellitus and its’ bioassay guided isolation of antidiabetic compounds” (PhD)- completed in 2021
3. Co supervisor of the research work on “Bioassay guided isolation of antidiabetic and antihyperlipidaemic compounds from selected medicinal plant extracts” (M Phil)- completed in 2018
4. Co supervisor of the research project on “Combined therapeutic drug leads for antidiabetic and anti-hyperlipidaemic treatments from selected combined medicinal plants” (M Phil)-Completed in 2021
5. Principal supervisor of research project on “Antidiabetic effects of nanoparticle based herbal nutraceutical formulations in Wistar rats induced with diabetes mellitus” (PhD) -ongoing
6. Principal supervisor of research project on “Development, characterization and bioactivity assessment of nanoencapsulated antidiabetic herbal drug leads from Sri Lankan flora” (PhD) -ongoing

Outstanding research awards

1. Galle Medical Association Award for the best scientific paper 2012, 71st Annual academic sessions, Sri Lanka
2. Vice Chancellor’s Award for the best oral presenter in the Biology section 2013, 11th Academic Sessions of University of Ruhuna, Sri Lanka
3. Vice chancellor’s Gold Medal - 2015 for the excellent performance during the post graduate study in generating knowledge that has accepted internationally, University of Ruhuna, Sri Lanka
4. General Research Committee post graduate award -2015, Sri Lanka Association for the Association of Advancement of Science (SLAAS), Sri Lanka
5. Award for the most Outstanding Young Researcher 2016, 13th Vice chancellor’s Awards Ceremony, University of Ruhuna, Sri Lanka

6. Vice Chancellor's Award for the best oral presenter in the section on Human Health And Community Medicine 2016, 14th Academic Sessions of University of Ruhuna, Sri Lanka
7. CNAPT Award for best paper in Medicine in memory of Richard and Sheila Peris 2017, Sri Lanka Medical Association, Sri Lanka.
8. SLMA Award for best scientific communication in Nephrology 2018, Sri Lanka Medical Association, Sri Lanka.
9. NRC Merit award for scientific publication 2016, Sri Lanka.
10. Wilson Peiris Prize at the SLMA 133rd Anniversary International Medical Congress 2020
11. Merck Life Science Publication Award 2020 for the paper published in *Phytomedicine*

Special achievements and contributions

1. Professor N D W Lionel Memorial Oration 2017 on "Unraveling the path towards antidiabetic drug leads from Sri Lankan flora", 130th International Medical Conference of Sri Lanka Medical Association, Sri Lanka
2. Plenary Speaker in the 3rd International Conference on Innovations in Pharmaceutical Sciences (ICIPS)-2018, Guru Nanak Institutions Technical Campus, Ibrahimpatnam, Hyderabad, India
3. Jury member to evaluate inventions of "INVENTO" (National provincial competitions) 2017 and 2018
4. Invited speaker IUBMB Education Conference in conjunction with its 46th PSBMB Annual Convention Manila City, Philippines- 2019
5. Invited Speaker 26th ISCB International Conference (ISCBC-2020) jointly organized with Nirma Institute of Pharmacy International Conference (NIPiCON), Nirma University, Ahmedabad, India-2020
6. Nominee to represent Sri Lanka at the inaugural Commonwealth Chemistry Congress (CCC) to be held at The University of the West Indies in Trinidad and Tobago hosted by Royal Society of Chemistry UK -2020
7. Invited talk at the International Conference on Molecular Structure & Instrumental Approaches (ICMSI-2020), hosted by R. K. University Gujarat, India

Research grants awarded as the principal investigator

1. University Grants Commission, Sri Lanka (UGC/ICD/CRF 2009/2/5) for the research titled "Antidiabetic effects of some medicinal plant extracts in rats with chemically induced diabetes mellitus": Amount Rs 7 50 000.00 (2010-2013)-Completed -**PI**
2. Faculty Research Fund 2015, Faculty of Medicine, University of Ruhuna, Sri Lanka for the research project titled "Chemical standardization of three selected medicinal plant extracts with proven antidiabetic activity": Amount Rs 40 000.00 – Completed-**PI**
3. Faculty Research Fund 2016, Faculty of Medicine, University of Ruhuna, Sri Lanka for the research project titled "Screening of selected medicinal plant extracts for acetylcholinesterase inhibitory activity: An approach for the discovery of drug lead compounds for Alziemer's disease " : Amount Rs 50 000.00 – Completed-**PI**
4. National Science Foundation, Sri Lanka 2016 (RG/2016/HS/03) for the research project titled "Protective effects of selected medicinal plant extracts in rats with chemically induced nephropathy": Amount Rs 15 45 000.00 – Completed -**PI**
5. UGC special allocation for strengthening research, University of Ruhuna (RU/PG-R/16/14), 2016 for the project titled "Protective effects of selected medicinal plant extracts in rats with chemically induced nephropathy": Amount Rs 40 11 800.00 – Completed -**PI**
6. National research council investigator driven research grant 2017 (NRC17-29)for the project titled " Development of an antidiabetic agent from *Coccinia grandis* (L.) Voigt (Cucurbitaceae) for diabetes mellitus" Rs 4.7 million – Completed-**PI**
7. Faculty Research Fund 2018, Faculty of Medicine, University of Ruhuna, Sri Lanka for the research project titled "Antidiabetic effects of isolated antidiabetic compounds from *Coccinia grandis* (L) Voigt (Curcurbitaceae) in rats with type 2 diabetes mellitus"-Completed -**PI**
9. Faculty Research Fund 2019, faculty of Medicine, University of Ruhuna, Sri Lanka for the research project titled "Standardization and toxicity assessment of selected Sri Lankan medicinal plant extracts in Wistar rats and in zebrafish – Partially completed -**PI**
10. Accelerating Higher Education Expansion and Development (AHEAD-DOR 15) research grant 2019 for the project titled "Development of a putative nutraceutical

for diabetes mellitus: Bioactivity and toxicological studies of nanoparticle-based formulations encapsulated with Ivy gourd (*Coccinia grandis*) leaf extract” Rs 35 Million – Ongoing -PI

Publications

Research articles in SCI/SCI expanded journals

1. **Attanayake, A.P.**, Jayatilaka, K.A.P.W., Pathirana, C., Mudduwa, L.K.B., 2014. Antihyperglycaemic, antihyperlipidaemic and β cell regenerative effects of *Spondias pinnata* (Linn. f.) Kurz. bark extract on streptozotocin induced diabetic rats. *European Journal of Integrative Medicine*, 6(5), pp. 588-596.
2. **Attanayake, A.P.**, Jayatilaka, K.A.P.W., Pathirana, C., Mudduwa, L.K.B., 2015. Acute hypoglycaemic and antihyperglycaemic effects of ten Sri Lankan medicinal plant extracts in healthy and streptozotocin induced diabetic rats. *International Journal of Diabetes in Developing Countries*, 35(3), pp. 177-183.
3. **Attanayake A.P.**, Jayatilaka K.A.P.W., Pathirana C., Mudduwa L.K.B., 2015. Antihyperglycaemic activity of *Coccinia grandis* (L.) Voigt (Cucurbitaceae) in streptozotocin induced diabetic rats. *Indian Journal of Traditional Knowledge*, 14(3), pp. 876-881.
4. **Attanayake A.P.**, Jayatilaka K.A.P.W., 2016. Evaluation of antioxidant properties of 20 medicinal plant extracts traditionally used in Ayurvedic medicine in Sri Lanka. *Indian Journal of Traditional Knowledge* 15(1), pp. 50-56.
5. **Attanayake A.P.**, Jayatilaka K.A.P.W., Pathirana C., Mudduwa L.K.B., 2016. *Gmelina arborea* Roxb. (Family: Verbenaceae) extract up-regulates the β cell regeneration in STZ induced diabetic rats. *Journal of Diabetes Research*, Article ID 4513871 [Accessed on 1st Dec 2015].
6. Liyanagamage D.S.N.K., Jayasinghe S., **Attanayake A.P.**, Karunaratne V., 2020. Correlation between antioxidant activity and the Garcinol content released from fruit rinds of endemic *Garcinia quaesita* Pierre on different cooking conditions. *Journal of Food Quality*, Article ID 7389714 [doi.org/10.1155/2020/7389714].
7. Amarasiri, S.S., **Attanayake, A.P.**, Arawwawala , L.A.D.M., Jayatilaka, K.A.P.W., Mudduwa, L.K.B., 2020. Protective effects of three selected standardized medicinal plant extracts used in Sri Lankan traditional medicine in adriamycin induced

- nephrotoxic Wistar rats. *Journal of Ethnopharmacology*. Article ID 112933.
<https://doi.org/10.1016/j.jep.2020.112933>.
8. Amarasiri, S.S., **Attanayake, A.P.**, Arawwawala , L.A.D.M., Jayatilaka, K.A.P.W., Mudduwa, L.K.B., 2020. Acute and 28-day repeated-dose oral toxicity assessment of *Abelmoschus moschatus* Medik. in Healthy Wistar Rats. *Evidence-Based Complementary and Alternative Medicine* 2020. Article ID 1359050.
<https://doi.org/10.1155/2020/1359050>.
 9. Amarasiri, S.S., **Attanayake, A.P.**, Arawwawala , L.A.D.M., Jayatilaka, K.A.P.W., Mudduwa, L.K.B., 2020. Standardized aqueous stem bark extract of *Gmelina arborea* Roxb. possesses nephroprotection against adriamycin induced nephrotoxicity in Wistar rats. *Drug and Chemical Toxicology*.
<https://doi.org/10.1080/01480545.2020.1811721>
 10. Liyanagamage, D.S.N.K., Jayasinghe, S., **Attanayake A.P.**, Karunaratne V., 2020. Acute and subchronic toxicity profile of a polyherbal drug used in Sri Lankan traditional medicine, *Evidence-Based Complementary and Alternative Medicine*, Article ID 2189189, <https://doi.org/10.1155/2020/2189189>.
 11. Amor, E.C., **Attanayake, A.P.**, Nicolas, M.G., Yu, G.F.B., Macaulay, J.O., 2020. Undergraduate education in biochemistry and molecular biology. *Biochemistry and Molecular Biology Education*. 48, 6, pp. 602-607.
<https://doi.org/10.1002/bmb.21435>.
 12. Liyanagamage D.S.N.K., Jayasinghe S., **Attanayake A.P.**, Karunaratne V., 2020. Dual mechanisms of a Sri Lankan traditional polyherbal mixture in the improvement of pancreatic beta cell functions and restoration of lipoprotein alterations in streptozotocin induced diabetic rats. *Journal of Ethnopharmacology*. Article ID 113613, <https://doi.org/10.1016/j.jep.2020.113613>.
 13. Wasana, K.G.P., **Attanayake, A.P.**, Weerarathna, T.P., Jayatilaka, K.A.P.W., 2020. Efficacy and safety of a herbal drug of *Coccinia grandis* (Linn.) Voigt in patients with type 2 diabetes mellitus: A double blind randomized placebo controlled clinical trial. *Phytomedicine*. <https://doi.org/10.1016/j.phymed.2020.153431>.
 14. Wasana, K.G.P., **Attanayake, A.P.**, Weerarathna, T.P., Jayatilaka, K.A.P.W., 2021. Value of simple clinical parameters to predict insulin resistance among newly diagnosed patients with type 2 diabetes in limited resource settings. *PLOS ONE*,
<https://doi.org/10.1371/journal.pone.0248469>.

15. Wasana, K.G.P., **Attanayake, A.P.**, Jayatilaka, K.A.P.W., Weerarathna, T.P., 2021. Antidiabetic activity of widely used medicinal plants in the Sri Lankan traditional healthcare system: New insight to medicinal flora in Sri Lanka. *Evidence-Based Complementary and Alternative Medicine*. <https://doi.org/10.1155/2021/6644004>.
16. Jinadasa, A.G.R.G, Srimantha, L.A.S.M., Siriwardhana I.D, Gunawardana K.B, **Attanayake A.P.**, 2021. Optimization of 25% sulfosalicylic acid protein-to-creatinine ratio for screening of low-grade proteinuria. *International Journal of Analytical Chemistry*. <https://doi.org/10.1155/2021/6688941>.
17. Wickramasinghe, A.S.D., Kalansuriya, P., 2 **Attanayake, A.P.**, 2021. Herbal medicines targeting the improved β -cell functions and β -cell regeneration for the management of diabetes mellitus. *Evidence-Based Complementary and Alternative Medicine*. <https://doi.org/10.1155/2021/2920530>.
18. Wasana, K.G.P., **Attanayake, A.P.**, Weerarathna, T.P., Jayatilaka, K.A.P.W., 2021. Prevalence of dysglycemia and its associations with age and body mass index among community dwelling adults in a developing country. *International Journal of Diabetes in Developing Countries*, 10.1007/s13410-021-00995-9.

Research articles in peer review journals

19. **Attanayake, A.P.**, Jayatilaka, K.A.P.W., Pathirana, C., Mudduwa, L.K.B., 2013. Efficacy and toxicological evaluation of *Coccinia grandis* (Cucurbitaceae) extract in male Wistar rats. *Asian Pacific Journal of Tropical Disease*, 3(6), pp. 460-466.
20. **Attanayake, A.P.**, Jayatilaka, K.A.P.W., Pathirana, C., Mudduwa, L.K.B., 2013. Study of antihyperglycaemic activity of some Sri Lankan medicinal plants in alloxan induced diabetic rats. *Ancient Science of life*, 32(4), pp. 193-198.
21. **Attanayake A.P.**, Jayatilaka K.A.P.W., Pathirana C., Mudduwa L.K.B., 2015. Phytochemical screening and in vitro antioxidant potentials of extracts of ten medicinal plants used for the treatment of diabetes mellitus in Sri Lanka. *African Journal of Traditional Complementary and Alternative Medicines*, 12(4), pp. 28-33.
22. **Attanayake, A.P.**, Jayatilaka K.A.P.W., Pathirana C., Mudduwa L.K.B. 2015. Toxicological investigation of *Spondias spinnata* (L. F.) Kurz. (Family: Anacardiaceae) bark extract in Wistar rats. *International Journal of Green Pharmacy*, 9(1), pp. 26-31.

23. **Attanayake, A.P.**, Jayatilaka K.A.P.W., Mudduwa L.K.B., Pathirana C., 2018. Biochemical and histological evaluation of three selected medicinal plant extracts of Sri Lankan origin on dyslipidemia and oxidative stress in Alloxan induced diabetic rats. *Journal of Botany*, Article ID 4204519,
24. **Attanayake, A.P.**, Jayatilaka K.A.P.W., Mudduwa L.K.B., Pathirana C., 2018. β -cell regenerative potential of selected herbal extracts in Alloxan induced diabetic rats. *Current Drug Discovery Technologies*, DOI: 10.2174/1570163815666180418153024.
25. Amarasiri, S.S., **Attanayake, A.P.**, Jayatilaka, K.A.P.W., Mudduwa, L.K.B., 2020. South Asian medicinal plants and chronic kidney disease. *Traditional Medicine Research*, 5 (5): 389-412.
26. Wasana, K.G.P., **Attanayake, A.P.**, Weerarathna, T.P., Jayatilaka, K.A.P.W., 2020. Demographic associations of diabetes status by both fasting plasma glucose concentration and glycated hemoglobin in a community survey in Galle district, Sri Lanka. *Journal of Nutrition and Metabolism*, ID 6127432. doi.org/10.1155/2020/6127432.
27. Wasana, K.G.P., **Attanayake, A.P.**, Weerarathna, T.P., Jayatilaka, K.A.P.W., 2020. Natural drug leads as novel DPP-IV inhibitors targeting the management of type 2 diabetes mellitus. *Journal of Complementary Medicine Research*, 10.5455/jcmr.2020.11.01.06
28. Liyanagamage, D.S.N.K., Jayasinghe, S., **Attanayake, A.P.**, Karunaratne, V., 2020. Medicinal plants in management of diabetes mellitus: an overview. *Ceylon Journal of Science*, 49(1):03. DOI: 10.4038/cjs.v49i1.7700.
29. Liyanagamage, D.S.N.K., Jayasinghe, S., **Attanayake, A.P.**, Karunaratne, V., Wijesundara, S., 2020. Antihyperglycemic activity of fruit extracts of Sri Lankan endemic species *Garcinia quaesita* Pierre "Rathgoraka" and its isolated compound, garcinol. *Ceylon Journal of Science* 49(3), 303–309. <http://doi.org/10.4038/cjs.v49i3.7781>.
30. Dharmasena, I.A., Siriwardhana, I.D., **Attanayake, A.P.**, 2021. Effect of sample volume variation and delay in analysis on plasma glucose concentration in Sri Lankan healthy adults. *Scientifica*. <https://doi.org/10.1155/2021/6061206>.

Abstracts presented/authored in international conferences and local /symposia

100 abstracts have been published to date.

Professional affiliations

1. Founder life member, Sri Lanka Association of Laboratory Animal Sciences, Sri Lanka
2. Life Member, Galle Medical Association, Sri Lanka
3. Fellow, Institute of Chemistry, Sri Lanka
4. Life member, College of Biochemists, Sri Lanka
5. Life member, Sri Lanka Association of Advancement of Science, Sri Lanka

Dr A.P. Attanayake