

## Piumika Yapa

*B.Pharm (USJ), Pg.Dip (UoC), PhD (Reading)*



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Pharmaceutical Sciences,  
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## PROFFESIONAL QUALIFICATIONS

05/2025-Current	<b>Lecturer in Pharmaceutical Sciences, Department of Pharmacy and Pharmaceutical Sciences, Faculty of Health Sciences, CINEC Campus, Malabe</b>
03/2022 – 04/2025	<b>Graduate Research Assistant, Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura</b>
07/2020 - 07/2021	<b>Teaching Assistant, Department of Pharmacy and Pharmaceutical Sciences, Faculty Of Allied Health Sciences, University Of Sri Jayewardenepura</b>

## EDUCATION

03/2025	<b>Ph.D., Chemistry</b> <b>University of Sri Jayewardenepura</b> <ul style="list-style-type: none"><li>• Thesis title: Electrospun Hybrid Nanofibrous Membranes as a Promising Antimicrobial Functional Layer with Potential Use in Personal Protection Equipment: Development and Antimicrobial Assessments.</li><li>• Advisors: Dr. Imalka Munaweera, Dr. Laksiri Weerasinghe, Prof. Manjula Weerasekera.</li></ul>
06/2022	<b>Postgraduate Diploma, Laboratory Animal Sciences</b> <b>University of Colombo</b> <ul style="list-style-type: none"><li>• Thesis title: Development of Materials by using Golden Syrian Hamster as the Animal Model to Facilitate Teaching and Learning in Laboratory Animal Science (LAS) and promote the 3Rs Concept in Sri Lanka.</li><li>• Advisors: Prof. Mangala Gunatilake, Prof. K. K. Wijesundara.</li></ul>

04/2021

**Diploma, Drug Misuse Management Studies**

***University of Colombo***

- Project title: The Influencing Factors and the Impact of Pharmacists in Prescription Drug Abuse in Sri Lanka.
- Advisor: Mr. Pradeep Koholanegedara.

02/2020

**Bachelor of Pharmacy (Hons)**

***University of Sri Jayewardenepura***

- Thesis title: Silver Nanoparticles Incorporated Polymer Based Electrospun Skin Scaffold for Burn Wounds.
- Advisors: Dr. Ranga K. Dissanayake, Prof. Jayantha Wijayabandara, Prof. Nalin de Silva.

05/2010

**Diploma, ICT Applications**

***IDM Pre University College***

## RESEARCH AND PUBLICATIONS

- **Published Books:**

• Munaweera I, **Yapa P**. Principles and applications of nanotherapeutics. Boca Raton: CRC Press; 2024. DOI: <http://dx.doi.org/10.1201/9781003442202> ISBN: 9781003442202

- **Published Book Chapters:**

• **Yapa P**. Pharmacodynamics and Pharmacokinetics. Pandey M, Gupta MD, Pujari NM. MOLECULES TO MEDICINES: A Comprehensive Look a Pharmaceutical Development. EDU; 2024. ISSN: 978-81-973225-9-4

- **Published Papers:**

1. **Yapa P**, Munaweera I, Weerasekera MM, Weerasinghe L. Synergistic antimicrobial nanofiber membranes based on metal incorporated silica nanoparticles as advanced antimicrobial layers. RSC Adv. 2024;14(46):33919–40. <http://dx.doi.org/10.1039/d4ra05052e>

2. **Yapa P**, Munaweera I, Weerasekera MM, Weerasinghe L, Sandaruwan C. Potential antifungal applications of heterometallic silica nanohybrids: A synergistic activity. Biomater Adv. 2024;162(213930):213930. <http://dx.doi.org/10.1016/j.bioadv.2024.213930>

3. **Yapa PN**, Munaweera I, Weerasekera MM, Weerasinghe L. Nanoarchitectonics for synergistic activity of multimetallic nanohybrids as a possible approach for antimicrobial resistance (AMR). J Biol Inorg Chem. 2024;29(5):477–98. <http://dx.doi.org/10.1007/s00775-024-02066-w>

4. **Yapa PN**, Munaweera I, Sandaruwan C, Weerasinghe L, Weerasekera MM. Metal doped silica nanohybrids with extensive bacterial coverage for antibacterial applications exhibit synergistic activity. Biomater Adv. 2024;157:213753. <http://dx.doi.org/10.1016/j.bioadv.2023.213753>

5. Madhushika IP, **Yapa P**, Munaweera I, Sandaruwan C, Weerasekera MM. The antimicrobial synergy of polymer based nanofiber mats reinforced with antioxidants intercalated layered double hydroxides as a potential active packaging material. Nano Ex. 2024;5(2):025018. <http://dx.doi.org/10.1088/2632-959x/ad4a95>

6. Ranathunga K, **Yapa P**, Munaweera I, Weerasekera MM, Sandaruwan C. Preparation and characterization of Fe-ZnO cellulose-based nanofiber mats with self-sterilizing photocatalytic activity to enhance antibacterial applications under visible light. RSC Adv. 2024;14(26):18536–52. <http://dx.doi.org/10.1039/d4ra03136a>
7. Peiris SE, Seneviratne KL, Shashikala RPA, Peiris CN, Imalka MI, **Piumika YP**. In vitro evaluation of antibacterial activity of copper and sulfur nanoparticles for controlling bacterial blight caused by *Xanthomonas* sp. In *Anthurium andraeanum* Lind. SLIT J Hum & Sci. 2022;3(1):46–55. <http://dx.doi.org/10.4038/sjhs.v3i1.50>
8. Ureshani Karunarathna, **Piumika Yapa**, A. A. I. S. Menike, Lakshy Ganesh, KSV Angu Bala Ganesh, Amandi Thilakarathna, Mangala Gunatilake, Vijay Pal Singh, Muhammad Lokman Md Isa, Suresh Poosala, Vera Baumans. Religion-Based Perspective and Influences on Use of Animals in Research. JLAS. 2024;7(2):54–68.
9. Selvaraj S, Perera M, **Yapa P**, Munaweera I, Perera IC, Senapathi T, et al. In vitro analysis of XLAsp-P2 peptide loaded cellulose acetate nanofiber for wound healing. J Pharm Sci. 2024; <http://dx.doi.org/10.1016/j.xphs.2024.10.05>
10. **Piumika Yapa**. Laboratory Animal Experiments on Several Vaccinations: An Impact for the Development of SARS-CoV-2 Virus Vaccines. Newsletter of Sri Lanka Association for Laboratory Animal Sciences. Volume 10 Issue 1, 2023
11. Rajapaksha S, **Yapa P**, Munaweera I. Innovation management and nanotechnology: a PRISMA-based analysis and research implications. Int J Innov Sci. 2025; <http://dx.doi.org/10.1108/ijis-08-2024-0215>
12. **Yapa P**, Rajapaksha S, Munaweera I. The integration of nanotechnology, nanomedicine, and artificial intelligence for advancements in healthcare: A conceptual review based on PRISMA method and future research directions. Next Research. 2025;2(2):100330. <http://dx.doi.org/10.1016/j.nexres.2025.100330>
13. **Yapa P**, Munaweera I, Weerasekera M, Weerasinghe L. Innovative inorganic polymeric nanohybrid-based dressing to combat a wide array of microbes in biofilms. Emergent Materials. 2025; May. doi:10.1007/s42247-025-01115-7

#### • Published Abstracts:

1. **P.N. Yapa**, I. Munaweera, L. Weerasinghe, and M.M. Weerasekera. Synergistic Antibiofilm Activity of Heterometallic Silica Nanohybrid-Reinforced Electrospun Membranes for Wound Dressing Applications. 11th International Conference on Multidisciplinary Approaches (iCMA) – 2025 organized by University of Sri Jayewardenepura on 03rd April, 2025.
2. **P. N. Yapa**, I. Munaweera. Synergistic antibiofilm activity of silver, copper, and cobalt-doped silica nanoparticles against bacteria and fungi. 13th YSF Research Symposium organized by the Young Scientists Forum of the National Science and Technology Commission on 24th January, 2025, Colombo.
3. **P. N. Yapa**, H.E. Leelarathne. Assessing the Toxicity of a Novel Dermatological Formulation Reinforced with Silver-decorated Carbon Nanostructures. 12th Annual Scientific Sessions & International Conference organized by Sri Lanka Association for Laboratory Animal Science on 25th-26th January 2025, Colombo.
4. **P.N. Yapa**, I. Munaweera, L. Weerasinghe, and M.M. Weerasekera. Multimetallic Silica/ Polymer Nanohybrids for Self-Sterilizing Synergistic Antifungal Applications. International Conference on Innovation and Emerging Technologies (ICIET), University of Sri Jayewardenepura, Sri Lanka: 21st-22nd November 2024.
5. **P.N. Yapa**, I. Munaweera, L. Weerasinghe, M.M. Weerasekera. Multimetallic silica nanohybrids incorporated nanofiber membrane for potential synergistic antibacterial applications. Frontiers in Chemical technology – 2. 21st June 2024, Institute of Chemistry Ceylon.
6. **P.N. Yapa**, I. Munaweera, L. Weerasinghe, M.M. Weerasekera. Synergistic Activity of Heterometallic Silica Nanohybrids as Potential Antifungal Agents. 2nd International Research Symposium on Multidisciplinary Approaches in Indigenous Knowledge Systems on 01st March, 2024, Gampaha Wickramarachchi University of Indigenous Medicine.

7. **P.N. Yapa**, I. Munaweera, L. Weerasinghe, M.M. Weerasekera. Preparation and characterization of multimetallic nanohybrids reinforced broad spectrum antibacterial nanofibrous membrane with synergistic self-sterilizing activity. International conference "TASME 2024" on 07th July, 2024, University of Toronto, Canada.
8. **P.N. Yapa**, I. Munaweera, L. Weerasinghe, M.M. Weerasekera. Synergism of multimetallic nanohybrids as promising antimicrobial agents with an expansive coverage of microbes. World Forum Women in Science 2024 on 16th April 2024, Rome, Italy.
9. **P.N. Yapa**, I. Munaweera, L. Weerasinghe, C. Sandaruwan, N.M.C. Nissanka and M.M. Weerasekera. Synthesis, Characterization and Comparison of Metal Doped Silica Nanoparticles for Antibacterial Applications. International Conference on Innovation and Emerging Technologies (ICIET), University of Sri Jayewardenepura, Sri Lanka: 24th - 25th November 2023.
10. **P.N. Yapa**, I. Munaweera, L. Weerasinghe, C. Sandaruwan, M.M. Weerasekera. Multimetallic nanohybrids as potential antimicrobial agents with extensive microbe coverage to be used in personal care products. 4th Commonwealth Chemistry Posters, Royal Society of Chemistry: 04th-05th October 2023.
11. **Yapa, Y. M. P. N.**, Ratnayake, W. M. K. M., Amarasekara, A. D. D. S., Karunarathna, K. A. A. U., Senevirathne Menike A. A. I., Pethiyagoda P. D. R. S., Wijesundera, K., Gunatilake, M. Development of Teaching and Learning Materials to Facilitate Educational Programmes in Laboratory Animal Science and to Promote the 3Rs Principle in Sri Lanka. Proceedings of Sri Lanka Association for Laboratory Animal Sciences Conference. 28th -29th January 2023.
12. **Y.M.P. Yapa**, W.D.H.E. Leelarathna, R.K. Dissanayake, J. Wijayabandara and K.M.N. de Silva. Silver nanoparticles incorporated polymer-based electro spun skin scaffold for burn wounds. Proceedings of the Postgraduate Institute of Science Research Congress, University of Peradeniya, Sri Lanka: 29th -31st October 2021.
13. K. Ranathunga, **P.N. Yapa**, I. Munaweera, L. Weerasinghe. Synthesis and characterization of visible light active Fe doped ZnO nanohybrids for self-sterilizing applications. Frontiers in Chemical technology – 2. 21st June 2024, Institute of Chemistry Ceylon.
14. I.P. Madhishika, **P.N. Yapa**, I. Munaweera, L. Weerasinghe. Development of antimicrobial agents intercalated layered double hydroxides incorporated nanofiber based active packaging material. Frontiers in Chemical technology – 2. 21st June 2024, Institute of Chemistry Ceylon.
15. K. Ranathunga, **P.N. Yapa**, I. Munaweera, L. Weerasinghe. Preparation and Characterization of Fe doped ZnO nanohybrids as a potential self-sterilizing photocatalytic material. 2nd International Research Symposium on Multidisciplinary Approaches in Indigenous Knowledge Systems on 01st March, 2024, Gampaha Wickramarachchi University of Indigenous Medicine.
16. I.P. Madhishika, **P.N. Yapa**, I. Munaweera, L. Weerasinghe. Synergistic Activity of Antioxidants Intercalated Layered Double Hydroxides as a Potential Active Packaging Material. 2nd International Research Symposium on Multidisciplinary Approaches in Indigenous Knowledge Systems on 01st March, 2024, Gampaha Wickramarachchi University of Indigenous Medicine.

## PATENTS

A local patent, titled "An anti-microbial functional layer and the process of making there of" under the file no. 22761 (Date of filing: 17/07/2023).

## AWARDS AND ACCOMPLISHMENTS

1. Professor M. U. S. Sultanbawa Award for Research in Chemistry – 2024, Institute of Chemistry Ceylon, 21<sup>st</sup> June 2024.

2. Gold medal-1<sup>st</sup> Place-Outstanding Oral Presentation, 11<sup>th</sup> International Conference on Multidisciplinary Approaches (iCMA) – 2025 organized by University of Sri Jayewardenepura on 03<sup>rd</sup> April, 2025.
3. 1<sup>st</sup> Place, Merit Award for the Outstanding oral presentation; Track: Advances in Health Sciences, 13<sup>th</sup> YSF Research Symposium 2025, held on 24<sup>th</sup> January 2025.
4. 1<sup>st</sup> Place-Outstanding Oral Presentation, International Conference on Innovation and Emerging Technologies (ICIET), University of Sri Jayewardenepura, Sri Lanka: 21<sup>st</sup>-22<sup>nd</sup> November 2024.
5. Best Oral Presentation - Postgraduate, International Conference on Innovation and Emerging Technologies (ICIET), University of Sri Jayewardenepura, Sri Lanka: 21<sup>st</sup>-22<sup>nd</sup> November 2024.
6. 1<sup>st</sup> Place-Outstanding Oral Presentation, International Conference on Innovation and Emerging Technologies (ICIET), University of Sri Jayewardenepura, Sri Lanka: 24<sup>th</sup>-25<sup>th</sup> November 2023.
7. Best Oral Presentation - Postgraduate, International Conference on Innovation and Emerging Technologies (ICIET), University of Sri Jayewardenepura, Sri Lanka: 24<sup>th</sup>-25<sup>th</sup> November 2023.
8. Finalist-3 MT Thesis Competition, Faculty of Postgraduate Studies, University of Moratuwa, Sri Lanka in collaboration with University of Queensland, 30<sup>th</sup> November 2023.

## **CERTIFICATIONS AND LICENSES**

Registered Pharmacist at Sri Lanka Medical Council.

## **MEMBERSHIPS AND HONORS**

- Member of Sri Lanka Association of Laboratory Animal Science  
(Secretary for 2024/25, Assistant Secretary for 2023/2024)
- Member of Society for Alternatives to Animal Testing in Sri Lanka  
(Secretary for 2025/27)
- Member of the Young Scientist Forum (YSF)
- Member of the Pharmaceutical Society of Sri Lanka
- Member of the National Science Foundation
- Member of the Sri Lanka National Chapter of the Organization for Women in Science for the Developing World

## **CERTIFICATE COURSES AND WORKSHOPS**

- Certificate Course in Principles and Applications of Cell Culture – Sri Lanka Association of Laboratory Animal Sciences (2021).
- Certificate Course in Research Methodology and Scientific Writing – Faculty of Graduate Studies, University of Sri Jayewardenepura (2023)
- Certificate Course in Drug Counselling – National Dangerous Drug Control Board (NDDCB), Sri Lanka (2018)

- Workshop on Advancements and Strategies in Nano Drug Delivery Systems – Meerut Institute of Engineering and Technology, India (2020)
- Workshop on Assessment of Reflective Portfolios – University of Sri Jayewardenepura (2020)
- Workshop on Abstract Writing and Reviewing - University of Sri Jayewardenepura (2021)
- Workshop on Effective Online Teaching Strategies with Active Student Participation – University of Sri Jayewardenepura (2021)
- Training Programme on Handling and Care of Laboratory Animals – Dr. A. P. J. Abdul Kalam Technical University, Lucknow, India (2021)
- Workshop on Emerging Trends and Alternatives to Laboratory Animal Experiments - Sri Lanka Association for Laboratory Animal Sciences (2022)
- Workshop on Toxicity Assessments - Environment Committee and Section B, Sri Lanka Association for the Advancement of Science (2023)
- Workshop on Drug Discovery and Development – Federation of Asian Biotech Associations (FABA), India (2023).