Prof Laksiri Weerasinghe, PhD, B.Sc. (Honors) in Chemistry,

Curriculum Vitae

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Laksiri Weerasinghe**,** Professor of Chemistry in the Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka

EDUCATIONAL BACKGROUND

- **Washington State University, United States**
  Ph.D. (*Chemistry*), 2013

- **University of Colombo, Sri Lanka**
  B.Sc. Honors *Degree in Chemistry*, 2004

PROFESSIONAL EXPERIENCES

- Professor in chemistry, Department of Chemistry, University of Sri Jayewardenepura
  2025 (Jan) –present
- Senior Lecturer II, Department of Chemistry, University of Sri Jayewardenepura
  2020 (March) – 2025 (Jan)
- Adjunct Senior Lecturer II, SLINTEC Academy
  2018 (Jan)-2020 (March)
- Senior Research Scientist, Sri Lanka Institute of Nanotechnology (SLINTEC)
  2015 (Aug) –2020 (March)
- Postdoctoral Research Associate, Washington State University
  2014 (July)–2015 (July)
- Postdoctoral Fellow, University of Montreal, Canada
  2013 (Oct)-2014 (June)

ACADEMIC RECOGNITIONS/ FELLOWSHIPS/ AWARDS

- SUSRED Award-2024
- Fellow, Institute of Chemistry Ceylon, 2023
- SUSRED Award-2023
- President's Award for Scientific Research-2018
- ACS (Division of Organic Chemistry) Travel Award – 2013

LIST OF PUBLICATIONS

Recognized as a Tier 4 Researcher (Chemistry) as per the University Grants Commission, Sri Lanka (UGC) Circular No.: 05/2018 based on H-index (Current h-index = 13, with >490 Total Citations according to Google Scholar).

(https://scholar.google.com/citations?view_op=list_works&hl=en&hl=en&user=xq4ueV4AAAAJ&pagesize=80)

FULL PAPERS IN REFEREED/INDEXED SCI/E JOURNALS

1. Savani Gunawardena; J.A. Surani Chathurika* and **Laksiri Weerasinghe "**Comprehensive Review of Strategies for Mitigating Soil Salinity in Agricultural Areas" *Journal of Soil Science and Plant Nutrition* (2026), Reviewer comments submitted

2. T.D.M Gimhani; C. J. Wiliyam; J.A.S Chathurika, **L Weerasinghe**: David R. Chadwick; Davey L. Jones, "Polystyrene micro- and nano-plastics alter tropical soil nutrients without affecting lettuce (Lactuca sativa L.) productivity", *Journal of Hazardous Materials: Plastics* (2026), Reviewer comments submitted

3. Meththa Gimhani Thumbe Dhura; Emily C. Cooledge; David R. Chadwick; Davey L. Jones; J.A. Surani Chathurika; **Laksiri Weerasinghe** "Synthesis, characterization and microbial degradation of ^{14}C-labeled polystyrene nanoplastics in soil", *Environmental Pollution*, (2026) Reviewer comments submitted

4. Meththa Gimhani, Jayani Liyanage, Thilina Wijethilaka, Surani Chathurika*, Warshi S Dandeniya, **Laksiri Weerasinghe**, Mojith Ariyarathne, Anuruddha Karunarathne, Chamila Perera, David R Chadwick, David L Jones," Evaluation of the Short-Term Response on Soil Microorganisms for Input of Polyethelene Microplastics (PE-MPs) and Synthesized Polystyrene Nanoplastic (PS-NPs)", *Heliyon,* (2026) Reviewer comments submitted

5. Sachini Sigera, Kavindu D Theekshana, Sathmi G Dinanja, Pasindu Eranga, Nayanatharie Karunathilake, Shamali Abeywardhana, **Laksiri Weerasinghe**, Tharindu Senapathi, Dinithi C Peiris*, "Molecular Docking and Dynamics Simulations Reveal the Antidiabetic Potential of a Novel Fucoxanthin Derivative from Chnoospora minima". *Marine Drugs*, (2025) 23, 417.

6. Piumika N. Yapa, Imalka Munaweera, * Manjula M. Weerasekera, **Laksiri Weerasinghe**, Enhanced Antibiofilm Properties of Trimetallic Silica Nanoparticles in Electrospun Nanofiber Matrices for Advanced Wound Dressing Applications. *Emergent Materials*. (2025), doi.org/10.1007/s42247-025-01115-7

7. Shamara Kawmadi, Surani Chathurika, **Laksiri Weerasinghe***, "Applications of Antimicrobial Peptides in Plant Pest and Disease Control", *Discover Plants* (2025), 2, 1, 55. doi:10.1007/s44372-025-00134-2

8. Selvaraj, S.; Perera, M. Yapa, P. Munaweera, I. Perera, I. C. Senapathi, T. **Weerasinghe, L***., In vitro Analysis of XLAsp-P2 Peptide Loaded Cellulose Acetate Nanofiber for Wound Healing. *Journal of Pharmaceutical Sciences* (2025), *114*, 2, 911 - 922.

9. Piumika N. Yapa, Imalka Munaweera* Manjula M. Weerasekera , **Laksiri Weerasinghe**, Chanaka Sandaruwan, "A self-sterilizing nanofibrous membrane combined with heterometallic nanohybrids exhibits synergistic activity and wide coverage of microorganisms; Potential applications as a promising antimicrobial layer", *RSC Adv.,* (2024),14, 33919-33940

10. Piumika N. Yapa, Imalka Munaweera, Manjula M. Weerasekera and **Laksiri Weerasinghe,** "Nanoarchitectonics for synergistic activity of multi-metallic nanohybrids as a possible approach for antimicrobial resistance (AMR)", *Journal of Biological Inorganic Chemistry*, (2024), doi.org/10.1007/s00775-024-02066-w

11. Piumika N. Yapa, Imalka Munaweera, Manjula M. Weerasekera and **Laksiri Weerasinghe**, "Potential Antifungal Applications of Heterometallic Silica Nanohybrids: A Synergistic Activity", *Biomaterials Advances* (2024), 162, 213930

12. Saranya Selvaraj, Yasuri Amarasekara, Inoka C Perera and **Laksiri Weerasinghe***, "Theranostic nanomaterials to overcome the challenges in peptide-based cancer therapy", *Current Bioactive Compounds* (2024), 20, ISSN: 1875-6646, DOI: 10.2174/0115734072285630240110115046.

13. Saranya Selvaraj and **Laksiri Weerasinghe***, "The role of nanotechnology in understanding the pathophysiology of traumatic brain injury", *Central Nervous System Agents in Medicinal Chemistry* (2024), DOI: 10.2174/0118715249291999240418112531.

14. Dinithi Kaluthanthiri, Umapriyatharshini Rajagopalan, Frank R Fronczek, Sameera Samarakoon, **Laksiri Weerasinghe**, Inoka C Perera, Theshini Perera*," Synthesis, characterization, and crystal structures of sulfonamide appended rigid phenyl-based and non-rigid 1,4-benzodioxan-based ring systems and their Pt(II) complexes towards potential therapeutic targets", *Polyhedron* (2024), 255, 1171

15. Piumika N. Yapa, Imalka Munaweera, Manjula M. Weerasekera and **Laksiri Weerasinghe** "Metal doped silica nanohybrids with extensive bacterial coverage for antibacterial applications exhibit synergistic activity" *Biomaterials Advances* (2024) 157, 213753.

16. Senuri Kumarage, Imalka Munaweera*, Chanaka Sandaruwan, **Laksiri Weerasinghe** and Nilwala Kottegoda, "Electrospun amine-functionalized silica nanoparticles - cellulose acetate nanofiber membranes for effective removal of hardness and heavy metals (As(V), Cd(II),Pb(II)) in drinking water sources". *Environmental Science: Water Research & Technology*, (2023) 9(10), 2664–2679.

17. Yasuri Amarasekara, Inoka C. Perera, Nuwanthi. P. Katuwavila, Ranga S. Jayakody, Gehan A. J. Amaratunga and **Laksiri Weerasinghe*,** "Evaluation of novel nanocomposites for enhanced anticancer activity of XLAsp-P2 peptide" *J. Mol. Struct*. (2022), 1257,132618.

18. Erandika H Hemamali, **Laksiri P Weerasinghe**, Hideaki Tanaka, Genji Kurisu, Inoka C Perera* "LcaR: a regulatory switch from Pseudomonas aeruginosa for bioengineering alkane degrading bacteria" *Biodegradation*, (2022), 1-17.

19. Nuwanthi. P. Katuwavila, Yasuri Amarasekara, Vimukthi Jayaweera, Chinthika Gunasekara, Inoka C. Perera, Gehan A. J. Amaratunga and **Laksiri Weerasinghe*** "Graphene oxide based nanocomposite for sustained release of cephalexin'' *J. Pharmaceutical Sci.*, (2020), 109, 1130-1135.

20. R. T. De Silva*, R. K. Dissanayake, M. M. M. G. P. G. Mantilaka a, W.P.S.L. Wijesinghe, S. S. Kaleel a, T. N. Premachandra, **Laksiri Weerasinghe**, K. M. de Silva, G. A. J. Amaratunga "Drug-loaded halloysite nanotubes reinforced electrospun alginate-based nanofibrous scaffolds with sustained antimicrobial protection'' *ACS Applied Materials & Interfaces*, (2018), 10(40), 33913-33922

21. Park, C-M, **Weerasinghe, L**, Day, J. J.; Fukuto, J. M.; Xian, M.* "Persulfides: Current Knowledge in Chemistry and Chemical Biology" *Mol. BioSys*t. (2015), 11, 1775.

22. Biggs, T., **Weerasinghe, L**., Park, C-M.; Xian, M.* "Phosphine Mediated Conjugation of S-Nitrosothiols and Aldehydes'' *Tetrahedron Lett*. (2015), 56, 2741.

23. Garner, P.*, **Weerasinghe, L**., Van-Houten, I., Hu, J. ''A concise [C+NC+CC] Coupling-Enabled Synthesis of kaitocephalin'' *Chem. Commu*n. (2014) 50, 4908.

24. Garner, P.*, **Weerasinghe, L**., Youngs, W. J., Wright, B., Wilson, D.; Jacobs, D. ''[C+NC+CC] Coupling-Enabled Synthesis of Influenza Neuraminidase Inhibitor A-315675 '' *Org. Lett.* (2012) 14, 1326.

25. Ahmed, A. A., Hamada, M.; Shinada, T., Ohfune, Y., **Weerasinghe, L**., Garner, P., Oswald, R. E.* "The Structure of (-)-Kaitocephalin Bound to the Ligand Binding Domain of the AMPA/Glutamate Receptor, GluA2" *J. Biol. Chem*. (2012) 287, 41007.

26. Garner, P.*, Kaniskan, H. U., Keyari, C. M. and **Weerasinghe, L**. "Asymmetric [C + NC + CC] Coupling Entry to the Naphthyridinomycin Natural Product Family: Formal Total Synthesis of Cyanocycline A and Bioxalomycin β2" *J. Org. Chem*. (2011) 76, 5283.

27. Liyanage, W, **Weerasinghe, L**., Strong, R. K., Del Valle, J. R.* "Synthesis of Carbapyochelins via Diastereoselective Azidation of 5-(Ethoxycarbonyl) methyl proline Derivatives" *J. Org. Chem*. (2008) 73, 7420.

FULL PAPERS IN REFEREED NON-INDEXED JOURNALS

28. Gunawardana, S., **Weerasinghe, L**. and Chathurika, S.* "Salt Stress: An Invisible Threat to Global Food Production" *Chemistry in Sri Lanka* (2025) 42, 01: 29-31.
29. Theshini Perera, Dinithi Kaluthanthiri, Umapriyatharshini Rajagopalan, Sameera Samarakoon, **Laksiri Weerasinghe**, Inoka C Perera, "Synthesis and Characterization of Novel Diethylenetriamine Based Sulfonamide Ligands and Their Bidentate Platinum (II) Complexes Toward Anticancer Drug Leads", *Vidyodaya Journal of Science,* (2023), 20(2)
30. **Laksiri Weerasinghe**, J.E.A.R.S. Jayasinghe, and Rangika De Silva," Incorporation of natural inexpensive filler CNC into polycarbonate matrix as a green technology approach to enhance the mechanical properties", *ICTAR (NSBM) proceedings*, (2024).
31. Saranya Selvaraj and **Laksiri Weerasinghe, "**Application of Peptides in Pharmaceutical Industry, *Chemistry in Sri Lanka*, (2024).
32. Chathurika, S. and **Weerasinghe, L**. (2020) Role of Synthetic Organic Chemistry in Sustainable Agriculture. *Chemistry in Sri Lanka*. 37, 02: 41-45.

BOOKS (INTERNATIONAL/ PEER REVIEWED)

33. **Laksiri Weerasinghe** and Saranya Selvaraj, Peptides in Nanotechnology, 2025, CRC Press, ISBN 9781032661971.

34. **Laksiri Weerasinghe**, Imalka Munaweera and Senuri Kumarage, *Nanotechnology in Drug Discovery*, 2024, ISBN (Online): 978-981-5238-81-5, ISBN (Paperback): 978-981-5238-83-9, ISBN (Print): 978-981-5238-82-2, Bentham Books imprint. Published by Bentham Science Publishers Pte. Ltd. Singapore.

BOOK CHAPTERS (INTERNATIONAL/ PEER REVIEWED)

35. Senuri Kumarage, **Laksiri Weerasinghe** and Imalka Munaweera*. "Recent Advancements in Detection of Organic Contaminants in Wastewater Using Advanced Mass Spectrometry", *Applications of Modern Mass Spectrometry*, (2023), 2, 1-54.

36. Saranya Selvaraj, Manuja Lamabadusuriya and **Laksiri Weerasinghe***, Mesoporous Silica Nanoparticles for Overcoming the Blood–Brain Barrier: From Fundamental Principles to Translational Prospects". *The Blood–Brain Barrier and Nanomedicine* (Elsevier Science and Technology reference book), (2026), submitted

PATENTS

37. A portable filter with incorporated amine functionalized silica nanoparticles in electrospun cellulose acetate nanofibers for effective removal of hardness and heavy metals in drinking water sources. Senuri Kumarage, **Laksiri Weerasinghe** and Imalka Munaweera (LK_P_1_22661).

RESEARCH GRANTS

- Food and Agriculture Organization of the United Nations (FAO UN), GF. OCBSD.RY3020000CT72, LKR 11.2 million (Co-PI)
- Bangor University, UK, PGIA, University of Peradeniya and USJ Joint grant, L1708 - S44957, £21,800 (Co-lead)
- University research grant (USJP), 2026, LKR 2.5 million (PI)
- University research grant (USJP), 2026, LKR 2.5 million (Co-PI)
- University research grant (USJP), RC/URG/SCI/2025/13, LKR 2.5 million (PI)
- University research grant (USJP), RC/URG/SCI/2024/21, LKR 2.4 million (PI)
- University research grant (USJP), AP/01/RE/SCI/2022/14, LKR 2.9 million (PI)

POSTGRADUATE SUPERVISION

Ph.D. Students
(1). Mrs. Dinithi Kaluthanthiri (completed in 2024)
(2). Ms. Y.N.P.N. Yapa (completed in 2025)

MPhil. Students
(1). Ms Yasuri Amarasekara, (completed in 2022)
(2). Ms Senuri Kumarage, (completed in 2023)
(3). Ms Saranya Selvaraj, (completed in 2024)
(4). Ms P.S.T. Sigera, (in progress)
(5). Ms. Savani Gunawardena (in progress)

MSc. Students
(1). Mr. Chamil Rajapaksha (completed in 2018)

TEACHING

Undergraduate – BSc (Hons/General)

CHE 401 1.0 – New Trends in Organic Synthesis
ICH 483 2.0 – Natural Products in Industrial Chemistry
CHE 381 2.0 – Synthetic Organic Chemistry
CHE 382 1.0 – Polynuclear Hydrocarbons and Heterocyclic Chemistry
CHE 109 1.0 – Advance Organic Chemistry II
PSM 115 2.0 – Chemistry for Polymer Science II

Postgraduate – MSc in Industrial Organic Chemistry

IOC 902 1.0 - Nano and Advanced Technologies in Organic Chemistry
IOC 503 1.0 - Basics and Principles of Industrial Organic Chemistry
– MSc in Analytical Chemistry
IAC 504 1.0 - Bimolecular Analysis

CONTRIBUTIONS IN OTHER FACULTIES/ UNIVERSITIES

Visiting Lecturer, Department of Chemistry, Faculty of Science, University of Colombo
CH 3029 – Organic Chemistry

Visiting Lecturer, M.Sc. Applied Organic Chemistry, University of Colombo
MOC 5001 – Advanced Organic Chemistry

Visiting Lecturer, Department of Pharmacy and Pharmaceutical Sciences Faculty of Allied Health Sciences, University of Sri Jayewardenepura
PHS 2702 - Pharmaceutical Analysis
PHS 3602 - Nanotechnology in Pharmaceutical Manufacturing

Examination paper moderator and the second marker, MSc in Chemistry Education Department of Chemistry, University of Colombo
MCE 5511 - Organic Chemistry

Examination paper moderator and the second marker, BSc (Hons) in chemistry, Department of Chemistry, University of Kelaniya
CHE 44733-Advanced Organic Chemistry I
CHE 44874-Advanced Organic Chemistry II

Subject Coordinator, College of Chemical Sciences, Institute of Chemistry Ceylon

APM 41062 - Project Management
C 32092 – Chemical Laboratory – Design, Operation and Management
APM-22082- Computer based Tools for Management
C/C31082-Polymer Science

Examination paper moderator and the second marker, College of Chemical Sciences, Institute of Chemistry Ceylon
APM32082 – Innovation and New Product Development

Visiting Lecturer, Department of Chemistry, Faculty of Applied Sciences, University of Kelaniya, 2024-2025
APCH 32842- Chemical Industries II (Plantation Crops)

Visiting Lecturer, College of Chemical Sciences, Institute of Chemistry Ceylon, (2023-2024)
C 11122 - Industry, Environment & Society

Visiting Lecturer, Department of Pharmacy, Faculty of Allied Health Sciences, Open University of Sri Lanka, 2022-2025

FMU 6505 – Medicinal Chemistry

Visiting Lecturer, Department of Chemistry, Faculty of Applied Sciences, University of Kelaniya, 2016-2018

CHEM 43364 – Advanced Organic Chemistry

Adjunct Senior Lecturer, SLINTEC Academy, 2018-2020

NAT11108 – Synthetic Organic Chemistry

NAT11102 – Nanomedicine

NATIONAL CONTRIBUTIONS

- Secretary, Editorial and publicity committee, Institute of Chemistry Ceylon, 2025- 2026
- President, Section E2, Sri Lanka Association of Advancement of Science (SLAAS), 2024
- President Elect, Section E2, Sri Lanka Association of Advancement of Science (SLAAS), 2023
- Chief Examiner, GCE A/L Examiner 2023 - 2025
- Council Member, Institute of Chemistry Ceylon, 2022 – present
- Chairperson, All Island Inter School Chemistry Quiz committee, Institute of Chemistry Ceylon, 2023- 2025
- Member of the Committee, National Chemistry Olympiad, 2022 – present

INVITED TALKS

- **Presidential Address**, Section E2 (Chemical Sciences), 80th Annual session of Sri Lanka Association of the Advancement of Science (SLAAS), 10th December 2024
- **Keynote speaker**, 2nd Annual Research Symposium of NSBM Green University, 2024
- **Plenary speaker**, 11th International Conference on Agriculture, 2024, Bangkok, Thailand
- **Resource person**, Webinar for the undergraduate students on Laboratory waste management, Department of Urban Bioresources, Faculty of Urban and Aquatic Bioresources, USJP, 2022
- **Resource person**, Training workshops conducted by National Olympiad Committee
- **Resource person**, Workshop on Introduction to nanomedicine, Organized by college of Biochemists of Sri Lanka (CBSL)
- **Resource person**, Conference on Chemical Technology to value addition to local resources, Colombo, Sri Lanka, organized by Institute of Chemistry Ceylon
- **Plenary speaker**, International Conference of Drug Discovery, 2017, Colombo
- **Resource person**, Seminar in natural products chemistry, organized by Institute of Chemistry Ceylon

- **Guest Speaker**, 2nd International Conference on nanomedicine and drug delivery, Tokyo, Japan
- **Resource person**, Popular talk in Organic chemistry, seminar organize by organic chemistry club, Institute of chemistry Ceylon
- **Resource person**, workshop for GCE (A/L) teachers and students on "Introduction to Nanotechnology" at Bandarawella central College, Bandarawella

MEMBERSHIPS IN PROFESSIONAL ASSOCIATIONS

- Member of Sri Lanka Association for the Advancement of Science (*SLAAS*)
- Member of Institute of Chemistry Ceylon (*IChem*)
- Member of American Chemical Society (*ACS*) (2006-2016)
- Affiliate Member of the International Union of Pure and Applied Chemistry (*IUPAC*)

ACADEMIC CONTRIBUTIONS

- Coordinator – MSc degree program in Industrial organic chemistry, 2025.
- Coordinator – Department of chemistry, Industrial chemistry honors degree program, 2021-2025.
- Member of Editorial board, "Savindu" Newsletter, University of Sri Jayewardenepura, 2021-present
- Department Representative QA cell, Faculty of Applied Sciences, USJP, 2021-present.
- Member of course evaluation committee, BSc special degree in chemistry, University of Kelaniya, 2018

BIO-DATA

Name with Initials: R.L.P. Weerasinghe

Home Address: 163/50 Vimukthi Mawatha, Pittugala, Malabe, Sri Lanka

Nationality: Sri Lankan (by decent)

Date of Birth: 1977.07.08

REFEREES

1. Prof. Theshini Perera
   Head/Department of Chemistry
   University of Sri Jayewardenepura
   theshini@sjp.ac.lk

2. Prof. Gehan Amarathunga
   Former Chief Research Innovations
   Sri Lanka Institute of Nanotechnology
   Gaja1@cam.ac.uk

3. Prof Philip Garner
   Professor, Washington State University
   Pullman, Washington, USA
   philipgarner6@gmail.com

4. Prof Sujatha Hewage
   Professor/Department of Chemistry
   University of Colombo
   sujatha@chem.cmb.ac.lk

DECLARATION

I hereby certify that the information mentioned above is true and accurate.

Sincerely yours,

Prof R.L.P Weerasinghe