

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

Curriculum Vitae

Tel.: 0775401882, Email: laksiri@sjp.ac.lk

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

Google Scholar:

https://scholar.google.com/citations?view_op=list_works&hl=en&hl=en&user=xq4ueV4AAAAJ&page=ze=80

FULL PAPERS IN REFEREED/INDEXED SCI/E JOURNALS

2026

1. Savani Gunawardena; J.A. Surani Chathurika* and **Laksiri Weerasinghe** “Comprehensive Review of Strategies for Mitigating Soil Salinity in Agricultural Areas” *Agricultural Research* (2026), Reviewer comments submitted
2. 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 ¹⁴C-labeled polystyrene nanoplastics in soil”, *Environmental Pollution*, (2026) Reviewer comments submitted
3. Meththa Gimhani, Jayani Liyanage, Thilina Wijethilaka, Surani Chathurika*, Warshi S Dandeniya, **Laksiri Weerasinghe**, Mojith Ariyaratne, 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
4. T.D.M Gimhani; C. J. Wiliyam; J.A.S Chathurika, **Laksiri Weerasinghe**; David R. Chadwick; Davey L. Jones, “Polystyrene micro- and nano-plastics alter tropical soil nutrients without affecting lettuce (*Lactuca sativa* L.) productivity”, *Microplastics and Nanoplastics journal* (2026), submitted

2025

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.

2024

9. Piumika N. Yapa, Imalka Munaweera* Manjula M. Weerasekera, **Laksiri Weerasinghe**, Chanaka Sandaruwan, “A self-sterilizing nanofibrous membrane combined with

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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, Umapiyatharshini 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.

2023

16. Senuri Kumarage, Imalka Munaweera*, Chanaka Sandaruwan, **Laksiri Weerasinghe** and Nilwala Kottegodra, "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.

2022

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.

2020

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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.

2018

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

2015

21. Park, C-M, **Weerasinghe, L.**, Day, J. J.; Fukuto, J. M.; Xian, M.* "Persulfides: Current Knowledge in Chemistry and Chemical Biology" *Mol. BioSyst.* (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.

2011-2014

23. Garner, P.*, **Weerasinghe, L.**, Van-Houten, I., Hu, J. "A concise [C+NC+CC] Coupling-Enabled Synthesis of kaitocephalin" *Chem. Commun.* (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 β 2" *J. Org. Chem.* (2011) 76, 5283.

2008

27. Liyanage, W, **Weerasinghe, L.**, Strong, R. K., Del Valle, J. R.* "Synthesis of Carbapoychelins 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)

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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.

TEXTBOOKS (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), RC/URG/SCI/2026/31, 2026, LKR 2.5 million (PI)
- University research grant (USJP), 2026, LKR 2.5 million (Co-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)
- (6). Ms Vinuri Wijesena (in progress)
- (7). Ms Nuwanthi Pandipperuma (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

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

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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

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

BIO-DATA

Name with Initials: R.L.P. Weerasinghe

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

Nationality: Sri Lankan (by decent)

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