

## Laksiri Weerasinghe, Ph.D.

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### Senior Lecturer II

Department of Chemistry  
Faculty of Applied Sciences  
University of Sri Jayewardenepura  
Gangodawilla, Nugegoda

### EDUCATION & POSTGRADUATE TRAINING

- **Washington State University, United States** **2015**  
Postdoctoral Research Associate
- **University of Montreal, Canada** **2014**  
Postdoctoral Fellow
- **Washington State University, United States** **2013**  
**Ph.D. (*Organic Chemistry*)**
- **University of Colombo, Sri Lanka** **2004**  
**B.Sc (Hons), (*Special Degree in Chemistry*)**

### EMPLOYMENT HISTORY

- Senior Lecturer II, Sri Jayewardenepura University 2020-Present
- Adjunct Senior Lecturer II, SLINTEC Academy 2017-2019
- Visiting Lecturer, University of Kelaniya 2017-2019
- Senior Research Scientist, SLINTEC 2015–2020 (Mar)
- Postdoctoral Research Associate, Washington State University 2014–2015
- Postdoctoral Fellow, University of Montreal, Canada 2013
- Graduate Teaching Assistant, Washington State University 2011–2013
- Graduate Research Assistant, Washington State University 2009–2011
- Graduate Teaching Assistant New Mexico State University 2006–2009
- Demonstrator, Open University Sri Lanka 2004–2005
- Demonstrator, University of Colombo 2004 (Mar–Sep)

CV (Jan-2022)

## INVITED TALKS

- Workshop on Introduction to nanomedicine, KDU (Mar 2021)
- Lab Expo 2010, Colombo, Sri Lanka (Jan 2020)
- 2<sup>nd</sup> International Conference on Nanomedicine and drug delivery  
Tokyo, Japan (May 2018)
- Popular talk in Organic chemistry, Institute of chemistry (Feb 2018)
- Seminar in natural products chemistry, Institute of Chemistry (Jan 2018)
- Plenary speaker, International conference of drug discovery (Sep 2017)

## RESEARCH EXPERIENCE

### Current Research Interests

*I am broadly interested in meeting the current challenges in drug discovery and drug delivery at the interface of organic synthesis and Nanotechnology. In addition to small molecular synthesis, I am also interested in small antimicrobial peptides, realizing their promise as potential therapeutics as well as the applications in plant science and agriculture.*

### Current Research Collaborators

- Prof. Inoka Perera, Department of Zoology and Environmental chemistry, University of Colombo
- Prof. Theshini Perera, Department of chemistry, University of Sri Jayewardenepura
- Dr. Ranga Jayakody, Department of chemistry, University of Sri Jayewardenepura
- Dr. Surani Chaturika, Faculty of Bioresources and Urban agriculture, University of Sri Jayewardenepura
- Dr. Peshala Kumari, Department of Basic Sciences, Kottalawala Defense University

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## PUBLICATIONS

### (Independent research contributions)

- [11]. Yasuri Amarasekara, Inoka C. Perera, Nuwanthi. P. Katuwavila, Ranga S. Jayakody Gehan A. J. Amaratunga, **Laksiri Weerasinghe**\* "Evaluation of novel nanocomposites for enhanced anticancer activity of XLAsp-P2 peptide" **J. Molecular Structure. (2022)**, (under review)
- [10]. 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
- [9]. Nuwanthi. P. Katuwavila, Yasuri Amarasekara, Vimukthi Jayaweera, Chinthika Gunasekara, Inoka C. Perera, Gehan A. J. Amaratunga, **Laksiri Weerasinghe**\* "Graphene oxide based nanocomposite for sustained release of cephalixin" **J. Pharmaceutical sci., (2020)**, 109, 1130-1135
- [8]. 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.

### (Postdoctoral research)

- [7]. 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
- [6]. Biggs, T., **Weerasinghe, L.**; Park, C-M.; Xian, M.\* "Phosphine Mediated Conjugation of S-Nitrosothiols and Aldehydes" **Tetrahedron Lett. (2015)**, 56, 2741.

**(Doctoral research)**

- [5]. Garner, P.\*; **Weerasinghe, L.**; Van-Houten, I.; Hu, J. "A concise [C+NC+CC] Coupling-Enabled Synthesis of kaitocephalin" **Chem. Commun.** (2014) 50, 4908.
- [4]. 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.
- [3]. Ahmed, A. A.; Hamada, M.; Shinada, T.; Ohfuné, 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.
- [2]. Garner, P.\*; Kaniskan, H. U.; Keyari, C. M.; **Weerasinghe, L.** "Asymmetric [C + NC + CC] Coupling Entry to the Naphthyridinomycin Natural Product Family: Formal Total Synthesis of Cyanocycline A and Bioxalomycin  $\beta$ 2" **J. Org. Chem.** (2011) 76, 5283.
- [1]. Liyanage, W; **Weerasinghe, L.**; Strong, R. K.; Del Valle, J. R.\* "Synthesis of Carbapenems via Diastereoselective Azidation of 5-(Ethoxycarbonyl) methyl proline Derivatives" **J. Org. Chem.** (2008) 73, 7420.

**Conference Proceedings**

**(Independent research contributions)**

- [11]. Ranga Jayakody, Yasuri Amarasekara, Inoka Perera, Nuwanthi Katuwavila, **Laksiri Weerasinghe** "A Computational study of the XLA peptide as an Akt-1 PH Inhibitor" **13<sup>th</sup> Australian Peptide Conference**, September, 2019  
Queensland, Australia
- [10]. Nuwanthi P. Katuwavila, Yasuri Amarasekara, Vimukthi Jayaweera, Inoka C Perera, **Laksiri Weerasinghe\***, " Functionalized Graphene Oxide for significantly enhanced antibacterial activity of cephalixin" **2<sup>nd</sup> International Conference and Exhibition on Nanomedicine and Drug Delivery**, May 21-23, 2018, Tokyo, Japan.

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- [9]. Nuwanthi Katuwavila, Shihan Kaleel, Gehan A. J. Amaratunga and **Laksiri Weerasinghe\***, "Alginate micro beads to prolong the action of metformin hydrochloride" **ASOMPS XVI**, December, **2018**, Colombo, Sri Lanka
- [8]. Yasuri Amarasekar and **Laksiri Weerasinghe\***, "Nano encapsulation of novel Antimicrobial peptide XLA Into graphene oxide" **ASOMPS XVI**, December, **2018**, Colombo, Sri Lanka
- [7]. Amarsekara, B. M. Y. D.; Perera I. C. **Weerasinghe, L\***, "In Silico dissection of the mechanism of anticancer activity of Tachyplesin" **International Conference on Discovery and Development**, Colombo, **2017**
- [6]. Rajapaksha, R. M. P. C. D.; Wikramasinghe, N. D.; Jayaweera, V.; Katuwavila, N. P.; Perera, I. C.; **Weerasinghe, L\***; "Controlled release of antimicrobial Cephalixin drug from Graphene Oxide – Fe<sub>3</sub>O<sub>4</sub> nanocomposite" **3rd International Conference on Nanoscience and Nanotechnology**, Colombo, **2016**
- [5]. Rajapaksha, R. M. P. C. D.; Abeykoon, I.; Nisansala, I G. G. T; Jayaweera, V.; Katuwavila, N. P.; Gunasekara, T.D.C.P.; Perera, I. C.; **Weerasinghe, L\*** "Synthesis of a novel Graphene oxide - Iron oxide nano-composite and comparison of its antimicrobial activity against selected medically important bacteria" **3rd ASEAN Association Schools of Medical Technology (AASMT) conference**, Bangkok, Thailand, **2016**
- [4]. Jayaweera, V.; Eliyapura, A.; Gunasekara, D.; **Weerasinghe, L.**; Gunathilaka, P.A.D.H.N.; Abeyewickreme, W.; Karunaratne, V. "Encapsulation of essential oil blend in  $\beta$ -CD nanoparticles as a repellent for slow release" **Proceedings of the Current Research Activities on dengue**, Colombo **2015**.

**(Doctoral research)**

- [3]. **Laksiri Weerasinghe**, Ian Van Houten, Philip Garner, "[C+NC+CC] coupling enabled synthesis of neuroprotective natural product kaitocephalin" **246<sup>th</sup> ACS National Meeting**, Indianapolis, USA, (September 2013)
- [2]. **Laksiri Weerasinghe**, Philip Garner, " Application of the [C+NC+CC] coupling reaction to synthesis" **43<sup>rd</sup> National Organic Symposium**, Seattle, USA, (June 2013)

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- [1]. **Laksiri Weerasinghe**, Philip Garner, Wiley Young, Brian Wright, “[C+NC+CC] coupling enabled synthesis of influenza neuraminidase inhibitor A-315675” **243<sup>rd</sup> ACS National Meeting**, San Diego, USA, (March 2012)

## TEACHING EXPERIENCES

- March 2020 – present, Senior Lecturer II, Department of Chemistry, University of Sri Jayewardenepura

*(Undergraduate)*

CHE 109 – Advanced Organic Chemistry II

CHE 209 – Organic chemistry Laboratory Course for 2<sup>nd</sup> year students

CHE 382 – Polynuclear Hydrocarbons and Heterocyclic Chemistry

ICH 483 – Natural Products Chemistry

ICH 478 – Pharmaceutical Chemistry

CHE 401 – New Trends in Organic Synthesis

*(Postgraduate)*

IAC 504 – Biomolecular analysis

- 2017-2019, Senior Lecturer II, SLINTEC Academy

NAT11108 – Synthetic Organic Chemistry

NAT11102 – Nanomedicine

- 2017-2019, Visiting Lecturer, Department of chemistry, University of Kelaniya

CHEM 43364 – Advanced Organic Chemistry

## Student Mentoring

*(Postgraduates)*

1. FASS Pillay, (KDU)

MPhil, Co-supervisor (*continuing*)

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2. Gayathrie Senavirathne (PGIA)  
MSc, Co-supervisor (*continuing*)
3. Dinithi Kaluthanthri (USJP)  
PhD, Co-supervisor (*continuing*)
4. Yasuri Amarasekara, (Slintec Academy)  
MPhil, Supervisor (12/2021)
5. Chamil Rajapaksha, (Slintec & UP)  
MSc, Supervisor, (12/2016)

## Awards

- President's Award for Scientific Research - 2020
- ACS (Division of Organic Chemistry) Travel Award- 2013  
(*Nationally competitive award in USA*)

## PROFESSIONAL ACTIVITIES

- Member of section E2 committee of SLAAS
- Board member of the editorial board of USJP newsletter
- Member of Institute of Chemistry Ceylon
- Member of the Technical committee, NCE Export awards- 2019
- Member of the course evaluation committee, Kelaniya University
- Member of the Staff development committee, Slintec Academy
- Member of Technical committee, Slintec - 2019
- Coordinator " Slintec Journal club" – 2019
- Judging Panel, Inter university debating competition- 2018
- Session chair for International Conference on drug discovery and development, Colombo, 2017  
Session chair for 3<sup>rd</sup> International Conference on Nanoscience and Nanotechnology, Colombo, 2016
- Member of SLAAS (*2015-present*)
- Member of American Peptide Society (APS) (*present*)
- Member of American Chemical Society (ACS) (*2006 – present*)