

Curriculum vitae of Theshini Perera

Department of Chemistry
Faculty of Applied Sciences
University of Sri Jayewardenepura

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Academic Qualifications

- 2006-2010:** PhD, Louisiana State University, USA
Advisor: Prof. Luigi G. Marzilli
Dissertation Title: "*Chemistry of fac-Re(CO)₃ Complexes of Biomedical Relevance*"
GPA: 4.0
- 2000-2004:** B.Sc. (Honors) second class upper division in Chemistry, University of Colombo, Sri Lanka
Advisor: Dr. Rohini M. de Silva
Thesis Title: "*Synthesis and Characterization of Organometallic Complexes Containing Metal-carbon Bonds*"

Research Interests

Synthesis of novel metal based therapeutics to curb cancer
Development of non invasive, convenient and sub cellular level detection probes for the diagnosis of cancer
Synthesis of organic ligands and inorganic complexes (Re, Pt, Zn, Cu and Ru) of biomedical relevance;
Applications of 1D and 2D NMR and other spectroscopic methods to characterize the structure and properties of metal complexes

Teaching Experience

April 2017 to date: **Senior Lecturer I**, Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka

CHE 368 1.0 – Bioinorganic Chemistry
CHE 352 1.0 – Spectroscopic Methods in Inorganic Chemistry
ICH 362 1.0 – Inorganic Chemistry for Industry – Catalysts and Catalyst Design
ICH 365 1.0 – Spectroscopic Methods, Instrumentation and Applications III
APS 411 2.0 – Biological Sensors and Imaging
CHE 107 2.0 – Inorganic Chemistry Laboratory Course for first year undergraduates
PST 360 2.0 – Inorganic Spectroscopy component

April 2011 to April 2017: **Senior Lecturer II**, Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka

CHE 103 1.0 – Chemical Thermodynamics
CHE 368 1.0 – Bioinorganic Chemistry
CHE 352 1.0 – Spectroscopic Methods in Inorganic Chemistry
APS 411 2.0 – Biological Sensors and Imaging

CHE 107 2.0 – Inorganic Chemistry Laboratory Course for first year undergraduates

February 2011 to April 2011: **Lecturer**, Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka

August 2010 to Feb 2011: **Probationary Lecturer**, Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka

CHE 368 1.0 – Bioinorganic Chemistry to 3rd year special degree students

CHE 352 1.0 – Spectroscopic Methods in Inorganic Chemistry

CHE 103 1.0 – Chemical Thermodynamics

CHE 107 2.0 – Inorganic Chemistry Laboratory Course for first year undergraduates

CHE 209 2.0 – Physical Chemistry Laboratory Course for second year undergraduates

CHE 374 2.0 – Inorganic Chemistry Laboratory Course for special degree undergraduates

Aug 2006 to Aug 2010: **Teaching Assistant**, Department of Chemistry, Louisiana State University, Baton Rouge, LA 70803

CHEM 4570 – Advanced General Inorganic Chemistry

CHEM 1212 – General Chemistry Lab

CHEM 1431 – Honors, General Chemistry Lab

Feb 2005 to Aug 2006: **Temporary/Probationary Lecturer**, Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka

Conducted undergraduate laboratory sessions in inorganic chemistry

Lectures in Coordination Chemistry to 2nd year undergraduates

Mar 2004 to Sep 2004: **Teaching Assistant**, Department of Chemistry, Faculty of Science, University of Colombo, Sri Lanka

Practical sessions in inorganic chemistry for 2nd year undergraduate students

Tutorials for first and second year undergraduate students in chemistry

Publications

Darshani, Taniya; Fronczek, Frank R.; Priyadarshani, V V; Samarakoon, S; Perera, IC; **Perera, Theshini**. "Synthesis and Characterization of Novel Naphthalene-derivatized Tridentate Ligands and their Net Neutral Rhenium Tricarbonyl Complexes as Potential Therapeutic Agents for Lung Cancer" Polyhedron 2020

Darshani, Taniya; Thushara, Nadini; Weerasuriya, Piyumali; Fronczek, Frank R.; Perera, IC; **Perera, Theshini**. "Fluorescent di-(2-picoyl) amine based drug-like ligands and their Re (CO) 3 complexes towards biological applications" Polyhedron 2020

Darshani, Taniya; Weldeghiorghis, Thomas, K.; Fronczek, Frank R.; Perera, Theshini. The first structurally characterized sulfonamide derivatized Zn (II)-dipicolylamine complexes with eight membered chelate rings. Synthetic and structural studies, Journal of Molecular Structure

Katugampala, S; Nanayakkara, C; Perera I C; **Perera, T** "Synthesis, Characterization and Antimicrobial Activity of Novel Copper - triazine Complexes" Bioinorganic Chemistry and Applications, 2018

Abeydeera, N; Perera I C; **Perera, T** "Synthesis, Characterization and BSA Binding Studies of Novel Zinc - triazine Complexes" Bioinorganic Chemistry and Applications, 2018

Subasinghe, Amali; Perera I C; **Perera, Theshini**, "Synthesis, Characterization, and Biological Studies of a Piperidinyl Appended Dipicolylamine Ligand and Its Rhenium Tricarbonyl Complex as Potential Therapeutic Agents for Human Breast Cancer"; Bioinorganic Chemistry and Applications, 2016

Ranasinghe, P V H K; Perera I C; Handunetti, S; **Perera, Theshini**, "Synthesis and Characterization of Novel Rhenium(I) Complexes towards Potential Biological Imaging Applications"; Chemistry Central Journal, 2016, 10:71

Perera, Theshini; Abhayawardhana, Pramuditha; Marzilli, Patricia A; Fronczek, Frank R.; Marzilli, Luigi G. "Formation of a Metal-to-Nitrogen Bond of Normal Length by a Neutral Sufonamide Group within a Tridentate Ligand. A New Approach to Radiopharmaceutical Bioconjugation"; Inorganic Chemistry, 2013,52, 2412-2421

Perera, Theshini; Abhayawardhana, Pramuditha; Fronczek, Frank R.; Marzilli, Patricia A; Marzilli, Luigi G. "Iminoether Complexes of the Type, *fac*-[Re(CO)₃(L)(HNC(CH₃)OCH₃)]BF₄ (L = Bipyridine and Substituted Bipyridine): Synthesis and Properties"; European Journal of Inorganic Chemistry 2012, 618-627)

Abhayawardhana, Pramuditha; Marzilli, Patricia A; **Perera, Theshini**; Fronczek, Frank R.; Marzilli, Luigi G. "New Monodentate Amidine Superbasic Ligands with a Single Configuration in *fac*-[Re(CO)₃(5,5'- or 6,6'-Me₂bipyridine)(amidine)]BF₄ Complexes"; Inorganic Chemistry, 2012, 51, 7271-7283

Perera, Theshini; Fronczek, Frank R.; Watkins, S. "2,9,16,23-Tetrakis(1-methylethyl)-5,6,11,12,13,14,19,20,25,26,27,28-dodecahydrotetrabenzo[*a,e,k,o*]cycloeicosene"; Acta Crystallographica Sec E Struct Rep Online. 2011, 67, 3493.

Perera, Theshini; Marzilli, Patricia A; Fronczek, Frank R.; Marzilli, Luigi G. "Several Novel N-Donor Tridentate Ligands Formed by Attack of a Terminal Amine on Coordinated Acetonitrile. Synthetic, NMR Spectral, and X-ray Crystallographic Studies of *fac*-Re(CO)₃ Complexes"; Inorganic Chemistry 2010, 49, 2123-2131

Perera, Theshini; Marzilli, Patricia A; Fronczek, Frank R.; Marzilli, Luigi G. "NH NMR Shifts of New, Structurally Characterized *fac*-[Re(CO)₃(polyamine)]ⁿ⁺ Complexes Probed via Outer Sphere H-Bonding Interactions to Anions, Including the Paramagnetic [Re(IV)Br₆]²⁻ Anion"; Inorganic Chemistry 2010, 49, 5560-5572

Perera, Theshini; Fronczek, Frank R.; Marzilli, Patricia A; Marzilli, Luigi G. "Superbasic Amidine Monodentate Ligands in *fac*-[Re(CO)₃(5,5'-Me₂bipy)(Amidine)]BF₄ Complexes: Dependence of Amidine Configuration on the Remote Nitrogen Substituents"; Inorganic Chemistry (Inorganic Chemistry 2010, 49, 7035-7045)

Patents

Theshini Perera, Chiranthi Kaushalya and Taniya Darshani; Novel ligands and metal chelates as anticancer agents and diagnostic agents, process of making such and uses thereof (Nation Patent LK/P/20765 - submitted)

Theshini Perera, Nilwala Kottegoda, Inoka C Perera, M N Kaumal, Madhavi de Silva and Krishani Wijesundara; Industrial design for the "Punchi Vidyagnayo" (Little Scientist) science kit – approval pending - National ID LK/1/12948

Abstracts and Conference Proceedings

Hettige, Imesha, **Perera, Theshini**; Synthesis of Platinum complexes with ethylenediamine-sulphonamide ligands towards potent anti-cancer and fluorescence imaging applications, ACS Fall 2020 Virtual Meeting and Expo (2020)

Vitharana, Nipuni; Deraniyagala, Samitha; Cooray, Asitha, **Perera, Theshini**, Novel fluorescence probes for determination of Fe^{3+}/Fe^{2+} ions in biological systems using sulfonamide derivatized dipicolylamine ligands, ACS Fall 2020 Virtual Meeting and Expo (2020)

Peiris, Piumi; **Perera, Theshini**; Synthesis of DPA based NNN donor ligands having piperidinyl groups and their platinum complexes towards potent anti-cancer applications, International Conference on Frontiers of Chemical Technology of the Institute of Chemistry Ceylon, July (2020)

Hettige, Imesha, **Perera, Theshini**; Synthesis of Platinum complexes with N^N- sulphonamide ligands towards potent anti-cancer and fluorescence imaging applications, International Conference on Frontiers of Chemical Technology of the Institute of Chemistry Ceylon, July (2020)

K.V.N.N. Vitharana, **N.T. Perera**, A. Cooray, S.P. Deraniyagala, Novel fluorescence sensors for determination of Fe^{3+} , in biological systems using Sulfonamide derivatives of dipicolylamine ligands, International Conference on Frontiers of Chemical Technology of the Institute of Chemistry Ceylon, July (2020)

Kaluthanthri, D; Abeysinghe, A A P H; **Perera, T**; "Synthesis of novel platinum (II) complexes bearing sulfonamide appended diethylenetriamine ligands as a potential diagnostic tool" Proceedings of the 75th Annual Sessions of the Sri Lanka Association for the Advancement of Science 2019

Weerasuriya, W.A.A.P.P.; Gayara, J.A.S.; Perera, I.C.; Deraniyagala, S.P.; Perera, N.T.; Synthesis and characterization of dipicolylamine sulfonamide ligands with iodobenzene and trifluoromethyl pyridine pendant groups and their rhenium tricarbonyl complexes, Proceedings of the 75th Annual Sessions of the Sri Lanka Association for the Advancement of Science 2019

W.G.K. Fonseka, N.T. Perera and S.P. Deraniyagala Synthesis and characterization of novel zinc ditriazine complexes, *Chemistry in Sri Lanka*, 36(02), 20, 2019

Darshani, T; Perera, IC and **Perera, Theshini**; Synthesis, characterization of sulfonamide-derivatized di-(2-picolyamine) ligands and their *fac*-[Re(CO)₃L] complexes towards fluorescence imaging, *Chemistry in Sri Lanka* 2019, 36(2)

Maladeniya, C; **Perera, Theshini**, "Biological Evaluation of Platinum Sulfonamido Complexes: Synthesis, Characterization, Cytotoxicity & Biological Imaging" 5th International Conference on Multidisciplinary Approaches (iCMA - 2018) ``Sustainable Development through Multidisciplinary Research, 2018

Darshani, T; Kaushalya, C; **Perera, Theshini**, "Synthesis, structural and photophysical properties of Platinum(II) sulfonamide complexes of di-(2-picoly)amine, 5th International Conference on Multidisciplinary Approaches (iCMA - 2018) ``Sustainable Development through Multidisciplinary Research, 2018

Darshani, T; Fronczek, Frank, R; Perera I C; **Perera, Theshini**, "Synthesis and characterization of a novel naphthalene-derivatized tridentate ligand and its *fac*-Re(CO)₃L complex as potential imaging and therapeutic agents for lung cancer" Asia Chemistry, Singapore 2018 11th Annual Congress in Chemistry

Thushara, N; **Perera, Theshini**, "Synthesis, characterization and biological studies of dipicolylamine sulfonamide derivatized platinum complexes as potential anticancer agents" 3rd *International Research Symposium on Pure and Applied Sciences*, 26th October 2018

Darshani, T; Priyadarshani, V V; Samarakoon, S, Perera, IC and **Perera, Theshini**; Synthesis, characterization and biological studies of a novel naphthalene-derivatized tridentate ligand and its *fac*-[Re(CO)₃L] complex as potential therapeutic agents for lung cancer, *Chemistry in Sri Lanka* 2018, 35(2)

Rasakulendran S; **Perera N T**; Perera I C, "Natural ligands of transcriptional regulator Rv3095: A potential drug target for tuberculosis", South Asian Biotechnology Conference 2018

Darshani, T; Thurshara, N; Samaranayake, S; Perera I C; **Perera, Theshini**, "Synthesis and Characterization of a Naphthalene-derivatized Ligand and its Rhenium Tricarbonyl Complex towards Fluorescent Imaging", 4th International Conference on Multidisciplinary Approaches (iCMA - 2017) ``Sustainable Development through Multidisciplinary Research, Sep 2017

Rasakulendran S; **Perera N T**; Perera I C, "Transcriptional regulator Rv3095 as potential drug target for *Mycobacterium tuberculosis*" – The International Conference on Nutritional and Genetic Epidemiology, 2017, pp 18.

Rasakulendran S; **Perera N T**; Perera I C, Metallobiology of transcriptional regulator Rv3095 of *Mycobacterium tuberculosis*: A potential drug target – in World Congress on Genetics, Genomics and Personalized Medicine, 2017

Abeydeera, N; Rasakulendran, S; Abeywickrama, T; Nanayakkara, C; Perera I C; **Perera, T** "Synthesis, Characterization and BSA binding studies of novel zinc - ferene complexes" *Chemistry in Sri Lanka* **2016**, 33, 26-27

Subasinghe, A; Perera I C; **Perera, Theshini**, "Synthesis, Characterization, and Biological Studies of a Piperidiny Appended Dipicolylamine Ligand and Its Rhenium Tricarbonyl Complex as Potential Therapeutic Agents for Human Breast Cancer"; *Chemistry in Sri Lanka* 2015, 32(2), 15-16

Katugampala, S S, Nanayakkara, C, **Perera, T**; Synthesis, Characterization and Antibacterial Studies of Novel Copper-Triazine Complexes, 41st *NOBCChE Conference*, **2014, New Orleans, USA**

Katugampala, S S, Nanayakkara, C, **Perera, T**, "Synthesis, characterization and antibacterial studies of novel Copper Ferrozine Complexes" Chemistry in Sri Lanka 2014, 31(2), 15-16

Ranasinghe, P V H K, Perera I C, Handunetti, S, **Perera, T**, "Synthesis and characterization of Rhenium(I) tricarbonyl ferene complexes for fluorescence imaging" Chemistry in Sri Lanka 2013, 30, 42-43

Marzilli, Luigi G.; Lipowska, Malgorzata; Marzilli, Patricia A.; He, Haiyang; **Perera, Theshini**; Taylor, Andrew. "Multidentate ligand linkage isomerism of *fac*-[Re(CO)₃(polyaminocarboxylate)] analogs of ^{99m}Tc radiopharmaceuticals". Abstracts of Papers, 236th ACS National Meeting, Philadelphia, PA, United States, August, 2008

Marzilli, Luigi G.; Maheshwari, Vidhi; **Perera, Theshini**; Christoforou, Anna Maria; Fronczek, Frank R.; Marzilli, Patricia A. "Neglected N-Donor Ligands Bound in Pt(II) and Re(I) Complexes with Biomedical Relevance". 4th EuChemS Conference on Nitrogen Ligands in Coordination Chemistry, Metal-Organic Chemistry, Bioinorganic Chemistry & Homogeneous Catalysis, Garmisch-Partenkirchen, Germany, August 2008

Awards

NRC Merit Award for Scientific Publications – 2016

Research Awards – University of Sri Jayawardenepura, 2015-2018

Outstanding Research Scholar 2009-2010, Department of Chemistry, Louisiana State University

Outstanding Research Scholar 2008-2009, Department of Chemistry, Louisiana State University

Ingram Shield - Most Outstanding Girl of the Year 1996, Ladies' College, Colombo

Affiliations

Editor, Sri Lanka Association for the Advancement of Science, 2020

Hony Editor, Institute of Chemistry, Ceylon, 2018-2019

President, Section E2, Sri Lanka Association for the Advancement of Science, 2019

Vice President, Section E2, Sri Lanka Association for the Advancement of Science, 2018

General Secretary, Sri Lanka Association for the Advancement of Science, 2014-2015

Secretary, Section E2, Sri Lanka Association for the Advancement of Science, 2013

Member, Institute of Chemistry, Ceylon

Invited Talks

Presidential Address of Section E2 of the Sri Lanka Association for the Advancement of Science, December 2019

Chief Guest – Children's Day of Zahira College Colombo, October 2019

Chief Guest – Annual Prize Giving of Louvre International School, June 2018

Keynote Speaker – Undergraduate Research Symposium, Institute of Chemistry Ceylon, August 10, 2017

“The role of Single Crystal Diffraction in Rhenium Complexes having Biomedical Relevance” 1st South East Asia Conference on Crystal Engineering (SEACCE), Colombo, September 2016

“Nuclear Imaging: the Role of Rhenium Complexes”, jointly organized by Section E2/SLAAS and Department of Chemistry, University of Sri Jayewardenepura, October 2013

“Inspiring Future Scientists” organized by Section E2/SLAAS, at Gurukanda Vidyalaya, Induruwa – July 2015

Soft Skill Engagement

Master of Ceremony at the 78th Annual Sessions of the Sri Lanka Association for the Advancement of Science, 2018

Toastmaster of the J’pura University Toastmasters Club at its inception

Master of Ceremony at the First Charter Presentation and Installation Ceremony of the J’pura University Toastmasters Club – 22nd July 2015

Master of Ceremony at the 7th Sri Lanka Biennial Conference on Science and Technology (BICOST VII) organized jointly by NASTEC and the Ministry of Technology and Research held at Waters Edge July 2014

Member, Interview Panel – J’pura Employability Skills Award 2017 and 2018, University of Sri Jayewardenepura

Other Experience

Reviewer – Rajarata University – 2020

Reviewer – Journal of Advances in Chemistry – 2018

Editorial Board – Sri Lankan Academy of Young Scientists - 2018

Co-Editor – Proceedings of the Undergraduate Research Symposium conducted by National Science and Technology Commission (NASTEC) – 2017

Evaluator – Oral Presentations of the Undergraduate Research Symposium conducted by National Science and Technology Commission - 2017

Coordinator - University Organizing Committee of the 71st Annual Sessions of SLAAS, University of Sri Jayewardenepura 2015

Coordinator – Faculty Prospectus of the Faculty of Applied Sciences, University of Sri Jayewardenepura, 2012 – 2015

Board Member of the Editorial Board of University of Sri Jayewardenepura Newsletter – January 2015 – 2019

Board member – Centre for Advanced Material Research, University of Sri Jayewardenepura – 2018

Member, Center for Cancer Research, University of Sri Jayewardenepura, 2016 - 2019

Resource Person for Academic Skills Development Workshop for MSc students in Industrial Analytical Chemistry, University of Sri Jayewardenepura, 2015 – 2019

Resource Person for Academic Writing Workshops for special degree students in Chemistry, University of Sri Jayewardenepura, 2012 – 2019

“Inorganic Chemistry Curriculum Development”, Workshop for Developing Chemistry Curricula – October 2014

“Inspiring Future Scientists” organized jointly by Section E2/SLAAS, National Science Foundation and Royal Society of Chemistry at Swarnajanthi Vidyalaya, Kegalle – February 2014

Resource Person for the Workshop on Research Methodology conducted by the Department of Chemistry, University of Sri Jayewardenepura, 23rd November 2013

Chief Examiner – Advanced Level Chemistry paper marking – 2013

Co-coordinator – Selection Exam for 4th International Chemistry Olympiad for undergraduates 2011 and 2012

Completed the training programme on “Teaching and Assessment Methodology” conducted by the Staff Development Centre of the University of Sri Jayewardenepura in 2006.

Member of the Sports Science Committee to initiate the Sports Science Degree Program at the Faculty of Applied Sciences