

BERAGAMA VITHANGE THARUKA SANDARUWANI CHANDRASIRI

(She/Her)

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PROFILE

Ph.D. candidate in Chemistry with research centered on medicinal chemistry approaches to triple-negative breast cancer, integrating synthetic organic chemistry with biochemical evaluation of lead compounds.

EDUCATIONAL QUALIFICATIONS

Ph.D. candidate in Chemistry (Biochemistry), August 2024- Present

Department of Chemistry, Wayne State University, 5101 Cass Avenue, Detroit, MI 48202, USA.

Project: *Triple-negative breast cancer*

Advisor: Prof. Hien M. Nugyen

B.Sc (Honours) Degree in Chemistry, 2017-2021

University of Colombo, Sri Lanka

GPA 3.67 on a 4.30 scale – First Class

Coursework covered:

Advanced Organic Chemistry|Advanced Physical Chemistry|Inorganic and Analytical Chemistry|Biochemistry and Molecular Biology|Chemistry of Biomolecules|Pharmaceutical Chemistry|Genome Structure and Organization |Spectroscopy|Coordination and Organometallic Chemistry| Laboratory Management| Quality Management| Symmetry in Chemistry|Optional topics (including Nanotechnology, CRISPR technology, Organic Solar Cells, Mossbauer Spectroscopy, Chemical weapons, and Super-resolution imaging techniques).

RESEARCH EXPERIENCE

Graduate Research

Department of Chemistry, Wayne State University, Detroit, MI, USA.

- Inhibition of heparanase as a therapeutic strategy in triple-negative breast cancer: Mechanistic insights from an aminoglycoside-based inhibitor.

Undergraduate research

Department of Chemistry, University of Colombo.

- Synthesis of Cu₂O nanoparticles and application in photo-catalytic water-splitting reaction.

Supervisor: Senior Professor Dammike P. Dissanayake, **2021**, Department of Chemistry, University of Colombo, Sri Lanka.

TEACHING EXPERIENCE

Graduate Teaching Assistant, August 2024- Present

Department of Chemistry, Wayne State University, Detroit, MI, USA.

- Undergraduate discussion sessions in Organic Chemistry I and Organic Chemistry II

Teaching Assistant, March 2023-August 2024

GeNiUS Chemistry Academy, Sri Lanka. (Reg. NO. WEE3426)

- Served as a part-time Chemistry tutor, supporting student learning through personalized instruction and reinforcement of core concepts. Contributed to The GeNiUS Chemistry Academy by proofreading examination papers and textbooks to maintain academic rigor and publication quality.

Temporary Assistant Lecturer, August 2021- Feb 2023

Department of Chemistry, Faculty of Science, University of Colombo, Sri Lanka.

- Conducted undergraduate Advanced Chemistry Laboratory sessions in Organic, Inorganic, Analytical, and Physical Chemistry, while also teaching and marking tutorials and practical reports. Contributed to departmental activities through exam invigilation, syllabus revision, and editorial work for the Department Newsletter.

OTHER WORK EXPERIENCE

Copyeditor, Bentham Science Publishers, July 2023-July 2024

- Copy-edited Medical and Chemistry research articles.

Internship, May 2023

Institute of Biochemistry, Molecular Biology, and Biotechnology (IBMBB), University of Colombo, Sri Lanka.

- Worked as an intern student at the Immunology laboratory of IBMBB, Sri Lanka.

PRESENTATIONS AND INTERVIEWS

“Power generation by selective self-assembly of biocatalysts”

Abstract submission, oral seminar presentation, and answering the questions asked by the panel as partial fulfillments of the requirements for the degree. **2020**, Department of Chemistry, University of Colombo.

“Construction and Optimization of a Rechargeable Battery”

Oral group presentation and answered the questions as partial fulfillment of the requirements for the Advanced Practical Chemistry course. **2020**, Department of Chemistry, University of Colombo.

“Modern fibers for future clothing”

Oral group presentation and answered the questions on the given topic as partial fulfillment of the requirements for the Advanced Practical Chemistry course. **2019**, Department of Chemistry, University of Colombo.

Interview with Dr. Peter Frischmann

Interviewed Dr. Peter Frischmann, CEO and Co-founder of SEPION TECHNOLOGIES, Inc., as partial fulfillment of the requirements for the Seminar and Essay Course. **2020**, Department of Chemistry, University of Colombo. (<https://youtu.be/WacS5xi0MCI>)

SKILLS

- Acquired hands-on experience operating UV-Vis spectrophotometer, GC-MS, IR, and NMR
- Learned handling small-scale synthesis of organic compounds.
- Learned and performed bioassays, RT-qPCR, and Cell viability.
- Learned and used the YASARA program.

REFEREES

Name: Prof. Hien M. Nguyen, Ph.D.(University of Illinois at Urbana-Champaign, USA)

Designation: Wayne State University
Carl Johnson Endowed Chair Professor
Department of Chemistry
Department of Oncology, Molecular Therapeutics
Karmanos Cancer Institute
5101 Cass Avenue
Detroit, Michigan, 48202.

Email: hmnguyen@wayne.edu

Contact No: 313-577-2557

Name: Senior Prof. Dammike P. Dissanayake, Ph.D.(Texas A&M University, USA)

Designation: Senior lecturer
Department of Chemistry
Faculty of Science
University of Colombo, Sri Lanka.

Email: dpd@chem.cmb.ac.lk

Name: Senior Prof. Rohono de Silva, Ph.D. (University of Cambridge, UK)

Designation: Senior lecturer
Department of Chemistry
Faculty of Science
University of Colombo, Sri Lanka.

Email: rohini@chem.cmb.ac.lk