

Seneviratne Samaratunga Ph.D.

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Email: seneviratne_samaratunga@umit.maine.edu •CITIZENSHIP: United States of America**OBJECTIVE**

Seeking a responsible and challenging faculty position at a growth oriented progressive institution to utilize my knowledge, education and passion for the subject in such a way that will be appreciated by the student and the University authorities.

EDUCATION

Ph.D., Physical Chemistry Department of Chemistry, University of Maine, Orono **8/2013**
Dissertation title: Molecular Dynamics Simulations of helix formation of polypeptides in nanotubes

Graduate Chemist, Institute of Chemistry, Sri Lanka **1/1997**
B.Sc.(Honors) in Chemistry (US equivalent) ,University of Peradeniya, Sri Lanka **1/1993**

Graduate research (Physical Chemistry): University of Maine

- Molecular Dynamics studies of helix formation in nanotubes (armchair and chiral) open to water reservoir to mimics the ribosome tunnel
- Used 23-residue polyalanine and [Glu-(Ala)₃-Lys]₅ hetero polymer (E = Glutamate, A = Alanine and K = Lysine)
- Phase diagram for helicity as a function of diameter (D) and hydrophobicity parameter (λ)
- Helix formation occurs in tubes with approximately the same average diameter as ribosome tunnel
- Used both capped and uncapped peptides in simulation

TEACHING EXPERIENCE**Lecturer in Chemistry** University of Maine – Orono, Maine **9/2013- 8/2017**

- Prepare and deliver lectures in General Chemistry and Chemistry for Engineers which includes leading and moderating classroom discussions, administering and grading examinations.
- Prepare course materials such as syllabi, homework assignments, exams and handouts.
- Use multiple methodologies in teaching, including computer technology and Blackboard web.
- Assist the administration in implementing policies, rules, and regulations covering student life and conduct.
- Maintains student attendance records through i> clicker participation points, grades and other required records.
- Confers on course material and content, and attends department conferences and faculty meetings.
- Maintains regularly scheduled office hours to advise and assist students.
- Selects and obtains materials and supplies such as textbooks and laboratory equipment.
- Participates in campus and community events.
- Supervising and training leaders for Peer Led Team Learning in chemistry.
- Supervising and training Maine Learning Assistants.
- Develop and revising curriculum and assessing student learning outcomes.
- Average class size 145 students.

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Graduate Teaching Assistant University of Maine – Orono, Maine **6/2008-8/2013**

- Prepared and delivered pre-lab and post-lab lectures for undergraduate students in general chemistry labs.
- Taught 3 labs per semester (labs are 3 hours in duration) for a total of 9 contact hours per week.
- Clearly and fully understand the material to be covered in the lab session, how to handle it in the laboratory, and how it is related to the lectures.
- Supervised students lab work, recorded and maintained students attendance, evaluated students laboratory performance, and graded exams and lab reports accurately and fairly following guidelines provided by the supervisor.
- Comply with chemical hygiene and safety regulations established by the Department and outlined in the Chemical Hygiene and Safety Regulations for the Chemistry Department.
- Attend all scheduled course staff meetings and grading sessions and proctor scheduled exams.
- Maintains regularly scheduled office hours to advise and assist students.
- Maintained a comfortable safe learning laboratory environment

Tutor (Chemistry and Physics), University of Missouri – Columbia, Missouri **8/2005-5/2008**

- Conducted tutorial classes and helped undergraduates to prepare their laboratory classes in General, Organic and Analytical Chemistry and Physics I & II.
- Engaged in academic activities with students both one-on-one and with small groups.
- Assisted students and faculty in all operational and academic functions of The Learning Center.
- Assisted in development and evaluation of tutoring material and services.
- Participated in all learning center training and evaluation sessions.

Science Teacher, Kandy International School, Sri Lanka **1/2003-7/2005**

- Prepared and delivered lectures to high school students in chemistry (General, Organic, Inorganic), Physics and Mathematics.
- Supervised, evaluated and graded students' class work, laboratory performance, assignments, and papers.
- Maintained student attendance records, grades, and other required records.
- Maintained regularly scheduled office hours in order to advise and assist students.
- Plan, evaluated, and revised curricula, course content, and course materials and methods of instruction.
- Selected and obtained materials and supplies such as textbooks and laboratory equipment.
- Advise students on academic and vocational curricula, and on career issues.

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Assistant Lecturer, University of Peradeniya, Sri Lanka **1/1993-2/1996**

- Prepared and delivered lectures, laboratory classes in Organic and General Chemistry for undergraduates which include leading and moderating classroom discussions, administering and grading examinations.
- Prepared course materials such as syllabi, homework assignments, exams and handouts.
- Maintained a classroom environment conducive to instruction and appropriate to the maturity and interests of students.
- Maintained student attendance records.
- Confers on course material and content, and attends department conferences and faculty meetings.
- Maintained regularly scheduled office hours to advise and assist students.
- Selected and obtained materials and supplies such as textbooks and laboratory equipment.
- Participated in campus and community events.
- Developed and revising curriculum.
- Maintained a comfortable safe learning laboratory environment.
- Supervised undergraduate and graduate teaching, internship, and research work.
- Advised students on academic and vocational curricula, and on career issues.

INDUSTRIAL EXPERIENCE

Special Project Assistant Environmental Chemistry lab, University of Maine **9/2013-8/2014**

- Analysis of methyl mercury by using Cold Vapor Atomic Fluorescence Spectroscopy.

Deputy Manager Technical Services/Senior Chemist, Main Laboratory, Ceylon Petroleum Corporation, Sri Lanka. **3/1996-12/2002**

- Supervised, planned, and managed technical and administrative functions for the laboratory.
- Supervised and trained technically skilled personnel to operate pH, GC-MS, AAS, UV/Vis, XRF, Distillation apparatus, Karl fisher, Jet Fuel Thermal Oxidation Tester, lab automation, titrations and potentiometry.
- Excelled at instrumental and experimental troubleshooting.
- Coordinating officer to the Environmental Unit

Technical Lab Specialist, Applied Technology Group, Columbia, Missouri, USA 2001 (few months while on leave from Ceylon Petroleum Corporation).

- Duties were included technical formulation studies and volumetric measuring of complex material resin coatings.
- Exercised good judgment in process work on formula calculation.

PUBLICATIONS

D.Suvlu, **S. Samaratunga**, , D. Thirumalai and J.C. Rasaiah “Thermodynamics of helix-Coil Transitions of Polyalanine in Open Carbon Nanotubes” *Journal of Physical Chemistry Letters in 2017*.

S. Samaratunga, D. Thirumalai and J.C. Rasaiah “Polypeptides in chiral carbon nanotube” *Journal of Chemical Physics*. **Manuscript has been submitted.**

S. Samaratunga and R.M.G.Rajapakse “Electrophoresis separation of enzyme from a sample of plants of Rubecia family” published in 49th annual session of Sri Lanka Association for the Advancement of Science in 1993.

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RESEARCH EXPERIENCE

University of Maine, Orono

6/2008-Present

- Hydration and confinement effects on helix formation in a 23- and 25- residue polypeptide inside carbon nanotubes to mimics the confinement effect of ribosome tunnel. Department of Chemistry

Hayleys Group of Companies, Sri Lanka

1/1994-12/1994

- Development of wastewater methods work performed collaboration with other parent companies

University of Peradeniya, Sri Lanka

1/1992-12/1993

- Enzyme separation by using electrophoresis and bio-electroanalytical methods

PROFESSIONAL AFFILIATIONS

- Member of the American Chemical Society 5/2010-Present
- Lifetime member of the Institute of Chemistry, Sri Lanka (M.I. Chem, Chartered Chemist)
- Lifetime member of the Sri Lanka Association for the Advancement of Science (SLAAS)
- Lifetime member of the Sri Lanka Professional Organization

SELECTED PRESENTATIONS

- **S.Samaratunga, D.Duvlu, D.Thirumalai and J.C.Rasaiah** “Hydration and confinement effects on helix formation in polypeptide chains in open nanotubes.” Presented at the “Symposium on Liquid state Physics ñ in honor of Jay Rasaiah” 248th American Chemical Society meeting, San Francisco,CA 8/14/2014
- **S.Samaratunga**, “Hydration and confinement effects on helix formation in polypeptide chains in open nanootubes.” Presented at the Department of Chemistry, University of Maine, Orono 1/24/2013
- **S. Samaratunga**, “Solvents in green chemistry.” Presented at the Department of Chemistry,University of Maine, Orono 1/24/2012
- **S.Samaratunga**, “New membranes and catalysts for fuel cells.” Presented at the Department of Chemistry, University Of Maine, Orono 2/15/2011
- **S.Samaratunga, D.Duvlu, D.Thirumala and J.C.Rasaiah** Poster presentation, “Helix Formation in Polypeptides Confined in Carbon Nanotubes.” Presented at the ACS Meeting, Boston Convention Center 8/24/2010
- **S.Samaratunga**. “Helix Formation in Polypeptides Confined to Carbon Nanotubes.” Presented at the Department of Chemistry, University of Maine, Orono 3/16/2010

SELECTED WORKSHOPS AND SEMINARS ATTENDED

- Using Free-Response Questions to Probe Student Thinking - workshop for STEM graduate teaching assistants 3/14/2012

- Inquiry-Based Labs - workshop for STEM graduate teaching assistants **2/2/2012**
- Simulating Membrane Channels (Potassium Channels) - online workshop conducted by University of Illinois and limited to 10 participants throughout the world. The workshop broadened my understanding of concepts and principles in the field of Computational and Theoretical Biophysics to simulate potassium channels **8/1/ 2011 to 8/4/2011**

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COMPUTER SKILLS:

- Operating systems: UNIX, Linux, Windows
- Computer language: FORTRAN
- Computing software: Gaussian, NAMD
- Graphic software: Origin, VMD
- Scientific applications: MATLAB
- Other software: Microsoft Office, EndNote, MathType

REFERENCES

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3. SCOTT COLLINS
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4. ROBERT KIRK
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