Sara Samiphak

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(revised September 2025)

EDUCATION

University of California, Berkeley, Berkeley, California 2014
Doctor of Philosophy, Graduate Group in Science and Mathematics Education (SESAME)
Cumulative GPA: 3.898

University of California, Berkeley, Berkeley, California 2011
Master of Science, Chemistry
GPA: 3.85

University of Virginia, Charlottesville, Virginia 2009
Bachelor of Science, Chemistry with Mathematics Minor
GPA: 3.49

Western Reserve Academy, Hudson, Ohio 2005
Post Graduate Program

Triamudomsuksa School, Patumwan, Bangkok 2004
Upper-secondary Education
GPA: 3.81

Mater Dei School, Patumwan, Bangkok 2001
Kindergarten to Lower-secondary Education

HONORS AND AWARDS

Royal Thai Scholarship August 2004-May 2014
- Received full award to study in the U.S., including funding to complete a Ph.D.

Dean's Normative Time Fellowship August 2013-May 2014
- Scholarship awarded to students who advanced to candidacy within normative time

Chemistry Department Undergraduate Teaching Award in Chemistry 2009
- Achievement of excellence in undergraduate teaching

Dean's Honor List Spring 2006, Spring 2007, Spring 2008
- Academic excellence of students who perform at the top 4% for semester

The Golden Phra Kiew Award 2004
- National academic achievement recognition

MAJOR RESEARCH INTERESTS

Best Practices for Teaching the Art of Happiness and Critical Thinking in Science Culture and Education

RESEARCH EXPERIENCE

Faculty of Education, Chulalongkorn University September 2014-Present
Assistant Professor
- Determine ocean literacy in Thai school children.
- Developed a board-game-based learning approach about natural disasters to enhance critical thinking.
- Studied the growth mindset of Thai science teachers working with marginalized school children.

- Assessed the Leader in Me program in Thailand using Stephen Covey's 7 Habits framework, in partnership with PacRim Education.
- Developed a teaching model that enhances students' climate literacy.
- Studied student teachers' beliefs about teaching science.
- Developed a conceptual framework for "kidpen" (Thai term for critical thinking) using a grounded theory approach.

Graduate School of Education, University of California, Berkeley August 2011-May 2014
Graduate Student Researcher

- Navigated the middle ground between Eastern Culture and Western Medicine through a case study, using liver fluke infection and fish consumption in Khon Kaen, Thailand as an example.
- Found ways to combat carcinogenic liver fluke in Thailand through instructional interventions.
- Implemented design and systems thinking approach in science education.
- Supported happiness—a synchronicity of physical health, mental health, and social well-being—as a novel lens into human behavior.

Mechanical Engineering Department, University of California, Berkeley May 2010-December 2010
Graduate Student Researcher

- Designed low-cost, locally accessible electrochemical water disinfection system.

Graduate School of Education, University of California, Berkeley August 2009-May 2010
Graduate Student Researcher

- Explored RTMD (Reinforced Theistic Manifest Destiny) theory—the interrelation of evidence-based reasoning and faith-based reasoning.

Chemistry Department, University of Virginia August 2007-May 2009
Research Assistant

- Defined the effective charge as a function of pH for paramagnetic relaxation agents based on nickel (II) chemistry with different polydentate ligands to find the ionization constants and population of different electrostatic charges presented.
- Operated an optical spectroscopy, magnetic relaxation measurements, and thermodynamic calculations.
- Predicted the structure of phenylacetylene-water complex by computational method and quantum chemistry modeling program to aid in application of biological macromolecules.
- Operated a high resolution chirped-pulse Fourier transform microwave spectrometer under applied techniques.
- Devised new experimental methods to increase the number of complexes to better understand the bonding geometry of water clusters which is applicable to many biological species.

Department of Internal Medicine, University of Virginia January 2005-April 2007
Research Assistant under the supervision of Dr. Robert M. Carey

- Examined previous experimental data and devised new experimental methods to investigate gene regulation in the kidney.
- Assisted other doctorate students in conducting different research experiments upon request.
- Collected and analyzed new data, and evaluated the efficiency of the new experimental methods.

TEACHING EXPERIENCE

Faculty of Education, Chulalongkorn University September 2014-Present
Lecturer

- Teach undergraduate- and graduate-level education courses, such as physical science for teachers, philosophical foundations of science education, analysis of science curriculum, and methodology of science teaching.
- Teach science at the Chulalongkorn University Demonstration Primary and Secondary schools.
- Supervise approximately 6 in-service student teachers per semester, and observe their teaching in schools.

San Quentin State Prison, California August 2011-December 2011
Tutor

- Taught prisoners to read and write one-on-one.
- Prepared them for the General Educational Diploma (GED) test (high school equivalency diploma), which included math and English assessment.

College of Chemistry, University of California, Berkeley June 2010-May 2011
Graduate Student Instructor (CHEM 1A, CHEM 1B)

- Led two groups of 30 students in general chemistry lab, which met for four hours per week to perform analytical, inorganic, and physical experiments.
- Graded lab reports, and gave two 50-minute lectures on a weekly basis.

University of Virginia School of Engineering & Applied Science (Bridge Program) May 2009 – June 2009
The Center for Diversity in Engineering
Tutor

- Led a group of 20 incoming first-year students in Applied Calculus and General Chemistry, which met on weekdays for 4 hours.
- Chose topics to emphasize class material and summarized the relevant concept to assist students in making a smooth transition from high school to college.
- Reviewed the assigned problem sets, discussed material covered in the professor's lectures and brought in new problems to challenge students.

Chemistry Department, University of Virginia August 2007-May 2009
Teaching Assistant (CHEM 141L/151L, 142L/152L, 371)

- Led two groups of 25 students each in physical and general chemistry lab.
- Met for four hours per week with students to perform analytical, inorganic, and physical experiments.
- Graded 10-20 pages in lab reports on a weekly basis. Answer questions in weekly lab sections.

Academic Affairs - Athletics, University of Virginia July 2008-May 2009
Tutor

- Assisted a group of student athletes in Organic Chemistry, Differential Equations, and Applied Calculus.
- Met three hours per week to review the assigned problem sets, discussed material covered in the lectures, and brought in new problems to challenge students.
- Chose topics to emphasize the material and summarize the relevant concepts.

Department of Applied Mathematics, University of Virginia August-April 2006
Grader
Evaluated assignments and quizzes of one hundred students enrolled in Linear Algebra.

SELECTED PUBLICATIONS

- Nirutmeteekul, N., and Samiphak, S. (2024) Recent Studies on Integrating Sustainable Development Principles into Chemistry Education. *Journal of Research and Innovation for Sustainability*, 1(7), 1-9.
- Samiphak, S. (2023). A happy child becomes a good child…not necessarily a smart one. Retrieved from https://www.bangkokbiznews.com/health/education/1084438. [In Thai]
- Samiphak, S. (2022). Destroying old education paradigms. Retrieved from https://www.bangkokpost.com/opinion/opinion/2455502/destroying-old-education-paradigms.
- Magcharoen, N., and Samiphak, S. (2022). Challenges of Multigrade Science Teaching in Small Primary Schools in Thailand. *Procedia of Multidisciplinary Research*, 1(10), 31-31. [Best paper award, In Thai]
- Nawanidbumrung, W., Samiphak, S., & Inoue, N. (2022). The impact of pre-service teachers' pedagogical beliefs on teaching science as inquiry: A silent antagonist for effective inquiry-based science lessons. *Science Education International*, 33(1), 112-121.
- National Research Council (2019). How *People Learn: Brain, Mind, Experience, and School: Expanded Edition* (S. Samiphak, Trans.). Bangkok: Kobfai Publishing Project. [A book translated into Thai from English]
- Manosorn, C., and Samiphak, S. (2019). Development of Climate Literacy for Lower Secondary School Students Using Inquiry Instruction and Games. *Proceedings of the 2nd Annual National Conference on Education* (pp. 380-392). [Best paper award, In Thai]

- Samiphak, S. (2019). *Towards the Meanings of "Kidpen:" A Grounded Theory Study*. Veridian E-Journal, Silpakorn University 12, 1 (January – February): 387-402. [In Thai]

LEADERSHIP EXPERIENCE

Asia-Pacific Forum on Sustainable Development 2025, UNESCO February 2025
Representative Speaker from Chulalongkorn University

- Invited speaker on "Bridging Socio-Economic Gaps Among Youth through Digital Literacy and Generative AI: Promoting Sustainability in Science Education"

Asia and ASEAN Center for Educational Research 2025, Chiba University February 2025
Representative from Chulalongkorn University

- Invited speaker on "Science Education for Sustainability in the Digital Transformation Era"

Office of International Affairs and Global Network, Chulalongkorn University December 2021-July 2022

Assistant Dean, Faculty of Education

- Organized conferences (e.g., The 2022 AUA Academic Conference on Learning in a Post-Covid-19 ERA), including setting a budget, reviewing accepted papers, coordinating speakers, and serving as a moderator.
- English/Thai translator/interpreter in written and spoken texts

ACTIVITIES

- **Chulalongkorn University Broadcasting Station –** Talk radio host, "*Let's talk and think,*" "*Faculty Club, Thinking Club,*" 2016-present
- **Chulalongkorn University's Zonta Club (Empowering Young Women and Children organization)** – Advisor/Supervisor in organizing camps and activities for kids, Spring 2017-present

SKILLS

Language: Native speaker in Thai, fluent in English
Music: Received grade 5 from Trinity College of London – piano