



Dr. Namkang Sriwattanothai

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CURRENT EMPLOYMENT:

Assistant Professor

Institute for Innovative Learning, Mahidol University

999 Phuttamonthon 4 Road, Salaya, Nakhon Pathom, 73170 Thailand

ACADEMIC QUALIFICATIONS:

2009 Ph.D. (Science and Technology Education), Mahidol University, Thailand

2006 M.Sc. (Biochemistry), Mahidol University, Thailand

2003 B.Sc. (Biology), Chaingmai University, Thailand

PROFESSIONAL MEMBERSHIPS:

The Science Society of Thailand Under the Patronage of His Majesty the King

ACADEMIC APPOINTMENT AND TEACHING:

2014 - Present Assistant Professor, Science and Technology Education Program, Mahidol University

2013 - 2015 Program Director for Science and Technology Education (graduate program), Mahidol University

2011 - 2012 Program Secretariat for Science and Technology Education (graduate program), Mahidol University

2009 - 2014 Instructor, Science and Technology Education Program, Mahidol University

2005 – 2006 Teaching Assistant, Biochemistry Department, Faculty of Science, Mahidol University

RESEARCH EXPERIENCES:

2017 - Present **The Development of Minecraft Education Game to Enhance Content Knowledge and 21st century skills in STEM Project-based Learning for grade 4-6 Students** (Principal Investigator)

Granted by National Research Council of Thailand

2012 - 2019 **Pohpanpunya Project** (Investigator)

Granted by The Thailand Research Fund and Kasikornbank Public Company Limited

2013 - 2014 **A Model for the Development of Personal Potential in the Education Service Area Office at Samut Sakorn Province** (Principal Investigator)

Granted by National Research Council of Thailand

2013 - 2014 **Teacher Coaching Project** (Investigator)

Granted by The Thailand Research Fund and Office of the Basic Education Commission

2011 - 2013 **Biodiversity of Bubble Nest Builder Betta in Northeastern Thailand** (Principal Investigator)

Granted by The Thailand Research Fund, Office of the Higher Education Commission and Mahidol University

2011 - 2012 **Innovative Education Research in Life Science and Health Science to Enhance Learning in Students and the Publics** (Investigator)

Granted by Office of the Higher Education Commission

- 2011 - 2012 **Professional Development Project for Rajabhat University Instructors by Implementing Research Process** (mentor)
Granted by Office of the Higher Education Commission
- 2010 - 2011 **Enhanced Teaching-Learning Process in Science at Lower Secondary Schools in Samut Songkhram Province** (Investigator)
Granted by The Thailand Research Fund
- 2010 - 2011 **Development of Local Curriculum and Gifted Education Curriculum through Thai Local Wisdom “Fighting Fish”** (Investigator)
Granted by National Research Council of Thailand
- 2009 **Science Education Research collaborated with Prof. Charles R. Barman** at School of Education, Indiana University-Perdue University-Indianapolis (IUPUI), Indianapolis, U.S.A
- 2008 **DNA Barcoding Research collaborated with Dr. Dirk Steinke** at Canadian Centre for DNA Barcoding, Biodiversity Institute of Ontario, University of Guelph, Ontario, Canada

REVIEWER FOR:

- 1) Journal of Research Unit on Science, Technology and Environment for Learning
- 2) Journal of Education and Learning (EduLearn)

OTHER ACTIVITIES:

- 2016 - Present STEM ambassador (Thailand)
- 2016 - 2017 Executive Committee, The Science Society of Thailand Under the Patronage of His Majesty the King
- 2011 - 2015 Faculty Representatives, Mahidol University Faculty Senate

AREA OF INTEREST:

- 1) Life Science Education
- 2) Informal Science Education
- 3) Professional Development
- 4) Technology Enhanced Learning in Science
- 5) Computational Thinking
- 6) Diversity and Evolution of Anabantoids Fish

SELECTED PUBLICATIONS:

1. International Papers

- 1) Panijpan, B., **Sriwattanothai, N.**, & Laosinchai, P. (2020). Wild Betta fighting fish species in Thailand and other Southeast Asian countries. *ScienceAsia*, 46(4), 1–10.
- 2) Shovityakool, P., Jittam, P., **Sriwattanothai, N.**, Laosinchai, P. (2019). A flexible supply chain management game. *Simulation & Gaming* 50(4), 461–482.
- 3) Pammanasut, P., Panijpan, B., Senapin, S., Ruenwongsa, P., **Sriwattanothai, N.**, Laosinchai, P., Phiwsaiya, K. (2018). Discovery of wild populations of Betta smaragdina Ladiges, 1972 (Teleostei, Osphronemidae) in a western province of Thailand. *Check List*, 14(6), 1077–1082.
- 4) Dorji, K. & **Sriwattanothai, N.** (2017). Effectiveness of mutation, amino-acid, protein, characteristics, and evolution (MAPCE) model for teaching genetic basis of evolution: Students’ perspectives. *Educational Innovation and Practice*, 2(1), 36–55.
- 5) Panijpan, B., **Sriwattanothai, N.**, Kowasupat, C., Ruenwongsa, P., Jeenthong, T., & Phumchoosri, A. (2017). Biodiversity of bubble-nest building and mouth-brooding fighting fish



- species of the genus *Betta* in Southeast Asia. *Thailand Natural History Museum Journal*, 11(1), 1–21.
- 6) Jeenthong, T., Ruenwongsa, P., & **Sriwattanothai, N.** (2014). Promoting integrated science process skills through betta-live science laboratory. *Procedia-Social and Behavioral Sciences*, 116, 3292–3296.
 - 7) Kowasupat, C., Panijpan, B., Ruenwongsa, P., & **Sriwattanothai, N.** (2012). *Betta mahachaiensis*, a new species of bubble-nesting fighting fish (Teleostei: Osphronemidae) from Samut Sakhon Province, Thailand. *Zootaxa*, 3522, 49–60.
 - 8) Kowasupat, C., Jittam, P., **Sriwattanothai, N.**, Ruenwongsa, P., & Panijpan, B. (2012). Development of an inquiry-based learning unit for enhancing high-school students' understanding of animal social behavior. *The International Journal of Learning*, 18(10), 167–189.
 - 9) Monvises, A., Ruenwongsa, P., Panijpan, B., & **Sriwattanothai, N.** (2011). Promoting student understanding of genetics and biodiversity by using inquiry-based and hands-on learning unit with an emphasis on guided inquiry. *International Journal of Learning* 17 (12), 227–244.
 - 10) To-im, J., Tianchai, C., Tianchai, N., Ketpichainarong, W., Jittam, P., **Sriwattanothai, N.**, & Ruenwongsa, P. (2010). Using a Local Water Problem as Case-based Scenario to Encourage Thai Grade 8 Students' Learning of Science. *International Journal of Learning* 17 (6), 157–164.
 - 11) Monvises, A., Ruenwongsa, P., Panijpan, B., & **Sriwattanothai, N.** (2010). A Siamese fighting fish learning unit for cooperative learning among primary students. *International Journal of Learning* 17 (5), 231–246.
 - 12) **Sriwattanothai, N.**, Steinke, D., Ruenwongsa, P., Hanner, R., & Panijpan, B. (2010). Molecular and morphological evidence supports the species status of the Mahachai fighter *Betta* sp. Mahachai and reveals new species of *Betta* from Thailand. *Journal of Fish Biology* 77, 414–424.
 - 13) **Sriwattanothai, N.**, Jittam, P., Ruenwongsa, P., & Panijpan, B. (2009). From research on local materials to the learning of science: An inquiry-based laboratory for undergraduates. *International Journal of Learning* 16(6), 459–473.
 - 14) Monvises, A., Nuangsaeng, B., **Sriwattanothai, N.**, & Panijpan, B. (2009). The Siamese fighting fish: Well-known generally but little-known scientifically. *ScienceAsia* 35, 8–16.
 - 15) Panijpan, B., Ruenwongsa, P., & **Sriwattanothai, N.** (2008). Problems encountered in teaching/learning integrated photosynthesis: A case of ineffective pedagogical practice? *Bioscience Education e-journal*.
 - 16) Jittam, P., Boonsiri, P., Promptmas, C., **Sriwattanothai, N.**, Archavarungson, N., Ruenwongsa, P., & Panijpan, B. (2008). Red seaweed enzyme-catalyzed bromination of bromophenol red: An inquiry-based kinetics laboratory for undergraduates. *Biochemistry and Molecular Biology Education* 37(2), 99–105.

2. National Paper

- 1) Lham, T. & Sriwattanothai, N. (2018). A board game to enhance understanding of cell cycle for grade ten Bhutanese students. *Rabsel-the CERD Education Journal*, 19(2), Autumn 2018.
- 2) อติสรณ์ มนต์วิเศษ, บัลลังก์ เนื่องแสง, น้ำค้าง ศรีวัฒนาโรทัย และ ภิญโญ พาณิชพันธ์ (2552). ปลากัดไทย: นักสู้ผู้สง่างามแห่งลุ่มน้ำจืด. *วารสารวิทยาศาสตร์* 63(3): 65–70.

3. Book

ปิยะฉัตร จิตต์ธรรม, วชิรี เกษพิชัยณรงค์, น้ำค้าง ศรีวัฒนาโรทัย และ อรุณวรรณ กลั่นกลิ้ง (2563). รู้จักเด็กจากโครงการ: การพัฒนาทักษะแห่งอนาคตในชั้นเรียน RBL. กรุงเทพฯ : บริษัท วิจจา จำกัด

4. International Conference Proceedings

- 1) Mahardthai, S., Yodyingyong, S., **Sriwattanarothai, N.**, & Jittam, P. (2020, 19-22 August). The experiential learning unit for promoting students' understanding of vapor pressure and related concepts. *Proceedings of International Conference on Technology in Education 2020 (ICTE 2020), Macao, China.*
- 2) Sukumanan, S., **Sriwattanarothai, N.**, & Ketpichainarong, W. (2019, 1-3 April). The ant colony board game for promoting symbiotic relationship understanding. *Proceedings of 2019 International Symposium on Education and Psychology (ISEP 2019), Fukuoka, Japan.*
- 3) Drakpa, R., **Sriwattanarothai, N.**, Ketpichainarong, W., & Jittam, P. (2016, 27-29 January). Active learning unit to promote students' understanding of endocrine system and hormones: A case study in grade 10 Bhutanese students. *Proceedings of the 5th International Conference on Learning Innovation in Science and Technology (ICLIST 2016), Pattaya, Thailand, pp.10-19.*
- 4) Pimoubol, T., & **Sriwattanarothai, N.** (2015, 10-11 June). Blended-learning unit: A case of using Facebook as a learning tool to teach gene expression in higher education. In *Proceedings from 2015 Global Conference on Teaching and Learning with Technology, Singapore.*
- 5) **Sriwattanarothai, N.**, & Saengwacharasoontorn, K. (2015, March 16-18). Improving teacher performance with on-line and in-class coaching: A case study in Thai secondary school. In *Proceedings from the 2nd International Conference on Innovation in Education held at Learning Center, Mahidol University, Nakhon Pathom, Thailand.*
- 6) Ketpichainarong, W., **Sriwattanarothai, N.**, & Jittam, P. (2015, March 16-18). Teacher perceptions on adapting contemplative education concepts used in the classroom: A case study. In *Proceedings from the 2nd International Conference on Innovation in Education held at Learning Center, Mahidol University, Nakhon Pathom, Thailand.*
- 7) Dorji, K., & **Sriwattanarothai, N.** (2015, March 2-4). Hands-on activities to link gene mutations with three dimensional protein structures for high school students. In *Proceedings from the 9th International Technology, Education, and Development Conference held at Meliã Castilla, Madrid, Spain.*
- 8) Lham, T., & **Sriwattanarothai, N.** (2015, March 2-4). Learning cell cycle via a game-based learning. In *Proceedings from the 9th International Technology, Education, and Development Conference held at Meliã Castilla, Madrid, Spain.*
- 9) Pimoubol, T., & **Sriwattanarothai, N.** (2012, 7-9 November). Attribution of a series of game to genetic disorder understanding. In *Proceedings from the 1st International Conference on Innovation in Education: Innovative Science, Mathematics, and Technology (SMT) Education for Enhancement of Learning for the 21st Century, Bangkok, Thailand.*
- 10) Jeenthong, T., **Sriwattanarothai, N.**, Ruenwongsa, P., & Panijpan, B. (2012, 7-9 November). Learning aggressive behavior and courtship behavior through computer game-based instructional unit. . In *Proceedings from the 1st International Conference on Innovation in Education: Innovative Science, Mathematics, and Technology (SMT) Education for Enhancement of Learning for the 21st Century, Bangkok, Thailand.*
- 11) Klunklueng, A., **Sriwattanarothai, N.**, Tianchai, C., Tianchai, N., To-im, J., Ketpichainarong, W., Jittam, P., & Ruenwongsa, P. (2012, July 2-6). Learning about environment and natural resources of mangrove forest in Samut Songkhram province through junior science projects. In *Proceedings of the Fourth Thailand-Malaysia Joint Educational Research Conference 2012, Chiang Mai, Thailand.*
- 12) Tadsanai, J., Kowasupat, C., Phichai, P., Ruenwongsa, P., **Sriwattanarothai, N.**, & Panijpan, B. (2011, March 24-26). Computer-based instructional game about aggression and courtship of the Siamese fighting fish. In *Proceedings from ThaiSim 2011-TS'11-3rd Annual International Conference, Ayutthaya, Thailand.*
- 13) Tianchai, C., Tianchai, N., To-im, J., Ketpichainarong, W., Jittam, P., **Sriwattanarothai, N.**, & Ruenwongsa, P. (2010, April 1-2). Using a local water problem as case-based scenario to encourage Thai grade 8 students' learning of science. In *Proceedings from the Second Annual International Research Conference on Social Sciences and Humanities, Bangkok, Thailand.*



- 14) Klunklueng, A., To-im, J., Jittam, P., Ketpichainarong, W., **Sriwattana-rothai, N.**, & Ruenwongsa, P. (2010, April 1–2). Firefly learning module for environmental sustainable development in Samut Songkhram province. In *Proceedings from the Second Annual International Research Conference on Social Sciences and Humanities*, Bangkok, Thailand.
- 15) Kowasupat, C., **Sriwattana-rothai, N.**, Panijpan, B., & Ruenwongsa, P. (2010, April 1–2). Development of a learning package for enhancing high-school students' understanding in animal social behavior. In *Proceedings from the Second Annual International Research Conference on Social Sciences and Humanities*, Bangkok, Thailand.
- 16) Jittam, P., **Sriwattana-rothai, N.**, Ruenwongsa, P., Panijpan, B., Hongboontri, C., & Coll, R. K. (2008, July). Using the learning cycle to enhance Thai undergraduate university students' understanding of enzyme kinetics. In *Proceedings from Australian Science Education Research Association (ASERA) 39th Conference*, Brisbane, Australia.
- 17) **Sriwattana-rothai, N.**, Hongboontri, C., & Panijpan, B. (2007, November). Thai High School Students' Reflections of an Inquiry-based Protein Activity. In *Proceedings from ICASE Asian Symposium*, Pattaya, Thailand.

5. *International Workshop*

- 1) Ketpichainarong, W., & **Sriwattana-rothai, N.** (2015, March 17). Improving Thinking Skills through Active Learning Strategies. *Workshop at the 2nd International Conference on Innovation in Education (ICIE 2015)*, Nakhon Pathom, Thailand.
- 2) Panijpan, B., Ruenwongsa, P., Jittam, P., **Sriwattana-rothai, N.**, & Samana, J. (2012, November 28). Biochemical Education. *Workshop at the 13th FAOBMB 2012 International Congress of Biochemistry and Molecular Biology*, Bangkok, Thailand.

6. *International Webinar*

Sriwattana-rothai N. (2020, October 8). Engaged and empowered learners: Pedagogical practices supported by classroom response systems. *Online webinar at Learning Innovation Festival 2020*, Centre for Teaching Excellence, Singapore Management University, Singapore.