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Assistant Professor

Mahidol University Quality Development Committee

Mahidol University International Relations Committee



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HONORS / AWARDS AND FUNDS

- 'Invention Award' from National Research Council of Thailand, 2018
- *STEM Ambassador* (British Council & IPST), 2016-present
- *AUN-QA assessor (ASEAN University Network Quality Assurance)*, 2015-present
- *MU EdPEX assessor (follow Malcolm Baldrige National Quality Award)*, 2015-present
- 'Bronze medal Award' from 2013 Taipei Int'l Invention Show and Technomart, Taiwan, 2013
- 'Honor of Invention' from World Invention Intellectual Property Associations (WIIPA), Taiwan, 2013
- 'Invention Award' from National Research Council of Thailand, 2013
- 'Excellency of Teacher for Students Affair', Mahidol University, 2012-2014
- Supported Grant for International Conference Presentation from Australasian Association for Engineering Education organizers, Australia, 2012
- Research Grant from National Research Council of Thailand for Digital Textbook, 2011-present
- Supported Grant for International Conference Presentation from Faculty of Graduate Studies, Mahidol University, 2010
- Young Researcher Grant from Thailand Research Fund and Commission of Higher Education for Teachers Professional Development, Thailand, 2009 – 2011
- Research Grant from Mahidol University for Constructivist Teaching and Learning Genetics, 2009 - 2011
- Supported Grant for International Conference Presentation from Mahidol University, 2008
- The Institute for the Promotion of Teaching Science and Technology Scholarship, Kasetsart University, 2001 – 2005
- The Institute for the Promotion of Teaching Science and Technology Scholarship, Kasetsart University, 1996 – 1998

MANAGEMENT EXPERIENCE

Assistant to the President for Educational Quality Development, Mahidol University, 2013 – 2014
Assistant Director, Institute for Innovative Learning, Mahidol University, 2009-2010

EDUCATION

Doctor of Philosophy, Science Education, Kasetsart University, Thailand, 2006 (co-program with *The University of Waikato, New Zealand*)

Bachelor of Science, Biology (Microbiology), Kasetsart University, Thailand, 1997

Teacher Certificate, Professional in Science Teaching, Kasetsart University, Thailand, 1998

SPECIAL TRAINING

Internal Quality Assurance (TrainIQA) Training IV, Bangkok, Thailand, February 2016

Internal Quality Assurance (TrainIQA) Training III, Bali, Indonesia, November 2015

Internal Quality Assurance (TrainIQA) Training II, Potsdam, Germany, July-August 2015

Internal Quality Assurance (TrainIQA) Training I, Kuala Lumpur, Malaysia, February 2015

Science Education Program, Centre for Science and Technology Education Research (CSTER), the University of Waikato, New Zealand, June 2003-June 2004

Science Teacher Trainee, Horwang School, Bangkok, Thailand, 1998

Identifying *Salmonella sp.* and *Shigella sp.*, April 1997

- World Health Organization (WHO) National Salmonella and Shigella Centre at Ministry of Public Health, Thailand

PUBLICATIONS

Book Chapters

- Pelzang, T., Nopparatjamjomras, S. & **Nopparatjamjomras, T. R.** (2014). Enhancing Grade 10 Bhutanese Students' Understanding of DNA and Chromosome Structure Concepts. In R.P. Devadason, I. Zurida, and K.T. Ng, *Empowering the Future Generation through Science Education* (pp 63-75). SEAMEO RECSAM.
- **Nopparatjamjomras, T. R.** (2012). Developing a Social Constructivist Teaching and Learning Module on DNA for High School Students in Thailand. In M. Kim and C. H. Diong (Eds.), *Biology Education for Social and Sustainable Development* (pp. 233-240). The Netherlands: Sense Publishers.
https://link.springer.com/content/pdf/10.1007/978-94-6091-927-5_25.pdf
- **Ratanaroutai, T.** (2010). Education for Disadvantaged Students in Thailand. In L. Yew-Jin (Ed.), *The World of Science Education: Handbook of Research in Science Education Research in Asia* (pp. 357-370). The Netherlands: Sense Publishers B.V.

Brief Paper

- **Nopparatjamjomras, T. R.,** & Nopparatjamjomras, S. (2011). Teacher development program: tailor made for science teachers in welfare schools. SEAMEO RECSAM,

Malaysia.

Journals

- Hlaing, P., **Nopparatjamjomras, T.**, & Nopparatjamjomras, S. (2018). Digital technology for preventative health care in Myanmar. *4*(3), 117-121. doi:10.4103/digm.digm_25_18
- Nopparatjamjomras, S., Kalaya, T., & **Nopparatjamjomras, T. R.** (2018). 7th Graders' understanding of a fire caused by an electrical short circuit. *Journal of Physics: Conference Series, 1144*, 012123. doi:10.1088/1742-6596/1144/1/012123
- Khaing, S. W., Nopparatjamjomras, S., **Nopparatjamjomras, T. R.**, & Chitaree, R. (2018). Development of Arduino-based logic gate training kit. *Journal of Physics: Conference Series, 1144*, 012134. doi:10.1088/1742-6596/1144/1/012134
- Tamang, S., Nopparatjamjomras, S., Chitaree, R., & **Nopparatjamjomras, T. R.** (2015). Using the missing pin to challenge concepts of refraction and total internal reflection. *Physics Education, 50*(1), 28.
- **Nopparatjamjomras, T. R.** (2011). The Social Constructivist Approach to Teaching and Learning Genetics for Disadvantaged Thai Students in a Multicultural Classroom. *The Asia-Pacific Education Researcher, 20* (2), 222-230. (Impact Factor 0.632)
- Nopparatjamjomras, S., **Nopparatjamjomras, T. R.***, & Chitaree, R. (2011). Using hidden messages created by Microsoft® Word to teach students about colour filters. *Teaching Science: The journal of Australian Science Teachers Association, 57*(4), 49-50.
- **Ratanaroutai, T.*** & Pathom-aree, W. (2010). A case study on teaching and learning DNA. *US-China Education Review, 7* (8), 37-42, 27.
- Artdej, R., **Ratanaroutai, T.***, Coll, R.K. & Thongpanchang, T. (2010). Thai Grade 11 students' alternative conceptions for acid-base chemistry. *Research in Science and Technological Education, 28* (2), 167-183.
- **Ratanaroutai, T.*** & Yutakom, N. (2006). Teachers' and Students' Perception about Genetics Teaching and Learning in Disadvantaged Thai High Schools. *Songklanakarin Journal of Social Sciences and Humanities, 12*(3), 313-327.
- **Ratanaroutai, T.***, Theeragool, G. & Yutakom, N. (2006). Genetic Concepts of Disadvantaged High School Students in Thailand. *The Kasetsart Journal (Social Sciences), 27*(2), 234-245.

Proceedings

- Phone Myint Hlaing, **Nopparatjamjomras, T. R.***, & Nopparatjamjomras, S. (2018). Perception of Medical Doctors on Chest Tube Thoracostomy Simulation Model. In the 3rd International Conference on Applied Science and Health (ICASH), Thailand, 33-39.
- Linn Htet Aung*, **Nopparatjamjomras, T. R.**, & Nopparatjamjomras, S. (2017). Medical Doctors' Procedural Skill Performance and Attitude Toward Ultrasound-Guided Pericardiocentesis Model. In the 2nd International Conference on Applied Science and Health (ICASH), Thailand, 27-33.
- Norsaputra, A., **Nopparatjamjomras, T. R.***, Nopparatjamjomras, S., & Chitaree, R. (2017). Development of Stefan-Boltzmann Board Game Based on Game Characteristics. In The

3rd International Conference on Education. Vol.3., Malaysia, 10-16.

- Dema, M. *, Nopparatjamjomras, S., Chitaree, R., & **Nopparatjamjomras, T. R.** (2015). Developing and Validating a DC Motor Multiple Choice Questionnaire for High School Bhutanese Students. In the 3rd CAS National and International Conference 2015 (CASNIC 2015).
- Tamang, S., Nopparatjamjomras, S. *, & **Nopparatjamjomras T. R.** (2014, February 5-7). Bhutanese students' ability to apply the concepts of light reflection and refraction to the situations related to a fish tank. In Proceedings of the 2nd ASEAN Plus Three Graduate Research Congress (2nd AGRC), Bangkok, 527-534.
- **Nopparatjamjomras, S., Nopparatjamjomras, T. R.*** (2012, 3-5 December). Students' understanding about a brightness of light bulbs connected in DC electric circuit. Paper presented at Australasian Association for Engineering Education 2012, Melbourne, Australia.
- Nopparatjamjomras, S., **Nopparatjamjomras, T. R.*** (2012, 18-19 September). Development of coloured-light mixer for teaching coloured light and colour perception concepts. Paper presented at International Conference on Physics 2012, Yogyakarta, Indonesia.
- **Nopparatjamjomras, T. R.,** & Nopparatjamjomras, S. (2012, 15-16 September). Education for Disadvantaged Students in Sociocultural Contexts of Thailand. Paper presented at the International Conference on Current Issues in Education (ICCIE), Yogyakarta, Indonesia.
- Pelzang, Tshelthrim & **Nopparatjamjomras, T. R.*** (2011, 9 - 10 September). *5Es Learning Cycle on Chromosome lesson in an International Secondary School*. Paper presented at the 4th International Conference on Educational Research (ICER) 2011: Learning Community for Sustainable Development, Khon Kaen.
- **Nopparatjamjomras, T. R.** (2011, 25-27 April). *Needs of Teacher Development: Voices from Welfare Schools*. Paper presented at Educational leadership, knowledge & technology innovation in cultural diversity and knowledge-based society, Phuket.
- **Ratanaroutai, T. & P.-a., W.** (2008b, 26-28 November). *A Case study on teaching and learning DNA*. Paper presented at the Asia-Pacific Educational Research Association (APERA), Singapore.
- **Ratanaroutai, T. & P.-a., W.** (2008a, 27-29 October). *The Effects of "Chemical Components of DNA" Unit on Disadvantaged Thai High School Students*. Paper presented at the International Conference on Science and Mathematics Education 2008, Quezon City, the Philippines.
- **Ratanaroutai, T.** (2007, 6-9 November). *A Case Study of Social Constructivist Teaching and Learning Genetics for Disadvantaged High School Students in a Welfare School in Thailand*. Paper presented at the ICASE Asian Symposium 2007 "Science Education for All: Towards Sustainable Development Regardless of Resource", Pattaya, Thailand.
- **Ratanaroutai, T. & Yutakom, N.** (2006b, 26-28 November). *Social Constructivist Teaching and Learning of Genetics for Disadvantaged Students in Welfare Schools of Thailand*. Paper presented at the Asia-Pacific Educational Research Association International Conference, Hong Kong.

- **Ratanaroutai, T.**, Yutakom, N., & Theeragool, G. (2006a, 22-24 November). *A Case Study of Conceptual Development in Genetics of Disadvantaged Thai High School Students*. Paper presented at the International in Science Education Conference, Singapore.

PROFESSIONAL SERVICES

Research

- Reviewer of Africa Education Review (Taylor & Francis (Routledge)), 2015-present
- Reviewer of Journal of Simulation and Gaming for Learning and Development (SGLD), 2015-present
- Reviewer of Journal of Science Technology and Environment for Learning (SWU), 2012-Present
- Expert for Educational Instruments: *Burapha University, 2015*
- Reviewer for Selected Research in International Conference on Innovation in Education, *Mahidol University, 2015*
- Expert for Educational Research, Faculty of Liberal Arts, Mahidol University, 2013-present
- Expert for Educational Research: *Katanyu Educational Fund, 2012-present*
- Expert for Educational Instruments: *Chiang Mai University, 2012*
- Reviewer for Selected Research in International Conference on Innovation in Education, *Mahidol University, 2012*
- Classroom Action Research: *The Teachers' Council of Thailand, 2007-2011*
- Reviewer for Graduate Research: *Mahidol University, 2006 – 2013*
- Expert for Educational Instruments: *Srinakharinwirot University, 2006*

Guest Lecturer/Speaker

- Trainer for ASEAN University Network for Quality Assurance Workshop, Mahidol University, August, September, October, December, 2015-present
- Speaker in AUN-QA Criteria in Programme Level, Faculty of Tropical Medicine, Mahidol University, 21 June 2016
- Speaker in AUN-QA Criteria in Programme Level, Sukhothai Thammathirat Open University, 25 May 2016
- Speaker in AUN-QA Criteria in Programme Level, National Institute for Child and Family Development, Mahidol University, 13 May 2016
- Co-trainer in AUN-QA Writing SAR Workshop, Faculty of Dentistry, Mahidol University, 10-11 May 2016
- Co-trainer in AUN-QA Writing SAR Workshop, Office of Secretariat, Council of University Presidents of Thailand, 22-23 April and 27-28 May 2016
- Co-trainer in AUN-QA Assessors Workshop, Faculty of Medicine Siriraj Hospital, Mahidol University, 21-23 March 2016
- Trainer for AUN-QA Writing SAR Workshop, Faculty of Public Health, Mahidol University, 3-4 March, 18 April, and 3 May 2016
- Speaker in AUN-QA Criteria in Programme Level, Faculty of Medicine Siriraj Hospital, Mahidol University, 18 March 2016

- Speaker in Expected Learning Outcomes, Faculty of Veterinary Science, Mahidol University, *8 March 2016*
- Assistant Speaker in (International) Active Learning Workshop, Mahidol University, Thailand, *6-15 January 2015*
- ‘The New Pattern of Administrative Education’, Mahamakut Buddhist University, *2014*
- ‘Innovations in Environmental Management’, Faculty of Environment and Resources Studies, *2013-present*
- ‘Misconceptions in Biology’, The Office of Basic Education Commission, Ministry of Education, *2013*
- ‘The Evolution of Scientific Thought’, The College of Religious Studies, Mahidol University, *2012 and 2015*
- Institute for Innovation and Development of Learning Process, Mahidol University, *July 2006 – May 2008*

Book Translation

- ‘*Science*’ for Grade 6 :Harcourt, *2006*

SUPPORTING ACTIVITIES

International

- AUN-QA assessor, *2015-present*

Thailand

- MU-AUN-QA assessor, *2015-present*
- MU-EdPEX assessor, *2014-present*
- Committee member of Mahidol University Quality Development, *2014-Present*
- Committee member of Mahidol University International Relation Network, *2009-2015*
- Committee member of Graduate Student Affairs, Mahidol University, *2012-2014*
- Committee member of Mahidol University Faculty Senate, *2009-2013*
- Member of The Science Society of Thailand Under the Patronage of His Majesty the King, *2006-Present*

AREA OF INTERESTS

- Simulating Models for teaching in Medical Education
- Teaching and Learning Biology and Environment for Average and Disadvantaged Students
- Science and Technology Teacher Professional Development
- Development of Teaching and Learning Activities, Instructional Materials, and Assessment in Science, Technology, and Engineering
- Science and Technology for Multicultural Students
- Active Learning
- Educational Quality Assurance both EQA and IQA: EdPEX and AUN-QA