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Institute for innovative learning, Mahidol University
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Education:

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| 2005- 2011 | Ph.D. (Science and Technology Education)
Mahidol University, Bangkok, Thailand. |
| 2004-2005 | Diploma of Science Teaching Profession,
Department of Curriculum and Instruction, Silpakorn University,
Nakhon Pathom, Thailand. |
| 2000-2004 | B.SC. (First-Class Honours) Chemistry,
Ubon Ratchathani University, Ubon Ratchathani, Thailand. |

Awards and Distinctions:

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| 2025 | Senior Fellow (SFHEA) in recognition of attainment against the
UK Professional Standards Framework (UK-PSF) for teaching and
learning support in higher education (16/12/2025) |
| 2023 and 2025 | Best contribution to international publications award, Institute for
innovative learning, Mahidol University |
| 2021-2025 | Best number of citation per article award, Institute for innovative
learning, Mahidol University |
| 2025 | The Scholarship for Thesis Promoting SDGs Policies (Major
advisor), Faculty of Graduate Studies, Mahidol University |
| 2020 | Outstanding Thesis Awards (Major advisor), Mahidol University |
| 2019 | Distinguished Thesis Awards (Major advisor), Mahidol University |
| 2016 | Recipient of distinguished poster presentation award from TRF-
OHEC Annual congress. 2016, The Regent Cha Am Beach Resort,
Phetchaburi, Thailand. |
| 2012 | Recipient of distinguished poster presentation award from 1 st
International Conference on Innovation in Education (ICIE 2012),
Bangkok, Thailand. |
| 2011 | Recipient of the Young Traveler award from 17 th International |

	Symposium on flavin and flavoprotein 2011, University of California San Francisco, San Francisco, USA.
2010	Recipient of Outstanding poster award from Pure and Apply Chemistry International Conference 2010 (PACCON), Ubon Ratchathani, Thailand.
2008	Recipient of the Young Traveler award from 16 th International Symposium on flavin and flavoprotein 2008, Palacio de Congresos, Jaca, Spain.
2004	Recipient of the Dr. Tap Nilaniti Graduate award.
2000-2011	Recipient of a scholarship from The Promotion of Science and Mathematics Talented Teacher Project (PATM).

Professional Experiences:

2026-present	Deputy Director for Research and Innovation, Institute for innovative learning, Mahidol University
2020-2026	Deputy Director for Education and Networking, Institute for innovative learning, Mahidol University
2017-present	Assistant professor, Institute for innovative learning, Mahidol University, Thailand
2011-2016	Lecturer, Institute for innovative learning, Mahidol University, Thailand
2009-2010	-Science education research training with Dr. Kevin Niemi, Center for Biology Education, Office for Science Outreach, and Wisconsin Teacher Enhancement Program, University of Wisconsin-Madison, USA. -Scientific research training with Prof. Dr. Brian G. Fox, Department of Biochemistry, University of Wisconsin-Madison, USA.

Area of Interest

1. Chemistry Education
2. Science Education
3. STEM Education
4. The nature of learning in chemistry and how to enhance student learning
5. Inquiry-based laboratory and activities for teaching and learning
6. Using technology to enhance teaching and learning in chemistry

7. Green Chemistry Education
8. Biocatalysis
9. Enzyme kinetic; pre-steady state kinetic

International Publications (Indexed in Scopus)

1. Suriyabutr, A., **Chenprakhon, P***, & Yasri, P. (2026). Developing student research practice through the integration of Design Thinking into Inquiry-Based Learning in STEM projects in secondary schools: A mixed-methods study. *Asian Journal of Education and Training*, 12(4), 1–17.
2. Afikah, A., Rohaeti, E., Jumadi, J., **Chenprakhon, P.**, & Soeharto, S. (2026). Assessing students' critical thinking skills in polymer chemistry through an innovative learning model. *Discover Education*. 5, 795.
3. Praputpittaya, T., Yasri, P., & **Chenprakhon, P***. (2026). Blended Problem-Based Learning for Enhancing COVID-19-Related Scientific Understanding and Critical Thinking in Thai Secondary School Students. *International Journal of Information and Education Technology*.16(5): 1397-1405.
4. Duangpummet, P., Yasri, P., & **Chenprakhon, P***. (2026). Chemistry Teachers' Beliefs Regarding Green Chemistry Teaching: A Case Study in Thai Higher Education. *Journal of Chemical Education*, 103(3), 1159-1169.
5. Suriyabutr, A., Yasri, P., & **Chenprakhon, P.** (2026). Enhancing STEM education through design thinking and iterative improvement in students' research projects. *European Journal of STEM Education*, 11(1), 7.
6. Laohapornchaiphan, J., & **Chenprakhon, P***. (2024). A review of research on learning activities addressing the submicroscopic level in chemistry. *Journal of Chemical Education*, 101(11), 4552-4565.
7. Sangawitayakorn, C., **Chenprakhon, P.**, Wilairat, P., & Chantiwas, R. (2024). Formation of ketoprofen methyl ester artifact in GC–MS analysis of basic drugs in horse urine using alkaline liquid-liquid extraction. *Arabian Journal of Chemistry*, 105727.
8. Duangpummet, P., Yodyingyong, S., **Chenprakhon, P.*** (2022) Fruit Puzzle: An Inquiry-Based Activity to Investigate High School Students Understanding of the Relationship between the Concepts of Density and Concentration of Solution at the Submicroscopic Level. *Journal of Chemical Education*. 99, 12, 4175–4180

9. Pinthong, C., Chaiyen, P., Maenpuen, S., **Chenprakhon, P.*** (2022) Inquiry-based laboratories for students to investigate the concepts of acid-base titration, pK_a , equivalence points, and molar absorption coefficients. *Journal of Chemical Education*. 99, 12, 4008–4015.
10. Tinikul, R., Lawan, N., Akeratchatapan, N., Pimviriyakul, P., Chinantuya, W., Suadee, C., Sucharitakul, J., **Chenprakhon, P.**, Ballou, D.P., Entsch, B. and Chaiyen, P. (2021) Protonation Status and Control Mechanism of Flavin-Oxygen Intermediates in the Reaction of Bacterial Luciferase. *The FEBS Journal*, 288 (10), 3246-3260
11. Phintha, A., Prakinee, K., Jaruwat, A., Lawan, N., Visitsatthawong, S., Kantiwiriyanitch, C., Songsunghong, W., Trisrivirat, D., **Chenprakhon, P.**, Mulholland, A.J. and van Pee, K.H. (2021). Dissecting the low catalytic capability of flavin-dependent halogenases. *Journal of Biological Chemistry*, 296.
12. **Chenprakhon, P*.**, Pimviriyakul, P., Tongsook, C., & Chaiyen, P. (2020). Phenolic hydroxylases; Enzyme: ISSN 1874-6047, 2020 Elsevier Inc, Academic Press.
13. Trisrivirat, D., Lawan, N., **Chenprakhon, P.**, Matsui, D., Asano, Y. and Chaiyen, P., (2020). Mechanistic Insights into the Dual Activities of the Single Active Site of L-Lysine Oxidase/Monooxygenase from *Pseudomonas* sp. AIU 813. *Journal of Biological Chemistry*, 295, 11246-11261. (IF =4.32)
14. Pitsawong, W., **Chenprakhon, P.**, Dhammaraj, T., Medhanavyn, D., Sucharitakul, J., Tongsook, C., van Berkel, W.J., Chaiyen, P. and Miller, A.F., (2020). Tuning of pK_a values activates substrates in flavin-dependent aromatic hydroxylases. *Journal of Biological Chemistry*, 295(12), pp.3965-3981. (IF =4.32)
15. Duangpummet, P., Chaiyen, P., **Chenprakhon P*.** (2019) Lipase-Catalyzed Esterification: An Inquiry-Based Laboratory Activity To Promote High School Students' Understanding and Positive Perceptions of Green Chemistry. *Journal of Chemical Education*. 96(6), 1205-1211 (IF= 3.208)
16. **Chenprakhon, P*.**, Wongnate, T., Chaiyen, P. (2019) Monooxygenation of Aromatic Compounds by Flavin-Dependent Monooxygenases. *Protein Science*. 28: 8–29. (IF= 2.41)
17. Tinikul, R., **Chenprakhon, P.**, Maenpuen, S., Chaiyen, P. (2018) Biotransformation of Plant Derived Phenolic Acids. *Biotechnology Journal*. 13, 1700632. (IF= 3.507)

18. Maenpuen, S., Tinikul, R., **Chenprakhon, P.**, Chaiyen, P. (2018) Production of Valuable Phenolic Compounds from Lignin by Biocatalysis: State of the Art Perspective. *Emerging Areas in Bioengineering* (editor. Ho Nam Chang), Wiley-VCH's.
19. Pinthong, C., Phoopraintra, P., Chantiwas, R., Pongtharangkul, T., **Chenprakhon, P.**, Chaiyen, P. (2017) Green and sustainable biocatalytic production of 3,4,5-trihydroxycinnamic acid from palm oil mill effluent. *Process Biochemistry*. 63, 122-129. (IF= 2.616)
20. **Chenprakhon, P.*.**, Dhammaraj, T., Chantiwas, R., Chaiyen, P. (2017) Hydroxylation of 4-Hydroxyphenylethylamine Derivatives by R263 Variants of the Oxygenase Component of p-Hydroxyphenylacetate-3-Hydroxylase, *Archives of Biochemistry and Biophysics*. 620, 1-11. (IF=3.165)
21. Thotsaporn, K., Tinikul, R., Maenpuen, S., Phonbuppha, J., Watthaisong, P., **Chenprakhon, P.**, Chaiyen, P. (2016) Enzymes in the p-hydroxyphenylacetate degradation pathway of *Acinetobacter baumannii*. *Journal of Molecular Catalysis B: Enzymatic*. 134(B), 353–366. (IF= 2.269)
22. Visitsatthawong, S., **Chenprakhon, P.**, Chaiyen, P., Surawatanawong, P. (2015) Mechanism of Oxygen Activation in a Flavin-Dependent Monooxygenase: A Nearly Barrierless Formation of C4a-Hydroperoxyflavin via Proton-Coupled Electron Transfer. *J. Am. Chem. Soc.* 137, 9363-9374. (IF= 13.853)
23. Dhammaraj, T., Phintha, A., Pinthong, C., Medhanavyn, D., Tinikul, R., **Chenprakhon, P.**, Sucharitakul, J., Vardhanabhuti, N., Jiarpinitnun, C., Chaiyen, P. (2015) p-Hydroxyphenylacetate 3-Hydroxylase as a Biocatalyst for the Synthesis of Trihydroxyphenolic Acids. *ACS Catal.* 5, 4492-4502. (IF= 10.614)
24. **Chenprakhon, P.**, Trisrivirat, D., Thotsaporn, K., Sucharitakul, J., Chaiyen, P. (2014) Control of C4a-Hydroperoxyflavin Protonation in the Oxygenase Component of p-Hydroxyphenylacetate-3-hydroxylase. *Biochemistry*. 53, 4084-4086. (IF= 2.938)
25. **Chenprakhon, P.**, Panijpan, B., and Chaiyen, P. (2012) An Experiment Illustrating the Change in Ligand pK_a upon Protein Binding, *Journal of Chemical Education*. 2012, 89, 791–795. (IF= 1.419)
26. Thotsaporn, K., **Chenprakhon, P.**, Sucharitakul, J., Mattevi, A., Chaiyen, P. (2011) Stabilization of C4a-hydroperoxy-flavin in a two-component flavin-

dependent monooxygenase is achieved through interaction at flavin N5 and C4a atoms. *The Journal of Biological Chemistry*. 286(32), 28170-80. (IF= 4.125)

27. **Chenprakhon, P.**, Sucharitakul, J., Panijpan, B., and Chaiyen, P. (2010) Measuring Binding Affinity of Protein-Ligand Interaction Using Spectrophotometry: Binding of Neutral Red to Riboflavin Binding Protein. *Journal of Chemical Education*. 87, 829–831. (IF= 1.419)
28. Baron, R., Riley, C. *, **Chenprakhon, P.***, Thotsaporn, K., Winter, R., Alfieri, A., Forneris, F., van Berkel, W. J. H., Chaiyen, P., Fraaije, M. W., Mattevi, A., and McCammon, J. A. (2009) Multiple pathways guide oxygen diffusion into flavoenzyme active sites. *Proceedings of the National Academy of Sciences of the United States of America*. 106, 10603-10608. (Cited in *Research Highlights, Nature Chemistry*, 2009) (*Contributed equally to this article) (IF= 9.661)

Conference Proceedings:

1. Duangpummet P., Kunwatthanaphan D., Khirirat W., & **Chenprakhon P.** (2025) The Development of a Measurement Instrument to Assess Student's Competence in Connecting the Multiple Representations in Chemistry on Acid-Base Titration ISSN: 2759-7563 – The Korean Conference on Education 2024: Official Conference Proceedings (pp. 1-13) <https://doi.org/10.22492/issn.2759-7563.2024.1>
2. Duangpummet, P., **Chenprakhon P.** (2020) Students' Perceptions of a Designed Online Asynchronous Learning Activity Regarding the Community of Inquiry (COI) Framework. Proceeding of the Osaka Conference on Education (2020). Japan.
3. Ratriphruek, A., **Chenprakhon, P*** (2020) Assessing Students' Conceptual Understanding of the Relationship between Solubility and Polarity of Organic Compounds. Proceedings of RSU International Research Conference (2020), Thailand
4. Choda J., **Chenprakhon, P*** (2015) a hands-on physical model for teaching quantum numbers and rules for writing electron configuration, Proceeding of the 3rd Global Summit on Education GSE 2015 , Kuala Lumpur, MALAYSIA .
5. Che-Leah, M., **Chenprakhon, P*** (2015) Development of a Laboratory Experiment for Teaching Concept of Transesterification Catalyzed by Lipase for Undergraduate Students , Proceedings of the 2nd International Conference on Innovation in Education , Thailand