

PATTARASUDA CHAYAPAKDEE

ภัทรสุดา ฉายาภักดิ์



PERSONAL INFORMATION

Date of Birth March 14th, 1989
E-mail pattarasuda.c@cmu.ac.th
Phone (+66) 961963736
Address Department of Biology, Faculty of Science, Chiang Mai University
 239 Huay Kaew Rd., Muang District, Chiang Mai 50200, Thailand

EDUCATION AND WORK EXPERIENCE

2020-present **Lecturer in Genetics and Molecular Biology**
 Department of Biology, Faculty of Science, Chiang Mai University, Thailand

Ph.D. **Doctor of Philosophy in Agricultural Science – GPA: 4.00**
2016-2019 Doctoral Program in Life Sciences and Bioengineering, Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan
 Research Topic: Molecular mechanism of quinclorac resistance in multiple-herbicide resistant *Echinochloa phyllopogon* (Supervisor: Prof.Dr.Hiroshi Matsumoto)

2015-2016 **Research Student for Ph.D.**
 Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan
 Research Topic: Molecular mechanism of Triafamone herbicide resistance in weeds (Supervisor: Asst.Prof.Dr. Satoshi Iwakami)

2014-2015 **Doctoral Student**
 Department of Botany, Faculty of Science, Kasetsart University, Bangkok, Thailand

M.S. **Master of Science (Biology) - GPA: 3.75**
2011-2013 Department of Biology (Plant Physiology), Khon Kaen University, Thailand
 Research Topic: Influence of Nitrogen Fertilizer Rate on Leaf N, P and K Levels, Growth, Yield and Sugar Yield in the First-Ratoon Crops of Three Sugarcane Cultivars on Sandy and Clayey Soils (Supervisor: Assoc.Prof.Dr. Manit Kosittrakun)

B.S. **Bachelor of Science (Biology) - GPA: 3.86 (First Class Honours)**
2007-2011 Department of Biology, Faculty of Science, Khon Kaen University, Thailand
 Research Topic: Fruit Anatomy and Development of *Impatiens balsamina* L. (Balsaminaceae) (Supervisor: Dr. Piyarat Itharat)

High School **Science and Mathematics Talents Program - GPA 3.79**
2004-2007 Sarakhampittayakhom School, Maha Sarakham, Thailand
 (Participant of Biology Olympic Camp)

RESEARCH INTERESTS

- Molecular mechanisms of herbicide resistance in weeds
- Gene function, genetic engineering, gene transformation
- Plant biotechnology, tissue culture
- Plant physiology, biochemistry

AWARDS AND SCHOLARSHIPS

Full Scholarships

- 2015-2019 Japanese Government (Monbukagakusho; MEXT) Scholarship, by Ministry of Education, Culture, Sports, Science and Technology, Japan
- 2007-2014 Development and Promotion of Science and Technology Talents Project (DPST), by the Institute for the Promotion of Teaching Science and Technology (IPST), Ministry of Education, Thailand

Research Funds

- 2011-2013 TRF-Master Research Grant on Science and Technology (MAG Window I), by Thailand Research Fund
- 2012 Mitr Phol Innovation Research Grant by Mitr Phol Sugarcane Research Center

Awards

- 2017 Oral Presentation Award (2nd place) in the Conference of Global Herbicide Resistance Challenge 2017, Denver, USA
- 2011 Excellent Student Award (gold medal), Department of Biology, Khon Kaen University
- 2008-2010 Outstanding Grade Student, Department of Biology, Khon Kaen University

PUBLICATIONS AND CONFERENCES

Journal papers

- **Chayapakdee, P.**, Sunohara, Y., Endo, M., Yamaguchi, T., Fan, L., Uchino, A., Matsumoto, H., Iwakami, S. 2020. Quinclorac resistance in *Echinochloa phyllopogon* is associated with reduced ethylene synthesis rather than enhanced cyanide detoxification by β -cyanoalanine synthase. *Pest Management Science*, 76: 1195-1204. doi:[10.1002/ps.5660](https://doi.org/10.1002/ps.5660). (IF: 3.26, Q1)
- **Chayapakdee, P.**, Yamaguchi, T., Sunohara, Y., Matsumoto, H., Iwakami, S. 2020. Heterologous expression analyses of *CYP81A P450s* in *Arabidopsis* and in *E. coli* provide evidence for their roles in auxin herbicides metabolism. *Journal of Experimental Botany*, under review. (IF: 5.36, Q1)

Proceedings

- **Chayapakdee, P.**, Prammanee, P., Kosittrakun, M. 2013. Response of first-ratoon sugarcane grown on sandy and clayey soils to various nitrogen fertilizer rates. In: *Proceedings of the 8th International Conference on Science and Technology for Youth*, Bangkok, Thailand

Conference presentation

- **Chayapakdee, P.**, Iwakami, S., Kamidate, Y., Fan, L., Uchino, A., Sunohara, Y., Matsumoto, H. 2017. Enhanced activity of β -cyanoalanine synthase does not confer quinclorac resistance in multiple-herbicide resistant *Echinochloa phyllopogon*. *The 26th Asian-Pacific Weed Science Society Conference*, Kyoto, Japan. (Oral presentation)
- **Chayapakdee, P.**, Iwakami, S., Uchino, A., Sunohara, Y. and Matsumoto, H. 2017. Investigation of a role of β -cyanoalanine synthase in quinclorac resistance in multiple-herbicide resistant *Echinochloa phyllopogon*. *The 56th Annual Meeting of the Weed Science Society of Japan*, Miyazaki, Japan. (Oral presentation)
- **Chayapakdee, P.**, Iwakami, S., Kamidate, Y., Fan, L., Uchino, A., Sunohara, Y., Matsumoto, H. 2017. Investigation of a role of β -cyanoalanine synthase in quinclorac resistance in multiple-herbicide resistant *Echinochloa phyllopogon*. *The 2nd Global Herbicide Resistance Challenge*, Denver, Colorado, USA. (Oral presentation award)
- **Chayapakdee, P.**, Kosittrakun, M., Prammanee, P. 2013. Influence of nitrogen fertilizer rate on leaf N, P and K levels, growth, yield and sugar yield in the first-ratoon crops of three sugarcane cultivars on sandy and clayey soils. *The TRF-Master Research Congress VII*, Chon Buri, Thailand. (Oral presentation)
- **Chayapakdee, P.**, Prammanee, P., Kosittrakun, M. 2013. Response of first-ratoon sugarcane grown on sandy and clayey soils to various nitrogen fertilizer rates. *The 8th International Conference on Science and Technology for Youth*, Bangkok, Thailand. (Oral presentation)
- **Chayapakdee, P.**, Itharat, P. 2011. Fruit Anatomy and Development of *Impatiens balsamina* L. (Balsaminaceae). *The 6th Conference on Science and Technology for Youths*, Bangkok, Thailand. (Oral presentation)

TEACHING EXPERIENCES

2019-2020	English Teacher: Sciences, Tsukuba International School, Ibaraki, Japan
2016	International Student Trainer: Molecular Biology and Gene Transformation, University of Tsukuba, Japan
2014	Teaching Assistant: General Botany Laboratory, Kasetsart University
2013	Teaching Assistant: Biology I and Biology II Laboratory, Khon Kaen University
2012	Teaching Assistant: The Moving Biology Laboratory for High School Students Project, Khon Kaen University
2010	Academic Tutor: The 16 th Biocamp for Youths, Khon Kaen University
2008	Academic Tutor for freshmen: Biology I, Biology II, and Biological Science, Khon Kaen University
2007	Teaching Assistant: Biology Olympic Camp, Khon Kaen University

TECHNICAL SKILLS IN RESEARCH AREA

- Gene isolation, DNA sequencing, RNA sequencing
- Bioinformatics, Gene expression analysis (real-time PCR, semi-qPCR)
- Gene cloning and transformation, Gene knockout using CRISPR/CAS9
- Enzyme activity assays (spectrophotometry)

- Gas chromatography (GC), Liquid chromatography (LC-MS/MS)
- Plant tissue culture, Plant breeding, Seeds propagation and quality control
- Plant metabolism analysis using radioactive isotope
- Mineral nutrients analysis in plant and soil
- Plant anatomy using free-hand and microtome sectioning

LANGUAGES AND SKILLS

Languages	<p>Thai : Native</p> <p>English : Fluent in communication, reading, and writing (TOEIC score: 840, TOEFL iBT: 80)</p> <p>Japanese: Intermediate (JLPT: N3 level)</p> <p>Laotian : Fluent in communication</p> <p>Chinese, Korean, Spanish, German: Basic (simple words and phrases only)</p>
Computer	<p>General Software: Expertise in Microsoft Office, Adobe Acrobat, Photoshop, Illustrator</p> <p>Scientific Software: SPSS, Program R, BioEdit, GeneStudio, MEGA, Marvin Sketch, Jalview, Mendeley, EndNote</p>
Driving	Valid driving licenses in Thailand and Japan

REMARKABLE EXTRACURRICULAR ACTIVITIES

2017-2018	President of Thai Students Association in Tsukuba, the 78 th cohort of Thai Students' Association in Japan under the Royal Patronage (TSAJ)
2017	Student representative of Thailand in Overseas Alumni Conference, University of Tsukuba
2015-2020	Founder and Head of Somtum Club in Japan (Thai students society in Kanto)
2011-2013	Illustrator of a plant morphology textbook (author: Assoc.Prof.Kittima Mekkomol)
2007-2011	Member of KKU chorus band, science stage performance

REFERENCES

- Prof.Dr. Hiroshi Matsumoto (Ph.D. thesis supervisor)
Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan
E-mail: hmatsu@biol.tsukuba.ac.jp
- Asst.Prof.Dr. Satoshi Iwakami (Ph.D. thesis co-supervisor)
Graduate School of Agriculture, Kyoto University, Japan
E-mail: iwakami.satoshi.2v@kyoto-u.ac.jp
- Assoc.Prof.Dr. Manit Kosittrakun (M.S. thesis supervisor)
Department of Biology, Faculty of Science, Khon Kaen University, Thailand
E-mail: manit.kosittrakun@fulbrightmail.org