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Education and Professional Experience

Chulalongkorn University, Department of Chemistry, Bangkok, Thailand	July 2020 – present
Lecturer in Organic, Bio-organic, and Medicinal Chemistry, and Chemical Biology	
Harvard University, Department of Chemistry and Chemical Biology, Cambridge, MA, USA	2018 – 2020
Postdoctoral Fellow Research Advisor: Dr. Christina M. Woo	
University of Pennsylvania, Department of Chemistry, Philadelphia, PA, USA	2012 – 2017
Ph.D. (Chemistry) Research Advisor: Dr. David M. Chenoweth	
Kasetsart University, Department of Chemistry, Chatuchak, Bangkok, Thailand	2007 – 2011
B.Sc. (Chemistry, 1 st honored) Research Advisor: Dr. Pitak Chuawong	

Research Experience

Postdoctoral Research: Chemical Glycoproteomics using Mass Spectrometry and Computational Methods	2018 – 2020
Ph.D. Dissertation: Optochemical Tools for Protein Dimerization in Living Cells	2013 – 2017
Undergraduate Dissertation: A Model Study toward Specific tRNA Purification using an Acid Labile Reagent	2008 – 2011

Current Research Topics

Organic synthesis of medicinally and biologically relevant compounds, **Chemical biology** of human cells, **Opto-chemical** (light-activatable) **organic small molecules** for protein dimerization in living cells, **Chemical proteomics and glycoproteomics** using mass spectrometry

Awards and Honors

- Featured in “Introducing Our Authors” by ACS Chemical Biology journal Vol 15, Issue 4, p. 803-807 2020
- ACS Division of Biological Chemistry and Division of Organic Chemistry Travel Awards 2015, 2017
- GAPSA Travel Award to present research at the ACS National Meetings 2015, 2016
- Outstanding Poster Award, the DPST National Science and Technology Meeting 2011
- Excellent Study Prize for Science Students, Kasetsart University 2007 – 2011
- King Bhumibol Scholarship (Excellent Academic Achievement Award) 2009
- the International Horizon Project (IHP), Faculty of Science, Kasetsart University 2009
- The Royal Thai Government Fellowship for undergraduate and PhD studies through the Development and Promotion of Science and Technology Talents Project (DPST) 2007 – 2017

Publications

1. Ballister, E.R., Aonbangkhen, C., Mayo, A. M., Lampson, M. A., Chenoweth, D. M. Localized-light induced protein dimerization in living cells using a photocaged dimerizer. *Nature Communications* 5, 5475 (2014)
2. Zhang, H.*, Aonbangkhen, C.*, Tarasovets, E. V., Ballister, E. R., Chenoweth, D. M., Lampson, M. A. Optogenetic control of kinetochore function. *Nature Chemical Biology* 13, 1096 - 1101 (2017). *Contributed equally; Highlighted in News & Views by *Nature Chemical Biology* 13, 1058-1059; Highlighted in *Nature Methods* 14, 944 (2017); Recommended by *F1000PRIME*
3. Akera, T., Chmátal, L., Trimm, E., Yang, K., Aonbangkhen, C., Chenoweth, D. M., Janke, C., Schultz, R. M., Lampson, M. A. Spindle asymmetry drives non-Mendelian chromosome segregation. *Science* 358, 6363, 668-672 (2017) **Highlighted** in many other scientific journals, news sources and public media.
4. Caldwell, R. M., Bermudez, J. G., Thai, D., Aonbangkhen, C., Deiters, A., Chenoweth, D. M., Good, M. C. Optochemical control of protein localization and activity within cell-Like compartments. *Biochemistry* 57, 18 2590-2596 (2018)
5. Aonbangkhen, C., Zhang, H., Wu, D. Z., Lampson, M. A., Chenoweth, D. M. Reversible control of protein localization in living cells using a photocaged-photocleavable chemical dimerizer. *Journal of the American Chemical Society (JACS)* 140, 38, 11926-11930 (2018)
6. Dolinay, T., Aonbangkhen, C., et al. Protein Kinase RNA-like Endoplasmic Reticulum Kinase is a sensor of mechanical stretch in ventilator-induced lung injury. *Respiratory Research* 19 (BMC Springer Nature publisher), 157 (2018)
7. Wu, D. Z.; Lackner, R. M.; Aonbangkhen, C.; Lampson, M. A.; Chenoweth, D. M. Reversible optogenetic control of protein function and localization. *Methods in Enzymology* 624, 25-45 (2019)
8. Joiner, C. M., Levine, Z. G., Aonbangkhen, C., Woo, C. M., Walker, S. Aspartate residues within the TPR lumen drive O-GlcNAc transferase substrate selection. *Journal of the American Chemical Society (JACS)* 141, 33, 12974-12978 (2019)
9. Ramirez, D. H., Aonbangkhen, C., Wu, H-Y., Naftaly, J., Tang, S., O'Meara, T. R., Woo, C. M. Engineering a Proximity-Directed O-GlcNAc Transferase for Selective Protein O-GlcNAcylation in Cells. *ACS Chemical Biology* 15, 4, 1059-1066 (2020) **Highlighted in a cover** of the same journal. **Featured in "Introducing Our Authors"** in the same issue, page 803.
10. Ge, Y., Ramirez, D. H., Yang, B., Aonbangkhen, C., Wong, S., Woo, C. M. Targeted deglycosylation with a nanobody-directed split OGA in living cells. *Manuscript submitted to Nature Chemical Biology* (2020)
11. Wu, D. Z., Aonbangkhen, C., Lampson, M. A., Chenoweth, D. M. Reversible optochemical control of protein function in living cells. *Manuscript in preparation* (2020)
12. Aonbangkhen, C., Woo, C. M. et al. Development of an O-GlcNAc transferase (OGT) degrader for rapid control of OGT homeostasis. *Manuscript in preparation* (2020)

Patent

Woo, C. M., Ramirez, D. H., Aonbangkhen, C. Nanobody-glycan modifying enzyme fusion proteins and uses thereof. *US 62/752,186*.

Invited Talks

- Oral presentation at the chemical biology discussion group, Department of Chemistry and Chemical Biology, Harvard 2019
- Oral and Poster presentation at the symposium "Targeted Protein Degradation: From Chemical Biology to Drug Discovery" 2019
The New York Academy of Sciences, New York City, New York
- Symposium entitled "Uncovering the Biological Roles of O-GlcNAcylation with Chemistry" ACS National Meeting in San Diego 2019
- Special seminar, Department of Biochemistry, Chulalongkorn University, Bangkok, Thailand 2019
- Oral presentation at the 254th American Chemical Society (ACS) National Meeting, Washington D.C. 2017
- Special seminar, Department of Chemistry, Mahidol University, Bangkok, Thailand 2018
- Special seminar, Department of Chemistry, Kasetsart University, Bangkok, Thailand 2018
- Special seminar, School of Biomolecular Science and Engineering (BSE), Vidyasirimedhi Institute of Science and Technology (VISTEC), Wangchan Valley, Rayong, Thailand 2018

Poster Presentations

- Poster presentation at the 256th American Chemical Society (ACS) National Meeting, Boston, Massachusetts (contributed) 2018
- Poster presentation at the 251st American Chemical Society (ACS) National Meeting, San Diego, California 2016
- Poster presentation at the 250th American Chemical Society (ACS) National Meeting, Boston, Massachusetts 2015
- Poster presentation at the Chemical Biology Interface (CBI) Symposium, Penn Chemistry 2014
- Poster presentation at the Penn Polymer Symposium, Singh Center for Nanotechnology 2014
- Oral and poster presentation at the 6th National DPST Science and Technology Meeting, Bangkok 2011

Teaching Experience

- Single Cell Analysis Course, Cold Spring Harbor Laboratory, New York, USA** 2016 – 2017
Teaching assistant for Dr. Chenoweth's module: Photoactivatable single-cell probes
- Department of Chemistry, University of Pennsylvania, Philadelphia, PA, USA**
Teaching assistant for Organic Chemistry II lectured by Dr. William P. Dailey 2013
Teaching assistant for General Chemistry Laboratory I lectured by Dr. Jenine Maeyer 2012
- Department of Chemistry, Kasetsart University, Bangkok, Thailand**
Teaching assistant for Fundamental Organic Chemistry Laboratory 2012

Mentorship

- **Stephanie Wong** Chemistry-majored undergraduate students at Harvard (currently at BCH) Fall 2019 – 2020
- **Steven Cheng** Chemistry PhD rotation students in the Woo Lab at Harvard Fall 2019 – 2020
- **Amanda DiMartini** Chemistry-majored undergraduate students at Harvard (current MD at NYU Medicine) 2018 – 2020
- **Timothy O'Meara** Undergraduate students in chemistry (major) and neuroscience (minor) at Harvard (currently at BCH) 2018 – 2020
- **Surached (James) Siriwongsup** Chemistry PhD rotation students in the Woo Lab at Harvard (currently at DFCI) Fall 2018
- **Paloma Tuttle** Chemistry PhD rotation students in the Woo Lab at Harvard (currently at Harvard CCB) Fall 2018
- **Nathan Leisering**, Biochemistry-majored undergraduate student at Penn (current MD-PhD at Duke School of Medicine) 2014 – 2015
- **Jaidev Dhavle**, Summer research undergraduate student from Maastricht University, Netherlands 2014
- **Takashi Nakamura** Biology PhD rotation student in the Lampson Lab 2015
- **Daniel Wu** Chemistry PhD student in the Chenoweth Lab 2014 – 2017

Services

- Reviewer for scientific articles in the journals,
 - *Biochemistry (ACS)* 2019
 - *Current Medicinal Chemistry (Bentham Science)* 2018
 - *Agriculture and Natural Resources (Elsevier)* 2017
- An invited author in Sarakadee Lite (non-academic article in Thai) "COVID-19 and drug development process" 2020
<https://www.sarakadeelite.com/better-living/covid-19-vaccine/>

Outreach/ Extracurricular Activities

- Completed the workshop Techniques in Molecular Biology, Department of Gastroenterology, Penn Medicine 2015
- Speaker at the International Teaching Assistant Program, the International Graduate Student Orientation, Penn Chemistry 2014
- Activities for Community Education in Science (ACES) sponsored by the Women in Chemistry, Penn Chemistry 2014
- STEM Conference at Penn organized by the National Society of Black Engineers (NSBE) 2013
- Speaker at the orientation for first year undergraduate students, Kasetsart University 2011
Talk entitled "How to be a successful chemistry undergraduate"
- Elected Chair of Chemistry Student Association, Faculty of Science, Kasetsart University 2010 – 2011
- Committee Chair of the 31st High School Chemistry Competition honoring the Princess Chulabhorn Mahidol 2010
- Vice Chair of the Science Student Association, Faculty of Science, Kasetsart University 2009