

Chanat (Jay) Aonbangkhen

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Education

- Harvard University, Cambridge, MA, USA** begins in January 2018
Postdoctoral Fellow, Department of Chemistry and Chemical Biology
Research Advisor: Dr. Christina M. Woo
- University of Pennsylvania, Philadelphia, PA, USA** 2012 - 2017
Ph.D. (Chemistry), Department of Chemistry
Research Advisor: Dr. David M. Chenoweth
- Kasetsart University, Bangkok, Thailand** 2007 - 2011
B.Sc. (Chemistry, First class honor)
Research Advisor: Dr. Pitak Chuawong

Awards and Honors

- The Royal Thai Government Fellowship for undergraduate and PhD study through the Development and Promotion of Science and Technology Talents Project (DPST) 2007 - 2017
- 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, National DPST Science and Technology Meeting 2011
- Excellent Study Prize for Science Students, Kasetsart University 2007 - 2011
- King Bhumibol Scholarship (Excellent Academic Achievement Award) 2009

Research Experience

- Postdoctoral Research** 2018
Research Area: Chemical Glycoproteomics using Mass Spectrometry and Computational Methods
- Graduate Research** 2013 - 2017
Dissertation Title: Optochemical Tools for Protein Dimerization in Living Cells
- Undergraduate Research** 2008 - 2011
Dissertation Title: A Model Study toward Specific tRNA Purification using an Acid Labile Reagent

Publications

- 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).
- Zhang, H.* , [Aonbangkhen, C.](#)* , Tarasov, 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 the same journal 13, 1058-1059; Highlighted in **Nature Methods** 14, 944 (2017).
- 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)
- 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**. *Manuscript under revision*. (2017)
- [Aonbangkhen, C.](#), Zhang, H., Wu, D. W., Lampson, M. A., Chenoweth, D. M. Reversible optochemical control of protein function in living cells. *Manuscript submitted* (2017)
- [Aonbangkhen, C.](#), Chenoweth, D. M. Fluorescent organic nanoparticles for intravital brain imaging in mice. *Manuscript in preparation*. (2017)
- Wu, D. W., [Aonbangkhen, C.](#), Lampson, M. A., Chenoweth, D. M. Second-generation photocaged protein dimerizers. *Manuscript in preparation*. (2017)

Presentations

- Oral presentation at the 254th American Chemical Society (ACS) National Meeting, Washington D.C. 2017

- Poster presentation at the 251st American Chemical Society (ACS) National Meeting, San Diego, CA 2016
- Poster presentation at the 250th American Chemical Society (ACS) National Meeting, Boston, MA 2015
- Poster presentation at the Chemical Biology Interface (CBI) Symposium, Penn 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, NY 2016 - 2017
Teaching assistant for Dr. Chenoweth's module: Photoactivatable single-cell probes

Department of Chemistry, University of Pennsylvania
Teaching assistant for Organic Chemistry II lectured by Dr. William P. Dailey 2013
Teaching assistant for General Chemistry I Laboratory lectured by Dr. Jenine Maeyer 2012

Department of Chemistry, Kasetsart University
Teaching assistant for Fundamental Organic Chemistry Laboratory 2012

Mentoring

- **Nathan Leisering**, Undergraduate student at Penn (Currently in MD/PhD Program, Duke Medicine) 2014 - 2015
- **Jaidev Dhavle**, Summer research undergraduate student from Maastricht University, Netherlands 2014
- **Takashi Nakamura** Rotation student in the Lampson Lab 2015
- **Daniel Wu** Graduate student in the Chenoweth Lab 2014 - 2017

Outreach/ 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 successful in Chemistry"
 - Elected Chair of Chemistry Student Association, Kasetsart University 2010 - 2011
 - Committee Chair of the 31st High School Chemistry Competition honoring the Princess Chulabhorn Mahidol 2010
 - Vice Chair of Science Student Association, Faculty of Science, Kasetsart University 2009
 - Selected to participate in the International Horizon Project (IHP), Kasetsart University 2009
- Places visited**
- Institute of Biological Sciences, Faculty of Science, Kuala Lumpur, Malaysia
 - School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore
 - Temasek Life Sciences Laboratory, Singapore

List of References and Contact Information

Dr. David M. Chenoweth (PhD thesis advisor)

Assistant Professor of Chemistry
Email: dcheno@sas.upenn.edu
Phone: (215) 573-1953

Dr. Michael A. Lampson (Collaborator & PhD thesis committee)

Associate Professor of Biology and Graduate Chair in Biology
Email: lampson@sas.upenn.edu
Phone: (215) 746-3040

Dr. Jeffrey D. Winkler (PhD thesis committee chair)

Merriam Professor of Chemistry
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Dr. William P. Dailey (PhD thesis committee)

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Dr. Pitak Chuawong (Undergraduate research advisor)

Assistant Professor of Chemistry/ Bioorganic Chemistry
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Email: fsciptcw@ku.ac.th
Phone: (66-85) 481-9388

Dr. Supanna Techasakul (Undergraduate academic advisor)

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Associate Vice President for Research
Chulabhorn Research Institute, Bangkok, Thailand
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Phone: (66-2) 554-1900 ext. 1306