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EDUCATION

2006	**Ph.D. Marine Biology**, Scripps Institution of Oceanography, University of California, San Diego Thesis: *Molecular insights into the function and regulation of diatom silicon transporters* Advisors: Michael Latz and Mark Hildebrand
2000	**M.S. Biological Science**, Stanford University Advisor: George Somero
1997	**B.S. Biochemistry and Cell Biology**, University of California, San Diego Minor in Philosophy Minor in Health Care

POSITIONS HELD

2017-present	**Associate Research Professor**, Department of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ
2012-2017	**Assistant Research Professor**, Department of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ
2007-2012	**Postdoctoral Research Fellow**, Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ, Advisor: Kay D. Bidle
2000-2006	**Graduate Student Researcher**, Scripps Institution of Oceanography, La Jolla, CA Advisors: Michael Latz and Mark Hildebrand, Marine Biology Research Division
1998-2000	**Research Associate**, Stanford University, Palo Alto, CA Supervisor: Alan Krensky, Department of Immunology
1997	**Molecular Biologist**, Hyseq, Inc, Sunnyvale, CA Supervisor: Geeta Kadambi, Automated Hybridization Department
1995-1997	**Lab Technician**, Salk Institute of Biological Science, La Jolla, CA Supervisor: Martyn Goulding, Molecular Neurobiology

FUNDING

NSF Division of Biology, "EDGE CT: Virus-inspired, lipid-mediated transfection and genetic manipulation of the marine coccolithophore, *Emiliania huxleyi*" KD Bidle and **K Thamatrakoln** $1,205,296. 1 Sept 2019-31 Aug 2023

Joint Genome Institute Community Science Program: Small-scale Microbial and Metagenome, "The role of light and nutrient limitation on algal host-virus interactions in natural populations and subsequent impacts on carbon export and the biological pump" **K Thamatrakoln** and KD Bidle, funds to cover Illumina sequencing and analysis. March 2018

NSF Division of Ocean Sciences, Biological Oceanography, "Light-dependent regulation of coccolithophore host-virus interactions: mechanistic insights and implications for structuring infection in the surface ocean" **K Thamatrakoln** and KD Bidle, $698,546. 1 Mar 2016- 28 Feb 2019 (in NCE until 28 Feb 2020)

Ocean, Carbon, Biogeochemistry, "MV1405: Iron Bruland Post-Cruise Workshop" A Marchetti, B Twining, **K Thamatrakoln**, $10,000. May 2015

Gulf of Mexico Research Initiative IV, Alabama Center for Ecological Resilience (ACER) Consortium "Collaborative Research: The role of primary-producer biodiversity in mitigating the trophic-transfer

consequences of petroleum pollution." **K Thamatrakoln,** $377,024 (total award $6,500,000). 1 Jan 2015 – 31 Dec 2017 (no-cost extension until Dec 2018)

NSF Catalyzing New International Collaborations, "US-France Planning Visit: Understanding the molecular regulation of photosynthetic-related processes in unicellular marine eukaryotes" **K Thamatrakoln,** $38,595. 1 Jun 2014 – May 31 2016

NSF Division of Ocean Sciences, Biological Oceanography, "Collaborative Research: Linking physiological and molecular aspects of diatom silicification in field populations" **K Thamatrakoln,** $337,995 (Co-PI: MA Brzezinski; total award $822,531). 1 Sept 2013 – 31 Aug 2016

NSF Division of Ocean Sciences, Biological Oceanography, "Collaborative Research: A Matter of Life or Death? Assessing the physiological roles of PCD-related genes to stress adaptation in diatoms" KD Bidle and **K Thamatrakoln,** $707,949 (Co-PI: AB Kustka; total award $776,540). 1 Sept 2009 – 31 Aug 2012

PEER-REVIEWED PUBLICATIONS

Krause JW, MA Brzezinski, J Largier, HM McNair, M Maniscalco*, KD Bidle, AE Allen, and **K Thamatrakoln** (in review) "The hierarchy of physical and biological factors as drivers of phytoplankton spatial distribution in the northern California Current" *Limnology and Oceanography*

Mayers KMJ, AJ Poulton, KD Bidle, **K Thamatrakoln**, B Schieler, SLC Giering, SR Wells, GA Tarran, D Mayor, A Larsen, A Vardi, and EL Harvey (in review) "Coccolithophore calcification fails to deter microzooplankton grazers" *Nature Communications*

Knowles B, J Bonachela, M Behrenfeld, K Bondoc, BB Cael, CA Carlson, N Cieslik, B Diaz, HL Fuchs, J Graff, J Grasis, K Halsey, L Haramaty, CT Johns, F Natale, JI Nissimov, B Schieler, **K Thamatrakoln**, TF Thingstad, S Våge, C Watkins, T Westberry, and KD Bidle (in review) "Temperate infection in a canonically virulent host-virus system" *Nature Microbiology*

Kranzler C*, JW Krause, MA Brzezinski, BR Edwards, WP Biggs*, M Maniscalco*, JP McCrow , BAS Van Mooy, KD Bidle, AE Allen, and **K Thamatrakoln** (2019) "Silicon limitation facilitates virus infection and mortality of marine diatoms" *Nature Microbiology* doi: 10.1038/s41564-019-0502-x

Lampe RH, EL Mann, NR Cohen, CP Till, **K Thamatrakoln**, MA Brzezinski, KW Bruland, BS Twining, and A Marchetti (2018). "Different iron storage strategies among bloom-forming diatoms" *Proceedings of the National Academy of Sciences* 115(52): E12275-E12284

Thamatrakoln K, D Talmy, L Haramaty, CJ Maniscalco, JR Latham, B Knowles, F Natale, MJL Coolen, MJ Follows, and KD Bidle (2018). "Light regulation of coccolithophore host-virus interactions" *New Phytologist* doi: 10.1111/nph.15459

Lampe RH, NR Cohen, KA Ellis, KW Bruland, MT Maldonado, TD Peterson, CE Parker, S Bargu, MA Brzezinski, FI Kuzminov, **K Thamatrakoln**, BS Twining, A Marchetti (2018). Divergent gene expression among phytoplankton taxa in response to upwelling. *Environmental Microbiology* 20(8):3069-3082

Laber CP, AF Carvalho, JE Hunter, JR Collins, BM Schieler, EBoss, M Coolen, G DiTullio, M Frada, AM Martins, A Vardi, Y Lehahn, **K Thamatrakoln**, CM Brown, LHaramaty, JE Ossolinski, HM Fredricks, BS Van Mooy, and KD Bidle (2018). "Coccolithovirus stimulation of carbon export in the North Atlantic" *Nature Microbiology* 3(5): 537-54

Pasulka AL, **K Thamatrakoln**, SH Kopf, Y Guan, B Poulos, A Moradian, MJ Sweredoski, S Hess, MB Sullivan, KD Bidle, and V Orphan (2018). "BONCAT and nanoSIMS-based methods for the direct measurement of newly synthesized viral particles and the flow of carbon and nitrogen after host lysis" *Environmental Microbiology* 20(2):671-692

Cohen NR, KA Ellis, RH Lampe, H McNair, , BS Twining, MT Maldonado, MA Brzezinski, FI Kuzminov, **K Thamatrakoln**, , CP Till, KW Bruland, WG Sunda, S Bargu, and A Marchetti (2017). "Diatom transcriptional and physiological responses to changes in iron bioavailability across ocean provinces" *Frontiers in Marine Science* 4(360)

Collins JR, BR Edwards, **K Thamatrakoln**, JE Ossolinksi, GR DiTullio, KD Bidle, SC Doney, and BAS Van Mooy (2015). The multiple fates of sinking particles in the North Atlantic Ocean. *Global Biogeochemical Cycles* 29:1471-1494

Thamatrakoln K, B Bailleul, CM Brown, MY Gorbunov, AB Kustka, M Frada, P Joliot, PG Falkowski, and KD Bidle (2013). A "Death-Specific Protein" in a marine diatom regulates photosynthetic responses to acute iron limitation and high light. *Proceedings of the National Academy of Sciences* 110(50): 20123-20128

Thamatrakoln K, O Korenovska, AK Niheu, and KD Bidle (2012). Whole-genome expression analysis reveals a role for death-related genes in stress acclimation of the diatom *Thalassiosira pseudonana*. *Environmental Microbiology* 14(1): 67-81

Curnow P, Senior L, Knight M, **Thamatrakoln K,** Hildebrand M, and Booth P (2012). Expression, purification, and reconstitution of a diatom silicon transporter. *Biochemistry* 51(18): 3776-3785

Thamatrakoln K and AB Kustka (2009). When to say when: can excessive drinking explain silicon uptake in diatoms. *BioEssays* 31:322-327

Vardi A, **K Thamatrakoln,** KD Bidle, and PG Falkowski (2008). Diatom genomes come of age. *Genome Biology* 9(12): 245-250

Thamatrakoln K and M Hildebrand (2008). Silicon uptake in diatoms revisited: a model for saturable and nonsaturable uptake kinetics and the role of silicon transporters. *Plant Physiology* 146:1397-1407

Montsant A, AE Allen, S Coesel, A DeMartino, A Falciatore, M Mangogna, M Siaut, M Heijde, K Jabbari, U Maheswari, E Rayko, A Vardi, KE Apt, JA Berges, A Chiovitti, AK Davis, **K Thamatrakoln** MZ Hadi, TW Lane, JC Lippmeier, D Martinez, MS Parker, GJ Pazour, MA Saito, DS Rokhsar, EV Armbrust, and C Bowler (2007). Identification and comparative genomic analysis of signaling and regulatory components in the diatom *Thalassiosira pseudonana*. *Journal of Phycology* 43(3): 585-604

Thamatrakoln K and M Hildebrand (2007). Analysis of *Thalassiosira pseudonana* silicon transporters indicates distinct regulatory levels and transport activity through the cell cycle. *Eukaryotic Cell* 6(2): 271-279

Thamatrakoln K, AJ Alverson, and M Hildebrand (2006). Comparative sequence analysis of diatom silicon transporters: towards a mechanistic model of silicon transport. *Journal of Phycology* 42:822-34

Thamatrakoln K and M Hildebrand (2005). Approaches for functional characterization of diatom silicic acid transporters. *Journal of Nanoscience and Nanotechnology* 5(1): 158-166

Armbrust EV, JA Berges, C Bowler, BR Green, D Martinez, NH Putnam, S Zhou, AE Allen, KE Apt, M Bechner, MA Brzezinski, BK Chaal, A Chiovitti, AK Davis, MS Demarest, JC Detter, T Glavina, D Goodstein, MZ Hadi, U Hellsten, M Hildebrand, BD Jenkins, J Jurka, VV Kapitonov, N Kröger, WWY Lau, TW Lane, FW Larimer, JC Lippmeier, S Lucas, M Medina, A Montsant, M Obornik, MS Parker, B Palenik, GJ Pazour, PM Richardson, TA Rynearson, MA Saito, DC Schwartz, **K Thamatrakoln**, K Valentin, A Vardi, FP Wilkerson and DS Rokhsar (2004). The genome of the diatom *Thalassiosira pseudonana*: ecology, evolution, and metabolism. *Science* 306:79-86

Song A, A Patel, **K Thamatrakoln**, C Liu, D Feng, C Clayberger, and AM Krensky (2002). Functional domains and DNA-binding sequences of RFLAT-1/KLF13, a Kruppel-like transcription factor of activated T-Lymphocytes. *The Journal of Biological Chemistry* 277(33): 30055-30065

Song A, YF Chen, **K Thamatrakoln,** TA Storm, and AM Krensky (1999) RFLAT-1, A new zinc finger transcription factor that activates RANTES gene expression in T-Lymphocytes. *Immunity* 10: 93-103

NON-PEER REVIEWED PUBLICATIONS AND PRODUCTS

Bidle KD, **Thamatrakoln K**, McDonnell J, Kurz J, Metzler C. (2017). Tools of Science [video series]. Rutgers University, New Brunswick, NJ: Tilapia Film. Available from www.toolsofscience.com

Twining B, A Marchetti, **K Thamatrakoln** (2015). Workshop report: Biological, ecological, and biogeochemical implications of the iron availability mosaic in the California Upwelling Zone. OCB Newsletter Vol 8, No. 3; http://www.us-ocb.org/publications/OCB_NEWS_FALL15.pdf

DeLong E and workshop participants (2013). Executive Summary: EarthCube Ocean 'Omics Workshop Results. (https://www.earthcube.org/document/2013/ocean-omics-end-user-workshop-executive-summary)

Thamatrakoln K and M Hildebrand (2006). Building of silica. *Science First Hand* 5:56-60.