

Dr. Sutinee Sinutok

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Qualification

PhD	Environmental Sciences	University of Technology Sydney, Australia	2009-2013
MSc	Ecology (International)	Prince of Songkla University, Songkhla, Thailand	2005-2008
BSc	Biology (First Class Honors)	Prince of Songkla University, Songkhla, Thailand	2001-2005

Biography

My PhD research was the first study that provided insights into the synergistic impact of ocean acidification and ocean warming on photosynthesis, calcification and mechanical integrity of the two important sediment producers on the coral reefs, *Halimeda* and foraminifera.

My postdoctoral research couples ecology, photobiology with molecular biology on the impacts of climate change (e.g. pH, temperature, light, nutrient) to a range of photosynthetic marine organisms (e.g. seagrass, macroalgae, foraminifera and coral).

Research interest

- Ecophysiology, photobiology and molecular biology of photosynthetic marine and freshwater organisms (e.g. seagrass, macroalgae, foraminifera, coral and macrophytes)
- Biomechanics of aquatic organisms (e.g. macroalgae and coral)
- Climate change and human-induced change impact on photosynthetic marine organisms

Career history

2013 – 2015	Postdoctoral research fellow at Plant Functional Biology and Climate Change Cluster, University of Technology, Sydney
July 2012- February 2013	Research assistant on coral, seagrass and phytoplankton research at Plant Functional Biology and Climate Change Cluster, University of Technology, Sydney
July – October 2008	Visiting researcher at University of Western Sydney
January 2007 – June 2008	Research assistant on seagrass and macroalgae research at Khanom Marine Biodiversity Initiative Project, Biodiversity Research and Training Program, Thailand

Refereed journal publications

- 1) Schliep M, Pernice M, **Sinutok S**, Bryant CV, York PH, Rasheed MA, Ralph PJ. Evaluation of reference genes for RT-qPCR studies in the seagrass *Zostera muelleri* exposed to light limitation. *Scientific Reports*. In Press.
- 2) **Sinutok S**, Hill R, Kühl M, Doblin MA, Ralph PJ. 2014. Ocean acidification and warming alter photosynthesis and calcification of the symbionts-bearing foraminifera *Marginopora vertebralis*. *Marine Biology*. 161: 2143-2154.
- 3) **Sinutok S**, Hill R, Doblin MA, Ralph PJ. 2013. Diurnal photosynthetic response of the motile symbiotic benthic foraminifera, *Marginopora vertebralis*. *Marine Ecology Progress Series*. 478:127-138.
- 4) **Sinutok S**, Hill R, Doblin MA, Kühl M, Ralph PJ. 2012. Microenvironmental changes support evidence of photosynthesis and calcification inhibition in *Halimeda* under ocean acidification and warming. *Coral Reefs*. 31:1201-1213.
- 5) **Sinutok S**, Hill R, Doblin MA, Wuhner R, Ralph PJ. 2011. Warmer more acidic conditions cause decreased productivity and calcification in sub-tropical coral reef sediment-dwelling calcifier. *Limnology and Oceanography*. 56(4): 1200-1212.
- 6) Prathep A, Pongparadon S, Darakrai A, Wichachucherd B, **Sinutok S**. 2011. Diversity and distribution of seaweed at Khanom-Mu Ko Thale Tai National Park, Nakhon Si Thammarat Province, Thailand. *Songklanakarin Journal of Science and Technology*. 33(6): 633-640.
- 7) **Sinutok S**, Pongparadorn S, Prathep A. 2008. Seasonal variation in density, growth rate and calcium carbonate accumulation of *Halimeda macroloba* Decaisne at Tangkhen Bay, Phuket Province, Thailand. *Malaysian Journal of Science*. 27(2): 1-8.
- 8) Prathep A, Darakrai A, Tantiprapas P, Mayakun J, Thongroy P, Wichachucherd B, **Sinutok S**. 2007. Diversity and community structure of macroalgae at Koh Taen, Haas Khanom-Mu Koh Tale Tai, Marine National Park, Nakhon Si Thammarat Province, Thailand. *Journal of Marine Research Indonesia*. 32(2): 153-162.

Reports

- 1) Chotikarn P, Chipman L, Macreadie P, Petrou K, **Sinutok S**, Carvalho M, Oackes J, Cyronak T, Eyre B, Ralph P. 2014. Gross and net ecosystem production and respiration values for estuaries and coral reefs. In Duarte C, Ralph P, Doblin M, Phinn S. Marine and Coastal Carbon Biogeochemistry Cluster Milestone 2 Report. Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia

- 2) Chartrand K, **Sinutok S**, Szabo M, Norman L, Rasheed MA, Ralph PJ. 2014. Final Report: Deepwater seagrass dynamic - Laboratory-based assessments of light and temperature thresholds for *Halophila* spp., Centre for Tropical Water & Aquatic Ecosystem Research (TropWATER) Publication, James Cook University, Cairns, 26 pp.
- 3) Chartrand KM, Bryant CV, **Sinutok S**, Rasheed MA. 2014. Interim Report: Deepwater seagrass dynamic – Update on field-based studies of light requirements, seasonal change and mechanisms of recruitment for deepwater seagrass, Centre for Tropical Water & Aquatic Ecosystem Research (TropWATER) Publication, James Cook University, Cairns.
- 4) Ralph PJ, **Sinutok S**. 2013. *Vallisneria* and submerged macrophyte management in Penrith Lakes, AccessUTS Pty Limited, Sydney.
- 5) Ralph PJ, Skilbeck CG, **Sinutok S**. 2013. *Vallisneria* and submerged macrophyte management in Penrith Lakes, AccessUTS Pty Limited, Sydney.
- 6) Prathep A, **Sinutok S**. 2008. Diversity, distribution abundance and monitoring of seaweed at Khanom-Mu Ko Thale Tai National Park, Nakhon Si Thammarat Province, Thailand”. Biodiversity Research and Training Program, Thailand.

Teaching experiences: B.Sc. degree, University of Technology, Sydney

2014	Marine Productivity and Climate Change
2014	Coral Reef Ecosystem
2009-2010	Marine Primary Producers
2009-2010	Plant Physiology and Ecophysiology

Research funding

2009-2012	UTS Plant Functional Biology and Climate Change Research Cluster Scholarship (C3), Faculty of Science, University of Technology, Sydney, Australia (\$15000).
2010	PSA Grant-in-Aid of Research Award, Phycological Society of America, United States (\$1000).
2010	ACRS Student Award, Australian Coral Reef Society, Australia (\$2000).
2006-2007	Research Funds, Biodiversity Research and Training Program (BRT), National Science and Technology Development Agency (NSTDA), Thai Government (\$7000).
2004-2008	Development and Promotion of Science and Technology Talents Project (DPST), Thai Government (\$650).

Awards

14 November 2008	First Prize for Student Oral Presentation in the Ecology Category, V th Asian Pacific Phycological Forum
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Scholarships and fellowships

- 2009-2012 PhD Scholarship: 2009 International Postgraduate Research Scholarship (IPRS), Department of Innovation, Industry, Science and Research, Australian Government.
- 2009-2012 PhD Scholarship: 2009 UTS Plant Functional Biology and Climate Change Research Cluster Scholarship (C3), Faculty of Science, University of Technology, Sydney, Australia.
- July-October 2008 Endeavour Research Fellowship, Department of Education, Employment and Workplace Relations, Australian Government (\$20000).
- 2001- 2008 Scholarship of Development and Promotion of Science and Technology Talents Project (DPST), Thai Government (Undergraduate-Master degree) (\$35000).

Travel awards

- 2012 Student Fellowships to the Field Workshop on Living Foraminifera in Japan 2012 (\$3200).
- 2011 ACRS Student Fellowships to the 12th International Coral Reef Symposium, Australian Coral Reef Society, Australia (\$635).
- 2011, 2012 Vice-Chancellor's Postgraduate Research Student Conference Fund, University of Technology, Sydney, Australia (\$1500).
- 2010 Faculty of Science Postgraduate Research Student Conference Fund, University of Technology, Sydney, Australia (\$1500).
- 2010 ACRS Student Travel Award, Australian Coral Reef Society, Australia (\$500).
- 2009 ASPAB Conference Travel Award, Australasian Society for Phycology and Aquatic Botany, Australia (\$400).

Conference presentations in the past 8 years

- 1) Interactive effects of ocean acidification and warming on *Halimeda* and benthic foraminifera from the Great Barrier Reefs. Poster presentation: Australian Coral Reef Society Conference. 28-30 August 2013. Sydney, Australia.
- 2) Warmer more acidic oceans reduce productivity and calcification in the symbiont-bearing foraminifera *Marginopora vertebralis*. Oral presentation. Field Workshop on Living Foraminifera in Japan 2012. 15-22 July 2012. Okinawa and Tokyo, Japan.
- 3) Warmer more acidic oceans reduce productivity and calcification of *Halimeda*. Oral presentation. 12th International Coral Reef Symposium 2012. 9-13 July 2012. Cairns, Australia
- 4) The biomechanical consequences of ocean acidification and ocean warming for the reef-building alga *Halimeda* sp. Oral presentation: The European COST Action Workshop 2012. 9-10 May 2012. Nottingham, UK.
- 5) The biomechanical consequences of ocean acidification and ocean warming for the reef-building alga *Halimeda* sp. Oral presentation: 7th Alexander von Humboldt International Conference. 20-24 June 2011. Penang, Malaysia.

- 6) Rising ocean temperature and ocean acidification will reduce productivity and calcification in *Halimeda* sp. and benthic foraminifera from the Great Barrier Reef. Oral presentation: Euro ISRS Symposium 2010. 13-17 December 2010. Wageningen, The Netherlands.
- 7) Impact of ocean acidification on photosynthesis and calcification in *Halimeda* sp. and benthic foraminifera from the Great Barrier Reef. Oral presentation: Australian Coral Reef Society Conference 2010. 10-13 September 2010. Coffs Harbour, Australia.
- 8) The effect of light intensity on photosynthetic efficiency and calcification in three reef building species of *Halimeda*. Poster presentation: ASPAB 2009 Conference. 9-11 November 2009. Townsville, Australia.
- 9) Sediment influences the life history and morphology of *Halimeda macroloba* Decaisne at Tangkhen Bay, Phuket Province, Thailand. Oral presentation: Vth Asian Pacific Phycological Forum. 10-14 November 2008. Victoria University, Wellington, New Zealand.

Skills

- Statistical analysis programs e.g. SPSS, Statistica, GMAV5, PRIMER, SigmaPlot
- Scientific techniques e.g. Pulse Amplitude Modulated (PAM) fluorometry, Ocean Optics, Microsensor, Fluorescence Microscopy, Confocal Microscopy, X-Ray Diffraction, Environmental Scanning Electron Microscopy (ESEM), Flow Cytometry, molecular techniques (e.g. rt-qPCR, PCR), TCN and particle analysis
- Microsoft office, Adobe Illustrator, ImageJ
- Open Water SCUBA diving (PADI, AUSI)
- NSW Maritime Boat Driver's Licence
- Quarantine Approved Premises for Accredited Persons (Classes 2 to 9)

Reviewer service: Editorial contribution as a referee for

- Marine Ecology Progress Series
- Marine Biology
- Ecotoxicology and Environmental Safety
- Environmental Science and Technology

Extra-curricular Activities

- Local organiser of the 87th Annual Australian Coral Reef Society Conference (29-30 August 2013)