

DR. DAVID I. KLINE

Curriculum Vitae

Associate Project Scientist

Scripps Institution of Oceanography, UCSD

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RESEARCH INTERESTS: Climate Change Research, Coral Physiology and Ecology, Benthic Ecology, Coral Reef Biogeochemistry, Computer Vision Coral Ecology, Marine Diseases, and Marine Reserve Design.

PROFESSIONAL PREPARATION

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Carleton College, Northfield, MN (<i>Summa Cum Laude</i>)	B.A.	1996	Biology
Scripps Institution of Oceanography, University of California, San Diego	Ph.D.	2005	Coral Reef Ecology
Smithsonian Tropical Research Instit. Panama City, Panama	Post Doc	2005 – 2006	Coral Reef Ecology, Coral Disease
Centre for Marine Studies University of Queensland, Australia	Post Doc	2006 – 2011	Ocean Acidification
Scripps Institution of Oceanography, University of California, San Diego	Assistant Project Scientist Associate Project Scientist	2011- 2015 2015- Present	Computer Vision Coral Ecology and Climate Change
The Global Change Institute, University of Queensland	Affiliated Researcher	2014- Present	Climate Change and Coral Reefs
Smithsonian Tropical Research Instit. Panama City, Panama	Research Associate	2015- Present	Coral Reef Ecology and Climate Change

GRANTS, FELLOWSHIPS & AWARDS:

2015- 2018	Lead PI on a NSF biological oceanography grant # 1538495 titled, “Cellular physiological mechanisms for coral calcification and photosynthesis: extending lab-based models to the field	\$491,257
2015- 2016	Lead PI on a Digital Globe, Big Pix Initiative Grant to use high resolution satellite imagery to map marine debris and coral bleaching.	\$35,000
2009- 2013	Co-author and project scientist on a National Science Foundation (NSF) “Computer Vision Coral Ecology” grant to use computer vision technology for automated coral reef monitoring. Grant through Scripps Institution of Oceanography, UCSD.	\$1.9 million
2009- 2010	CI and lead author on an Australian Research Council Large Infrastructure Grant (LIEF) for the The Heron Island Climate Change Observatory: An In-Situ Ocean Acidification and Carbonate Chemistry Monitoring Platform. Grant through the University of Queensland.	AU\$380,000
2009- 2012	CI on ARC Discovery Grant: “The impact of ocean acidification on the reproductive output, fertilization, larval development, and recruitment of key Australian marine organisms.” Grant through the University of Queensland	AU\$435,849
2009- 2012	Lead PI on a Pacific Blue Foundation grant for the Coral Proto Free Ocean Carbon Enrichment (CP-FOCE) system. Grant through the University of Queensland.	AU \$86,090
2011- 2013	Lead PI on a Pacific Blue Foundation grant for the “Deep Reefs: Computer Vision Coral Ecology” project. Grant through the University of Queensland	AU \$77,500

2005	Smithsonian Institution Marine Science Network Post-Doctoral Fellowship (1.5 years)	\$60,000
2004	NSF IGERT Fellow (1 year)	\$40,000
2003	Beyster Family “Young Scientist Grant” to support field work	\$5,000
2002	Coauthor on NSF Biological Oceanography (3 year) (OCEO1-37748)	\$340,000
2002	Smithsonian Pre-doctoral Fellowship (1 year)	\$40,000
2002	Scripps Institute of Oceanography Hubbs Hall Graduate Field Grant	\$5,000
2001	UCSD Latin American Studies Tinker Grant for field work in Panama	\$5,000
1998	National Defense Science and Engineering Graduate Fellow (3 years)	\$100,000
1998	NSF graduate fellowship (award not accepted) (3 years)	\$100,000

PEER-REVIEWED PUBLICATIONS – 44 TOTAL (♦Students and Post Doctoral fellows Supervised)

- Beijbom, O., Treibitz, T., Kline, D.I., Eyal, G., Khen, A., Neal, B.P., Loya, Y., Mitchell, B.G., and D. Kriegman. 2016. **Improving Automated Annotation of Benthic Survey Images Using Wide-band Fluorescence.** Nature Scientific Reports (In Press). 5.08 Impact Factor
- Tresguerres, M., Barott, K.L., Barron, M.E., Deheyn, D.D., **Kline, D.I.**, and L.B. Linsmayer (in press) Cell biology of reef-building corals. Ion transport, acid/base regulation, and energy metabolism. In “Acid-base balance and nitrogen excretion in invertebrates - Mechanisms and strategies in various invertebrate groups with considerations of challenges caused by ocean acidification” M O’Donnell and D Weihrauch (eds), Springer, Germany.
- Kaniewska, P., Chan, C-K.K., **Kline, D.**, Ling, E.Y.S., Rosic, N., Edwards, D., Hoegh-Guldberg, O. and S. Dove et al. (2015) Transcriptomic Changes in Coral Holobionts Provide Insights into Physiological Challenges of Future Climate and Ocean Change. PLoS ONE 10(10): e0139223. doi: 10.1371/journal.pone.0139223
- Georgiou, L., Falter, J., Trotter, J., **Kline, D.I.**, Holcomb, M., Dove, S.G., Hoegh-Guldberg, O., and M. McCulloch. 2015. pH homeostasis during coral calcification in a Free Ocean CO₂ Enrichment (FOCE) experiment, Heron Island reef flat, Great Barrier Reef. Proceedings of the National Academy of Sciences 112(43), 13219-13224. DOI:10.1073/pnas.1505586112 9.67 Impact Factor
- Kline, D.I.**, Teneva, L., Hauri, C., Schneider, K., ♦Miard, T., ♦Chai, A., Marker, M., Dunbar, R., Caldeira, K., Lazar, B., Rivlin, T., Mitchell, B.G., Dove, S. and O. Hoegh-Guldberg. 2015. Six month *in situ* high-resolution carbonate chemistry and temperature study on a coral reef flat reveals that anomalous pH and temperature conditions are unsynchronized. PLoS ONE 10: e0127648. DOI:10.1371/journal.pone.0127648 3.53 Impact Factor
- Andersson*, A., **Kline*, D. I. (* co - first author)**, Edmunds, P.J., Archer, S.D., Bednaršek, N., Carpenter, R.C., Chadsey, M., Goldstein, P., Grottoli, A.G., Hurst, T.P., King, A.L., Kübler, J.E., Kuffner, I.B., Mackey, K.R.M., Paytan, A., Menge, B.A., Riebesell, U., Schnetzer, A., Warner, M.E., and R.C. Zimmerman. 2015. Understanding ocean acidification impacts on organismal to ecological scales. Oceanography 28: 16-27. DOI:10.5670/oceanog.2015.27. 3.29 Impact Factor
- ♦Bender, D., Champ, C.M., **Kline, D.**, Diaz-Pulido, G., and S. Dove. 2015. Effects of "Reduced" and "Business-As-Usual" CO₂ Emission Scenarios on the Algal Territories of the Damselfish *Pomacentrus wardi* (Pomacentridae). PLoS ONE 10 (6): e0131442. DOI: 10.1371/journal.pone.0131442. 3.53 Impact Factor
- ♦Beijbom, O., Edmunds, P., Roelfsema, C., Smith, J., **Kline, D.I.**, Neal, B., Dunlap, M., Moriarty, V., Tung-Yung, F., Chih-Jui, T., Chan, S., ♦Treibitz, T., Gamst, A., Mitchell, B.G., and D. Kriegman. 2015. Towards automated annotation of benthic survey images: variability of human experts and operational modes of automation. PLoS ONE 10 (7): e0130312. DOI: 10.1371/journal.pone.0130312. 3.53 Impact Factor
- ♦Treibitz, T., ♦Neal, B., **Kline, D.I.**, ♦Beijbom, O., Roberts, P.L., Mitchell, B.G., and D. Kriegman. 2015. Wide field-of-view fluorescence imaging of coral reefs. Nature Scientific Reports 5: 7694. DOI: 10.1038/srep07694 5.08 Impact Factor
- ♦Neal, B.P., Lin, T.H., Winter, R.N., ♦Treibitz, T., ♦Beijbom, O., Kriegman, D., **Kline, D.I.**, and B.G. Mitchell. 2015. Methods and measurement variance for field estimations of coral colony planar area using underwater photographs and semi-automated image segmentation. Environmental Monitoring and Assessment 187(8):4690. DOI: 10.1007/s10661-015-4690-4. 1.68 Impact Factor

- Silverman, Jacob, K. Schneider, **D. I. Kline**, T. Rivlin, A. Rivlin, S. Hamylton, B. Lazar, J. Erez, and K. Caldeira. 2014. Community calcification in Lizard Island, Great Barrier Reef: A 33year perspective. *Geochimica et Cosmochimica Acta* **144**: 72-81. 4.25 Impact Factor
- González-Rivero, M., Bongaerts, P., ♦Beijbom, O., Pizarro, O., Friedman, A., Rodriguez-Ramirez, A., Upcroft, B., Laffoley, D., **Kline, D. I.**, Vevers, R., and O. Hoegh-Guldberg. 2014. The Catlin Seaview Survey - kilometre-scale seascape assessment, and monitoring of coral reef ecosystems. *Aquatic Conservation: Marine and Freshwater Ecosystems* **24**: 184-198. DOI: 10.1002/aqc.2505. 1.76 Impact Factor
- Gattuso, J. P., Kirkwood, W., Barry, J. P., Cox, E., Gazeau, F., Hansson, L., Hendriks, I., **Kline, D. I.**, Mahacek, P., Martin, S., McElhany, P., Peltzer, E. T., Reeve, J., Roberts, D., Saderne, V., Tait, K., Widdicombe, S., and P. G. Brewer, (2014). Free Ocean CO₂ Enrichment (FOCE) systems: present status and future developments. *Biogeosciences* **11**: 4057-4075. 3.75 Impact Factor
- Dove, S.G., **Kline, D.I.**, Pantos, O., Angly, F.E., Tyson, G.W., and O. Hoegh-Guldberg. 2013. Future reef decalcification under a business-as-usual CO₂ emission scenario. *Proceeding of the National Academy of Science* **110**: 15342- 15347. doi/10.1073/pnas.1302701110 9.81 Impact Factor
- ♦Fang J.K.H, Mello-Athayde M.A., Schönberg C.H.L., **Kline D.I.**, Hoegh-Guldberg O., Dove S. 2013. Sponge biomass and bioerosion rates increase under ocean warming and acidification. *Global Change Biology* **19**: 3581-3591, doi: 10.1111/gcb.12334. 8.22 Impact Factor
- ♦Reyes-Nivia, C. Diaz-Pullido, G., **Kline, D.**, Hoegh-Guldberg, O., and S. Dove. 2013. Ocean acidification and warming scenarios increase bioerosion of coral skeletons. *Global Change Biology* **19**: 1919-1929. doi: 10.1111/gcb.12158. 8.22 Impact Factor
- ♦Reymond, C.E., Lloyd, A., Kline, D.I., Dove, S., and J.M. Pandolfi. 2013. Decline in growth of foraminifer *Marginopora rossi* under eutrophication and ocean acidification scenarios. *Global Change Biology* **19**: 291-302. doi: 10.1111/gcb.12035. 8.22 Impact Factor
- Connell, S., Kroeker, K., Fabricius, K., **Kline, D.** and B. Russell. 2013. The other ocean acidification problem: CO₂ as a resource among competitors for ecosystem dominance. *Philosophical Transactions of the Royal Society B: Biological Sciences* **368**: 20120442. 6.23 Impact Factor
- ♦Neal, B.P., Condit, C., Liu, G., dos Santos, S., Kahru, M., Mitchell, B.G., and **D.I. Kline**. 2013. When depth is no refuge: cumulative thermal stress increases with depth in Bocas del Toro, Panama. *Coral Reefs* **33**: 193-205. DOI 10.1007/s00338-013-1081-6. 3.62 Impact Factor
- Kline, D.I.**, Teneva, L., Schneider, K. , ♦Miard, T., ♦Chai, A., Marker, M., Headley, K., Opdyke, B., ♦Nash, M., Valetich, M., Caves, J.K., Russell, B.D., Connell, S.D., Kirkwood, B.J., Brewer, P., Peltzer, E., Silverman, J., Caldeira, K., Dunbar, R.B., Koseff, J.R., Monismith, S., Mitchell, B.G., Dove, S., and O. Hoegh-Guldberg. 2012. A short-term *in situ* CO₂ enrichment experiment on Heron Island (GBR). *NATURE: Scientific Reports* **2**: 1-9. DOI: 10.1038/srep0041. 5.08 Impact Factor
- ♦Nash, M.C., Opdyke, B.N., Troitzsch, U., Russell, B.D., Adey, W.H., Kato, A., Diaz-Pulido, G., Brent, C., Gardner, M., Prichard, J. and **D.I. Kline**. 2012. Dolomite rich coral reef coralline algae resist dissolution in acidified conditions. *Nature Climate Change* **3**: 268-272. doi:10.1038/nclimate1760. 15.30 Impact Factor
- ♦Fang, J.K., Schönberg, C.H.L., **Kline, D.I.**, Hoegh-Guldberg, O., and S. Dove. 2012. Methods to quantify components of the excavating sponge *Cliona orientalis* Thiele, 1900. *Marine Ecology* **34**: 193-206. DOI: 10.1111/maec.12005. 1.84 Impact Factor
- Silverman, J., **Kline, D. I.**, Johnson, L., Rivlin, T., Schneider, K., Erez, J., Lazar, B., and K. Caldeira. 2012. Carbon turnover rates in One Tree Island reef – a 40 year perspective. *Journal of Geophysical Research* **117**: 1-16. DOI: 10.1029/2012JG001974. 3.44 Impact Factor
- Kaniewska, P., Campbell, P. R., **Kline, D. I.**, Rodriguez-Lanetty, M., Miller, D. J., Dove, S., and O. Hoegh-Guldberg. 2012. Major cellular and physiological impacts of ocean acidification on a reef building coral. *Plos One* **7**: e34659. 3.53 Impact Factor
- ♦Beijbom, O., Edmunds, P.J., **Kline, D.I.**, Mitchell, B. G., and D. Kriegman. 2012. Automated annotation of coral reef survey images. In *Computer Vision and Pattern Recognition (CVPR), 2012 IEEE Conference*, pp. 1170-1177. IEEE, 2012. DOI: 10.1109/CVPR.2012.6247798
- Diaz-Pulido, G., Anthony, K.R.N., **Kline, D.I.**, Dove, S., and O. Hoegh-Guldberg. 2012. Interactions between ocean acidification and warming on the mortality and dissolution of coralline algae. *Journal of Phycology* **48**: 32-39. 2.53 Impact Factor
- Kline, D.I.** and S.V. Vollmer. 2011. White band disease (type I) of endangered Caribbean acroporid corals is

- caused by pathogenic bacteria. *NATURE: Scientific Reports* **1**: 7. DOI: 10.1038/srep00007. 5.08 Impact Factor
- ◆Nash, M.C., Troitzsch, U., Opdyke, B.N., Trafford, J. M., Russell, B.D., and **D.I. Kline**: 2011. First discovery of dolomite and magnesite in living coralline algae and its geobiological implications. *Biogeosciences*, **8**, 3331-3340, doi:[10.5194/bg-8-3331-2011](https://doi.org/10.5194/bg-8-3331-2011). 3.75 Impact Factor
- Caldeira, K., Schneider, K. and **D.I. Kline**. 2011. Factors for slow coral growth in the central Red Sea. *SCIENCE*: 10 February E-letter. DOI: 10.1126/science.1190182. 31.48 Impact Factor
- Bongaerts P., Bridge T.C.L., **Kline D.I.**, Muir P.R., Wallace C.C., Beaman R.J., and O. Hoegh-Guldberg. 2011. Mesophotic coral ecosystems on the walls of Coral Sea atolls. *Coral Reefs* **30**: 335. DOI:[10.1007/s00338-011-0725-7](https://doi.org/10.1007/s00338-011-0725-7). 3.62 Impact Factor
- Mass, T. , **Kline, D. I.** (**co - first author**), Roopin. M, Veal, C. J., Cohen, S., Iluz, D., and O. Levy. 2010. The spectral quality of light is a key driver of photosynthesis and photoadaptation in *Stylophora pistillata* colonies from different depths in the Red Sea. *Journal of Experimental Biology* **213**: 4084-4091. 3.00 Impact Factor
- Marker, M., **Kline, D.I.**, Kirkwood, B., Headley, K., Brewer, P., Peltzer, E., Miard, T., Chai, A., James, M., Schneider, K., Silverman, J., Caldeira, K., Koseff, J.R., Monismith, S., Opdyke, B., Dunbar, R., White, R., Dove, S., Hoegh-Guldberg, O. (2010). The Coral Proto Free Ocean Carbon Enrichment System (CP-FOCE): Engineering and Development. *OCEANS IEEE* **2010**: 1-10.
- Eakin, M., Morgan, J.A., Heron, S.F., Smith, T.B., Liu, G., Alvarez-Filip, L., Baca, B., Bartels, E., Bastidas, C., Bouchon, C., Brandt, M., Bruckner, A., Bunkley-Williams, L., Cameron, A., Causey, B., Chiappone, M., Christensen, T.R.L., Crabbe, M.J.C., Day, O., de la Guardia, E., Diaz-Pulido, G., DiResta, D., Gil-Agudelo, D.L., Gilliam, D., Ginsburg, R., Gore, S., Guzman, H.M., Hendee, J.C., Hernández-Delgado, E., Husain, E., Jeffrey, C.F.G., Jones, R.J., Jordán-Dahlgren, E., Kaufman L., **Kline, D.I.**, et al. 2010. Caribbean corals in crisis: record thermal stress, bleaching, and mortality in 2005. *PLoS ONE* **5**: e13969. 3.53 Impact Factor
- Calamia, M.A., **Kline, D.I.**, Kago, S., Donovan, K., Dulunaqio, S., Tabaleka, T., and Mitchell, B.G. (2010). Marine-Based Community Conserved Areas in Fiji: An Example of Indigenous Governance and Partnership. In *Indigenous Peoples and Conservation: From Rights to Resource Management*, K. Walker, A.B. Rylands, A. Woofter, and C. Hughers, eds. (Arlington, VA, USA, Conservation International), pp. 95-114.
- ◆Crawley, A., **Kline, D.I.**, Dunn, S., Anthony, K., and S. Dove. 2010. The effect of ocean acidification on symbiont photorespiration and productivity in *Acropora Formosa*. *Global Change Biology* **16 (2)**: 851-863. 8.22 Impact Factor
- Diaz-Pulido, G., McCook, L.J., Dove, S., Berkelmans, R., Roff, G., **Kline, D.I.**, Weeks, S., Evans, R.D., Williamson, D.H., and O. Hoegh-Guldberg. 2009. Doom and boom on a resilient reef: climate change, algae overgrowth and coral recovery. *Plos One* **4 (4)**: 1-9. 3.53 Impact Factor
- Anthony, K., R. N., **Kline, D. I.**, Diaz-Pulido, G., Dove, S., and O. Hoegh-Guldberg. 2008. Ocean acidification causes bleaching and productivity losses in coral reef builders. *Proceeding of the National Academy of Science* **105**: 17442 – 17446. 9.81 Impact Factor
- Vollmer, S.V. and **D. I. Kline**. 2008. Natural disease resistance in threatened staghorn corals. *PLoS ONE* **3 (11)**: 1-5. 3.53 Impact Factor
- Kline, D. I.**, ◆Kuntz, N. M., Breitbart, M., Knowlton, N., and F. Rohwer. 2006. Role of Elevated Organic Carbon and Microbial Activity in Coral Mortality. *Marine Ecology Progress Series* **314**: 119-125. 2.64 Impact Factor
- Kline, D.**, J., Bryant, G., Rohwer, E., Kisflaudy, F., Nostropaur, J. Grayson, and F. Rohwer. 2006. The Aquatic Automated Dosing and Maintenance System (AADAMS). *Limnology and Oceanography: Methods* **4**: 184-190. 1.68 Impact Factor
- ◆Kuntz, N.M., **Kline, D.I.**, Sandin, S.I., and F. Rohwer. 2005. Pathologies and mortality rates caused by organic carbon and nutrient stressors in three Caribbean coral species. *Marine Ecology Progress Series* **294**: 173-180. 2.64 Impact Factor
- Levitan, D., Fukami, H., Jara, J., **Kline, D.**, McGovern, T., McGhee, K., Swanson, C and N. Knowlton. 2004. Mechanisms of Reproductive Isolation among Sympatric Broadcast-Spawning Corals. *Evolution* **58(2)**: 308-323. 4.66 Impact Factor
- Wegley, L., Yu, Y., Breitbart, M., Casas, V., **Kline, D.I.**, and F. Rohwer. 2004. Coral-associated Archaea. *Marine Ecology Progress Series* **273**: 89-96. 2.64 Impact Factor
- Casas, V., **Kline, D.**, Wegley, L., Yu, Y., Breitbart, M., and F. Rohwer. 2004. Bacterial communities associated with healthy and white band Type I diseased acroporid corals. *Environmental*

Kline, D.I. 2004. The Effects of Anthropogenic Stress on the Coral Holobiont: New Insights into Coral Disease [Ph.D.]. La Jolla: University of California, San Diego. 86 p.

TEACHING EXPERIENCE:

- 2011-2014 Lecturer and Coordinator of the Climate Science section of the Center for Marine Biodiversity and Conservation intensive summer course for Masters and PhD students. Involves coordinating and lecturing into 80 hours of lectures, labs and field trips each summer.
- 2006-2009 ResTeach Fellow, The University of Queensland. Coordinator and lecturer for the Australian Marine Science (MARS 2005) coral reef program, lecturer and co-coordinator in the Stanford coral reef biology program, Lecturer and coordinator in the Coral Reef Studies component of the University of California in Australia program; lecturer for North Carolina State University off-campus program, and in the Hobart William Smith off-campus program.
- 2004 Head Teaching Assistant for Scripps, Center for Marine Biodiversity and Conservation IGERT Summer Course on the Biology, Economics, and Policy of Marine Biodiversity and Conservation.
- 2003 Teaching Assistant- OTS Field Studies 3 month course on coral reefs, mangroves and seagrasses.
- 2002 Teacher's Guide for the IMAX Coral Reef film. 2002. Co-author and scientific advisor on teacher's guide written with the Birch Aquarium's educational department.
- 1999-2002 Designer of the Caribbean Coral Reef Exhibit at the Birch Aquarium
- 1996-1998 Educational Outreach Coordinator and Intern with Coral Forest: a San Francisco based non-profit coral reef organization. Helped write a coral reef Teacher's Guide for K-12 students and organized and gave coral reef lectures to underfunded schools (K-12).

STUDENT MENTORING AND ADVISING:

- Du Niu, PhD candidate, Scripps Institution of Oceanography, UCSD. Second year student.
- Lauren Linsmayer, PhD candidate, Scripps Institution of Oceanography, UCSD. Intracellular pH regulation in corals. Third year PhD student
- Elena Perez, Masters student, Scripps Institution of Oceanography, UCSD. Lead committee member. Completed Masters in 2014.
- Lalitha Asirvadam, Masters student, Scripps Institution of Oceanography, UCSD. Advising Committee member. Completed Masters in 2014.
- Ben Neal, PhD candidate, Scripps Institution of Oceanography, UCSD. Computer vision coral ecology. PhD completed Dec 2013.
- Adi Khen, undergraduate internship and technician, UCSD. Computer vision coral ecology. Lead advisor. 2012-present.
- James Fang, PhD student, The University of Queensland. Effects of climate changes and eutrophication on the Indo-Pacific excavating sponge *Cliona orientalis*. Co-advisor with Sophie Dove and Ove Hoegh-Guldberg. PhD received 2013.
- Emily Gottlieb, Masters student, Scripps Institution of Oceanography, UCSD. Climate change and environmental science education. Advising committee member. Completed Masters in 2013.
- Claire Reymond, PhD student, The University of Queensland. Historical and modern influences of climate change on benthic foraminifera. Co-advisor with John Pandolfi, and Sven Uthicke. PhD completed 2011.
- Alicia Crawley, PhD student, The University of Queensland. Assessing the impact of ocean acidification on the Great Barrier Reef. Co-advisor with Sophie Dove and Simon Dunn. PhD received 2015.
- Ann Mooney, Masters student, The University of Queensland. The effects of ocean acidification on coral skeletal formation. Co-advisor with Ove Hoegh-Guldberg and Ken Anthony. Completed Masters 2008.
- Devin Tu, Masters student, The University of Queensland. The effects of bleaching on coral reproduction. Co-advisor with Selina Ward. Completed Masters 2008.
- Thomas Miard and Aaron Chai. Full-time technicians under my supervision to run the larval, mesocosm, and CP-FOCE experimental systems. 2008-2011.

MEETING ORGANIZING AND INVITED TALKS:

- Organizer of session 130 "In Situ Studies of the Impacts of Ocean Acidification: Observations, CO₂ Vents, and FOCE experiments" at the 2015 Aquatic Sciences Meeting in Granada, Spain

- Invited speaker at the first Ocean Global Change Biology Gordon Research Conference in New Hampshire, July 2014
- Speaker at the Oceans Sciences Meeting in Honolulu, HI March , 2014.
- Invited participant at X-FOCE November 2013 meeting in Villefranche, France.
- Key participant in a press release at the Ogilvy Office, NYC for the Catlin SeaView Survey, Sep. 2013
- Co-organizer of the NSF EarthCube Ocean Science Data Management meeting in Woods Hole, Sep. 2013
- Invited participant and speaker at the Japanese Coral Reef Ocean Acidification meeting in Tokyo, Japan. Oct. 2013,
- Invited participant in the COMPASS OA communications 3 day training workshop in Washington DC, Sep. 2013.
- Organizer of the “Linking measurements to processes and effects of OA” session at the NSF OA PI meeting in Washington DC, Sep. 2013
- Invited speaker at Mawlamyine University, Myanmar and Burapha University, Thailand. Aug. 2013
- Representative of SIO to develop marine reserves and ocean education in Myanmar. Aug. 2013.
- Invited talk at the Bodega Marine Lab, UCR Ocean Acidification seminar series, June 2013.
- Invited talk at the Smithsonian Tropical Research Institute’s BAMBI seminar series, Mar. 2013.
- Invited speaker at the University of Miami’s seminar series in Jan. 2013
- Invited participant and speaker at the Mote Marine Laboratory Ocean Acidification meeting. Jan. 2013 in Sarasota, Florida.
- Co-organizer of the “Understanding Ocean Acidification using Multi-Source Data” at the fall 2012 American Geophysical Union (AGU) meeting.
- Invited participant at X-FOCE December 2012 meeting in Villefranche, France.

MEDIA AND OUTREACH:

- **BBC Horizons:** The Death of the Oceans documentary narrated by David Attenborough:
www.bbc.co.uk/programmes/b00v7tmd
[BBC Horizons Death of The Oceans Video](#)
- **TIME Magazine** Articles about our Computer Vision Coral Ecology involvement in the Catlin Seaview Survey:
<http://science.time.com/2013/07/31/breaking-the-waves-catlin-seaview-survey-digitizes-the-endangered-oceans/>
<http://science.time.com/2013/08/01/shifting-baselines-why-the-environment-is-even-worse-off-than-you-think/>
- **Rolling Stone Magazine** article about climate change impacts on Australia.
<http://www.rollingstone.com/politics/news/climate-change-and-the-end-of-australia-20111003?page=4>
- Conditioning Coral Reefs for the Future: **SCIENCE DAILY:**
www.sciencedaily.com/releases/2010/12/101207102517.htm
- Carbon Dioxide Affecting Coral Growth: **ABC NEWS:** www.abc.net.au/news/stories/2010/05/24/2907111.htm
- Carbon Impact Trial on Great Barrier Reef: **ABC RADIO:**
www.abc.net.au/am/content/2010/s2907264.htm?site=capricornia&source=rss
- Underwater Lab First to Plot Climate Change Impact on Reefs: **THE AGE:**
www.theage.com.au/environment/climate-change/underwater-lab-the-first-to-plot-impact-of-climate-change-on-reefs-20100523-w3z7.html
- Reef Team Tries a Little Time Travel to Assess Reef Damage: **SYDNEY MORNING HERALD:**
www.smh.com.au/environment/reef-team-tries-a-little-time-travel-to-assess-acid-damage-20100523-w42x.html
- Scientists Warn of Coral Bleaching in the Caribbean: **NPR:**
www.npr.org/templates/story/story.php?storyId=5280118
- Don’t Sugarcoat Corals: **SCIENCE:** www.sciencemag.org/content/311/5764/1094.1.citation

- Coral Reefs and Creatures of the Deep Sea: **THE NAKED SCIENTIST**:

www.thenakedscientists.com/HTML/podcasts/show/2006.04.23/

- Coral Reef Adventures Teacher's Guide: **CORAL REEF IMAX**: www.coralfilm.com/edu.html

AD HOC REVIEWER FOR: PNAS, Proceeding of the Royal Society B, Global Change Biology, Journal of Heredity, PLoS One, Marine Ecology Progress Series, Coral Reefs, Journal of Experimental Biology, Marine and Freshwater Research, Limnology and Oceanography: Methods, ICES Journal of Marine Science, Earth Justice, the National Geographic Society, the French National Research Agency (ANR) and the National Science Foundation.

- **Review Editor** the Editorial Board of Coral Reef Research, a specialty of Frontiers in Marine Science (2015-)
- **Review Editor** the Editorial Board of Global Change and the Future Ocean, a specialty of Frontiers in Marine Science (2014-)