

Alina Corcoran, Ph.D.
Senior Research Scientist, New Mexico Consortium
Affiliate Faculty, Molecular Biology and Interdisciplinary Life Sciences
Graduate Faculty, Plant and Environmental Sciences
New Mexico State University
MSC-3MLS, PO Box 30001, Las Cruces, NM, 88003-8001
(575) 646-3228, acor@nmsu.edu, corcoranalgaelab.com

Education

Ph.D. in Biology, June 2009, University of California Los Angeles (Los Angeles, CA)
M.S. in Marine Science, August 2004, University of Alabama Tuscaloosa (Tuscaloosa, AL)
B.A. in Biology, Specialization in Marine Science, May 2000, Boston University (Boston, MA)

Positions Held

<i>May 2021 – present</i>	Senior Research Scientist, New Mexico Consortium
<i>October 2021 – present</i>	Graduate Faculty, Plant and Environmental Sciences New Mexico State University
<i>August 2019 - present</i>	Affiliate Faculty, Molecular Biology Program New Mexico State University
<i>Feb 2018 – Feb 2021</i>	Guest Scientist, Los Alamos National Laboratory
<i>February 2018 – April 2021</i>	Research Scientist, New Mexico Consortium
<i>April - November 2017</i>	Staff Scientist/Site Manager, Sapphire Energy
<i>March 2016 - March 2017</i>	Crop Protection Team Lead/Staff Scientist, Sapphire Energy
<i>April 2011 - Feb 2016</i>	Harmful Algal Bloom Program Director/Research Scientist Fish and Wildlife Research Institute Florida Fish and Wildlife Conservation Commission
<i>June 2010 - March 2011</i>	Postdoctoral Researcher, New Mexico State University
<i>May 2010</i>	Assistant Scientist, Sea Education Association
<i>Sept 2009 - May 2010</i>	Instructor, Colby College
<i>June 2000 - Aug 2001</i>	Research Assistant, Massachusetts Institute of Technology

Extramural Funding

A.A. Corcoran and S.R. Starkenburg. "Optimizing Selection Pressures and Pest Management to Maximize Algal Biomass Yield [OSPREY]", \$5M federal/\$6.29M total, 2020-2023. Department of Energy, Bioenergy Technologies Office.

S.R. Starkenburg and A.A. Corcoran. "Success through Synergy: Increasing cultivation yield and stability with rationally designed consortia", \$2.5M federal /\$2.76M total, 2017-2020. Department of Energy, Bioenergy Technologies Office.

- R. Weisberg and A.A. Corcoran. "Seasonal forecasting of *Karenia brevis* blooms in the eastern Gulf of Mexico," \$299,800, 2015-2018. National Oceanographic and Atmospheric Administration, Center for Sponsored Coastal Ocean Research Prevention, Control and Mitigation of HABS Program.
- C.B. Lopez, C.G. Smith, D.J. Karlen and A.A. Corcoran. "Seeding potential of *Pyrodinium bahamense* cyst beds in Old Tampa Bay," \$83,150, 2015-2016. Tampa Bay Environmental Restoration Fund.
- A.A. Corcoran and K. Hubbard. "Molecular Tool Development and Implementation to Advance Monitoring of Pico- and Nano-Planktonic Algae in the Indian River Lagoon," \$49,769, 2014-2015. EPA National Estuary Program, Indian River National Estuary Program.
- L.J. Flewelling and A.A. Corcoran. "Evaluation of Rapid Brevetoxin Tests for Use in Shellfish Regulation, Shellfish Industry, and Aquaculture," \$171,558, 2014-2015. Florida Sea Grant.
- A.A. Corcoran, J. Ivey, and J. Wolny. "Autonomous Water Quality and Harmful Algal Bloom Monitoring in Old Tampa Bay, FL (USA)," \$50,000, 2013-2014. Tampa Bay Environmental Fund, National Fish and Wildlife Foundation.
- A.A. Corcoran. "HAB Event Response in Southwest Florida," \$27,000, 2012. NOAA/NOS/NCCOS/CSCOR funds awarded by the National Office for Harmful Algal Blooms.
- A.A. Corcoran and J. Ivey. "Support of Harmful Algal Bloom Observing System in Tampa Bay, FL," \$25,000, 2012. US IOOS funds awarded through the Gulf of Mexico Coastal Observing System.
- R.F. Shipe and A.A. Corcoran. "The Effects of Urban Stormwater Runoff on Phytoplankton Dynamics in Santa Monica Bay," \$98,000, 2007-2009. Ocean Protection Council funds awarded through California Sea Grant.

Manuscripts in Preparation

*indicates graduate student advisee

Echenique-Subiabre, I., J. Greene, A. Ryan, H. Martinez, M. Balleza, J. Gerber, A. Roman, G.K. Nagi*, A. Jebali, S. Getto*, C.J. O'Kelly, J. Nalley, S. Mandal, J.C. Quinn, S.R. Starkenburg, A.A. Corcoran, J.B. Shurin. Local Conditions Override Broad Climatic Gradients in Determining Microalgae Productivity in Open Raceway Ponds. *In Preparation*.

Submitted Manuscripts

*indicates graduate student advisee

Mandal, S., G.K., A.A. Corcoran, R. Agrawal, M. Dubey, and R.W. Hunt. Algae for 3D Printing. *Submitted to Carbohydrate Polymers*.

*Nagi, G.K., A.A. Corcoran, and S. Mandal. Application of fluorescent transients to indicate nutrient deficiencies in the microalga *Nannochloropsis oceanica*. *Submitted to Algal Research*.

Corcoran, A.A., J. Ohan*, E.R. Hanschen, A. Granite*, H. Martinez, F.O. Holguin, B.T. Hovde, and S.R. Starkenburg. Scale-dependent enhancement of productivity and stability in xenic *Nannochloropsis* cultures. *Submitted to Algal Research*.

Publications

Sanchez, M.R., T.C. Biondi, Y.A. Kunde, W. Eng, J.O. Nalley, E. Ganuza, B.T. Hovde, A.A. Corcoran, S.R. Starkenburg. 2022. The genome sequence of algal strain *Nannochloropsis* QH25. *Microbiology Resource Announcements*. Accepted.

- Mandal, S. and A.A. Corcoran 2022. Data for designing microalgal consortia for higher yield. *Data in Brief*: 108622. <https://doi.org/10.1016/j.dib.2022.108622>
- Jebali, A., M.R. Sanchez, E.R. Hanschen, S.R. Starkenburg, and A.A Corcoran. 2022. Trait drift in microalgae and applications for strain improvement. *Biotechnology Advances* 60: 108034. <https://doi.org/10.1016/j.biotechadv.2022.108034>
- Mandal, S. and A.A. Corcoran. 2022. A novel approach to build algal consortia for sustainable biomass production. *Algal Research* 65: 102734. <https://doi.org/10.1016/j.algal.2022.102734>
- Oyebamiji, O.O., A.A. Corcoran, E. Navarro-Pérez, M.O. Ilori, O.O. Amund, F.O. Holguin, and W.J. Boeing. 2021. Lead tolerance and bioremoval by four strains of green algae from Nigerian fish ponds. *Algal Research* 58: 102403. <https://doi.org/10.1016/j.algal.2021.102403>
- Corcoran, A.A. and R.W. Hunt. 2021. Capitalizing on harmful algal blooms: from problems to products. *Algal Research* 55: 102265. <https://doi.org/10.1016/j.algal.2021.102265>
- Flewelling, L.J., A.A. Corcoran, A.A. Granholm, N.Y. Takeuchi, R.V. Van Hoek, and M.L. Zahara. 2020. Validation and assessment of an Enzyme Linked Immunosorbent Assay (ELISA) for use in monitoring and managing Neurotoxic Shellfish Poisoning. *Journal of Shellfish Research* 39 (2): 1-10. <https://doi.org/10.2983/035.039.0230>
- Tilney, C.L, S. Shankar, K.A. Hubbard, and A.A. Corcoran. 2019. Is *Karenia brevis* really a low-light-adapted species? *Harmful Algae* 90:101709. <https://doi.org/10.1016/j.hal.2019.101709>
- Cannizzaro, J.P., B.B. Barnes, C. Hu., A.A. Corcoran, K.A. Hubbard, E. Muhlbach, W.C. Sharp, L.E. Brand, and C.R. Kelble. 2019. Remote detection of cyanobacteria blooms in an optically shallow subtropical lagoonal estuary using MODIS data. *Remote Sensing of Environment* 231: 111227. <https://doi.org/10.1016/j.rse.2019.111227>
- Lopez, C.B, A. Karim, S. Murasko, M.E. Marot, C.G. Smith and A.A. Corcoran. 2019. Temperature mediates secondary dormancy in resting cysts of *Pyrodinium bahamense* (Dinophyceae). *Journal of Phycology* doi:10.1111/jpy.12883. <https://doi.org/10.1111/jpy.12883>
- Corcoran, A.A., M. Segar, R. Niu, N. Khandan, P.J. Lammers, F.O. Holguin, and W.J. Boeing. 2019. Evidence for induced allelopathy in an isolate of *Coelastrella* following co-culture with *Chlorella sorokiniana*. *Algal Research* 41: 101535. <https://doi.org/10.1016/j.algal.2019.101535>
- Lee, P.A., K.L. Lambeth, P.M. Letcher PM, A.A. Corcoran and R.A. Ryan. 2018. A novel predatory bacterium infecting the eukaryotic alga *Nannochloropsis*. *Algal Research* 32: 314-320. <https://doi.org/10.1016/j.algal.2018.04.003>
- Corcoran, A.A., M.A. Saunders, A. Hanley, S. Lopez, P. Lee, S. Lopez, R. Ryan and C.B. Yohn. 2018. Iterative screening of an evolutionary engineered *Desmodesmus* generates robust field strains with pesticide tolerance. *Algal Research* 31: 443-453. <https://doi.org/10.1016/j.algal.2018.02.026>
- Corcoran, A.A., J. Wolny, E. Leone, J. Ivey and S. Murasko. 2017. Drivers of phytoplankton dynamics in Tampa Bay, FL (USA), a subestuary exhibiting lagging ecosystem recovery. *Coastal, Estuarine, and Shelf Science* 185: 130-140. <https://doi.org/10.1016/j.ecss.2016.11.009>
- Cannizzaro, J.P., A.A. Corcoran, J.L. Wolny, and C. Hu. 2016. Light absorption properties of algal blooms in Old Tampa Bay: implications for management. Burke, Maya (ed.). 2016. *Proceedings, Tampa Bay Area Scientific Information Symposium*, BASIS 6: 28-30 September 2015. St. Petersburg, FL.
- Lopez, C.B., Smith, C.G., Marot, M.E., Corcoran, A.A. 2016. The role of seedbeds in *Pyrodinium bahamense* bloom dynamics in Tampa Bay. In: Burke, Maya (ed.). 2016. *Proceedings, Tampa Bay Area Scientific Information Symposium*, BASIS 6: 28-30 September 2015. St. Petersburg,

FL.

- Weisberg, R., L. Zheng, L. Yonggang, A.A. Corcoran, C. Lembke, C. Hu, J. Lenos, and J. Walsh. 2016. *Karenia brevis* blooms on the West Florida Shelf: A comparative study of the robust 2012 bloom and the nearly null 2013 event. *Continental Shelf Research* 120: 106-121.
<https://doi.org/10.1016/j.csr.2016.03.011>
- Hu, C., B. Murch, A.A. Corcoran, L. Zheng, B.B. Barnes, B.H. Weisberg, K. Atwood, and J.M. Lenos. 2016. Developing a smart semantic web with linked data and models for near real-time monitoring of red tides in the Eastern Gulf of Mexico. *IEEE Systems Journal* 10(3): 1282-1290.
<https://10.1109/JSYST.2015.2440782>
- Richardson, B. and A.A. Corcoran. 2015. Use of dissolved inorganic and organic phosphorus by axenic and nonaxenic clones of *Karenia brevis* and *Karenia mikimotoi*. *Harmful Algae* 48: 30-36. <https://doi.org/10.1016/j.hal.2015.06.005>
- Hu, C., B.B. Barnes, L. Qi, and A.A. Corcoran. 2015. A harmful algal bloom of *Karenia brevis* in the Northeastern Gulf of Mexico as revealed by MODIS and VIIRS: A comparison. *Sensors* 15: 2873-2887. <https://doi.org/10.3390/s150202873>
- Qi, L, J. Cannizzaro, A.A. Corcoran, D. English and C. Le. 2015. VIIRS Observations of a *Karenia brevis* Bloom in the Northeastern Gulf of Mexico in the Absence of a Fluorescence Band. *IEE Geoscience and Remote Sensing Letters* 12(11): 2213-2217.
<http://doi.org/10.1109/LGRS.2015.2457773>
- Corcoran, A.A., B. Richardson, and L.J. Flewelling. 2014. Effects of nutrient limiting supply ratios on toxin content of *Karenia brevis* grown in continuous culture. *Harmful Algae* 39: 334-341.
<https://doi.org/10.1016/j.hal.2014.08.009>
- Corcoran, A., M. Dornback, B. Kirkpatrick, and A. Jochens. 2013. A Primer on Gulf of Mexico Harmful Algal Blooms. 12pp. Published by the Gulf of Mexico Alliance.
- Sunda, W., C. Burleson, D.R. Hardison, J. Morey, Z. Wang, J. Wolny, A.A. Corcoran, L.J. Flewelling, F.M. Van Dolah. 2013. Reply to Errera and Campbell: No, low salinity shock does not increase brevetoxins in *Karenia brevis*. *Proceedings of the National Academy of Sciences* 110(25): E2256. <https://doi.org/10.1073/pnas.1307836110>
- Sunda, W., C. Burleson, D.R. Hardison, J. Morey, Z. Wang, J. Wolny, A.A. Corcoran, L.J. Flewelling, F.M. Van Dolah. 2013. Osmotic stress does not trigger brevetoxin production in the dinoflagellate *Karenia brevis*. *Proceedings of the National Academy of Sciences* 110(25): E2255. <https://doi.org/10.1073/pnas.1217716110>
- Reifel, K.M., A.A. Corcoran, C. Cash, R.F. Shipe and B.H. Jones. 2013. Effects of a surfacing plume on a coastal phytoplankton community. *Continental Shelf Research* 60: 38-50.
<https://doi.org/10.1016/j.csr.2013.04.012>
- Bartley, M.L., W.J. Boeing, A. A. Corcoran, F.O. Holguin and T. Schaub. 2013. Effects of salinity on growth and lipid accumulation of biofuel microalga *Nannochloropsis salina* and invading organisms. *Biomass and Bioenergy* 54: 83-88.
<https://doi.org/10.1016/j.biombioe.2013.03.026>
- Corcoran, A.A. and W. Boeing. 2012. Biodiversity increases productivity and stability of phytoplankton communities. *PLOS ONE* 7(11): e49397.
<https://doi.org/10.1371/journal.pone.0049397>
- Corcoran, A.A. and W. Van Voorhies. 2012. Simultaneous measurements of oxygen and carbon dioxide fluxes in phytoplankton cultures. *Journal of Microbiological Methods* 91(3):377-9.
<https://doi.org/10.1016/j.mimet.2012.09.020>

- Jochens, A.E., M.K. Howard, L. Campbell, R. Mullins-Perry, G. Kirkpatrick, B. Kirkpatrick, C. Simoniello, C. Chuanmin, R.H. Weisberg, C. Lembke, A. Corcoran, J. Ivey, S.H. Wolfe. 2012. Integrating Observing Systems to benefit stakeholders: A case study in the Gulf of Mexico. *Oceans 201*: 4 pp. <https://10.1109/OCEANS.2012.6405030>
- Corcoran, A.A. and R.F. Shipe. 2011. Inshore-offshore and vertical patterns of phytoplankton biomass and community composition in Santa Monica Bay, CA (USA). *Coastal, Estuarine and Shelf Science* 94: 24-35. <https://doi.org/10.1016/j.ecss.2011.05.007>
- Corcoran, A.A., K.M. Reifel, B.H. Jones, and R.F. Shipe. 2010. Spatiotemporal development of physical, chemical, and biological characteristics of stormwater plumes in Santa Monica Bay, CA. *Journal of Sea Research* 63 (2): 129-142. <https://doi.org/10.1016/j.seares.2009.11.006>
- Cebrian, J., A. A. Corcoran, A.L. Stutes, J.P. Stutes, and J.R. Pennock. 2009. Effects of ultraviolet-B radiation and nutrient enrichment on the productivity of benthic microalgae in shallow coastal lagoons of the North Central Gulf of Mexico. *Journal of Experimental Marine Biology and Ecology* 372 (1-2): 9-21. <https://doi.org/10.1016/j.jembe.2009.02.009>
- Stutes, J., J. Cebrian, A.L. Stutes, A. Hunter, and A.A. Corcoran. 2007. Benthic metabolism across a gradient of anthropogenic impact in three shallow coastal lagoons of the Northwest Florida. *Marine Ecology Progress Series* 348: 55-70. <https://doi.org/10.3354/meps07036>
- Stutes, A.L., J. Cebrian, and A.A. Corcoran. 2006. Effects of nutrient enrichment and shading on sediment primary production and metabolism in eutrophic estuaries. *Marine Ecology Progress Series* 312: 29-43. <https://doi:10.3354/meps312029>
- Evgenidou, A., A. Konkle, A. D'Ambrosio, A. Corcoran, J. Bowen, E. Brown, D. Corcoran, C. Dearholt, S. Fern, A. Lamb, J. Michalowski, I. Ruegg, and J. Cebrian. 1999. Effects of increased nitrogen loading on the abundance of diatoms and dinoflagellates in estuarine phytoplanktonic communities. *Biological Bulletin* 197: 292-4. <https://doi.org/10.2307/1542659>

Conference Presentations

- You Mak, K., Sanchez, M., Echenique, I, Farah, U., Shurin, J., Gerber, J., Balleza, M., O'Kelly, C.J., Martinez, H., Jebali, A., Corcoran, A.A., Hovde, B., S.R. Starckenburg. Characterizing microbial communities in long-term algal ponds across sites. Sequencing to Function: Analysis and Application for the Future (SFA²F). *Poster Presentation*. Santa Fe, NM, June 21-23, 2022.
- Echenique, I. U. Farah, M.R. Sanchez, A. Jebali, H. Kaur, M. Balleza, H. Martinez, J. Nalley, C. O'Kelly, Omar Holguin. A.A. Corcoran, Shawn R. Starckenburg, J. Shurin. Local adaptation of *Nannochloropsis* produces site-specific temperature-growth curves. *Poster Presentation*. Algae Biomass Summit. October 2021. Virtual.
- Greene, J.M., D. Quiroz, A.A. Corcoran, J. Nalley, J.C. Quinn. Integrating regionally and temporally resolved microalgae growth rate modeling with pond reliability metrics to accurately model the economic and environmental performance of algae cultivation at scale, *Oral Presentation*. Algae Biomass Summit. October 2021. Virtual.
- Jebali, A., M.R. Sanchez, I. Echenique, M. Balleza, H. Martinez, J. Nalley, C.J. O'Kelly, F.O. Holguin, J. Shurin, S.R. Starckenburg, A.A. Corcoran. Phenotype characterization of field-adapted *Nannochloropsis* for the evaluation of trait drift and evolution in lab and field cultures. *Poster Presentation*. Algae Biomass Summit. October 2021. Virtual.

- Sanchez, M., A. Jebali, I. Echenique, E. Denning, M. Balleza, J. Nalley, C. O'Kelly, J. Shurin, A.A. Corcoran, S.R. Characterization of trait drift in the field and laboratory: shifts in microbial community composition. *Oral Presentation*. Algae Biomass Summit. October 2021. Virtual.
- Hovde, B., T. Biondi, S. Eacker, I. Liachko, E. Eenning, S. Starkenburg, A. Corcoran. Managing pests in algal ponds: identification and detection of novel pests using proximity ligation (Hi-C) metagenome assembly. *Oral Presentation*. International Conference on Algal Biomass, Biofuels, and Bioproducts. June 2021. Virtual.
- Jebali, A.A., F.O. Holguin, I. Echenique, M. Balleza, H. Martinez, J. Nalley, C. O'Kelly, J. Shurin, S.R. Starkenburg, and A.A. Corcoran. Trait drift and evolution of a field-adapted *Nannochloropsis* culture in outdoor raceway ponds. *Poster Presentation*. 75th Annual Phycological Society of America Meeting. July 2021. Virtual.
- Corcoran A.A., E. Hanschen, S. Mandal, B. Hovde, J. Ohan, K.Y. Mak, N. Garcia, and S.R. Starkenburg. Use of synthetic ecological approaches and high throughput screening to generate microbial consortia for large-scale algal production systems. *Oral Presentation*. Algae Biomass Summit. September 2019. Orlando, FL.
- Corcoran A.A., E. Hanschen, S. Mandal, B. Hovde, J. Ohan, N. Garcia, and S.R. Starkenburg. Use of synthetic ecological approaches and high throughput screening to generate microbial consortia for large-scale algal production systems (doi.org/10.7490/f1000research.1117372.1). *Oral Presentation*. Ecological Society of America Annual Meeting. August 2019. Louisville, KY.
- Ohan, J., C. Miller, A.A. Corcoran, B. Hovde, and S.R. Starkenburg. High-throughput screening of bacteria that improve the productivity of *Nannochloropsis oceanica*. 9th International Conference on Algal Biomass, Biofuels and Bioproducts. June 2019. Boulder, CO.
- Starkenburg, S.R., A.A. Corcoran, B. Hovde, E. Hanschen, and N. Garcia. Increasing cultivation yield and stability with rationally designed consortia. *Oral Presentation*. Algae Biomass Summit. October 2018. Houston, TX.
- Hovde, B., S. Steichen, K. Martinez, A.A. Corcoran, J. Brown, and S. Starkenburg. Genome assembly of three bacterial pathogens that target *Nannochloropsis* and *Chlorella* algal production strains. *Oral Presentation*. 8th International Conference on Algal Biomass, Biofuels and Bioproducts. June 2018. Seattle, WA.
- Tilney, C.L., S. Shankar, A. Hoeglund, E. Olesin, C. Chadwick, E. Muhlbach, C. Villac, A.A. Corcoran, L. J. Flewelling, D.M. Nieuwkerk, R.M. Ulrich, J.H. Paul, K.A. Hubbard. *Oral Presentation*. An integrated look at *Karenia brevis* photophysiology. 9th US HAB Conference. November 2017. Baltimore, MD.
- Lopez, C.B., A. Karim, S. Murasko, M.E. Marot, C.G. Smith, D.J. Karlen, S. Shankar, K.A. Hubbard, A.A. Corcoran. Seasonal temperature conditioning mediates dormancy in Tampa Bay populations of *Pyrodinium bahamense*. *Oral Presentation*. 9th US HAB Conference. November 2017. Baltimore, MD.
- Corcoran, A.A. Improvement through Iteration: from flask to field and field to flask. *Oral Presentation*. Algae Biomass Summit. October 2016. Phoenix, AZ.
- Meenach, C., K. Lambeth, and A.A. Corcoran. Flow imaging enhances crop protection in industrial-scale algae cultivation. *Poster Presentation*. Algae Biomass Summit. October 2016. Phoenix, AZ.

- Lambeth, K., C. Meenach, P. Lee, and A.A. Corcoran. Protection of *Nannochloropsis* against a bacterial pest: from discovery to treatment. *Poster Presentation*. Algae Biomass Summit. October 2016. Phoenix, AZ.
- Tilney, C., E. Muhlbach, S. Murasko, S. Bruzek, S. Badylak, L. Hall, E. Phlips, M. Lasi, K. Hubbard, and A.A. Corcoran. In the wake of the superbloom: tracking green and brown tides in the Indian River Lagoon with integrated technologies. *Speed Talk*. Indian River Lagoon Symposium 2016: Linking Research with Management. February 2016. Ft. Pierce, FL.
- Muhlbach, E., C. Tilney, S. Murasko, S. Bruzek, S. Badylak, L. Hall, E. Phlips, M. Lasi, K. Hubbard, and A.A. Corcoran. In the wake of the superbloom: development and validation of integrated technologies for monitoring green and brown tides in the Indian River Lagoon. *Poster Presentation*. Indian River Lagoon Symposium 2016: Linking Research with Management. February 2016. Ft. Pierce, FL.
- Beckler, J., K. Dixon, V. Lovko, J. Vreeland, A. Corcoran, M. Garrett, J. Shapiro and G. Kirkpatrick. Spatial heterogeneity in the surface expression of a *Karenia brevis* bloom in the Eastern Gulf of Mexico. *Oral Presentation*. Eighth Symposium on Harmful Algae in the United States. November 2015. Long Beach, CA.
- Lovko, V., A.A. Corcoran, M. Garrett, K. Henschen, K.A. Hubbard, G. Kirkpatrick, L. Markley, S. Murasko, and J. Vreeland. Spatial and temporal development of phytoplankton community composition during a *Karenia brevis* bloom in the Northeastern Gulf of Mexico. *Oral Presentation*. Eighth Symposium on Harmful Algae in the United States. November 2015. Long Beach, CA.
- Takeuchi, N.Y., A.A. Granholm, R.V. Gaesser, A.A. Corcoran, and L.J. Flewelling. Evaluation of a rapid NSP assay for use in shellfish regulation and aquaculture. *Poster Presentation*. Eighth Symposium on Harmful Algae in the United States. November 2015. Long Beach, CA.
- Tilney, C.L., E. Muhlbach, S. Murasko, S.J. Bruzek, E.J. Philips, S. Badylak, M.A. Lasi, L.M. Hall, A. Parks, A.A. Corcoran and K.A. Hubbard. Diversity, dynamics and biogeographic distributions of pico- and nano-planktonic pelagophytes and chlorophytes in the Indian River Lagoon, FL. *Poster Presentation*. Eighth Symposium on Harmful Algae in the United States. November 2015. Long Beach, CA.
- Corcoran, A.A., J. Wolny, C. Lopez, S. Murasko, J. Ivey, and E. Leone. Drivers of phytoplankton dynamics in a subestuary exhibiting lagging ecosystem recovery. *Oral Presentation*. Annual Ecological Society of America Meeting. August 2014. Baltimore, MD.
- Muhlbach, E., K. Hubbard, and A.A. Corcoran. Application of molecular and flow-cytometric tools for characterizing pico- and nanoplankton communities in the Indian River Lagoon. *Oral Presentation*. Indian River Lagoon Symposium 2015 - Health of the Lagoon. February 2015. Ft. Pierce, FL.
- Lasi, M., R. Chamberlain, A. Corcoran, C. Jacoby, J. Landsberg, L. Morris, and E. Phlips. Major ecological challenges facing the northern and central Indian River Lagoon. *Oral Presentation*. Florida Lake Management Society Annual Symposium. June 2014. Stuart, FL.
- Meek, M.E., A. Corcoran, and F.M. Van Dolah. Development of PCNA as a molecular biomarker for growth status of *Karenia* species in Gulf of Mexico Red Tides. *Poster Presentation*. Seventh Symposium on Harmful Algae in the US. October 2013. Sarasota, FL.
- Flewelling L.J. and A.A. Corcoran. Identity of the brown tide organism *Aureoumbra lagunensis* verified with a polyclonal antibody. *Oral Presentation*. Indian River Lagoon Symposium 2013 - Health of the Lagoon. February 2013. Ft. Pierce, FL.

- Corcoran, A., Flewelling, L. J., Henschen, K., Wolny, J., Kirkpatrick, G. J., Lovko, V. J., Kirkpatrick, B. A., Hu, C., Lenes, J. M., Weisburg, R. H. A Florida red tide bloom collaborative response – overview. *Oral Presentation*. Association for the Sciences of Limnology and Oceanography Annual Meeting. February 2013. New Orleans, LA.
- Corcoran, A., Flewelling, L. J., Richardson, B. The effects of nutrient limitation on brevetoxin production in continuous cultures of *Karenia brevis*. *Oral Presentation*. Association for the Sciences of Limnology and Oceanography Annual Meeting. February 2013. New Orleans, LA.
- Jochens, A.E., M.K. Howard, L. Campbell, R. Mullins-Perry, G. Kirkpatrick, B. Kirkpatrick, C. Simoniello, C. Hu, R.H. Weisberg, C. Lembke, A. Corcoran, J. Ivey, S.H. Wolfe. Integrating Observing Systems to Benefit Stakeholders: A Case Study in the Gulf of Mexico. *Oral Presentation*. Oceans '12 Marine Technology Society/ Institute of Electrical and Electronics Engineers. October 2012. Washington, DC.
- Corcoran, A. and W. Van Voorhies. Validation of simultaneous measurements of CO₂ uptake and O₂ production in phytoplankton cultures. *Oral Presentation*. Estuarine Research Federation Biennial Meeting. November 2011. Daytona Beach, FL.
- Corcoran, A. and W. Boeing. Stability of algal communities subject to predation by the rotifer *Brachionus*. *Oral Presentation*. Ecological Society of America Annual Meeting. August 2011. Austin, TX.
- Reifel, K.M., A. Corcoran and B.H. Jones. The effects of stormwater plumes on phytoplankton in the coastal ocean. *Invited Poster Presentation*. American Society of Limnology & Oceanography Ocean Sciences Meeting. February 2010. Santa Fe, NM.
- Corcoran, A., K.M. Reifel, B.H. Jones and R.F. Shipe. Spatiotemporal development of physical, chemical, and biological characteristics of stormwater plumes in Santa Monica Bay, California. *Oral Presentation*. Ecological Society of America Annual Meeting. August 2009. Albuquerque, NM.
- Corcoran, A., K.M. Reifel, B.H. Jones and R.F. Shipe. Stormwater plume development in the Santa Monica Bay, CA. *Poster Presentation*. Southern California Academy of Sciences Annual Meeting. May 2009. Rancho Palo Verdes, CA.
- Reifel, K.M., A. Corcoran, and B.H. Jones. Phytoplankton community structure responses to a wastewater plume in the coastal ocean. *Poster Presentation*. American Society for Microbiology Meeting. May 2009. Philadelphia, PA.
- Reifel, K.M., A. Corcoran, and B.H. Jones. The effects of a wastewater plume on phytoplankton in the coastal ocean. *Oral Presentation*. American Society of Limnology & Oceanography Ocean Sciences Meeting. March 2008. Orlando, FL.
- Corcoran, A., K. Reifel, and R. Shipe. Effects of stormwater runoff on phytoplankton dynamics in Santa Monica Bay, CA. *Oral Presentation*. Estuarine Research Federation Conference. November 2007. Providence, RI.
- Corcoran, A. and R. Shipe. Anthropogenic controls of harmful phytoplankton taxa in Santa Monica Bay. *Poster Presentation (awarded first place award in Ecology and Evolutionary Biology)*. Southern California Academy of Sciences Annual Meeting. June 2007. Fullerton, CA.
- Cebrian, J., Stutes, A. L., Corcoran, A. A., Stutes, J. P., Hunter, A. E. Impact of sediment nutrient enrichment on benthic microalgal communities: a comparison between clear coastal lagoons and turbid estuaries. *Oral Presentation*. Estuarine Research Federation Conference. October 2005. Norfolk, VA.

Corcoran, A., A. Dunsmuir, J. Cebrian and J. Pennock. Investigating the roles of UVB radiation and nutrient enrichment in benthic microalgal communities. *Oral Presentation*. American Society of Limnology and Oceanography Summer Meeting. June 2004. Savannah, GA.

Corcoran, A., A. Dunsmuir and J. Cebrian. The effects of ultraviolet-b radiation and nutrient enrichment on microphytobenthos in coastal lagoons. *Oral Presentation (award received)*. Gulf Estuarine Research Society Conference. April 2003. Corpus Christi, TX.

Invited Talks

Algae: the Good, the Bad, and the Ugly. *Invited Public Talk*. Pajarito Environmental Education Center. Los Alamos, NM. July 2021. <https://www.youtube.com/watch?v=0-HgjElz08>

Harmful Algal Blooms: From Nuisance to Feedstock. *Invited Talk*. DOE BETO Bio-Restore Workshop. Argonne National Laboratory. Lemont, IL. September 2019. <https://prezi.com/view/OoP8U9uBKEMuAoot2w2x/>

Transforming Challenges into Yield: Variability and the Role of Synthetic Ecology. *Invited Talk*. ABLC Global. San Francisco, CA. November 2018. <https://prezi.com/view/Nv9tqWe2QhingstOzaQT/>

An Introduction to Harmful Algal Bloom (HAB) monitoring and management. *Invited Talk*. Elephant Butte Lake State Park. Elephant Butte, NM. February 2018.

Harmful Algal Bloom Monitoring to Protect Environmental and Human Health in Florida. *Invited Oral Presentation*. Aquatic Ecosystem Health Conference. Gainesville, FL. June 2015.

A Journey Through Marine Algae: the Good, the Bad and the Ugly. *Invited Talk*. Manatee Park, Lee County Parks & Recreation. Ft. Myers, FL. February 2014.

Marine Algae: From Good to Bad. *Invited Talk*. Tampa Bay Regional Planning Council. St. Petersburg, FL. April 2013.

Marine Algae: the Good, the Bad and the Ugly. *Invited Public Talk*. Weedon Island Preserve. St. Petersburg, FL. February 2013.

Florida Red Tide and Other Harmful Algal Blooms. *Invited Public Talk*. Sanibel Captiva Conservation Foundation. Sanibel Island, FL. November 2012.

Bridging the Gap Between Ecology and Industry: Algal Biofuel as a Case Study. *Invited Seminar*. Eckerd College. St. Petersburg, FL. March 2012.

Effects of Urban Runoff and Sewage Effluent on Coastal Phytoplankton Communities. Colby College. *Invited Seminar*. Waterville, ME. March 2010.

Phytoplankton Ecology and Oceanographic Methods. UCLA Phytoplankton Physiology Course. *Invited Guest Lecture*. Los Angeles, CA. March 2007.

Teaching Experience (asterisk indicates courses designed)

Critical Analysis and Communication of Scientific Studies* (1 cr.), NMSU, Spring 2011

Introduction to Marine Ecosystems* (4 cr.), Colby College, January Program 2010

Gulf Stream Oceanography (Assistant Scientist), Sea Education Association, May 2010

Evolution & Biodiversity (Laboratory Instructor), Colby College, Spring 2010

The Cellular Basis of Life (Laboratory Instructor), Colby College, Fall 2009

Phytoplankton Evolution* (1 cr.), UCLA, Spring 2008

Plant Physiology (Laboratory Instructor), Colby College, Fall 2009

Plant Evolution and Systematics (Teaching Fellow), UCLA, Spring 2009

Mathematical Ecology (Teaching Fellow), UCLA, Fall 2008

Plant Physiology (Teaching Associate), UCLA, Winter 2006
Intro to Marine Science (Teaching Assistant), UCLA, Spring 2005
Life Science I (Teaching Assistant), UCLA, Fall 2004 and Winter 2005
Introductory Biology (Teaching Assistant), UA, Spring & Summer 2004

Graduate Advising

- Stephanie Getto, PhD Student, Molecular Biology and Interdisciplinary Life Sciences, NMSU
- Gurpreet Kaur Nagi, PhD Student, Plant and Environmental Sciences, NMSU

Outreach and Mentoring

Early Career Mentor, Ecological Society of America Conference, August 2019
CABLE Mentor, Advanced Bioeconomy Leadership Conference, Nov 2018
Undergraduate Research Mentor, Florida Fish & Wildlife Conservation Commission, 2012
Red Tide Workshop, Moccasin Lake Nature Park, Spring 2012
Science Judge, National Ocean Sciences Bowl Competition, Spring 2012
Undergraduate Research Mentor, New Mexico State University, 2010-2011
Public Education Volunteer, Cruising Classroom, R/V Sea World UCLA, 2006-2008
Undergraduate Research Mentor, University of California Los Angeles, 2006-2008
Public Education Volunteer, Surfrider Foundation, Spring 2006
Science Fair Judge, LA Unified School District, 2006 -2009
Undergraduate Research Mentor, Dauphin Island Sea Lab, Summer 2003
Organizer & Volunteer, Expanding Your Horizons Workshop, Spring 2003
Coastal Zone Captain, National Coastal Cleanup, Dauphin Island, AL, 2002

Professional Activities and Service

- Ad-hoc Reviewer
 - *Agencies*: DOE, NOAA, NSF, USDA
 - *Journals*: Algal Research, Ecology, Ecotoxicology, Environmental Engineering Science, Estuaries and Coasts, Harmful Algae, Journal of Phycology, Water
- Committee Member. Graduate Student Admissions, Molecular Biology Program, New Mexico State University. 2021-present.
- Co-session Chair. *Algae Cultivation: Biotic and Abiotic Challenges*. ASLO Summer Meeting. June 2016. Santa Fe, NM.
- Facilitator. Florida Fish & Wildlife Conservation Commission. 2015-2016. St. Petersburg, FL.
- State Chair. Water Quality Priority Issue Team. Gulf of Mexico Alliance. 2015-2016.
- Co-chair of HAB Workgroup. Gulf of Mexico Alliance. 2012-2015.
- Invited Panelist. *Harmful Algal Blooms: Prevention, Prediction, Management, and Control*. National Conference on Ecosystem Restoration. July 2013. Chicago, IL.
- Co-session Chair. *Tackling Harmful Algal Blooms: Synergy between Research, Management & Education*. ASLO Aquatic Sciences Meeting. February 2013. New Orleans, LA.
- Invited Panelist. *Understanding Red Tide: A Community Panel Discussion for Captiva and Sanibel*. February 2013. Sanibel Island, FL.
- Chair of Graduate Student Curriculum Committee. UCLA. 2008. Los Angeles, CA.
- Graduate Student/Faculty Liaison. UCLA. 2007-2008. Los Angeles, CA.
- Graduate Student Awards Committee. UCLA. 2007. Los Angeles, CA.

- Professional Relations Representative. Graduate Student Organization. Dauphin Island Sea Lab. 2002-2003. Dauphin Island, AL.

Completed Training and Workshops

Persuasive Proposals: the Power of Narrative, Ecological Society of America, 2021
 Project Management, Los Alamos National Laboratory, 2019
 Facilitation, Florida Fish & Wildlife Conservation Commission, 2015
 Scintillation, Scientific Storytelling, ASLO Aquatic Sciences Meeting, 2013
 Situational Leadership, Florida Fish & Wildlife Conservation Commission, 2013
 Team Building, Florida Fish & Wildlife Conservation Commission, 2013
 Writing Smart Expectations, Florida Fish & Wildlife Conservation Commission, 2013
 Team Leading/Meeting Management, Florida Fish & Wildlife Conservation Commission, 2012
 Statistical Analysis of Data Using R, Florida Fish & Wildlife Conservation Commission, 2012
 Creative and Critical Thinking, Florida Fish & Wildlife Conservation Commission, 2011
 Diversity E-Learning, Florida Fish & Wildlife Conservation Commission, 2011
 Ethics E-Learning, Florida Fish & Wildlife Conservation Commission, 2011
 Team-Building, Florida Fish & Wildlife Conservation Commission, 2011
 The Supervisor's Apprenticeship, Florida Fish & Wildlife Conservation Commission, 2011
 Working with the Media, Florida Fish & Wildlife Conservation Commission, 2011
 Small Scale Interactions in the Plankton, Bigelow Laboratory for Ocean Sciences, 2005
 Phytoplankton Culturing Techniques, Bigelow Laboratory for Ocean Sciences, 2003

Awards, and Fellowships

Recognition for Obtaining Grants, Florida Fish & Wildlife Conservation Commission, 2016
 Excellence in Science, Florida Fish & Wildlife Conservation Commission, 2014
 Travel Award, UCLA, 2009
 Special Faculty Award in Recognition of Service, UCLA, 2008
 Graduate Student Traineeships, California Sea Grant, 2007-2009
 Best Poster in Ecology and Evolution, S. California Academy of Sciences Meeting, 2007
 Travel Award, UCLA, 2006
 Graduate Fellowship, Graduate Assistance in Areas of National Need, 2006-2007
 Quality of Graduate Education Fellowship, UCLA, 2005-2006
 Joab L. Thomas Scholarship for Outstanding Graduate Student, UA, 2003
 Graduate Student Fellowships, Dauphin Island Sea Lab, 2001-2003

Cruise Experience

R/V Bellows, August 26-29 2014 (96 hrs. shipboard)
 Chief Scientist on a HAB event response cruise on the Southwest Florida Shelf
 SS/V Corwith Cramer, May-June 2010 (720 hrs. shipboard)
 Assistant Scientist on cruises between Florida and South Carolina, and South Carolina and Bermuda
 M/V Yellowfin and RV Sea World UCLA, 2006-2008 (90 hrs. shipboard)
 Led mapping efforts and adaptive time-series sampling of stormwater plumes in Santa Monica Bay, CA
 M/V La Mer, 2005-2007 (180 hrs. shipboard)

Participated in quarterly water quality cruises led by the Los Angeles Dept. of Public Works Environmental Monitoring Division

R/V Sea World UCLA, 2006-2007 (180 hrs. shipboard)

Led biweekly field campaigns to the Santa Monica Bay Observatory Mooring for time series sampling

R/V Sea World UCLA, November 28-December 1, 2006 (24 hrs. shipboard)

Participated in a multi-agent effort to monitor the short-term diversion of Hyperion Outfall effluent

R/V Shearwater, February 2-9, 2006 (160 hrs. shipboard)

Participated in sampling associated with a Santa Barbara Channel LTER project

R/V Sea World UCLA, March-May 2005 (28 hrs. shipboard)

Tracked eddy formation and associated biogeochemical dynamics in Santa Monica Bay