CURRICULUM VITAE

Mark Edward Hay

Harry and Linda Teasley Professor and Regents' Professor
School of Biological Sciences
Georgia Institute of Technology
Atlanta, Georgia 30332-0230, USA
Phone: 404-894-8429
FAX: 404-894-0519
Email <mark.hay@biology.gatech.edu>

Education

1980 - Ph.D.	Ecology and Evolutionary Biology, University of California, Irvine
1977 - M.S.	Biology, University of California, Irvine
1974 - B.A.	Zoology (also completed requirements for BA in Philosophy), University of Kentucky

Professional Positions and Ranks

1999- present	Harry and Linda Teasley Professor of Environmental Biology, Georgia Institute of Technology; (2008-present – Founding Director and Co-Director of the Aquatic Chemical Ecology Center at GIT; 2018-present – Co Director of the Ocean Science and Engineering Ph.D. Program at GIT)
2018-present	Courtesy Professor, Biological Sciences Florida State University as the William R. and Lenore Mote Eminent Scholar in Marine Biology
2015- present	Adjunct Professor, University of the South Pacific, Institute of Applied Sciences
2014- present	Regents' Professor (Board of Regents, University System of Georgia)
2014- present	Adjunct Faculty, Georgia Aquarium's Research Institute
2002- 2007	Adjunct Faculty, Skidaway Institution of Oceanography
1992-1999	Professor, University of North Carolina at Chapel Hill, Institute of Marine Sciences, Department of Marine Sciences, Department of Biology, and Curriculum in Ecology
1989-1992	Associate Professor, University of North Carolina at Chapel Hill
1982-1989	Assistant Professor, University of North Carolina at Chapel Hill
1983-1990	Visiting Assistant and Associate Professor, Duke University Marine Laboratory (summer only)
1982	Visiting Assistant Professor of Ecology, College of the Virgin Islands
1981-1992	Research Associate, Smithsonian Institution, Botany Department, U.S. National Museum of Natural History (equivalent to an adjunct faculty appointment)
1980-1981	Post-doctoral Fellow, Smithsonian Institution, U.S. National Museum of Natural History
1977-1979	Pre-doctoral Fellow, Smithsonian Tropical Research Institute and U.S. National Museum of Natural History
1974-1977	Regents Fellow, University of California at Irvine

Recent Honors and Awards

2018	The US National Academy of Sciences Gilbert Morgan Smith Medal
2018	William R. and Lenore Mote Eminent Scholar in Marine Biology (FSU, 2018-19)
2018	Selected (as the only outside scientist) to help advise The Nature Conservancy on developing a strategy for optimizing use of the Palmyra Field Station

2016 International Society of Chemical Ecology Silver Metal (the Society's Highest Honor)
2016 Fellow, Ecological Society of America
2016 Outstanding Faculty Research Author Award (For producing the most impactful publications from Georgia Tech over the previous 5 years)
2015 Lowell Thomas Award from the Explorers Club (*Visionaries of Conservation: Paradigm Shifts in Protecting the Planet*)
2015 Explorers Club National Fellow
2014 Regents' Professor (the highest academic status bestowed by the University System of Georgia)
2013 AAAS Fellow (for "…developing marine chemical ecology and for elucidating how chemical cues and signals structure populations, communities, and ecosystems.")
2012 Cody Award in Ocean Sciences (recognizes outstanding scientific achievement in Oceanography, Marine Biology, and Earth Science)
2011 Class of 1934 Distinguished Professor Award (Ga Tech's highest faculty award)
2010 Hall of Distinguished Alumni, University of Kentucky

Publications: (h-index = 85; total citations = 22,454; Google Scholar November 2018)

Submitted:

232) Lester SE, Rassweiler A, McCoy SJ, Donovan MK, Dubel A, Hill K, Miller MW, Miller SD, Ruttenberg BI, Jameal F. Samhouri JF, Wulff JL, Hay ME (Submitted) Caribbean reefs of the Anthropocene: bright spots among coral depauperate reefs. **Nature Communications**
231) Beatty DS, Valayil JM, Clements CS, Ritchie KB, Stewart FJ, Hay ME (in review) Local management can enhance coral chemical defense against a thermally-regulated bleaching pathogen. **Science Advances**

Published or in press:

230) Clements CS and Hay ME. 2019 Biodiversity enhances coral growth, survivorship, and resistance to competitors. **Nature Ecology and Evolution** 10.1038/s41559-018-0752-7 (coverage by: PBS/NOVA/Planet Earth,
229) Longo GO, Hay ME, Ferreira CLO, Floeter SR. 2018. Trophic interactions across 61 degrees of latitude in the Western Atlantic. **Global Ecology and Biogeography** **https://doi.org/10.1111/geb.12806**
228) Clements CS and Hay ME. 2018. Overlooked coral predators suppress foundation species as reefs degrade. **Ecological Applications** 10.1002/eap.1765
227) Beatty DS, Clements CS, Stewart FJ, Hay ME. 2018. Inter-generational effects of macroalgae on a reef coral: major declines in larval survival but subtle changes in microbiomes. **Marine Ecology Progress Series** 589: 97-114 https://doi.org/10.3354/meps12465.
226) Pratte ZA, Longo GO, Burns AS, Hay ME, Stewart FS. 2018. Contact with turf algae alters the coral microbiome: contact versus systemic impacts. **Coral Reefs** 37: 1-13 DOI 10.1007/s00338-017-1615-4
225) Clements CS, Rasher DB, Hoey AS, Bonito VJ, and Hay ME. 2018. Spatial and temporal limits of coral-macroalgal competition: the negative impacts of macroalgal density, proximity, and history of contact. **Marine Ecology Progress Series** 586: 11–20
224) Burkepile DE, Rasher DB, Adam TC, Hoey AS, Hay ME. 2018. Functional variation among parrotfishes: are they complementary or redundant? In: Hoey AS, Bonaldo R Eds. *The Biology and Ecology of Parrotfishes*. CRC Press, Boca Raton
223) Rasher DB, Hoey AS, Hay ME. 2017. Cascading predator effects in a Fijian coral reef ecosystem. **Scientific Reports** 7:15684 DOI:10.1038/s41598-017-15679-w

222) Demko AM, Amsler CD, Baker BJ, Hay ME, Long JD, McClintock JB, Paul VJ, Sotka EE. 2017. Declines in plant palatability from polar to tropical latitudes depend on herbivore and plant identity. **Ecology** 98: 32312-2321

221) Hay ME, Beatty DS, Stewart FJ. 2017. Chemical ecology: the language of microbiomes. National Academies of Sciences, Engineering, and Medicine. 2017. *The Chemistry of Microbiomes: Proceedings of a Seminar Series*. Washington, DC: The National Academies Press. doi: https://doi.org/10.17226/24751.

220) Steneck RS, Bellwood DR, Hay ME. 2017. Herbivory in the marine realm: shaping ecosystems and colliding with the Anthropocene. **Current Biology** 27: R484-489.

219) Clements CS and ME Hay. 2017. Size matters: mesopredator outbreaks threaten foundation species in small marine protected areas. **PLoS ONE** DOI:10.1371/journal.pone.0171569 (outreach stories appeared in Futurity http://www.futurity.org/coral-reefs-sea-stars-1355702-2/; Science Daily https://www.sciencedaily.com/releases/2017/02/170206155942.htm; International Business Times http://www.ibtimes.com/coral-reef-protection-marine-sanctuaries-can-be-counterproductive-if-they-are-small-2487768; etc.

218) Bonaldo RM, Guimarães PR, Pires MM, Hay ME. 2017. Small marine protected areas in Fiji provide refuge for reef fish assemblages, feeding groups, and corals. **PLoS ONE** http://dx.doi.org/10.1371/journal.pone.0170638

217) del Monaco CA, Hay ME, Gartrell P, Mumby PJ, Diaz-Pulido G. 2017. Effects of ocean acidification on the potency of macroalgal allelopathy to a common coral. **Scientific Reports** DOI: 10.1038/srep41053

216) Longo GO, ME Hay. 2017. Seaweed allelopathy to corals: are active compounds on, or in, seaweeds? **Coral Reefs** 36:247-253; DOI 10.1007/s00338-016-1526-9

215) Hay ME, Kicklighter CE 2017. Grazing, Effects of, In Reference Module in Life Sciences, Elsevier, 2017, ISBN: 978-0-12-809633-8, http://dx.doi.org/10.1016/B978-0-12-809633-8.02099-9

214) Dell CLA, Hay ME. 2016. Induced defence to grazing by vertebrate herbivores: uncommon or under-investigated? **Marine Ecology Progress Series** 561: 137–145 doi: 10.3354/meps11928

213) Brooker RM, Hay ME, Dixson DL. 2016. Chemically-cued suppression of coral reef resilience: where is the tipping point? **Coral Reefs** 35:1263-1270 0 DOI 10.1007/s00338-016-1474-4

212) Dell CLA, Longo GO, Hay ME. 2016. Positive feedbacks enhance macroalgal resilience on degraded coral reefs. **PLoS ONE** 11(5) e0155049. Doi: 10.1371/journal.pone.0155049

211) Hay ME. 2016. Negating the plant apparency model: rigorous tests are the fuel of progress. **New Phytologist** 210: 770-771.

210) Dell CLA, Montoya JP, Hay ME. 2015. Effect of marine protected areas (MPA) on food web integrity: MPA fish feed higher in the food chain. **Marine Ecology Progress Series** 540: 227–234 doi 10.3354/meps11487

209) Rasher DB, Stout EP, Engel S, Shearer TL, Kubanek J, Hay ME. 2015. Marine and terrestrial herbivores display convergent chemical ecology despite 400 million years of independent evolution. **Proceedings of the National Academy of Sciences** 112:12110-12115 doi:10.1073/pnas.1508133112 (Covered by: *Chemical and Engineering News, Canadian Broadcasting Company*, *American Academy for the Advancement of Sciences*, *Phys.org*,)

208) Clements CS and ME Hay. 2015. Competitors as accomplices: seaweed competitors hide corals from predatory starfish. **Proceedings of the Royal Society B** 20150714. http://dx.doi.org/10.1098/rspb.2015.0714 (Covered by *Nature, Scientific American*, etc.)

207) Gibbs DA, ME Hay. 2015. Spatial patterns of coral survivorship: Janzen-Connell effects versus other drivers of localized mortality for brooding corals. **Peer J** https://peerj.com/articles/1440/

206) Longo GO, ME Hay. 2015. Does seaweed-coral competition make seaweeds more palatable? **Coral Reefs** 34: 87-96. DOI 10.1007/s00338-014-1230-6

205) Dixson DL, D Abrego, ME Hay. 2014. Chemically-mediated behavior of recruiting corals and fishes: a tipping point that may limit reef recovery. **Science** 345:892-897 (Received a Web-of-Science "Highly Cited" designation)

204) Vergés A, PD Steinberg, ME Hay, AG Poore, AH Campbell, E Ballesteros, KL Heck Jr., D Booth, MA Coleman, D Feary, W Figueira, T Langlois, EM Marzinelli, T Mizerek, PJ Mumby, Y Nakamura, M Roughan, E van Sebille, A Sen Gupta, DA Smale, F Tomas, T Wernberg, SK Wilson. 2014. The tropicalisation of temperate marine ecosystems: Climate-mediated changes in herbivory cause community phase shifts. **Proceedings of the Royal Society B** 281: 20140846. http://dx.doi.org/10.1098/rspb.2014.0846 (Received a Web-of-Science "Highly Cited" designation [top 1%] and "Hot Paper" citation [top 0.1%])

203) Shearer TL, TW Snell, ME Hay. 2014. Gene Expression of corals in response to macroalgal competitors. **PLoS ONE** 9(12): e114525. doi:10.1371/journal.pone. 0114525

202) Hay ME. 2014. Challenges and opportunities in marine chemical ecology. **Journal of Chemical Ecology** 40: 216-217. DOI 10.1007/s10886-014-0393-5 (Invited essay for the 40th Anniversary Edition of the Journal)

201) Bonaldo RM, ME Hay. 2014. Seaweed-coral interactions: variance in seaweed allelopathy, coral susceptibility, and potential effects on coral resilience. **PLoS ONE** 9(1): e85786. doi:10.1371/journal.pone.0085786

200) Rasher DB, ME Hay. 2014. Competition induces allelopathy but suppresses growth and anti-herbivore defence in a chemically rich seaweed. **Proceedings of the Royal Society B** 281: 1-9 http://dx.doi.org/10.1098/rspb.2013.2615

199) Goodman KM, ME Hay. 2013. Activated chemical defenses suppress herbivory on freshwater red algae. **Oecologia** 171: 921-933. (DOI) 10.1007/s10886-012-0204-9

198) Hay, M.E. and C. Kicklighter. 2013. Grazing, Effects of, In: Levin S.A. (ed.) Encyclopedia of Biodiversity, second edition, vol. 4, pp. 8-17. Waltham, MA: Academic Press

197) Rasher DB, A Hoey, and ME Hay. 2013. Consumer diversity interacts with prey defenses to drive ecosystem function. **Ecology** 94: 1347-1358. (received the 2013 George Mercer Award for this paper from the Ecological Society of America. The award recognizes the outstanding publication of the previous two years by a young (<40) ecologist.) (Received a Web-of-Science "Highly Cited" designation)

196) Dixson DL and ME Hay. 2012. Corals chemically cue mutualistic fishes to remove competing seaweeds **Science** 338: 804-807 (Covered in Science, Nature, New York Times, Scientific American, National Geographic, Smithsonian Magazine, Chemical and Engineering News, Science News, New Scientist, LA Times, Discover Magazine, Voice of America, Canadian Broadcasting Company, etc.)

195) Teasdale ME, TL Shearer, S Engel, TS Alexander, CR Fairchild, K Le Roch, J Prudhomme, W Aalbersberg, ME Hay, J Kubanek. 2012. Bromophycoic acids: Bioactive natural products from a Fijian red alga Callophycus sp. **J. Org. Chem**. 77:8000-8006 10.1021/jo301246x

194) Shearer, TL, DB Rasher, TW Snell, ME Hay. 2012. Gene expression patterns of the coral Acropora millepora in response to contact with macroalgae. **Coral Reefs** 31: 1177-1192 (DOI) 10.1007/s00338-012-0943-7

193) Andras TD, TS Alexander, A Gahlena, RM Parry, FM Fernandez, J Kubanek, MD Wang, and ME Hay. 2012. Seaweed allelopathy against coral: surface distribution of seaweed secondary metabolites by imaging mass spectrometry. **J. Chem. Ecol**. 38:1203-1214; 10.1007/s10886-012-0204-9

192) Cervantes S, E P Stout, J Prudhomme, S Engel, M Bruton, M Cervantes, D Carter, Y Tae-Chang, ME Hay, W Aalbersberg, J Kubanek, and K Le Roch. 2012. High content live cell imaging for the discovery of new antimalarial marine natural products. **BMC Infectious Diseases** 12:1 doi:10.1186/1471-2334-12-1

191) Morrison WE and ME Hay. 2012. Are lower latitude plants better defended? Palatability of freshwater macrophytes. **Ecology** 93: 65–74

190) Rasher DB, S Engel, V Bonito, GJ Fraser, JP Montoya, and Hay ME 2012. Effects of herbivory, nutrients, and reef protection on algal proliferation and coral growth on a tropical reef. **Oecologia** 169:187-198. DOI 10.1007/s00442-011-2174-y

189) Long JD and ME Hay. 2012. The impact of trait mediated indirect interactions in marine communities. Pages 47-68, In: T Ohgushi, O Schmitz, and RD Holt (eds) Trait-Mediated Indirect Interactions: Ecological and Evolutionary Perspectives. Cambridge University Press.

188) Marion ZH and Hay ME. 2011. Chemical defense of the Eastern Newt (*Notophthalmus viridescens*): Variation in efficiency against different consumers and in different habitats. **PLoS ONE** 6(12): e27581. doi:10.1371/journal.pone.0027581

187) Rasher DB, S Engel, EP Stout, J Kubanek and ME Hay. 2011. Macroalgal terpenes function as allelopathic agents against reef corals. **Proceedings of the National Academy of Sciences** 108 (43) 17726-17731; doi:10.1073/pnas.1108628108 (Coverage by MSNBC.com, Science Now (Science Magazine), Time, National Geographic, Science Daily, Our Amazing Planet, Yahoo! News, Bits of Science, Fiji Broadcasting, Live Science, Wired Science, Australian Radio, the Canadian Broadcasting Corp. etc. - posted on websites with more than 127 million unique visitors/month)

186) Lasley RS, DB Rasher, ZH Marion, RB Taylor and ME Hay. 2011. Predation constrains host choice for a marine mesograzer. **Marine Ecology Progress Series** 434:91-99

185) Morrison WE and ME Hay. 2011. Herbivore preference for native vs exotic plants: generalist herbivores from multiple continents prefer exotic plants that are evolutionarily naïve. **PLoS ONE** 6(3): e17227. doi:10.1371/journal.pone.0017227

184) Burkepile DE and ME Hay. 2011. Feeding complementarity versus redundancy among herbivorous fishes on a Caribbean reef. **Coral Reefs** 30: 351-362. DOI 10.1007/s00338-011-0726-6

183) Zhang J, J Kubanek, ME Hay, W Aalbersberg, R Jiang. 2011. Rapid identification of triterpenoid sulfates and hydroxy fatty acids including two new constituents from Tydemania expeditionis by liquid chromatography–mass spectrometry. **Journal of Mass Spectrometry** 46: 908-916

182) Hay ME. 2011. Crustaceans as powerful models in aquatic chemical ecology. Pages 41-62 in: Thomas Breithaupt & Martin Thiel (eds.) Chemical Communications in Crustaceans. Springer Science+Business Media LCC, New York.

181) Morrison WE and ME Hay. 2011. Feeding and growth of native, invasive and non-invasive alien apple snails (Ampullariidae) in the United States: Invasives eat more and grow more. **Biological Invasions** 13:945–955 (DOI 10.1007/s10530-010-9881-x)

180) Morrison WE and ME Hay. 2011. Induced chemical defenses in a freshwater macrophyte suppress herbivore fitness and the growth of associated microbes. **Oecologia** 165:427-436. (DOI 10.1007/s00442-010-1791-1)

179) Beattie AJ, ME Hay, B Magnusson, R de Nys, J Smeathers, JFV Vincent. 2011. Ecology and bioprospecting. **Austral Ecology** 36, 341–356 (DOI: 10.1111/j.1442-9993.2010.02170.x

178) Rasher DB and ME Hay. 2010. Seaweed allelopathy degrades the resilience and function of coral reefs. **Communicative and Integrative Biology** 3: 1-4

177) Hay ME and DB Rasher. 2010. Coral reefs in crisis: reversing the biotic death spiral. **F1000 Biology Reports** 2010, 2:71

176) Rasher DB and ME Hay. 2010. Chemically rich seaweeds poison corals when not controlled by herbivores. **Proceedings of the National Academy of Sciences**. 107: 9683-9688. www.pnas.org/cgi/doi/10.1073/pnas.0912095107

175) Hay ME and DB Rasher. 2010. Corals in crisis. **The Scientist** 24(8) 42-46

174) Stout EP, Prudhomme J, Le Roch K, Hay ME, Franzblau S, Fairchild CR, Aalbersberg W, Kubanek J. 2010. Unusual antimalarial meroditerpenes from tropical red macroalgae. **Bioorganic and Medicinal Chemistry Letters** 20:5662-5665. (DOI: 10.1016/j.bmcl.2010.08.031)

173) Burkepile DE and ME Hay. 2010. Impact of herbivore identity on algal succession and coral growth on a Caribbean reef. **PLoS ONE** 5(1): e8963. doi:10.1371/journal.pone.0008963

172) Lin AS, Engel S, Smith BA, Fairchild CR, Aalbersberg W, Hay ME, Kubanek J (2010) Structure and biological evaluation of novel cytotoxic sterol glycosides from a marine red alga Peyssonnelia sp. **Bioorganic and Medicinal Chemistry** 18:8264-8269. DOI:10.1016/j.bmc.2010.10.010

171) Lin, A-S, Stout EP, Prudhomme J, Le Roch K, Fairchild CR, Franzblau SG, Hay ME, Aalbersberg W, Kubanek J. 2010. Bioactive bromophycolides R-U from the Fijian red alga Callophycus serratus. **Journal of Natural Products** 73:275-278. DOI: 10.1021/np900686w

170) Lane AL, L Mular, EJ Drenkard, TL Shearer, S Engel, S Fredericq, CR Fairchild, J Prudhomme, K Le Roch,□□ME Hay, W Aalbersberg, and J Kubanek. 2010. Ecological leads for natural product discovery: novel sesquiterpene hydroquinones from the red macroalga Peyssonnelia sp. **Tetrahedron** 66:455-461

169) Sotka EE and ME Hay. 2009. Effects of herbivores, nutrient enrichment, and their interactions on macroalgal proliferation and coral growth. **Coral Reefs** 28:555–568 (10.1007/s00338-009-0529-1)

168) Burkepile DE and ME Hay. 2009. Nutrient vs. herbivore control of macroalgal community development and coral growth on a Caribbean coral reef. **Marine Ecology Progress Series** 389:71-84

167) Lane AL, Stout EP, Lin A, Prudhomme J, Le Roch K, Fairchild CR, Franzblau SG, Hay ME, Aalbersberg W, and Kubanek J. 2009. Antimalarial Bromophycolides J-Q from the Fijian Red Alga *Callophycus serratus*. **J Org Chem** 74:2736-2742 (DOI: 10.1021/jo900008w)

166) Lane AL, Nyadong L, Galhena AS, Shearer TL, Stout EP, Parry RM, Kwasnik M, Wang M, Hay ME, Fernandez FM, and Kubanek J. 2009. Desorption electrospray ionization mass spectrometry reveals surface-mediated antifungal chemical defense of a tropical seaweed. **Proceedings of the National Academy of Sciences, USA** 106:7314-7319 (also see Commentary in PNAS 106:7269-7270)

165) Stout EP, Hasemeyer A, Lane AL, Davenport T, Engel S, Hay ME, Fairchild CR, Prudhomme J, Le Roch K, Aalbersberg W, Kubanek J (2009) Antibacterial neurymenolides from the Fijian red alga Neurymenia fraxinifolia. **Organic Letters** 11:225-228 (DOI: 10.1021/ol8024814)

164) Hay ME. 2009. Marine chemical ecology: Chemical signals and cues structure marine populations, communities, and ecosystems. **Annual Review of Marine Sciences** 1: 193-212. doi: 10.1146/annurev.marine.010908.163708</DOI> (Received a Web-of-Science "Highly Cited" designation)

163) Jiang R., Lane AL, Mylacraine L, Hardcastle K, Fairchild CR, Hay ME, and Kubanek J. 2008. Structures and Absolute Configurations of Sulfate-Conjugated Triterpenoids Including an Antifungal Chemical Defense of the Green Macroalga *Tydemania expeditionis*. **Journal of Natural Products** 71:1616-1619.

162) Jiang R-W, ME Hay, CR Fairchild, J Prudhomme, K Le Roch, W Aalbersberg, J Kubanek. 2008. Antineoplastic unsaturated fatty acids from Fijian macroalgae. **Phytochemistry** 69:2495-2500.

161) Parker JD, J Montoya, and ME Hay.2008. A specialist detritivore links *Spartina alterniflora* to salt marsh food webs. **Marine Ecology Progress Series** 364:87-95

160) Burkepile DE and ME Hay. 2008. Herbivore species richness and feeding complementarity affect community structure and function on a coral reef. **Proceedings of the National Academy of Sciences, USA** 105: 16201-16206. (Editor's Choice coverage in *Science* 322:651-653; Current Biology coverage 18:988)

159) Burkepile DE and ME Hay. 2008. Coral Reefs. In Sven Erik Jørgensen and Brian D. Fath (Editor-in-Chief), Ecosystems. Vol. [1] of **Encyclopedia of Ecology**, 5 vols. pp. [784-796] Oxford: Elsevier

158) Hollebone AL and ME Hay. 2008.An invasive crab alters interaction webs in a marine community. **Biological Invasions** 10: 347-358. DOI 10.1007/s10530-007-9134-9

157) Burkepile DE and ME Hay. 2007. Predator release of the gastropod *Cyphoma gibbosum* increases predation on gorgonian corals. **Oecologia** 154:167–173

156) Wiesemeier T, ME Hay, Pohnert G. 2007. The potential role of wound-activated volatile release in the chemical defence of the brown alga *Dictyota dichotoma*: blend recognition by marine herbivores. **Aquatic Sciences** 69:403-412

155) Long JD, Smalley GW, Barsby T, Anderson JT, and Hay ME. 2007. Chemical cues induce consumer-specific defenses in a bloom-forming marine phytoplankton. **Proceedings of the National Academy of Sciences, USA** 104:10512-10517

154) Wilson, AE. and ME Hay. 2007. A direct test of cyanobacterial chemical defense: Variable effects of microcystin-treated food on two *Daphnia pulicaria* clones. **Limnology and Oceanography** 52: 1467-1479

153) Parker, JD, CC Caudill, and ME Hay. 2007. Beaver herbivory on aquatic plants. **Oecologia** 151:616-625

152) Lane AL, Stout EP, Hay ME, Prusak AC, Hardcastle K, Fairchild CR, Aalbersberg W, Kubanek J. 2007. Callophycoic acids and callophycols from the Fijian red alga *Callophycus serratus*. **Journal of Organic Chemistry** 72: 7343-7351

151) Hollebone, AL and ME Hay. 2007. Population dynamics of the non-native crab *Petrolisthes armatus* invading the South Atlantic Bight at densities of thousands m^{-2}. **Marine Ecology Progress Series** 336: 211-223.

150) Hollebone, AL and ME Hay 2007. Propagule pressure of an invasive crab overwhelms native biotic resistance. **Marine Ecology Progress Series** 342: 191-196

149) Kicklighter CE and ME Hay. 2007. To avoid or deter: Interactions among defensive and escape strategies in sabellid worms. **Oecologia** 151:161-173

148) Parker JD, DE Burkepile, DO Collins, J Kubanek, and ME Hay. 2007. Mosses as chemically-defended refugia for freshwater macroinvertebrates. **Oikos** 116: 302- 312

147) Parker, JD, DE Burkepile, and ME Hay. 2006. Response to comment on "Opposing effects of native and exotic herbivores on plant invasions." **Science**. 313:298 (5785): doi:10.1126/science.1129065

146) Parker, JD, Burkepile, DE, and Hay, ME. 2006. Opposing effects of native vs. exotic herbivores on plant invasions. **Science** 311: 1459-1461 (Received a Web-of-Science "Highly Cited" designation)

145) Wilson AE, WA Wilson, ME Hay. 2006. Intraspecific variation in growth and morphology of the bloom-forming cyanobacterium, *Microcystis aeruginosa*. **Applied Environmental Microbiology** 72:7386-7389

144) Burkepile, DE, JD Parker, CB Woodson, HJ Mills, J Kubanek, PA Sobecky, and ME Hay 2006. Chemically-mediated competition between microbes and animals: microbes as consumers in food webs. **Ecology** 87:2821-2831. (covered in *Nature* Vol 446: 953; interviews on National Public Radio, other radio and news outlets)

143) Burkepile, DE and Hay ME. 2006. Herbivore versus nutrient control of marine primary producers: Context-dependent effects. **Ecology** 87: 3128-3139.

142) Kubanek J, AC Prusak, TW Snell, RA Giese, CR Fairchild, W Aalbersberg, and ME Hay. 2006. Bromophycolides C-I from the Fijian red alga *Callophycus serratus*. **J. Nat. Prod**. 69:731-735.

141) Parker, JD, Collins DO, Kubanek J, Sullards MC, Bostwick D, Hay ME. 2006. Chemical defenses promote persistence of the aquatic plant *Micranthemum umbrosum*. **Journal of Chemical Ecology** 32: 815-833

140) Long, JD, ME Hay. 2006. When intraspecific exceeds interspecific variance: Effects of phytoplankton morphology and growth phase on copepod feeding and fitness. **Limnology and Oceanography** 51: 988-996.

139) Kicklighter CE and Hay ME. 2006. Defenses of mobile marine invertebrates are integrated with life-style, mobility, and distribution. **Ecological Monographs** 76:195-215.

138) Long JD and Hay ME. 2006. Fishes learn aversions to a nudibranch's chemical defense. **Marine Ecology Progress Series** 307: 199-208.
137) Kubanek J, Prusak AC, Snell TW, Giese R A, Hardcastle KI, Fairchild CR, Aalbersberg W, Raventos-Suarez C, and Hay ME. 2005. Antineoplastic Diterpene-Benzoate Macrolides from the Fijian red alga *Callophycus serratus*. **Organic Letters** 7:5261-5264.
136) Parker JD, Hay ME. 2005. Biotic resistance to plant invasions? Native herbivores prefer non-native plants. **Ecology Letters** 8:959-967
135) Wilson, AE, Sarnelle, O, Neilan BA, Salon TP, Gehringer WW, Hay ME. 2005. Genetic variation of the bloom forming cyanobacterium, *Microcystis aeruginosa*, within and among lakes. **Applied Environmental Microbiology** 71:6126-6133
134) Kubanek J, S Lester, W Fenical, M Hay. 2004. Ambiguous role of phlorotannins as chemical defenses in the brown alga *Fucus vesiculosus*. **Marine Ecology Progress Series** 277:79-93
133) Hay ME, J Parker, D Burkepile, C Caudill, A Wilson, Z Hallinan, A Chequer. 2004. Mutualisms and aquatic community structure: the enemy of my enemy is my friend. **Annual Review of Ecology, Evolution, and Systematics** 35: 175-197
132) Kicklighter CE, CR Fisher, and ME Hay. 2004. Chemical defense of hydrothermal vent and hydrocarbon seep organisms: a preliminary assessment using shallow-water consumers. **Marine Ecology Progress Series** 275:11-19
131) Kicklighter, C. E., J. Kubanek, and M. E. Hay. 2004. Do brominated natural products defend marine worms from consumers? Some do, most don't. **Linmology and Oceanography** 49: 430-441
130) Kicklighter CE, J Kubanek, T Barsby, ME Hay. 2003. Palatability and defense of some tropical infaunal worms: alykylpyrrole sulfamates as deterrents to fish feeding. **Marine Ecology Progress Series** 263:299-306
129) Barsby T, CE Kicklighter, ME Hay, MC Sullards, J Kubanek. 2003. Defensive 2-Alkylpyrrole Sulfamates from the Marine Annelid *Cirriformia tentaculata* [Polychaeta: Cirratulidae]. **J Natural Products** 66:1110-1112.
128) Sotka, E.E., J.P. Wares, M.E. Hay. 2003. Geographic and genetic variation in feeding preference for chemically-defended seaweeds. **Evolution** 57: 2262–2276
127) Deal, M.S., M.E. Hay*, D. Wilson, and W. Fenical 2003. Glactolipids rather than phlorotannins as herbivore deterrents in the brown seaweed *Fucus vesiculosus*. **Oecologia** 136:107-114
126) Taylor, R.B., N. Lindquist, J. Kubanek, and M.E. Hay. 2003. Intraspecific variance in palatability and defensive chemistry of brown seaweeds: effects on herbivore fitness. **Oecologia** 136:412-423
125) Levin, PS and ME Hay. 2003. Selection of estuarine habitats by a juvenile reef fish (*Mycteroperca microlepis*), in experimental mesocosms. **Transactions of the American Fisheries Society** 132:76-83
124) Cruz-Rivera, E. and M.E. Hay. 2003. Prey nutritional quality interacts with chemical defenses to affect consumer feeding and fitness. **Ecological Monographs** 73:483-506.
123) Hay, M.E. 2002. The next wave in aquatic chemical ecology. **Journal of Chemical Ecology** 28:1897-1899.
122) Hay, M and J. Kubanek. 2002. Community and ecosystem level consequences of chemical signaling in the plankton. **Journal of Chemical Ecology** 28:2001-2016.
121) Taylor R.B., E. Sotka, and M.E. Hay 2002. Tissue-specific induction of herbivore resistance: seaweed response to amphipod grazing. **Oecologia** 132:68-76
120) Sotka, E.E., R.B. Taylor, and M.E. Hay. 2002. Tissue specific induction of resistance to herbivores in a brown alga: the importance of direct grazing versus waterborne signals from grazed neighbors. **Journal of Experimental Marine Biology and Ecology** 277:1-12
119) Sotka, E.E. and M.E. Hay. 2002. Geographic variation among herbivore populations in tolerance for a chemically-rich seaweed. **Ecology** 83: 2721-2735

118) LevinP.S., J. Ellis, R. Petrik, and M.E. Hay. 2002. Indirect effects of horses on estuarine communities. **Conservation Biology** 16:1364-1371
117) Bullard, S.G. and M.E. Hay. 2002. Palatability of marine holoplankton: nematocysts, nutritional quality, and chemistry as defenses against consumers. **Limnology and Oceanography** 47:1456-1467
116) Bullard, S.G. and M.E. Hay 2002. Plankton tethering to assess spatial patterns of predation risk over a coral reef and seagrass bed. **Marine Ecology Progress Series** 225:17-28
115) Levin, P.S. and M.E. Hay. 2002. Local-scale versus large-scale factors affecting recruitment: Fish-seaweed associations on temperate reefs. **Marine Ecology Progress Series** 232:239-246
114) Cronin, G, D.M. Lodge, M.E. Hay, M. Miller, A.M. Hill, T. Horvath, R.C. Bolser, N. Lindquist, and M. Wahl. 2002. Crayfish feeding preferences for freshwater macrophytes: the influence of plant structure and chemistry. **Journal of Crustacean Biology**: 22: 708-718
113) Cruz-Rivera, E. and M.E. Hay 2001. Macroalgal traits and the feeding and fitness of an herbivorous amphipod: the roles of selectivity, mixing, and compensation. **Marine Ecology Progress Series** 218: 249-266
112) Schnitzler, I., G. Pohnert, M.E. Hay, and W. Boland. 2001. Chemical defense of the brown algae (*Dictyopteris* spp.) against the herbivorous amphipod *Ampithoe longimana*. **Oecologia** 126:515-521.
111) Bertness, M.D., S.D. Gaines, and M.E. Hay. Eds. 2001. *Marine Community Ecology*. Sinaur Press. Sunderland, Massachusetts.
110) Duffy, J.E. and M.E. Hay. 2001. Ecology and evolution of marine consumer-prey interactions. Pages 131-157, In Bertness, M, M.E. Hay and S.D. Gaines (eds.) *Marine Community Ecology*, Sinauer Press, Sunderland, Massachusetts.
109) Hay, M.E. and C. Kicklighter. 2001. Grazing, effects of. *Encyclopedia of Biodoversity*, Volume 3, pages 265-276. Academic Press, San Diego, CA.
108) Hay, M.E. 2001. Ecología química marina: paralelos y contrastes con los sistemas terrestres. Pp. 633-714. In: A.L. Anaya, F. Espinosa-García, and R.Cruz-Ortega, editors. Relaciones Químicas entre Organismos: Aspectos Básicos y Perspectivas de su Aplicación. Instituto de Ecología, UNAM y Plaza y Valdés, S.A. de C.V. México.
107) Kubanek J, M.E. Hay, P.J. Brown, N. Lindquist, W. Fenical.2001. Lignoid chemical defenses in the freshwater macrophyte *Saururus cernuus*. **Chemoecology** 11-1-8.
106) Cetrulo, G.L. and M.E. Hay. 2000 Activated chemical defenses in tropical versus temperate seaweeds. **Marine Ecology Progress Series**. 207: 243-253.
105) Kubanek, J., W. Fenical, M.E. Hay, P.J. Brown, N. Lindquist. 2000. Two antifeedant lignans from the freshwater macrophyte Saurus cernuus. **Phytochemistry** 54:281-287.
104) Stachowicz, J.J. and M.E. Hay 2000. Geographic variation in camouflaging behavior by a decorator crab: southern populations specialize on chemically noxious decorations. **American Naturalist** 156: 59-71
103) Cruz-Rivera, E. and M.E. Hay. 2000. The effects of diet mixing on consumer fitness: macroalgae, epiphytes, and animal matter as food for marine amphipods. **Oecologia** 123:252-264.
102) Duffy, J.E. and M.E. Hay. 2000. Strong impacts of grazing amphipods on the organization of a benthic community. **Ecological Monographs** 70:237-263.
101) Cruz-Rivera, E, and M.E. Hay. 2000. Can food quantity replace food quality? food choice, compensatory feeding, and the fitness of marine mesograzers. **Ecology** 81:201-219
100) Jumars, P. and M.E. Hay. 1999. Ocean ecology: Understanding and vision for research. Proceedings of the OEUVRE workshop, March 1-6, 1998 in Keystone Colorado, under sponsorship of an award to the University Corporation for Atmospheric Research, Joint Office for Science Support from the National Science Foundation, OCE, 66pp.
99) Bullard, S.G., N.L. Lindquist, and M.E. Hay. 1999. Susceptibility of invertebrate larvae to predators: how common are post-capture larval defenses? **Marine Ecology Progress Series** 191:153-161

98) Stachowicz, J.J. and M.E. Hay. 1999. Reduced mobility is associated with compensatory feeding and increased diet breadth of marine crabs. **Marine Ecology Progress Series** 188:169-178

97) Hay, M.E. and P. Jumars. 1999. Collaborating "ocean ecologists" assess achievements, prepare for challenges. **EOS Transactions of the American Geophysical Union** 80: 77-81

96) Hay, M.E. and P. Jumars. 1999. The future of biological oceanography: challenges and opportunities in ocean ecology. **Bulletin of the Ecological Society of America** 80:80-82 and **Bulletin of the American Society of Limnology and Oceanography** 8: 33-35 (The same article was printed by both).

95) Miller, M.W., M.E. Hay, S.L. Miller, D. Malone, E.E. Sotka, and A.M. Szmant 1999. Effects of nutrients vs. herbivores on reef algae: A new method for manipulating nutrients on coral reefs. **Limnology and Oceanography** 44:1847-1861 (the Feature Article for this issue)

94) Sotka, E.E., M.E. Hay, and J. D. Thomas. 1999. Host-plant specialization by a non-herbivorous amphipod: advantages for the amphipod and costs for the seaweed. **Oecologia** 118:471-482.

93) Stachowicz, J.J. and M.E. Hay. 1999. Reducing predation through chemically-mediated camouflage: indirect effects of plant defenses on herbivores. **Ecology** 80:495-509.

92) Stachowicz, J. J. and M. E. Hay. 1999. Mutualism and coral persistence: the role of herbivore resistance to algal chemical defense. **Ecology** 80:2085-2101.

91) Wilson, D, W. Fenical, M.E. Hay, N. Lindquist, and R.C. Bolser. 1999. Habenariol: a freshwater feeding deterrent from the aquatic orchid *Habenaria repens* (Orchidaceae) **Phytochemistry** 50:1333-1336.

90) Hay, M.E., J. Piel, W. Boland, and I. Schnitzler. 1998. Seaweed sex pheromones and their degredation products frequently suppress amphipod feeding but rarely suppress sea urchin feeding. **Chemoecology** 8:91-98.

89) Bolser, R.C., M.E. Hay, N. Lindquist, W. Fenical, and D. Wilson. 1998. Chemical defenses of freshwater macrophytes against crayfish herbivory. **Journal of Chemical Ecology** 24: 1639-1658.

88) Schnitzler, I., W. Boland, and M.E. Hay. 1998. Organic sulfur compounds from *Dictyopteris* spp. (Phaeophyceae) deter feeding by an herbivorous amphipod (*Ampithoe longimana*) but not by an herbivorous sea urchin (*Arbacia punctulata*). **Journal of Chemical Ecology** 28:1715-1732.

87) Bolser, R.C. and M.E. Hay. 1998. A field test of inducible resistance to specialist and generalist herbivores using the water lily *Nuphar luteum*. **Oecologia** 116:143-153.

86) Miller, M.W. and M.E. Hay 1998. Effects of fish predation and seaweed competition on the survival and growth of corals. **Oecologia** 113: 231-238.

85) Hay, M.E., J.J. Stachowicz, E. Cruz-Rivera, S. Bullard, M.S. Deal, and N. Lindquist. 1998. Bioassays with marine and freshwater macroorganisms. Pages 39-141, *In*: K.F. Haynes and J.G. Millar (eds.) *Methods in Chemical Ecology,* Volume 2, *Bioassay Methods*, Chapman and Hall, New York.

84) Schmitt, T.M., N. Lindquist, and M.E. Hay. 1998. Seaweed secondary metabolites as antifoulants: effects of *Dictyota* spp. Diterpenes on survivorship, settlement, and development of invertebrate larvae. **Chemoecology** 8:125-131.

83) Hay, M.E. 1997. Synchronous spawning and nocturnal growth of tropical seaweeds: when timing is everything. **Science** 275:1080-1081 (invited Perspective article)

82) Wahl, M., M.E. Hay and P. Enderlein 1997. Effects of epibiosis on concumer-prey interactions. **Hydrobiologica** 355:49-59.

81) Hay, M.E. 1997. The ecology and evolution of seaweed-herbivore interactions on coral reefs. **Coral Reefs** 16, Supplement: S67-S76. (also published in the **Proceedings of the 8th International Coral Reef Symposium** Vol. I: 23-32. 1997 (it was a plenary talk for these meetings).

80) Hay, M.E. 1997. Calcified seaweeds on coral reefs: complex defenses, trophic relationships, and value as habitats. **Proceedings of the 8th International Coral Reef Symposium** Vol. 1:713-718.

79) Cronin, G., V.J. Paul, M.E. Hay, and W. Fenical. 1997. Are tropical herbivores more resistant than temperate herbivores to seaweed chemical defenses? Diterpenoid metabolites from Dictyota

acutiloba as feeding deterrents for tropical versus temperate fishes and urchins. **Journal of Chemical Ecology** 23: 289-302.

78) Hay, M.E. 1996. Defensive synergisms?: Reply to Pennings. **Ecology** 77: 1950-1952.

77) Hardt, I.H., W. Fenical, G. Cronin, and M.E. Hay. 1996. Acutilols, potent herbivore feeding deterrents from the tropical brown alga *Dictyota acutiloba*. **Phytochemistry** 43: 71-73.

76) Cronin, G. and M.E. Hay. 1996. Effects of light and nutrient availability on the growth, secondary chemistry, and resistance to herbivory of two brown seaweeds. **Oikos** 77:93-106.

75) Cronin, G. and M.E. Hay. 1996. Chemical defenses, protein content, and susceptibility to herbivory of diploid vs. haploid stages of the isomorphic brown alga *Dictyota ciliolata* (Phaeophyta). **Botanica Marina** 39: 395-399.

74) Hay, M.E. 1996. Marine chemical ecology: What is known and what is next? **Journal of Experimental Marine Biology and Ecology** 200: 103-134 (special review requested in celebration of the 200th volume of the journal).

73) Hay, M.E. and W. Fenical. 1996. Chemical ecology and marine biodiversity: Insights and products from the sea. **Oceanography** 9: 10-20. (invited article for a special issue on marine biodiversity)

72) Bolser, R.C. and M.E. Hay. 1996. Are tropical plants better defended? Palatability and defenses of temperate versus tropical seaweeds. **Ecology** 77: 2269-2286 (Synopsis published in *BBC Wildlife Magazine* March 1997)

71) Lindquist, N. and M.E. Hay. 1996. Palatability and chemical defenses of marine invertebrate larvae. **Ecological Monographs** 66: 431-450.

70) Miller, M.W. and M.E. Hay. 1996. Coral-seaweed-grazer-nutrient interactions on temperate reefs. **Ecological Monographs** 66: 323-344.

69) Cronin, G. and M.E. Hay. 1996. Susceptibility to herbivores depends on recent history of both the plant and animal. **Ecology** 77: 1531-1543.

68) Cronin, G. and M.E. Hay. 1996. Induction of seaweed chemical defenses by amphipod grazing. **Ecology** 77: 2287-2301.

67) Levin, P.S. and M.E. Hay. 1996. Responses of temperate reef fishes to alterations in seaweed structure and species composition. **Marine Ecology Progress Series** 134: 37-47.

66) Stachowicz, J.J. and M.E. Hay. 1996. Facultative mutualism between an herbivorous crab and its coralline algal host: advantages of eating noxious seaweeds. **Oecologia** 105:377-387.

65) Cronin, G. and M.E. Hay. 1996. Within-plant variation in seaweed palatability and chemical defenses: Optimal defense theory versus the growth-differentiation balance hypothesis. **Oecologia** 105:361-368.

64) Wahl, M. and M.E. Hay. 1995. Associational resistance and shared doom: Effects of epibiosis on herbivory. **Oecologia** 102: 329-340.

63) Cronin, G., N. Lindquist, M.E. Hay, and W. Fenical. 1995. Effects of storage and extraction procedures on yields of lipophilic metabolites from the brown seaweeds *Dictyota ciliolata* and *Dictyota menstrualis*. **Marine Ecology Progress Series** 119: 265-273.

62) Cronin, G., M.E. Hay, W. Fenical, and N. Lindquist. 1995. Distribution, density, and sequestration of host chemical defenses by the specialist nudibranch *Tritonia hamnerorum* found at high densities on the sea fan *Gorgonia ventalina*. **Marine Ecology Progress Series** 119: 177-189.

61) Lindquist, N. and M.E. Hay. 1995. Can small rare prey be chemically defended? the case for marine larvae. **Ecology** 76: 1347-1358.

60) Schmitt, T.M., M.E. Hay, and N. Lindquist. 1995. Constraints on chemically-mediated coevolution: multiple functions for seaweed secondary metabolites. **Ecology** 76: 107-123.

59) Hay, M.E. 1994. Species an "noise" in community ecology: do seaweeds block our view of the kelp forest? **Trends in Ecology and Evolution** 9:414-416.

58) Duffy, J. E. and M. E. Hay. 1994. Herbivore resistance to seaweed chemical defense: the roles of herbivore mobility and predation risk. **Ecology** 75:1304-1319.

57) Hay, M. E., Q. E. Kappel, and W. Fenical. 1994. Synergisms in plant defenses against herbivores: interactions of chemistry, calcification, and plant quality. **Ecology** 75: 1714-1726.

56) Shen, Y., P. I. Tsai, W. Fenical, and M. E. Hay. 1993. Secondary metabolite chemistry of the Caribbean marine alga *Sporochnus bolleanus*: a basis for herbivore chemical defense. **Phytochemistry** 32:71-75.
55) Park, M., W. Fenical, and M. E. Hay. 1992. Debromoisocymobarbatol, a new chromanol feeding deterrent from the marine alga *Cymopolia barbata*. **Phytochemistry** 31:4115-4118.
54) Lindquist, N., M. E. Hay, and W. Fenical. 1992. Defense of ascidians and their conspicuous larvae: Adult vs. larval chemical defenses. **Ecological Monographs** 62:547-568.
53) Littler, D. S., M. M. Littler, and M. E. Hay. 1992. *Avrainvillea fenicalii* sp. nov., pages 384-387 in Littler, D. S. and M. M. Littler. Systematics of *Avrainvillea* (Bryopsidales, Chlorophyta) in the tropical western Atlantic. **Phycologia** 31:375-418.
52) Hay, M. E. and P. D. Steinberg. 1992. The chemical ecology of plant-herbivore interactions in marine versus terrestrial communities. pages 371-413 in J. Rosenthal and M. Berenbaum (eds.), *Herbivores: Their Interaction with Secondary Metabolites, Evolutionary and Ecological Processes*. Academic Press, San Diego, CA.
51) Hay, M. E. 1992. The role of seaweed chemical defenses in the evolution of feeding specialization and in the mediation of complex interactions. pages 93-118 in V. J. Paul (ed.), *Ecological Roles for Marine Natural Products*. Comstock Press, Ithaca, NY, USA.
50) Hay, M. E. and W. Fenical. 1992. Chemical mediation of seaweed-herbivore interactions. pages 319-337 in D. M. John, S. S. Hawkins, and J. H. Price (eds.), *Plant-Animal Interactions in the Marine Benthos*. Systematics Association Special Volume, Clarendon Press, Oxford.
49) Lindquist, N. and M. E. Hay. 1991. A Secret World-Natural Products of Marine Life. **Limnology and Oceanography** 36:1068 (book review).
48) Hay, M. E. 1991. The natural function of seaweed secondary metabolites. pages 19-22 in M.-F. Thompson, R. Sarojini, and R. Nagabhushanam (eds.), *Bioactive Compounds from Marine Organisms*. Oxford & IBH Publishing Co., P.V.T. Ltd., New Delhi, India.
47) Hay, M. E. 1991. Marine-terrestrial contrasts in the ecology of plant chemical defenses against herbivores. **Trends in Ecology and Evolution** 6:362-365.
46) Hay, M. E. 1991. Fish-seaweed interactions on coral reefs: effects of herbivorous fishes and adaptations of their prey. pages 96-119 in P. F. Sale (ed.), *The Ecology of Fishes on Coral Reefs* Academic Press, San Diego, CA.
45) Duffy, J. E. and M. E. Hay. 1991. Food and shelter as determinants of food choice by an herbivorous marine amphipod. **Ecology** 72:1286-1298.
44) Duffy, J. E. and M. E. Hay. 1991. Amphipods are not all created equal: a reply to Bell. **Ecology** 72:354-358.
43) Hay, M. E., J. E. Duffy, V. J. Paul, P. E. Renaud, and W. Fenical. 1990. Specialist herbivores reduce their susceptibility to predation by feeding on the chemically-defended seaweed *Avrainvillea longicaulis*. **Limnology and Oceanography** 35:1734-1743.
42) Duffy, J. E. and M. E. Hay. 1990. Seaweed adaptations to herbivory. **BioScience** 40:368-375.
41) Hay, M. E., J. E. Duffy, and W. Fenical. 1990. Host-plant specialization decreases predation on a marine amphipod: an herbivore in plant's clothing. **Ecology** 71:733-743.
40) Holmlund, M. B., C. H. Peterson, and M. E. Hay. 1990. Does algal morphology affect amphipod susceptibility to fish predation? **Journal of Experimental Marine Biology and Ecology** 139:65-83.
39) Renaud, P. E., M. E. Hay, and T. M. Schmitt. 1990. Interactions of plant stress and herbivory: intraspecific variation in the susceptibility of a palatable versus an unpalatable seaweed to sea urchin grazing. **Oecologia** 82:217-226.
38) Roussis, V., J. R. Pawlik, M. E. Hay, and W. Fenical. 1990. Secondary metabolites of the chemically-rich ascoglossan *Cyerce nigricans*. **Experientia** 46:327-329.
37) Hay, M. E., J. R. Pawlik, J. E. Duffy, and W. Fenical. 1989. Seaweed-herbivore-predator interactions: host-plant specialization reduces predation on small herbivores. **Oecologia** 81:418-427.

36) Gil-Turnes, M. S., M. E. Hay, and W. Fenical. 1989. Symbiotic marine bacteria chemically defend crustacean embryos from a pathogenic fungus. **Science** 246:116-118.
35) Hay, M. E., J. E. Duffy, W. Fenical. 1988. Seaweed chemical defenses: among-compound and among-herbivore variance. **Proceedings of the 6th International Coral Reef Congress**. Townsville, Australia, Vol. 3:43-48.
34) Hay, M. E., J. E. Duffy, W. Fenical, and K. Gustafson. 1988. Chemical defense in the seaweed *Dictyopteris delicatula*: differential effects against reef fishes and amphipods. **Marine Ecology Progress Series** 48:185-192.
33) Hay, M. E. and W. Fenical. 1988. Marine plant-herbivore interactions: the ecology of chemical defense. **Annual Review of Ecology and Systematics** 19:111-145.
32) Pfister, C. A. and M. E. Hay. 1988. Associational plant refuges: convergent patterns in marine and terrestrial communities result from differing mechanisms. **Oecologia** 77:118-129.
31) Hay, M. E. and J. P. Sutherland. 1988. The ecology of rubble structures of the South Atlantic Bight: a community profile. **U.S. Fish and Wildlife Service Biological Report** 85 (7.10). 67 pp.
30) Hay, M. E., V. J. Paul, S. M. Lewis, K. Gustafson, J. Tucker, and R. Trindell. 1988. Can tropical seaweeds reduce herbivory by growing at night?: diel patterns of growth, nitrogen content, herbivory, and chemical versus morphological defenses. **Oecologia** 75:233-245. (Synopsis of this published in BBC magazine and Insight magazine)
29) Hay, M. E., P. E. Renaud, and W. Fenical. 1988. Large mobile versus small sedentary herbivores and their resistance to seaweed chemical defenses. **Oecologia** 75:246-252. (Synopsis of this published in BBC magazine)
28) Paul, V. J., M. E. Hay, J. E. Duffy, W. Fenical, and K. Gustafson. 1987. Chemical defense in the seaweed *Ochtodes secundiramea* (Montague) Howe (Rhodophyta): effects of its monoterpenoid components upon diverse coral-reef herbivores. **Journal of Experimental Marine Biology and Ecology** 114:249-260.
27) Hay, M. E. 1987. The physiological ecology of seaweeds. **Limnology and Oceanography** 32:1178-1179 (book review).
26) Hay, M. E., J. E. Duffy, C. Pfister, and W. Fenical. 1987. Chemical defense against different marine herbivores: are amphipods insect equivalents? **Ecology** 68:1567-1580.
25) Hay, M. E., W. Fenical, and K. Gustafson. 1987. Chemical defense against diverse coral reef herbivores. **Ecology** 68:1581-1591.
24) Hay, M. E. and W. Fenical. 1987. Integrating marine chemical ecology and biotechnology. Workshop Report for the Ocean Sciences Division of the National Science Foundation. 13 pp.
23) Hay, M. E. and J. E. Duffy. 1987. Marine natural products as ecologically sound agrochemicals and cancer drugs. **Journal of the Washington Academy of Sciences** 77:205.
22) Hay, M. E. 1986. Associational plant defenses and the maintenance of species diversity: turning competitors into accomplices. **American Naturalist** 128: 617-641.
21) Paul, V. J. and M. E. Hay. 1986. Seaweed susceptibility to herbivory: chemical and morphological correlates. **Marine Ecology Progress Series** 33:255-264.
20) Hay, M. E. 1986. An introduction to coastal ecology. **Ecology** 67:1437 (book review).
19) Hay, M. E., R. R. Lee, R. A. Guieb, and M. M. Bennett. 1986. Food preference and chemotaxis in the sea urchin *Arbacia punctulata*. **Journal of Experimental Marine Biology and Ecology** 96:147-153.
18) Hay, M. E. 1986. Functional geometry of seaweeds: ecological consequences of thallus layering and shape in contrasting light environments. pages 635-666 in T. J. Givnish (ed.), *On the Economy of Plant Form and Function*. Cambridge University Press, New York, New York, USA.
17) Hay, M. E. 1985. Spatial patterns of herbivore impact and their importance in maintaining algal species richness. **Proceedings of the Fifth International Coral Reef Congress** 4:29-34.
16) Hay, M. E. and P. R. Taylor. 1985. Competition between herbivorous fish and urchins on Caribbean reefs. **Oecologia** 65:591-598.

15) Hay, M. E. 1984. Spatial escapes from herbivory and the evolution of herbivore resistance in seaweeds on coral reefs. pages 52-53 in *Advances in Reef Sciences, Atlantic Reef Committee and the International Society for Reef Studies*. Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, Florida.
14) Taylor, P. R. and M. E. Hay. 1984. Functional morphology of intertidal seaweeds: adaptive significance of aggregate vs. solitary forms. **Marine Ecology Progress Series** 18:295-302.
13) Hay, M. E. 1984. Predictable spatial escapes from herbivory: how do these affect the evolution of herbivore resistance in tropical marine communities? **Oecologia** 64:396-407.
12) Hay, M. E. and S. D. Gaines. 1984. Geographic differences in herbivore impact: do Pacific herbivores prevent Caribbean seaweeds from colonizing via the Panama Canal? **Biotropica** 16:24-30.
11) Hay, M. E. 1984. Coral reef ecology: have we been putting all of our herbivores in one basket? **BioScience** 34:323-324.
10) Hay, M. E. 1984. Patterns of fish and urchin grazing on Caribbean coral reefs: are previous results typical? **Ecology** 65(2):446-454.
9) Hay, M. E. and J. N. Norris. 1984. Seasonal reproduction and abundance of six sympatric species of *Gracilaria* Grev. (Gracilariaceae; Rhodophyta) on a Caribbean subtidal sand plain. **Hydrobiologia** 116/117:63-74.
8) Hay, M. E., T. Colburn, and D. Downing. 1983. Spatial and temporal patterns in herbivory on a Caribbean fringing reef: the effect on plant distribution. **Oecologia** 58:299-308.
7) Hay, M. E. and T. Goertemiller. 1983. Between-habitat differences in herbivore impact on Caribbean coral reefs. pages 97-102 in M. L. Reaka (ed.), *The Ecology of Deep and Shallow Coral Reefs*. Symposia Series for Undersea Research, Vol. 1. Office of Undersea Research, NOAA, Rockville, Maryland, USA.
6) Fuller, P. J. and M. E. Hay. 1983. Is glue production by seeds of *Salvia columbariae* a deterrent to desert granivores? **Ecology** 64:960-963.
5) Hay, M. E. 1981. Herbivory, algal distribution, and the maintenance of between-habitat diversity on a tropical fringing reef. **The American Naturalist** 118:520-540. (Republished in Nybakken, J. W. 1986. *Readings in Marine Ecology*. Harper & Row Publishers, New York.)
4) Hay, M. E. 1981. The functional morphology of turf forming seaweeds: persistence in stressful marine habitats. **Ecology** 62:739-750.
3) Hay, M. E. 1981. Spatial patterns of grazing intensity on a Caribbean barrier reef: herbivory and algal distribution. **Aquatic Botany** 11:97-109.
2) Hay, M. E. and P. J. Fuller. 1981. Seed escape from heteromyid rodents: the importance of microhabitat and seed preference. **Ecology** 62:1395-1399.
1) O'Dowd, D. J. and M. E. Hay. 1980. Mutualism between harvester ants and a desert ephemeral: seed escape from desert rodents. **Ecology** 61:531-540.

Patents

US. Patent No. 8,481,757, U.S. Application Serial No. 13/021,171. Issued 7/9/2013. Compounds and Compositions Useful in the Treatment of Malaria (Kubanek J, ME Hay, KG Le Roch, EP Stout, AL Lane, A-S Lin) (IC)3 Ref. 4744; UC Ref. 2009-448; MBSS Ref. 9844-8

[Discovery of novel bioactive natural products by Kubanek & Hay groups as a result of NIH-ICBG project on drug discovery from coral reef organisms in Fiji

U.S. Provisional Patent Application filed February 12, 2009 and February 5, 2010 by Georgia Tech (serial # 61/151,952): "Antimalarial activity of bromophycolide natural products"

[Discovery of novel bioactive natural products by Kubanek & Hay groups as a result of NIH-ICBG project on drug discovery from coral reef organisms in Fiji]

U.S. Provisional Patent Application filed November 12, 2008 and December 1, 2009 by Georgia Tech (serial # 61/113,732): "Antibacterial neurymenolides from the Fijian red alga *Neurymenia fraxinifolia*"
[Discovery of novel bioactive natural products by Kubanek & Hay groups as a result of NIH-ICBG project on drug discovery from coral reef organisms in Fiji]

U.S. Provisional Patent Application filed June 17th, 2005 by Georgia Tech:
"Diterpene-Benzoate Macrolides"
[Discovery of novel bioactive natural products by Kubanek, Hay, Snell groups as a result of NIH-ICBG project on drug discovery from coral reef organisms in Fiji]

N. L. Lindquist and M.E. Hay (patents #s 5,705,146 - issued 1/6/98; and 5.905,158 and 6,084,118 – issued 5/18/99) "Sunscreening compositions comprising natural products of a marine hydroid, and derivates thereof."

Editorial Activities

2016- present	Associate Editor – *Science Advances*
2012-2017	Editorial Board - *PeerJ*
2010-2013	Ecology Editor – *Coral Reefs*
2009-present	Faculty of 1000 Biology, Ecology Advisory Board
2002- present	Editorial Board – *Journal of Chemical Ecology*
2001-2013	Editorial Board – *Coral Reefs*
2006 – 2008	Editorial Board - *Frontiers in Ecology and the Environment*
2004 -2005	Associate Editor – *Journal of Chemical Ecology*
2002	Organized and Edited a special issue of the *Journal of Chemical Ecology* devoted to studies in aquatic systems
1997-2002	Associate Editor - Chemoecology
1997-2016	Editorial Board - *Journal of Experimental Marine Biology and Ecology*
1989-1993	Editorial Board - *Ecology, Ecological Monographs*
1989-1992	Editorial Board - *Marine Ecology Progress Series*
1989-1997	Editorial Board - *Chemoecology*

Research Grants

2018-2021	Coastal tropicalisation – adapting to novel ecosystems and trajectories. ARC (the Australian equivalent of NSF) (PIs Adriana Verges and Tracy Ainsworth; Partner investigators Mark Hay and Julia Cole; $430,000)
2017-2018	Chemical analyses of unique edible organisms. The Coca-Cola Company (J Kubanek, F Fernandez, ME Hay; $221,130).
2016-2017	Marine Proposal 1 - The Coca-Cola Company (ME Hay and J Kubanek $319,410)
2016-2022	NSF: DEB, LTER: MCR III: Long-Term Dynamics of a Coral Reef Ecosystem (PIs RJ Schmitt, RC Carpenter, PJ Edmunds, SJ Holbrook – Hay is a participating investigator that gets no funding but has access to the LTER resources for field/lab work in Moorea; $6,762,000)
2015-2016	Cubist Pharmaceuticals (PI ME Hay; $30,000)
2014-2019	NIH, International Cooperative Biodiversity Groups Program (2U19TW007401-10) "Exploration, conservation, and development of marine biodiversity in Fiji and the Solomon Islands" (PI ME Hay; Co-PIs: J Kubanek, D Dixson, P Jensen, W Fenical, B Aalbersberg, K. Soapi. $4,950.387) (multidisciplinary program involving Biology,

Chemistry and Biochemistry, Microbiology, and Drug Discovery at Ga Tech, Scripps Inst. of Oceanography, and U. of the South Pacific)

2012-2015 Australian Research Council (ARC) Ecological competition between corals and algae in a high carbon dioxide world: understanding the mechanisms and implications for reef ecosystems (PI - Guillermo Diaz-Pulido; Co-PIs: Peter Mumby, Mark Hay, Kenneth Anthony $300,000 Australian dollars; Hay's role is primarily as a visiting collaborator, minimal $ to Hay)

2009-2014 NSF, Biological Oceanography, (OCE 0929119; 9/15/09 – 8/31/14) "Killer seaweeds: Allelopathy against Fijian corals. (ME Hay $1,204,988)

2009-2014 NIH, International Cooperative Biodiversity Groups Program (5 U01 TW007401-01; 9/29/09 – 5/31/14) "Exploration, conservation, and development of marine biodiversity in Fiji" (PI ME Hay; Co-PIs: J Kubanek, T Snell, W Fenical, P Jensen, B Aalbersberg $4,061,097) (multidisciplinary program involving Biology, Chemistry and Biochemistry, Scripps Inst. of Oceanography, and U. of the South Pacific).

2009-2011 NOAA, National UnderSea Research Center and NOAA's Coral Reef Conservation Program (UNCW/NURC 2009-02-A; 1/1/09 – 5/31/11) "Manipulating herbivore diversity to restore coral reefs" (M.E. Hay $150,000).

2009-2010 NIH, Recovery Act Administrative Supplement to the NIH grant 5 U01 TW007401-01 ((PI ME Hay; Co-PIs: J Kubanek, T Snell, W Fenical, P Jensen, B Aalbersberg $30,900).

2005-2009 NIH, International Cooperative Biodiversity Groups Program "Exploration, conservation, and development of marine biodiversity in Fiji" (ME Hay, W Fenical, J Kubanek, B Aalbersberg, K Bowman, T Snell) ($3,105,864) (multidisciplinary program involving Biology, Chemistry and Biochemistry, Sam Nunn School of International Policy, Scripps Inst. of Oceanography, and U. of the South Pacific)

2001-2008 National Science Foundation "IGERT: Signals in the Sea" (M.E. Hay, J. Kubanek, P. Sobecky, P. Verity, and D. Webster; $3,096,000) (Interdisciplinary training grant involving Biology, chemistry and Biochemistry, Civil and Environmental Engineering)

2002-2008 NSF International Travel Supplement to the above grant (M.E. Hay, $89,400)

2003-2005 NIH, International Cooperative Biodiversity Groups Program "Ecological leads: Drugs from reefs and microbes in Fiji" (ME Hay, W Fenical, J Kubanek, B Aalbersberg, K Bowman, T Snell) Grant # R21 TW006662 ($400,497) (multidisciplinary program involving Biology, Chemistry and Biochemistry, Sam Nunn School of International Policy, Scripps Inst. of Oceanography, and U. of the South Pacific)

2003-2005 NSF Biological Field Stations and Marine Labs "Student Housing for Instructional Programs and Research" (J Sanders, ME Hay, R Jahnke) ($187,500) Through Skidaway Inst. of Oceanography

2003-2005 NOAA, National Undersea Research Center "Herbivore Resistance to Seaweed Chemical Defenses and the Effects on Reef Community Structure." ($100,000)

2003-2005 NOAA, Office of Ocean and Coastal Resource Management, "An Invasive Crab in the South Atlantic Bight: Fried or Foe?" (A. Hollebone and M.E. Hay, $35,000)

2002-2003 National Park Service "Inventory of Aquatic Plants in the Chattahoochee River National Recreation Area, Georgia, USA" (J. Parker and M.E. Hay; $10,000)

2001-2003 The Camille and Henry Dreyfus Foundation. "Chemical Communication in Marine Ecosystems" (J. Kubanek, M.E. Hay, and J. Yen, $96,000)

2000-2005 National Science Foundation "Biocomplexity: The Bio-Feedback Basis of Self Organization in Planktonic Ecosystems using Phaeocystis as a Model Complex Adaptive System" (P. Verity, M. Frischer, M.E. Hay, and B. Patten, $2,597,481 total, $661,237 to Hay)

1998-2000 National Undersea Research Center (NOAA) "Direct and Indirect Effects of Temperate Reef Herbivores on Benthic Community Structure and on How This Affects Reef fish Recruitment and Habitat Use" ($76,000)

1998-1999 The National Geographic Society. "Ecological and Biochemical Consequences of Seaweed Spawning on Coral Reefs" (K. Clifton and M.E. Hay) ($30,000)

1997-1999 New Zealand Foundation for Research, Science, and Technology. "Causes and Consequences of Intraspecific Variation in Seaweed Chemical Defenses" ($140,780 NZ dollars = about $97,138 US dollars; allows a post-doctoral fellow from New Zealand to acquire expertise in aquatic chemical ecology by spending 2 years in my lab)

1997 North Carolina Sea Grant. "Evaluation of Leased Bottom Areas as Habitat for Estuarine Species" (H. Summerson, with M. E. Hay serving as faculty sponsor) ($64,371)

1996-2000 National Science Foundation. "Quantitative Aspects of Prey Chemical Defenses" ($380,000)

1996 National Undersea Research Center (NOAA). "The Role of Floating *Sargassum* Habitat in Mediating Predator-Prey Interactions Among Pelagic Fishes on the Continental Shelf of North Carolina" (C.H. Peterson, R. Luettich, N. Lindquist, and M. E. Hay) ($4,500)

1995-2000 National Oceanic and Atmospheric Administration. "Human Environmental Linkages in the South Florida Coastal Ecosystem: Effects of Natural and Anthropogenic Stressors" (M. Harwell and 26 Co-Principal Investigators) ($6,000,000+ Total; $221,000 to Hay)

1995-1998 National Marine Fisheries Service. (MARFIN) "Recruitment and Habitat Utilization of Juvenile Gag Grouper: Which Components of Estuarine Habitats are Critical?" (P.S. Levin and M.E. Hay) ($279,676)

1994-1997 National Science Foundation. "Collaborative Research: Herbivory on Freshwater Macrophytes: Quantifying Plant Damage and Mechanisms of Plant Resistance" (D.M. Lodge and M.E. Hay) ($175,000 to Hay)

1994-1995 Cooperative Institute for Fisheries Oceanography (NOAA). (C.H. Peterson, R.A. Luettich, N. Lindquist, and M.E. Hay) " The Role of Floating Macroalgal Habitat in Promoting the Biodiversity of the *Sargassum* Ecosystem" ($24,765)

1994-1996 National Undersea Research Center (NOAA). (M. E. Hay and P. Levin) "Seaweed Beds as Critical Habitats for Recruiting Fishes on Temperate Reefs: Field Manipulations to Determine Patterns and Processes" ($35,000 direct; with facilities $63,800)

1992-1995 National Science Foundation. "Accomplishment Based Renewal: Quantitative Aspects of Prey Chemical Defenses" ($344,525)

1992-1994 National Undersea Research Center (NOAA). (M. E. Hay and N. L. Lindquist) "Fish-Seaweed-Urchin Interaction on Temperate Reefs of the Continental Shelf" ($43,000 direct; with facilities $96,500)

1992-1994 National Undersea Research Center (NOAA). (N. L. Lindquist and M. E. Hay) "The Role of Secondary Metabolites in Reducing Invertebrate Egg and Larval Mortality From Predation and UV Exposure" ($40,000 direct; with facilities $73,500)

1991-1993 Dept. of Energy Distinguished Post-Doctoral Fellowship in Global Change awarded to Niels Lindquist (with M. E. Hay as faculty sponsor) for investigations on "Larval Chemical Defenses Against UV" ($79,200)

1991 National Undersea Research Center (NOAA). (M. E. Hay w/N. Lindquist) "The Chemical Ecology of Invertebrate Larvae" ($7,014 direct; with facilities $19,004)

1990-1992 National Science Foundation. (M. E. Hay and W. Fenical) "Quantitative Aspects of Seaweed Chemical Defense: Complex Interactions of Environment, Seaweed Chemistry, and Resistance to Herbivory" ($165,089)

1991 REU Supplement to above grant ($5,000)

1991 Glaxo Inc., Research Institute. "Bioactive Marine Natural Products" ($10,000)

1989-1992 National Science Foundation. "The Ecology of Temperate Herbivorous Fishes" ($225,989)

1989-1991 National Science Foundation. (N. L. Lindquist w/M. E. Hay as faculty sponsor) "Interactive Aspects of Seaweed Chemical Defenses and a Functional Evaluation of Ascidian Secondary Metabolites" ($81,960)

1988 University Research Council. "The Chemical Ecology of Seaweed-Herbivore Interactions" ($1,644)

1987-1989 National Science Foundation. "Herbivory by Temperate Marine Fishes and the Organization of Benthic Seaweed Communities" ($140,260)

1987-1989 National Oceanic and Atmospheric Administration. (M. E. Hay and J. Wells) "Effects of Feral Horses on the Production, Distribution, Abundance, and Stability of Salt Marsh Plants: Rachel Carson Sanctuary, North Carolina" ($72,506, 2.5 yr. total)

1987-1988 National Geographic Society. "Chemical Defense Against Marine Herbivores" ($15,329)

1987-1988 The Charles A. Lindbergh Fund. (M. E. Hay and J. E. Duffy) "Marine Natural Products as Ecologically Sound Agrochemicals and Oncologic Drugs" ($10,482)

1986-1988 Australian Museum. "Chemical Defense Against Diverse Coral Reef Herbivores" ($16,000)

1986-1987 National Science Foundation. (M. E. Hay and W. Fenical) "Integrating Marine Chemical Ecology and Biotechnology" ($10,000)

1986-1987 N. C. Biotechnology Center. "Seaweed Secondary Metabolites as Agrochemicals and Oncologic Drugs" ($22,211)

1985 North Carolina Biotechnology Center. "Pharmacological Properties of Natural Products Produced by North Carolina Marine Organisms" ($4,000)

1985 NOAA, National Undersea Research Program, HYDROLAB. (M. E. Hay and V. J. Paul) "Productivity, Nocturnal Growth, Chemical Defenses, and Susceptibility to Herbivory: Does *Halimeda* Minimize Herbivory by Growing at Night?" ($8,289)

1985 University Research Council. "Secondary Compounds from Seaweeds: Their Function in Nature and Potential for Use in Biomedical and Agricultural Applications" ($1,500)

1985 IBM Junior Faculty Development Award. "The Functional Morphology of Light Harvesting in some Tropical Seaweeds" ($3,000)

1983 N. C. Board of Science and Technology. "The Effect of Light Quality on the Productivity and Distribution of Aquatic Plants" ($9,000)

1983 NOAA, Southeast Undersea Research Facility. "Interrelationships between Herbivorous Fishes and Urchins on Heavily Fished and Protected Reefs in the Florida Keys" (28 days of shiptime at approximately $4,000/day)

1983 Smithsonian Institution grant for work in Aldabra. (J. N. Norris and M. E. Hay) "Herbivory and Algal Distribution on Aldabra Atoll" ($6,000)

1982 University Research Council. "Algal Productivity and Seasonality of Light" ($1,500)

1982-1984 Smithsonian Institution, Ft. Pierce Research Grant. (J. N. Norris and M. E. Hay) "Algal-Herbivore Interactions: Geographical Testing of Herbivore Susceptible Seaweeds on Subtropical Worm-Reefs versus Tropical Reef Systems" ($6,500)

Teaching Experience

Major advisor for the following students:

- Catherine A. Pfister (Marine Sciences, M.S. - May 1987; Prof. at Univ. of Chicago)
- Paul E. Renaud (Marine Sciences, M.S. - August 1988; now Senior Scientist, High North Research Center, Tromso, Norway)
- Terry Brunone (Biology, M.S. - December 1988; supervisor at BioAbstracts)
- J. Emmett Duffy (Marine Sciences, Ph.D. - December 1989; Professor and Chair at the Virginia Institute of Marine Sciences; then Director of the Tannenbaum Marine Observatories Network, National Museum of Natural History, Smithsonian Institution)
- Laura Matthews (Marine Sciences, M.S. - August 1991; an aquarist)

- Timothy Schmitt (Marine Sciences, M.S. - September 1991; an ecologist at Engineering Science, Inc.)
- Robbin Trindell (Marine Sciences, Ph.D. - December 1991; Director of the Florida Fish and wildlife Conservation Commission sea turtle management program)
- Gregory Cronin (Marine Sciences, Ph.D. - Dec. 1994; Professor at Univ. of Colorado, Denver)
- Margaret Miller (Ecology, Ph.D. - Dec. 1994; was a Lead Scientist at NOAA National Marine Fisheries Service, Miami, FL; 2017 – moved to become Research Director of SECORE International)
- Robin Bolser (Marine Sciences, M.S. - August 1995; then a Ph.D. student at UC Santa Barbara; she received a UC Regents Fellowship, an NSF pre-doctoral fellowship, and an EPA pre-doctoral fellowship – I've lost contact with her and don't know her present position)
- Edwin Cruz-Rivera (Marine Sciences, Ph.D. August. 1998; Associate Professor of Biology, University of the Virgin Islands
- Mike Deal (Marine Sciences, Ph.D. - August 1997; polymer chemist as a biotech company in southern California, Then Post-doc at UC Santa Barbara, now Professor at a college in Southern California)
- Jay Stachowicz (Marine Sciences, Ph.D. - May 1998); Mercer Award winner 2004; Professor of Evolution and Ecology, University of California, Davis
- Stephan Bullard (Marine Sciences, Ph.D. - May 2000, Assoc. Prof at University of Hartford)
- Daniel Malone (Biology, M.S. - Dec. 1997; now a research biologist at UC, Santa Cruz)
- Giancarlo Cetrulo (Marine Sciences, M.S. Sept. 1998; COSEE Florida Program Manager, Ocean Research and Conservation Association, INC (ORCA), Fort Pierce, FL)
- Stephanie Wear (Marine Sciences, M.S. May 2000; Senior Scientist and Strategy Advisor: The Nature Conservancy)
- Erik Sotka (Biology, Ph.D. 2001; Prof. College of Charleston
- Cynthia Kicklighter, Biology, Ph.D. 2003; Prof. of Biology, Goucher College
- Jeremy Long (Biology Ph.D., 2004; Associate Prof. San Diego State University)
- John Parker (Biology Ph.D. ,2005; now Lead Scientist, Smithsonian Environmental Research Center, Edgewater, MD)
- Deron Burkepile (Biology Ph.D., 2006; Associate Professor, University of California at Santa Barbara)
- Alan Wilson (Biology PhD, 2006; now Associate Prof. Auburn University)
- Amanda Hollebone (Biology, Ph.D., 2006; now faculty at Westminster School)
- Wendy Morrison (Biology Ph.D., 2010, now Staff Scientist NOAA, National Marine Fisheries Service)
- Zach Marion (Biology MS 2010, then to a Ph.D. program at U Tenn)
- Keri Goodman (Biology, MS 2011; then on to a Ph.D. at U. Georgia)
- Melanie Heckman (Biology, MS 2011, Manager of the education program at Decatur Community Garden)
- Doug Rasher (Biology Ph.D., 2012; Senior Research Scientist at the Bigelow Lab for Ocean Sciences)
- Tiffany Andras (Biology MS, 2012; running a business)
- David Gibbs (Biology M.S. 2014; Environmental Consultant with a firm in Washington, DC)
- Claire Dell (Biology Ph.D., 2016; Research Scientist, CCMI, Little Cayman Island)
- Cody Clements (Biology Ph.D. 2017)
- Cara Lin (Biology M.S. 2018)
- Deanna Beatty (Biology Ph.D., 2018)
- Nicole Johnston (Biology Ph.D., presently in program)
- Madeline Willert (Biology Ph.D., presently in program)

- On graduate committees for numerous other students in Ecology, Biology, and Marine Sciences at UNC-CH, Duke University, Georgia State and the Univ. of Notre Dame. Also advised visiting graduate students or faculty that conducted research in my lab. These include investigators from Max-Planch Inst. of Chemical Ecology; U. of Michigan; U. of Guam; and U. of the Western Cape-South Africa; Universidad de las Palmas, Canary Islands; Univ. of Bonn, Germany; Texas A&M University; Universidade Federal Fluminense, Nitero, Rio de Janeiro, Brazil

- Post Doctoral Fellows (present positions)
  - Dr. Niels Lindquist (Professor in Marine Sciences at UNC-CH)
  - Dr. J. Emmett Duffy (The Tannenbaum Chair at the Smithsonian Institution)
  - Dr. Martin Wahl (Professor, University of Kiel, Germany)
  - Dr. Philip Levin (Fisheries Scientist, NW Fisheries Science Center, Seattle, WA)
  - Richard Taylor (Associate Professor, Univ. of Auckland, New Zealand)
  - John J. Stachowicz (Professor and Chair at UC, Davis)
  - Chris Caudill (Research Scientist, Fish and Wildlife, Univ. of Idaho)
  - Todd Barsby (Associate Prof. University of Ontario Institute of Technology)
  - Gabriella Smalley (Associate Prof. Rider University)
  - Nancy Schoeppner (Teaching)
  - Sebastian Engel (now at NIH)
  - Roberta Bonaldo (Post-doc in Brazil)
  - Danielle Dixson (Assistant Professor, University of Delaware)
  - Tonya Shearer (Founder and CEO of Discover Science Center)
  - Esther Ngumbi (a Schlumberger Foundation Fellow) – now at Auburn U.
  - Andrey Hoey (Faculty at James Cook University)
  - Douglas Rasher (Sr. Scientist, Bigelow Labs)
  - Guillherme Longo (Assistant Professor, Universidade Federal do Rio Grande do Norte - UFRN)
  - Jinu Mathew Valayil (program manager of collaborative stem cell research at the National Center for Biological Sciences, Tata Institute for Fundamental Research, Bangalor, India)
  - Andrew Burns (presently in my lab)
- Visiting Faculty (that stayed more than a few weeks)
  - Professor Valerie Paul (Univ. of Guam, 3 months, 1990)
  - Professor David Lodge (Univ. of Notre Dame, 1 year 1992-93; then 0.5 to 1 mo/year 1994-96
  - Professor Angel Luque (Univ. de las Palmas, 3 months, 1992)
  - Professor Pasqual Caballero (Univ. de las Palmas, 1 month, 1992)
  - Assistant Professor Philip Levin (Texas A&M Univ., 3 mo/yr - 1995, 96, 97)
  - Dr. Andrew Hoey (James Cook University, 2 months in 2011; Churchill Fellow)

Georgia Institute of Technology

2018	(Spring) Aquatic Chemical Ecology BIOL 4620/6620 (8 students)
	(Spring) Special topics in Marine Ecology BIOL 8801 (4 grad students)
2017	(spring) Marine Ecology BIOL 4417/6417 (14 undergrad/ 10 grad students)
	(spring) Special topics in Marine Ecology BIOL 8801 (6 grad students)
2016	(spring) Aquatic Chemical Ecology BIOL 4620/6620 (10 undergraduates/ 4 grad students)
	(spring) Special topics in marine Ecology BIOL 8801 (4 grad student)
2015	(spring) Marine Ecology BIOL 4417/6417 (18 undergrad/ 7 grad students)
	(spring) Special topics in Marine Ecology BIOL 8801 (6 grad students)

2014 (spring) Aquatic Chemical Ecology BIOL 4620/6620 (13 undergraduates/ 6 graduates)
(spring) Special topics in marine Ecology BIOL 8801 (5 grad and 1 UG student)
2013 (spring) Marine Ecology BIOL 4417/6417 (33 undergraduates/ 8 graduate students)
(spring) Special topics in marine Ecology BIOL 8801 (8 graduate students)
2012 (spring) Aquatic Chemical Ecology BIOL 4620/6620 (14 undergraduates/ 10 graduates)
2011 (Spring) Marine Ecology BIOL 4417/6417 (40 undergraduates/10 graduates)
2010 (Spring) Introductory Biology BIOL 1510 (co-taught with Choi and Hammer) (304 students)
2009 (Spring) Marine Ecology (25 students)
(Fall) Aquatic chemical Ecology (27 students)
2008 (Summer) Experiments in Aquatic Chemical Signaling (6h, 6 students, Panama);
2007 (Winter) Experiments in Aquatic Chemical Signaling (6h, 8 students, New Zealand);
(Spring) Aquatic Ecology (25 students)
2006 (Fall) Aquatic Chemical Ecology (3h, 10 students); Aquatic chemical Ecology Lab (1h)
(Spring) Signals in the Sea (2h, 9 graduate students)
2005 (Fall) Aquatic Chemical Ecology (3h, 10 students); Aquatic chemical Ecology Lab (1h)
(Spring) Signals in the Sea (2h, 9 graduate students)
2004 (Spring) Aquatic Ecology (3h, 15 students)
(Fall) Aquatic Chemical Ecology (3h, 12 students); Aquatic Chemical Ecology Lab (1h, 9 students)
2003 (Spring) Aquatic Chemical Ecology (3h, 13 students)
(Spring) Aquatic Chemical Ecology laboratory (1h, 13 students)
(Summer) Experiments in Aquatic Chemical Signaling (6h, 11 students)
(Fall) 3 weeks Bio II (Bio 1520) (3h, about 75 students)
2002 (Fall) Signals in the Sea Seminar (2h, 14 students)
(Spring) Aquatic Chemical Ecology (3h, 15 students)
(Summer) Experiments in Aquatic Chemical Signaling (6h, 11 students)
2001 (fall) Advances in Aquatic Chemical Ecology (8 students)
(spring) Aquatic Ecology (3h, 15 students)
(Spring) Advances in Ecology (Marine Microbial Chemical Ecology; 2h, 8 students)
2000 (fall) Advances in Ecology (Economics and Ecosystem Function) 7 students
(spring) Aquatic Ecology (3h, 20 students)
1999 (fall) Ecology Seminar, "Signals in the Sea" (2h, 5 students, 12-15 participants)
(spring) Senior Seminar (1h, 11 students)
(spring) Ecology Seminar, "Ecological Function of Biodiversity" (2h, 8 students)

University of North Carolina:

1997 - (spring) Marine Ecology (BIOL 146/MASC 146); 76 students
1995 - (spring) Marine Ecology (MASC 146 and BIOL 146).
1994 - (summer) Biological Oceanography.
1993 - (spring) Marine Ecology (MASC 146 and BIOL 146).
1992 - (summer) Biological Oceanography.
1991 - (fall) Graduate Seminar in Evolutionary Biology (MASC 199).
- (spring) Marine Ecology (MASC 146 and BIOL 146).
- (summer) Experimental Marine Chemical Ecology (MASC 199).
1983-1989 - (summer) Experimental Marine Ecology (MASC 199); offered collaboratively with Duke University.
- (spring) graduate seminar in Marine Benthic Ecology.

1983-1991 - Guest lecturer (on average about 1 week/course) for Biological Oceanography (MASC 104), Geological Oceanography (MASC 103), Oceanography (MASC 101), Marine Ecology (MASC 146).

1983 - Special Problems in Marine Biology (MASC 141S).

1983 - I commonly have undergraduates and visiting graduate students conducting independent research projects in my lab, and I have especially tried to involve minority students. As examples, I list below the students that studied in my lab during 1990-98.

Laura Guiterez (Univ. of Houston; became a graduate student at Univ. of Houston)
Brian Chanas (UNC-CH; became a graduate student at UNC-W)
Edwin Cruz-Rivera (Univ. Puerto Rico, now a grad. student at UNC-CH)
Emma Cole (Univ. of North Wales - conducted her Honors thesis in my lab; now a graduate student at the Univ. of Western Australia)
Lisa Jones (a black female from Pembroke State Univ.)
Quaker Kappel (UNC-CH, now in Med. School)
Chris Locklear (an American Indian from Pembroke State Univ.)
Lance Miller (UNC-CH)
Rogerio Prata (UNC-CH)
Buffy Turner (a black female from Duke Univ.; left to accept a full graduate fellowship in Marine Sciences at UC, Santa Barbara)
Mike Deal (UC, Santa Barbara, now a grad. student at UNC-CH)
Walter Cephas (Univ. of Maryland, Western Shores)
Greg Smith (Hampton College)
Crystal Williams (a local high school student, now a chemical engineering major at NC State University)
Andre Share (a colored South African graduate student from the University of the Western Cape, Bellville, South Africa; now an Instructor at that University)
Immaculada Granado (a Spanish Marine Sciences graduate student from Universidad de las Palmas, Canary Islands)
Sarah Johnson (UNC-CH, accepted Peace Corps position in Paraguay)
Jack Malone (UNC-CH, attending graduate school at UCLA)
Kate Fredrick (UNC-CH, works with a European Pharmaceutical Company)
Zack Feldman (Bates College)
Mike Klompas, (UNC-CH, went to Yale Medical School)
Stephane Lewis (UNC-CH, Graduate school at UC, Santa Barbara)
Sheri Hart (UNC-CH, still here)
Joanna Rawlings (Towson State University)
Ragan McNatt (UNC-CH)
Amanda Hollebone (UNC-CH 1997)
Mike Straiko (Allegheny College 1997)
Alan Wilson (UNC-CH 1997)
Delia Johnson (UNC-CH Graduate Student in Public Health 1997)
Amy Desaix (UNC-CH 1997)
Iris Schnitzler (Univ of Bonn Graduate Student, 1996-97)
Charlie Hileman (UNC-CH Graduate student 1997)
Patricia Wokcik (Texas A&M Graduate Student, 1996-97)
Bernardo da Gama (Brazilian graduate student 1997)
Sarah Lester (UNC-CH 1998)

College of the Virgin Islands:

1982 - (spring) Ecology and Oceanography
- (summer) Experimental Marine Ecology

Invited Symposia Presentations

2017 Canadian Institute for Advanced Research and Gordon and Betty Moore Foundation workshop "Message in a Bottle: Chemical Communication at Sea, Eilat, Israel (March); Homage to RT (Bob) Paine Symposium, Benthic Ecology Meetings, Myrtle Beach, SC (April);

2016 Plenary talk for the 32nd Annual Meeting of the International Society of Chemical Ecology, Iguassu Falls, Brazil (July); National Academy of Sciences and Engineering Symposium on "Exploring the Chemistries of Marine Microbiomes" Washington DC (October and a Web-based Summary in December);

2015 Explorers Club Annual Lowell Thomas Awards event on "Visionaries of Conservation: Paradigm Shifts in Protecting the Planet" Melborune, FL(November); *Mote* Marine Laboratory; 2nd International Workshop on Ocean Acidification Impacts to Coral Reefs, Fl Keys, (August); Plenary Speaker at the special session on Induced Defenses at the International Society of Chemical Ecology Annual Meetings, Stockholm, Sweden (June); Plenary Speaker at the Royal Swedish Academy of Sciences Jubilee Symposium on Maratime Research (to celebrate the 275th anniversary of the Academy; February); Invited speaker at the Workshop on Microscale Ocean Biophysics at the Aspen Center for Physics (January);

2014 Keynote Speaker for the North Florida Marine Science Symposium (St. Augustine, FL; January); Invited speaker for the Marine Natural Products Gordon Conference (Ventura, CA, March); Invited organizer and Keynote speaker for the International Society of Chemical Ecology Symposium on "Chemical cues and signals structure marine populations, communities, and ecosystems" (Urbana-Champaign, IL, July); Invited speaker for American Society of Pharmacognosy (ASP) Chemical Ecology Symposium (Oxford, MS; August);

2013 Plenary speaker for the IV Latin American Congress of Algal Biotechnology (Florianópolis, Brazil); Walker Foundation and Georgia Aquarium Workshop on Actualizing Market Approaches to Coral Reef Restoration (Atlanta, GA); Gulf of Mexico Fisheries Management Council Symposia on Interrelationships between Coral Reefs and Fisheries (Tampa, FL); Plenary speaker for U. Missouri Annual Life Sciences Celebration; Invited Speaker - Shifting species interactions and the tropicalisation of temperate marine ecosystems, Evolution and Ecology Research Center, Sydney Institute of Marine Sciences (Sydney, Australia)

2012 PERC and Georgia Aquarium Workshop on Market Approaches to Coral Reef Restoration: Investigating the Viability (Key Largo, FL); 2012 Teasley Symposium – "Seaweed-Coral Interactions and the Structure and Function of Coral Reefs" (Atlanta, GA); Special Session on "Seaweed-Coral Interactions" International Coral Reef Society Meetings (Cairns Australia); NOAA's Workshop Concerning biological status review of 82 species of corals considered for listing under the Endangered Species Act (Ft. Lauderdale, FL);

2011 Plenary speaker for the special session, "Biochemicals in Action in Trophic Interactions: Their role in information transfer and nutritional quality" at the American Society of Limnology and Oceanography (ASLO) 2011 Aquatic Sciences Meeting (San Juan, PR)

2009 Joint Meetings of the American Society of Plant Biologists and the Phycological Society of America special Symposium on "Coral Reefs" (July, Honolulu, Hawaii);
International Society of Ecology Annual Meetings special Symposium on "Ecological models for bioprospecting" (August, Brisbaine, Australia); Ecological Society of America Workshop on "Are invasive species different?" (August, Albuquerque, NM); Joint meetings of The Crustacean Society and the Carcinological Society of Japan special Symposium on "Integrative Biology: Crustaceans as Model Systems" (September, Tokyo, Japan).

2008 Frontiers in Multi-Scale Systems Biology Conference, Georgia Tech,

2007 Key Note Address for the Chemical Interactions Session at the 42nd European Marine Biology Symposium (August, Kiel, Germany); Center for Ocean Science Education Excellence 2007 Ocean Science Leadership Institute (July, Skidaway, GA)

2006 Fenical Symposium on Marine Natural Products Chemistry (Scripps Inst. of Oceanography, La Jolla, CA); Invited speaker for EU workshop on methods in chemical ecology (Tjerno Marine Biological Laboratory, Stromstad, Sweden);

2005 Organized and spoke at Teasley Symposium on "Ecosystem Engineering" (Tampa, FL); Invited Speaker, ASLO symposium on "Chemical signaling in the Plankton" (Santiego de Compostela, Spain);

2004 Plenary Speaker for the DECHEMA symposium on "Aktuelle Entwicklungen in der Naturstoff-forschung" (Feb 27, Kloster Irsee, Bavaria); Plenary Speaker for the Southeastern Ecology and Evolution Conference, (March, Atlanta Georegia); Invited speaker for the Delwart Foundation symposium on "From Chemcial communication to Artificial Olfaction" (Oct. 22, Louvain-la-Neuve, Belgium)

2003 Invited Speaker for Opening Symposium on "Forests of Land and Sea" at the Plant Canada 2003 Meeting (joint meeting of the Canadian Botanical Association and the Canadian Society of Plant Physiology: Antigonish, Nova Scotia)

2001 Plenary Speaker for the Phycological Society of America Annual Meetings (Estes Park, CO)
Invited Speaker for the International Society of Chemical Ecology Annual Meeting Symposium on Aquatic Chemical Ecology (Tahoe City, CA)
Invited Speaker for the International Phycological Society Meetings Symposium on Chemical Ecology (Greece) (cancelled due to schedule conflicts)

2000 Featured Speaker for the State of the Art in Biology (SOTAB) Symposium (University of Georgia, Athens, GA);
Invited speaker for the special session on Chemical Ecology/Natural Products at the Conference on sustainability of wetlands and Water Resources (University of Mississippi, Oxford, MS)

1999 Keynote Speaker for "The 8th Symposium on the Natural History of the Bahamas" (San Salvador, Bahamas)
Plenary Speaker at the National Coral Reef Institute's Symposium on "Scientific aspects of coral reef assessment, monitoring, and restoration" (Fort Lauderdale, FL)

1998 Georgia Institute of Technology Workshop on Aquatic Chemical Ecology (Atlanta, Ga)

1997 Keynote Address at the 1997 Ontario Plant-Herbivore Workshop (Univ. of Toronto at Mississauga)
Featured Speaker at the Max-Planck Society Symposium on "Perspectives in Aquatic Ecology" (Marburg, Germany)

1996 Featured Speaker for the Reunion Internacional de Ecologia Quimica in Oaxtepec, Morales, Mexico; Pleanary Speaker for the 8th International Coral Reef Symposium (Panama City, Panama),
Invited speaker for the Symposium on "Are Calcareous Algae Important on Coral Reefs Today or in the Past?" (Panama City, Panama)
Invited Speaker at a meeting on "Human-environment linkages in the South Florida coastal ecosystem: Effects of natural and anthropogenic stressors" (Miami, FL)
Elderhostel Symposium (University of North Carolina at Chapel Hill)
NOAA Coastal Ocean Program, first Annual Meeting (Univ. of Miami)

1995 The Gordon Research Conference on "Plant-Herbivore Interactions" (Oxnard, CA),
Featured Speaker (two talks) at the 11th Annual Perspectives in Biology Symposium (Wake Forest University, Winston-Salem, NC)
Elderhostel Symposium (University of North Carolina at Chapel Hill)

1994 Featured Speaker at the Max-Planck Society Symposium on "Chemical Ecology" (Munich, Germany)

The Center for World Environment and Sustainable Development Biodiversity Symposium on "Conservation and Utilization of Genetic Diversity" (Chapel Hill, NC)
Sutherland Symposium (in honor of John Sutherland, held in conjunction with the 1994 Benthic Ecology Meetings (Mystic, Connecticut)
National Academy of Sciences Colloquium on "Chemical Ecology: The Chemistry of Biotic Interactions" (Washington, DC)
National Undersea Research Center (NOAA) Symposia on Temperate Reefs in the South Atlantic Bight (Georgetown, South Carolina)
National Oceanic and Atmospheric Administration workshop on "Remote Sensing of Coral Reefs" (Boston, MA)

1993 AAAS Symposium on "Chemical Communication in the Plant and Animal Worlds" (Boston, MA)
International Chemical Ecology Symposium on "Marine Chemical Ecology" (Clearwater, FL)
International Chemical Ecology Symposium on "Tropical Ecology" (Clearwater, FL)
University of the Western Cape Visiting Professorship - to teach a 3-week course in Chemical Ecology (Bellville, South Africa)

1991 National Audubon Society Symposium on "Coastal Wetland Ecology and Management (New Orleans, LA)

1992 Gordon Conference on "The Chemistry of Plant-Herbivore Interactions" (Oxnard, CA)

1990 Mid-Atlantic Marine Education Association Workshop for Educators (Beaufort, NC)
Systematics Association and the Marine Biological Association of the United Kingdom Symposium on "Plant-Animal Interactions in the Marine Benthos" (Liverpool, England)
American Society of Limnology and Oceanography Symposium on "Complex Ecological Systems and Indirect Effects: The Experiment Theory Interface" (Williamsburg, VA)
Western Society of Naturalists' Symposium on "Ecological Impacts of Herbivores" (Monterey, CA)

1989 Gordon Conference on "The Chemistry of Plant-Herbivore Interactions" (Oxnard, CA)
Indo-US international conference on "Bioactive Compounds from Marine Organisms" (Goa, India)

1988 Smithsonian Institution workshop on "Mangrove Ecology" (Solomons, MD)

1987 The Charles A. Lindbergh Symposium on "Exploring the Human Future: Prospects for a Better Balance" (Little Falls, MN)
NOAA's Office of Undersea Research Symposium on "Undersea Science" (Mystic, CT)
North Carolina Biotechnology Center Symposium on "Marine Biotechnology" (Beaufort, NC)

1986 Western Society of Naturalists' Symposium on "Chemical Antiherbivore Defenses of Seaweeds" (Hilo, HI)
Gordon Conference on Marine Natural Products (Oxnard, CA)

1985 Ecological Society of America's Symposium on "Food Web Structure and Ecosystem Productivity" (Minneapolis, MN)
The Fifth International Coral Reef Congress' Symposium on "Plant-Herbivore Interactions" (Tahiti, French Polynesia)
Universidad de Concepcion/UNESCO Sponsored Symposium on "Quimica y Ecologia de las Algas Marinas Bentonicas" (Concepcion, Chile)

1983 The Eleventh International Seaweed Symposium's Special Session on "*Gracilaria*" (with J. Norris) (Qingdao, China)
NOAA's Symposia Series for Undersea Research "The Ecology of Deep and Shallow Coral Reefs" (Philadelphia, PA)
Maria Moors Cabot Symposium on "Evolutionary Constraints on Primary Productivity: Adaptive Patterns of Energy Capture in Plants" (Harvard Forest, MA)

Invited Seminars

2018 Ocean Science and Engineering Program, Georgia Inst. of Technology (January); Biology, Brigham Young University (March); Florida State University Coastal Marine Lab (May); Georgia Aquarium (May); University of the South Pacific (50th Anniversary Speaker Series; July);

2017 Interuniversity for Marine Sciences at Eilat, Israel (March); Florida State University Coastal and Marine Laboratory (April); Florida State University, Department of Biological Sciences (April); U. South Carolina, Beaufort, Department of Natural Sciences (April); Joint meeting of The Coca-Cola company and Ga Tech's Aquatic Chemical Ecology Center (April); University of the Virgin Islands (St. Thomas, May); Max Planck Institute for Chemical Ecology, Jena, Germany- the Noble Gespräche on evening and lead a Career Development Workshop the next day (October); BESE Distinguished Lecturer, King Abdullah University of Science and Technology (November)

2015 Harbor Branch Oceanographic Institute/Florida Atlantic University (2 public presentations in their Ocean Science Lecture Series; February); UC Berkeley's Gump Field Station in Moorea, French Polynesia (August); University of Georgia (September); University of Southern California (Dornsife Distinguished Speaker on sustainability; December); University of California at Santa Barbara (December)

2014 University of Florida (January); University of Hawaii (February); 28th Annual Nathan Riser Lecturer, Northeastern University Marine Science Center (April); University of the South Pacific (June); University of Nevada, Reno (September); Pennsylvania State University (September); Kennesaw State University (September); National Geographic Society, Washington DC (September); The Robert May Lecture - Princeton University (October); MIT (October);

2013 Ga Tech Foundation Advisory Board (December); Universidad Federal de Santa Catarina, Florianopolis, Brazil (November); University of California Santa Cruz, Department of Ecology and Evolutionary Biology (October); Sven Loven centrum for marina vetenskaper, Tjerno of Goteborgs Universitet, Sweden (September); C.E. Gehrke Distinguished Lecture at University of Missouri for the Bond Life Sciences Center Life Sciences Week (April); UNC, Chapel Hill, Global Research Institute "Water in our world speaker series" (April); Georgia Aquarium (April); Oglethorpe University, Biology dept. (February)

2012 Scripps Institution of Oceanography, two presentations - one a regular seminar, one the Cody Lecture for Scripps Day (June 2012); International Union for the Conservation of Nature Ma'afu Marine Lecture Series, Suva, Fiji (August 2012); Institute of Applied Sciences, University of the South Pacific (August 2012);

2011 The 4th Annual George Grice Jr. Lecture, College of Charleston, Charleston, SC (April 2011); Brown University, Dept. of Ecology and Evolutionary Biology (Dec 2011)

2010 University of Kentucky, Dept. of Biology (4/16/10);

2009 College of Sciences Advisory Board Meeting (Oct 2009) Ga Tech.

2008 Florida International University Dept. of Biology (3/12/08); Fudan University -2 days of seminars to the Ecology Group (May/08); Texas A&M University Corpus Christi (Nov/08); University of Georgia, Dept. of Plant Biology (Nov/08)

2007 Leigh Marine Laboratory of Auckland University, New Zealand (1/18/07); School of Math, Ga Tech (3/28/07); Auburn University Dept. of Fisheries and Allied Aquacultures (10/12/07)

2006 Environmental Science, University of Peking, Bejing, China (1/12/06); Dept. of Ecology and Evolution, Rice University (4/10/06); Darling Marine Center, University of Maine (11/3/06)

2005 Hopkins Marine Station, Stanford University (1/14/05); Biology Dept., Morehouse University 9/25/05); Inst. of Ecology, University of Georgia (10/7/05); Siemens Competition Math: Science: Technology, Georgia Inst. of Technology (11/19/05);

2004 Department Chemie der Universität, Butenandtstr. München, Germany; Clemson University, Dept of Biology, University of the South Pacific, Institute of Applied Sciences, mini-course in "Marine

Chemical Ecology and Drug Discovery" (14-18 June, Suva, Fiji); NIH workshop on "conservation and drug discovery" (14 Oct., Bethesda, MD); Kennesaw State University (3 Nov., Kennesaw, GA)

2003 University of California, Davis; Section of Evolution and Ecology; University of California, Los Angeles, Organismic Biology, Ecology and Evolution; California State University at Northridge, Biology (Graduate Student Invitee for 03), Georgia State University, Dept. of Biology; Utah State University, Ecology Center Seminar Series (Graduate Student Invitee); University of Missouri, St. Louis, Dept of Biology

2002 Tjarno Marine Biological Laboratory, Stromstad, Sweden(a series of seminars in May; one in December); Northwest Fisheries Science Center, National Marine Fisheries Service, Seattle, WA; GIT Presidents Advisory Council, Savannah, GA; Georgia State Dept. of Biology; Savannah State University Marine Sciences Program

2001 Stazione Zoologica, A. Dohrn, Naples, Italy; University of Oklahoma, Department of Zoology; Vassar College, Department of Biology; Emory University, Dept. of Environmental Studies

2000 The U.S. Environmental Protection Agency, Region 4, Atlanta; GA; Emory University - Department of Biology; Georgia Southern University – Dept. of Biology

1999 University of Georgia (Institute of Ecology); Dauphin Island Marine Lab; University of Alabama at Birmingham (School of Natural Sciences and Mathematics);

1998 University of California at Santa Barbara (Dept of Ecology, Evolution, and Marine Biology - special invitation by vote of the Graduate Students); Georgia Institute of Technology (School of Biology);

1997 University of Toronto (Joint Zoology and Botany Seminar), Duke University (Populaton Biology Group), University of Chicago (Ecology and Evolutionary Biology), Bennett College (Dept. of Biology), Univ. of North Carolina at Chapel Hill (Marine Sciences), Duke University Marine Laboratory Nicholas School of the Environment, Georgia Institute of Technology (Dept. of Biology); University of Notre Dame (Biology)

1996 Universidade Federal Fluminense, Nitero, Rio de Janeiro, Brazil (two seminars in the Institute of Biology and two in the Institute of Chemistry); Biology Dept., University of California at Santa Cruz; Biology and Marine Sciences, Smith College; Duke University Marine Lab; West Carteret High School, Morehead City, NC (two seminars to the Honors Marine Sciences Class);

1995 University of Pennsylvania, Virginia Institute of Marine Sciences, 3 seminars presented to UNC Alumni traveling in Costa Rica, the National Estuarine Research Reserve System Conference, University of North Carolina at Chapel Hill, Duke University Marine Lab

1994 State University of New York at Stony Brook, Featured Speaker at North Carolina State University's Crop Science Department Annual Graduate Student Awards Ceremony, National Estuarine Research Reserve Annual Conference, The Max-Planck Society, University of North Carolina at Chapel Hill

1993 Old Dominion University, University of the Western Cape (South Africa), University of Cape Town (South Africa), Pennsylvania State University, University of Notre Dame, University of Houston, Bodega Bay Marine Lab - University of California at Davis.

1992 College of Marine Studies at the University of Delaware, North Carolina State University, University of Utah (Special Graduate Student Invitee), Duke University, Florida State University (Special Graduate Student Invitee), University of North Carolina at Chapel Hill

1991 Scripps Institution of Oceanography at University of California-San Diego, The Marine Biological Laboratory at Woods Hole, Cornell University, University of Wisconsin at Madison (Special Graduate Student Invitee), University of North Carolina at Wilmington

1990 Brown University, University of New Hampshire, Wake-Forest University, University of Puerto Rico at Mayaquez, University of Puerto Rico Marine Lab at La Pagara, University of North Carolina at Chapel Hill

1989 University of California at Santa Barbara Pharmacology Program, University of Delaware, jointly sponsored seminar for Glaxo Research Laboratories and UNC at Chapel Hill's Curriculum in Marine Sciences
1988 Northern Arizona University, The National Museum of Australia, Lizard Island Research Station, University of Maine, The Darling Center Marine Lab, University of North Carolina at Chapel Hill, North Carolina State University
1987 State University of New York at Buffalo, Scripps Institution of Oceanography, University of California at Santa Cruz, University of North Carolina at Wilmington, University of North Carolina at Chapel Hill, University of South Carolina, Dauphin Island Sea Lab
1986 Duke University Marine Lab, Duke University, University of California at Santa Barbara, University of California at Davis, The Australian Museum, University of Sydney, James Cook University, Lizard Island Research Station
1985 The Academy of Natural Sciences of Philadelphia, Universidad de Concepcion, Chile (2 weeks of seminars), University of Puerto Rico Marine Laboratory at La Pagara
1984 Smithsonian Institution, Duke University, Virginia Polytechnical Institution and State University (Virginia Tech)
1983 Harvard University
1982 Hopkins Marine Station of Stanford University, Harbor Branch Foundation, West Indies Laboratory, Duke University Marine Laboratory
1981 Yale University, University of Arizona, University of Hawaii, University of North Carolina at Chapel Hill, Philadelphia Academy of the Natural Sciences, Howard University, Smithsonian Institution, University of Maryland, California State Polytechnic University at Pomona, College of the Virgin Islands at St. Thomas
1980 Tufts University, University of California at Santa Barbara, De Paul University, University of Kentucky, Northeastern University
1979 Smithsonian Tropical Research Institute, University of California at Irvine
1978 Smithsonian Institution, Smithsonian Tropical Research Institute

Presentations at Scientific Meetings

(numbers in parentheses show the number of presentations in which I was an author)

2018 International Society of Chemical Ecology Meetings (Budapest, Hungary); Western Society of Naturalists Meeting (Tacome WA)
2017 Benthic Ecology Meetings (4);
2016 International Coral Reef Congress (Honolulu, Hawaii (3); Ecological Society of American Meetings (1); Western Society of Naturalists (2); International Society of Chemical Ecology (1)
2015 Ecological Society of America Meetings (Baltimore, MD) (1)
2014 Benthic Ecology Meetings (Jacksonville, FL) (3)
2013 Benthic Ecology Meetings (Savannah, GA) (1)
2012 Benthic Ecology Meetings (Norfolk, Virginia) (2); International Coral Reef Society Meetings (Cairns, Australia) (4); 10th International Larval Biology Symposium (Berkeley, CA) (1);
2011 American Society of Limnology and Oceanography (San Juan, PR) (1); Benthic Ecology Meetings (Mobile, Alabama) (2)
2010 Benthic Ecology Meetings (Wilmington, NC; March 2010)
2009 57th ASMS Conference on Mass Spectrometry (Philadelphia, PA) (1), Joint Meetings of the American Society of Plant Biologists and the Phycological Society of America (Honolulu, Hawaii) (1) International Society of Ecology Annual Meetings (Brisbaine, Australia) (1), Ecological Society of America (Albuquerque, NM) (1), Crustacean Society Meeting (Tokyo, Japan)
2008 International Coral Reef Symposium (Ft. Lauderdale, FL) (1)
2006 Ecological Society of American Meetings (Memphis, TN) (1)

2005 ASLO, Benthic Ecology Meetings (Williamsburg, VA) (1), Ecological Society of America Meeting (Montreal, Quebec, Canada) (1), Student Conference on Conservation Science, Duke University, Durham, NC (1)
2004 DECHEMA symposium on "Aktuelle Entwicklungen in der Naturstoff-forschung" Plenary Speaker for this meeting; The Benthic Ecology Meetings, Mobile, AL; The International Chemical Ecology Meetings, Ottowa, Canada;
2003 Plant Canada 2003 (joint meeting of the Canadian Botanical Association and the Canadian Society of Plant Physiology: Antigonish, Nova Scotia) (1)
Benthic Ecology Meetings (Groton, CT) (2)
Ecological Society of America Meeting (Savannah, GA) (3)
2002 Marine Benthic Ecology Meetings (Orlando, FL) (3)
2001 International Society of Chemical Ecology (Lake Tahoe, CA) (1)
Phycological Society of America Meetings (Estes Park, CO) (1)
Meeting related to Oak Ridge Associated Universities (Oak Ridge, TN) (1)
Teasley Symposium on Global Change (Atlanta, GA) (1)
2000 Benthic Ecology Meetings (Wilmington, NC) (6)
American Society of Limnology and Oceanography Meetings (Copenhagen, Denmark) (1)
Australian Marine Sciences Association Annual Conference (University of New South Wales, Sydney, Australia) (1)
Marine Sciences MARCUBA 2000 (Havana, Cuba) (1)
1999 Benthic Ecology Meetings (Baton Rouge, LA) (6)
1998 Benthic Ecology Meetings (Melbourne, FL) (3)
Society for Integraive and Comparative Biology (Boston, MA) (2)
1997 Benthic Ecology Meetings (Portland, ME) (4)
Ecological Society of America Meetings (2)
Western Society of Naturalists (Monterey, CA) (3)
1996 The 31st European Marine Biology Symposium, St. Petersburg, Russia (1)
Benthic Ecology Meetings (Columbia, SC) (3)
8th International Coral Reef Symposium (Panama City, Panama) (2)
1995 The Southeastern Phycological Coloquy (Charleston, SC) (2)
Benthic Ecology Meetings (Rutgers, NJ) (2)
North American Benthological Society (Orlando, FL) (1)
The Gordon Research Conference on "Plant-Herbivore Interactions" (Oxnard, CA) (2)
1994 Max-Planck Society Symposium on Chemical Ecology (Munich, Germany) (1)
Benthic Ecology Meetings (Mystic, CT) (4)
North American Benthological Society (Orlando, FL) (1)
1993 American Society for the Advancement of Science (Boston, MA) (1)
International Society of Chemical Ecology (Clearwater, FL) (2)
Ecological Society of America (Madison, WI) (1)
Benthic Ecology Meetings (Mobile, AL) (2)
American Society of Zoology/Western Society of Naturalists (Los Angeles, CA) (1)
1992 Benthic Ecology Meetings (Newport, RI) (6)
1991 Coastal Wetlands Ecology and Management Symposium (New Orleans, LA) (1)
Benthic Ecology Meetings (Williamsburg, VA) (4)
Ecological Society of America (San Antonio, TX) (2)
1990 Benthic Ecology Meetings (Mobil, AL) (1)
Ecological Society of America (Snow Bird, UT) (1)
American Society of Limnology and Oceanography (Williamsburg, VA) (1)
International Symposium on Herbivory in the Marine Benthos (Liverpool, England) (1)
Western Society of Naturalists (Monterey, CA) (1)
1989 Benthic Ecology Meetings (Solomons, MD) (1)

Gordon Conference on the Chemistry of Plant-Herbivore Interactions (Oxnard, CA) (1)
US-India Conference on Bioactive Compounds from Marine Organisms (Goa, India) (1)
1988 Benthic Ecology Meetings (Portland, ME) (1)
6th International Coral Reef Symposium (Townsville, Australia) (2)
Smithsonian Institution Meetings on Tropical Marine Ecology (Solomons, MD) (1)
1987 Ecological Society of America (Columbus, OH) (3)
Benthic Ecology Meetings (Raleigh, NC) (4)
NOAA Undersea Science Symposium (Mystic, CT) (1)
The Charles A. Lindberg Symposium (Little Falls, MN) (1)
North Carolina Marine Biotechnology Symposium (Beaufort, NC) (1)
1986 International Congress of Ecology / Ecological Society of America (Syracuse, NY) (3)
Benthic Ecology Meetings (Boston, MA) (3)
Western Society of Naturalists (Hilo, Hawaii) (1)
Gordon Conference on Marine Natural Products (Oxnard, CA) (1)
1985 Ecological Society of America (Minneapolis, MN) (2)
American Society of Zoologists (Baltimore, MD) (1)
Fifth International Coral Reef Congress (Tahiti, French Polynesia) (1)
Benthic Ecology Meetings (Columbia, SC) (1)
Western Society of Naturalists (Monterey, CA) (1)
1984 Ecological Society of America (Ft. Collins, CO) (1)
Benthic Ecology Meetings (Baltimore, MD) (1)
The Atlantic Reef Committee and International Society for Reef Studies (Miami, FL) (1)
1983 American Society of Zoologists (Philadelphia, PA) (1)
The Sixth Maria Moors Cabot Symposium (Harvard Forest, MA) (1)
The Eleventh International Seaweed Symposium (Qingdao, China) (1)
<l983 Several papers were presented at annual meetings of the Ecological Society of America, Phycological Society of America, Western Society of Naturalists, etc.

Outreach/Presentations to Public Groups (kept track of this only post-December 2008)

2016 Rotary Club of North Atlanta "Sustaining Earth's Ecosystems Services" (May),
2014 Decatur Club presentation on "Coral reef ecology and drugs from the sea" (July);
2013 Hour- long guest interview on *The Business Hour* on America's Web Radio (Feb); presentation to the Dunwoody Rotary Club on "Chemical ecology, coral reef ecology, and drugs from the sea";
2012 Organized the 2012 Teasley Symposium – this day long session on Coral Reef Ecology was web-cast internationally and included web-based video interviews with sciences students in local school systems in GA; Worked with the following for outreach stories on marine chemical ecology (mostly generated by our 2012 Science paper): *NSF, AAAS, Science, Nature, National Geographic, Scientific American, the New York Times, Smithsonian Magazine, Voice of America, Voice of Russia, Chemical and Engineering News, Today's Science*, etc.
2011 Interview and web-cast on ocean acidification with *The Scientist* /F 1000 http://blog.the-scientist.com/2011/01/07/f100k/; Carrollton Kawinis Club – "Conserving the World's Coral Reefs"; Chemical and Engineering News Article on our work that focuses on "Bioprospecting protocols and drug discovery": Four pieces for the New York Times "Scientist at Work" section A Disappearing Underwater World http://scientistatwork.blogs.nytimes.com/2011/10/12/a-disappearing-underwater-world/; Chemistry as the Language of Life http://scientistatwork.blogs.nytimes.com/2011/10/14/chemistry-as-the-language-of-life/; Drinking Kava on "Fiji Time" http://scientistatwork.blogs.nytimes.com/2011/10/18/drinking-kava-on-fiji-time/,; From Marine Ecology to Drug Discovery http://scientistatwork.blogs.nytimes.com/2011/10/24/from-marine-ecology-to-drug-discovery/; Coverage of our research (October 2011) by *MSNBC.com, Science Now (Science Magazine),*

Time, National Geographic, Science Daily, Our Amazing Planet, Yahoo! News, Bits of Science, Fiji Broadcasting, Live Science, Wired Science, Australian Radio, the Canadian Broadcasting Corp. etc. - *posted on websites with more than 127 million unique visitors/month*)

2010 Wall Street Journal ½ page, A-section story on our work entitled "In the Depths of Aquarius"; Sandy Springs Elementary – "Marine Ecology and Exploration"; Discover magazine article on our work entitled "Overfishing gives toxic seaweeds an edge in their competition with corals"; Oceanography Magazine article on our work entitled "Talking to the animals: Chemical ecologists translate the language of the sea"; NSF's News summary web site article on our work entitled "Killer Seaweed: Scientists Find First Proof that Chemicals from Seaweeds Damage Coral on Contact"; results of this "Killer seaweed" study were featured in *Discover* magazine online, on *National Public Radio*, on *MSNBC* online, and by over 15 global new sources.

2009 Mariners Mutual (an Investment club in Atlanta) – "*Anthropogenic drivers of Earth's processes: Can we engineer a future worth having?*"; the Atlanta School (to their middle-school students) – *"Ecology and evolution on a crowded planet"*; Rotary Club of Griffin, GA - "*Anthropogenic drivers of Earth's processes: Can we engineer a future worth having?*"

2008 Rotary Club of Buckhead (175 of Atlanta's involved business leaders) – "*This is the century of biology*"

Older Awards and Recognition

2014 George Mercer Award from ESA for: Rasher DB, A Hoey, and ME Hay. 2013. Consumer diversity interacts with prey defenses to drive ecosystem function. **Ecology** 94: 1347-1358 (recognizes the outstanding paper of the previous 2 years in the field of ecology by an author <40 years old; Doug Rasher was the awardee);

Named a "Top 100 Scientist of 2014" by the International Biographical Center, Cambridge, England

Organizer of the Symposium on "Chemical cues and signals structure marine populations, communities, and ecosystems" for the International Society of Chemical Ecology;

2013 AAAS Fellow for "…developing marine chemical ecology and for elucidating how chemical cues and signals structure populations, communities, and ecosystems."

National Academy of Sciences panel for the USAID/NSF PEER program (Partnerships for Enhanced Engagement in Research)

2012 NIEHS (National Institute of Environmental Health Sciences) National Science Foundation (NSF) Review Committee Member for Oceans, Great Lakes and Human Health (OGLHH);

2011 Science Advisory Board (SAB) for the Florida State University Coastal and Marine Laboratory (2011-present)

Recognized by International Biographical Center (Cambridge, England) as a "Leading Scientists of the World 2011"

2010 Inducted into the Hall of Distinguished Alumni by the University of Kentucky;

Biology Panel Member for "Research Evaluation for Development at the University of Gothenburg, Sweden"

Sigma Xi Best Paper Award

2009 Member, Review Committee for the Stazione Zoologica Anton Dohrn, Naples, Italy

Panel member, NSF PIRE panel

Faculty of 1000 Biology, Ecology Advisory Board

2008 Board of Directors of Sustainable Fijian Reef Resources, Inc.;

NSF, PIRE panelest

Provosts Task Force Sub-committee on Thought Leaders

External Research Collaborations Subcommittee of the Defining and Supporting Interdisciplinarity Taskforce (Ga Tech)

2007 On the National Geographic TV Series "Naked Science" episode "The Deep" (about marine science and exploration)

2006 Re-appointed to the Ecological Society of America's Marine Ecology Rapid Response Team (2 yr term)

SigmaXi Sustained Research Award

USG search committee for the Georgia Sea Grant Director

2005 Appointed as a Faculty 1000 member http://www.facultyof1000.com/start.asp

Appointed to NOAA's SouthEast Advisory Council for Undersea Research and Education (SEACURE)

2004 - Appointed to the Ecological Society of America's Marine Ecology Rapid Response Team (2 yr term)

2003 - Appointed to the American Institute for Biological Sciences' working group on Infrastructure for Biology at Regional to Continental Scales/ National Ecological Observatory Network

2002 - Identified by ISI's Current Contents as among the world's most cited authors (top 0.1%) in the Ecology/Environment category.

Appointed to NSF's IGERT National Recruitment Program Advisory Board

Appointed to the Georgia Aquarium Conservation Committee

"Opponent" for a Ph.D. candidate (Gunilla Toth) at Goteborg University, Sweden

2001 - Appointed to the Ecological Society of America's Research Committee (a 3 year term)

NSF Panel Member for: Biocomplexity in the Environment: Dynamics of Coupled Natural and Human Systems;

Appointed to the National Coral Reef Institute's Technical Advisory Committee

2000 - Appointed as an Aldo Leopold Leadership Fellow by the Ecological Society of America;

Boston University Marine Program External Review Panel, Woods Hole, MA

Appointed as a Trustee of the Skidaway Marine Science Foundation (3 year term)

1999 Chair, American Society of Limnology and Oceanography, Nominations Committee

1998 Appointed to the National Science Foundation's Decadal Planning Committee on Ocean Sciences (charged with synthesizing planning efforts on the future of the Biological, Chemical, Geological, and Physical Oceanography Programs into a comprehensive plan for the Ocean Sciences Division)

1997 Co-Chair of the National Science Foundation's OEUVRE (Ocean Ecology: Understanding and

Vision for REsearch) Workshop in Biological Oceanography (charged with organizing a workshop to challenges and opportunities that NSF's Biological Oceanography Section should be prepared to confront over the next 20 years)

Chairman, American Society of Limnology and Oceanography, Finance Committee

Search Committee Member for a new Editor for *Limnology and Oceanography*; the journal of the American Society of Limnology and Oceanography

NSF Panel Member for Biological Oceanography

NSF Panel Member for the Integrative Graduate Education and Research Training Program

Invited Advisor, Max-Planck Institutes meeting on "Perspectives in Aquatic Ecology"

Advisory Board for Reef Net (an internet publication devoted to the ecology and conservation of coral reefs)

Service

A) National and International Service

2018 Co-organizer for the International Society of Chemical Ecology Annual Meeting in Atlanta GA in 2019.
Smithsonian Institution's MarineGEO Advisory Council
Chair of the Scientific Advisory Board for Florida State University's Coastal Marine Laboratory

2017 Smithsonian Institution's MarineGEO Advisory Council
Chair of the Scientific Advisory Board for Florida State University's Coastal Marine Laboratory

2016 Scientific Advisory Board for Florida State University's Coastal Marine Laboratory
NSF Panel Member for the New LTER Competition

2015 Scientific Advisory Board for Florida State University's Coastal Marine Laboratory

2014 Organizer for the International Society of Chemical Ecology Meeting's special session on "Chemical cues and signals structure marine populations, communities, and ecosystems" Champaign-Urbana, Il;
Member Ga Tech Quality Enhancement Plan Faculty Advisory Committee;
Scientific Advisory Board for Florida State University's Coastal Marine Laboratory

2013 National Academy of Sciences panel for the USAID/NSF PEER program (Partnerships for Enhanced Engagement in Research)
Interviewee on The Business Hour with Ron Comacho, America's Web Radio (program: The Health Of The Planet Is About Healthy Oceans And Marine Life) 3/29/13
Scientific Advisory Board for Florida State University's Coastal Marine Laboratory

2012 Co-organizer for the "Seaweed-Coral Interaction" Symposium at the International Coral Reef Symposium Cairns, Australia;
Organized the 2012 Teasley Symposium – "Seaweed-Coral Interactions and the Structure and Function of Coral Reefs" Atlanta, GA;
NIEHS (National Institute of Environmental Health Sciences) National Science Foundation (NSF) Review Committee Member for Oceans, Great Lakes and Human Health (OGLHH);
Invited speaker and participant, Science Workshops Concerning NOAA's biological status review of 82 species of corals considered for listing under the Endangered Species Act, Ft. Lauderdale, FL

2011 Appointed to Science Advisory Board (SAB) for the Florida State University Coastal and Marine Laboratory
Recognized by International Biographical Center (Cambridge, England) as a "Leading Scientists of the World 2011"
Member, Advisory Board for UGA, NSF funded LTER project

2010 Biology Panel Member for "Research Evaluation for Development at the University of Gothenburg, Sweden"
Member, faculty search targeting "The Systems Ecology of the Cystic Fibrosis Lung" Emory University School of Medicine, Center for Cystic Fibrosis Research, Children's Healthcare of Atlanta
Member, Advisory Board for UGA, NSF funded LTER project

2009 Member, Review Committee for the Stazione Zoologica Anton Dohrn, Naples, Italy
Panel member, NSF PIRE panel
Faculty of 1000 Biology, Ecology Advisory Board
Member, Advisory Board for UGA, NSF funded LTER project

2008 Board of Directors of Sustainable Fijian Reef Resources, Inc.;
NSF, PIRE panelist
Member, Advisory Board for UGA, NSF funded LTER project

2007 Member USG search committee for a new Sea Grant Director for the state of Georgia

On the National Geographic TV Series "Naked Science" episode "The Deep" (about marine science and exploration)
Member, Advisory Board for UGA, NSF funded LTER project

2006 Re-appointed to the Ecological Society of America's Marine Ecology Rapid Response Team (2 yr term)
SigmaXi Sustained Research Award
External Review committee for UGA, NSF funded LTER project
USG search committee for a new Sea Grant Director for the state of Georgia

2005 Appointed as a Faculty 1000 member http://www.facultyof1000.com/start.asp
Appointed to NOAA's SouthEast Advisory Council for Undersea Research and Education (SEACURE)

2004 - Appointed to the Ecological Society of America's Marine Ecology Rapid Response Team (2 yr term)

2003 - Appointed to the American Institute for Biological Sciences' working group on Infrastructure for Biology at Regional to Continental Scales/ National Ecological Observatory Network

2002 - Identified by ISI's Current Contents as among the world's most cited authors (top 0.1%) in the Ecology/Environment category.
Appointed to NSF's IGERT National Recruitment Program Advisory Board
Appointed to the Georgia Aquarium Conservation Committee
"Opponent" for a Ph.D. candidate (Gunilla Toth) at Goteborg University, Sweden

2001 - Appointed to the Ecological Society of America's Research Committee (a 3 year term)
NSF Panel Member for: Biocomplexity in the Environment: Dynamics of Coupled Natural and Human Systems;
Appointed to the National Coral Reef Institute's Technical Advisory Committee

2000 - Appointed as an Aldo Leopold Leadership Fellow by the Ecological Society of America;
Boston University Marine Program External Review Panel, Woods Hole, MA
Sustainable Ecosystems Institute Scientific Panel Member
Appointed as a Trustee of the Skidaway Marine Science Foundation (3 year term)

1999 Chair, American Society of Limnology and Oceanography, Nominations Committee

1998 - 2000 Appointed to the National Science Foundation's Decadal Planning Committee on Ocean Sciences (charged with synthesizing planning efforts on the future of the Biological, Chemical, Geological, and Physical Oceanography Programs into a comprehensive plan for the Ocean Sciences Division)

1997 Co-Chair of the National Science Foundation's OEUVRE (Ocean Ecology: Understanding and Vision for REsearch) Workshop in Biological Oceanography (charged with organizing a workshop to challenges and opportunities that NSF's Biological Oceanography Section should be prepared to confront over the next 20 years)
Chairman, American Society of Limnology and Oceanography, Finance Committee
Search Committee Member for a new Editor for *Limnology and Oceanography*; the journal of the American Society of Limnology and Oceanography
NSF Panel Member for Biological Oceanography
NSF Panel Member for the Integrative Graduate Education and Research Training Program
Invited Advisor, Max-Planck Institutes meeting on "Perspectives in Aquatic Ecology"
Advisory Board for Reef Net (an internet publication devoted to the ecology and conservation of coral reefs)

1997 - Co- Chair of NSF "Futures" Workshop for Biological Oceanography (OEUVRE)
- Editorial Advisory Board for *Journal of Experimental Marine Biology and Ecology*
- Associate Editor for *Chemoecology*
- NSF Panel Member for Biological Oceanography and for the Panel on Research Training Grants
- Invited Advisor, Max-Planck Institutes meeting on "Perspectives in Aquatic Ecology"

- Advisory Board for Reef Net (an internet publication devoted to the ecology and conservation of coral reefs)

1996 - Taught a one week course and gave a series of seminars on "Marine Chemical Ecology" at Instituto Biologia, Universidade Federal Fluminense, Nitero, Rio de Janeiro, Brazil, March 1996

1995 - Elected to the Board of the American Society of Limnology and Oceanography as a Member-at-Large
- NSF Panel on Biology Research Training Grants
- Participant in Smithsonian Institution and Center for Marine Conservation Workshop on Intensive Marine Inventories and Their Contribution to the Reorganization of Systematics

1994 - Invited participant in the Max-Planck Society meeting to determine the feasibility of establishing an Institute of Chemical Ecology
- Panel reviewer for Duke University/ONR High School Internship Program
- NOAA, NURC Panel member for research in the Florida Keys National Marine Sanctuary
- Invited participant in U.S. National Academy of Sciences Special Colloquium "Chemical Ecology: The Chemistry of Biotic Interactions"

1993-96 - Appointed as a Counselor for the International Society for Chemical Ecology

1993 - Spent 3 weeks in South Africa at the request of the Univ. of the Western Cape (the university at which Desmond Tutu is Chancellor) collaborating with students and faculty on marine chemical ecology.

1992 - Invited participant in the NSF Workshop on a National Center for Ecological Synthesis and Analysis

1989-93 - Editorial Board for *Ecology, Ecological Monographs, Marine Ecology Progress Series, Chemoecology*.

1989-95 - Proposal Review Panel for the Charles A. Lindberg Foundation, Inc.

1990 - On the Proposal Review Panel for NSF Biological Oceanography Program

1989 - On the Proposal Review Panels for NSF Biological Oceanography Program, NOAA National Undersea Research Program, and Sigma Xi

1987 - One of approximately 20 invited participants in a recent NSF sponsored workshop on nearshore benthic marine ecology (Seattle, WA)

1986 - Organized and acquired NSF funding for an international workshop on "Integrating Marine Chemical Ecology and Biotechnology" (Hilo, Hawaii) (W. Fenical collaborated on this)

1986 - Co-organizer (with J. P. Sutherland and L. Levin) of the 1986 Benthic Ecology Meetings (Raleigh, NC)

1982-86 - Buell Award Judge (Ecological Society of America award for outstanding presentation by a graduate student)

Reviewed manuscripts and proposals for:

Journals*: American Naturalist, American Zoologist, Annals of Botany, Aquatic Botany, ASB Bulletin, Biofouling, Biological Bulletin, Biology Letters, Biotropica, Botanica Marina, Bulletin of Marine Sciences, Chemoecology, Climate Change, Coral Reefs, Current Biology, Ecology, Ecology Letters, Ecological Monographs, eLife, Environmental Microbiology and Environmental Microbiology Reports, Estuaries,, Evolution, Functional Ecology, Hydrobiologia, Journal of Chemical Ecology, Journal of the Elisa Mitchell Scientific Society, Journal of Experimental Marine Biology and Ecology, Journal of Fish Biology, Journal of Phycology, Limnology and Oceanography, Marine Biology, Marine Ecology Progress Series, Nature, Nature Communications, Naturwissenschaften, New Phytologist, Oecologia, Phycologia, Plant Ecology, Proceedings of the National Academy of Sciences(Guest Editor and reviewer), Science, Science Advances, Scientia Marina, Scientific Reports, Trends in Plant Science,* several books, symposia, and conference proceedings;

Proposal reviews and/or Panel member for: The Leverhulme Trust, NSF (Biological Oceanography, Ecology, International Programs, Division of Research Initiation, Polar Biology and Medicine,

Ecology and Evolutionary Physiology, Informal Science Education, IGERT, PIRE); National Academy of Sciences (National Research Council, Office of International Affairs), National Geographic Society, Smithsonian Institution, NOAA (Undersea Research Program, Marine Sanctuary Program, National Estuarine Research Reserve Program, MARFIN), U.S. Environmental Protection Agency, National and State Sea Grant Programs, Netherlands Organization for Scientific Research, U.S. Man and The Biosphere Program, Australian Research Council, Australia's National Research Fellowship Scheme, National Environmental Research Council (NERC) of the United Kingdom, South African Foundation for Research and Development (FRD), Israel Inter-Univ. Foundation for Ecology, U.S.-Israel Binational Science Foundation, Alexander von Humboldt Foundation, International Foundation for Science, National Resources Defense Council, NC Dept. of Environmental Health and Natural Resources, Kluwer Academic/Plenum Publishers, Wallenberg Foundation Academy Fellows.

Tenure and promotion reviews for: Brown University, Cornell University, Goteborg University (Sweden), Idaho State University, James Cook University (Australia), Lewis and Clark College, Northeastern University, Notre Dame University, Nova Southeastern University, Ohio State University, Oregon State University, Scripps Institution of Oceanography, Smithsonian Institution, Smithsonian Tropical Research Institute, State University of New York at Buffalo, Temple University, University of California at Davis, University of California at Santa Barbara, University of California at Los Angeles, University of Chicago, University of Delaware, University of Hawai‘i at Mānoa, University of Houston, University of Illinois at Urbana-Champaign, University of Maine, University of Michigan, University of Minnesota, University of New Hampshire, University of New South Wales, University of North Carolina at Chapel Hill, University of Sydney, University of Utah, University of the Western Cape (South Africa), U.S. National Museum of Natural History - Smithsonian Institution, Utah State University

B) University Service

Georgia Institute of Technology

2018 School of Biological Sciences, Research Awards Committee
Ocean Science & Engineering (OSE) Planning Committee;
Ocean Science & Engineering (OSE) Graduate Admissions Committee
CoS Dean’s appointment to the Living Building Project Academic & Research Council
Co-Director of Ocean Science & Engineering (OSE) Program
Chair, Search Committee for the Elizabeth Smithgall Watts Endowed Chair in Ecology and Conservation

2017 School of Biological Sciences, Research Awards Committee
Ocean Science & Engineering (OSE) Planning Committee;
Ocean Science & Engineering (OSE) Graduate Admissions Committee
Dean’s appointment to the Living Building Project Academic & Research Council

2016 College of Sciences Reappointment, Promotion and Tenure Committee;
Sigma Xi Dissertations Award Committee;
Ocean Science & Engineering (GT-Ocean) Planning Committee;
Ocean Science & Engineering (GT-Ocean) Graduate Admissions Committee
School of Biology, Awards Committee
Chair, Ecologist search committee
CoS Dean’s appointment to the Living Building Project Academic & Research Council

2015 Chair of College of Sciences Committee on Honorific Titles and Awards
College of Sciences Reappointment, Promotion and Tenure Committee;
Quality Enhancement Plan Advisory Committee;

Ocean Science & Technology (GT-Ocean) Planning Committee;
School of Biology, Awards Committee
Chair, Ecologist search committee

2014 Georgia Tech College of Sciences Reappointment, Promotion and Tenure Committee;
Quality Enhancement Plan Advisory Committee;
Ocean Science & Technology (GT-Ocean) planning committee;
School of Biology, Awards Committee

2013 Georgia Tech College of Sciences Reappointment, Promotion and Tenure Committee member (3 yr term)
Member GIT Brook Byers Institute for Sustainable Systems review committee
School of Biology, Awards Committee
School of Biology, EBB2&3 Biology Programming Committee

2012 Chair, School of Biology Promotion and Tenure Committee;
Member, Molecular Ecology and Ecology search committee

2011 Commencement Speaker for Summer 2011 graduation ceremony, Georgia Inst. Of Technology;
Member, School of Biology, Strategic Planning Committee
Chair, School of Biology Promotion and Tenure Committee

2010 Chair, School of Biology Promotion and Tenure Committee
Member, GIT School of Biology Chairperson Search Committee
Member, GIT Endowed Chairs and Professorships Task Force
IGERT proposal review committee GIT
Chair, School of Biology Promotion and Tenure Committee

2009 Chair, School of Biology Promotion and Tenure Committee
Member, School of Biology Chairperson Search Committee
Member, Faculty Search for Microbiology (2 positions)

2008 School of Biology Promotion and Tenure Committee
College of Science Representative on the Georgia Tech Brand Steering Committee
Provosts Task Force Sub-committee on Thought Leaders
External Research Collaborations Subcommittee of the Defining and Supporting Interdisciplinarity Taskforce (Ga Tech)

2007 College of Science Representative on the Georgia Tech Brand Steering Committee
Provosts Task Force Sub-committee on Thought Leaders
External Research Collaborations Subcommittee of the Defining and Supporting Interdisciplinarity Taskforce (Ga Tech)
Member of Institute search committee for the Director of the Byers Institute for Sustainable Systems and Georgia Research Alliance Eminent Scholar and Hightower Chair for Environmental Technologies

2005 Provost's committee to review the Dean of the College of Sciences

2004 Chair, Ecology Search Committee

2003 – Chair, Molecular Ecology/Evolution Search Committee (hired Mike Goodisman)
- Member, Chair of Biology Search Committee
- Chair, GIT Working Group on the Georgia Aquarium

2002 - Institutes, Reappointment, Promotion and Tenure Committee
- School of Biology Performance and Tenure Committee
- Chair, GIT Working Group on the Georgia Aquarium

2001 - Chair, GIT Working Group on the Georgia Aquarium
- Chair, Ecological Modeler Search Committee (hired Chris Klausmeyer)
- Member, Microbiology Search Committee
- Institute's Reappointment, Promotion and Tenure Committee
- School of Biology Performance and Tenure Committee

2000 - Institute's Reappointment, Promotion and Tenure Committee

- Chair, Evolutionary Ecologist Search Committee (hired Adam Jones)
- School of Biology Performance and Tenure Committee

1999 - Chair, Diving Control Board
1999 - School of Biology Performance and Tenure Committee

University of North Carolina at Chapel Hill

1997 - Graduate Admissions Committee MASC
- Diving Control Board (IMS/MASC)
- Triangle Universities Marine Sciences Curriculum Committee

1996 - Graduate Admissions Committee (MASC)
- Diving Control Board (IMS/MASC)
- Graduate Performance Committee (MASC)

1995 - Appointed by the Vice Chancellor for Graduate Studies and Research to the UNC-CH Environmental Planning Group
- Faculty Promotion and Review Committee (Chair, for external review, Biology)
- Faculty representative and speaker on a 10 day UNC Alumni trip to Costa Rica
- Diving Control Board (Institute of Marine Sciences)
- Graduate Examinations Committee (Chair, Marine Sciences Curriculum)
- Graduate Admissions Committee (Marine Sciences)
- Graduate Performance Committee (Marine Sciences)
- Facilities Planning Committee (Inst. of Marine Sciences)

1994 - Appointed as a *Carolina Speaker* (designated by the university as one of several prominent faculty that will address clubs and groups throughout the state)
- Diving Control Board (Institute of Marine Sciences)
- Graduate Performance and Review Committee (Chair, Marine Sciences Curriculum)
- Charged with revising Institute of Marine Sciences' Tenure and Promotion Procedures

1993 - Diving Control Board (Institute of Marine Sciences)
- Graduate Performance and Review Committee (Chair, Marine Sciences Curriculum)

1992 - Faculty Council (Alternate member)
- Graduate Examination Committee (Chair, Marine Sciences Curriculum)
- Diving Control Board (Institute of Marine Sciences)

1991 - Search Committee for an Ecologist (Biology)
- Staff and Facility Planning Committee (Institute of Marine Sciences)
- Graduate Admissions Committee (Curriculum in Marine Sciences)
- Graduate Examination Committee (Chair, Curriculum in Marine Sciences)
- Diving Control Board (Institute of Marine Sciences)

1990 - Chair of Graduate Examination Committee (Curriculum Marine Sciences)
- Staff and Facilities Planning Committee (Institute Marine Sciences)

1989 - Search Committee for Research Assistant Professor (Institute of Marine Sciences)
1988-90 - Graduate Admissions and Performance Committee (Marine Sciences Curriculum)
1987-90 - Examinations Committee (Marine Sciences Curriculum)
1987-90 - Director of Seminar Series (Institute of Marine Sciences)
1987-88 - Alternate member of the Faculty Council
1986 - Space Committee (substitute member) (Institute of Marine Sciences)
1983-84 - Search Committee for Sedimentary Geologist and Trophic Ecologist (Institute of Marine Sciences)
1983-84 - Search Committee for Research Assistant Professor (Institute of Marine Sciences)
1983 - Graduate Admissions and Performance Committee (Marine Sciences Curriculum)
1982-90 - Computer coordinator (Institute of Marine Sciences)
1982-89 - Dive Officer (Institute of Marine Sciences)