
CURRICULUM VITAE

Judith Marie O'Neil

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I. Education

- 1983 B.S., Boston College, Chestnut Hill, MA. Biology; (1982-Sea Education Association Semester, Woods Hole, MA; Oceanography; Boston University)
- 1987 M.S., State University of New York at Stony Brook, NY. Marine Environmental Science.
- 1995 Ph.D., University of Maryland, College Park, MD. Marine Environmental and Estuarine Studies (Biological Oceanography).

II. Professional Background

- 1995-1999 Research Officer, School of Marine Science/Zoology Department University of Queensland, Brisbane, Australia.
- 1999-2001 Australian Research Council Fellow (APDI), Botany Department and Lecturer, Centre for Marine Studies, University of Queensland, Brisbane, Australia
- 2002-2004 Lecturer (Assistant Professor), Centre for Marine Studies, University of Queensland, Brisbane, Australia (50%)
- 2002- Assistant Research Professor, Horn Point Laboratory, University of Maryland Center for Environmental Science, Cambridge, MD

III. Research

A. Areas of professional expertise:

Biological oceanography, cyanobacterial ecophysiology, plankton trophodynamics, harmful algal bloom ecology, nutrient dynamics, marine botany, (sub) tropical coastal marine ecology, coral reef biology.

B. Peer Reviewed Publications

2009

Arthur, K.E., Paul, V.J., Paerl, H.W., **O'Neil, J.M.**, Joyner, J., Meickle, T. (2009). Nutrient enrichment of the cyanobacterium *Lyngbya* sp.: Effect on growth, secondary metabolite concentration and feeding by the specialist grazer *Stylocheilus striatus*. *Marine Ecology Progress Series* 394:101-110.

Glibert, P.M., Heil, C.A. Alexander, J., Murasko, S. and **O'Neil, J.M.** (2009) Comparative nutrient and phytoplankton dynamics in two subtropical estuaries: Florida Bay, USA and Moreton Bay, Australia. *Contributions in Marine Science*. 38: 73-89.

Wicks, E.C., Koch, E.W., **O'Neil, J.M.** and Elliston, K. (2009) Old marsh peat as seagrass habitat substrate: Does sediment organic content have an effect on seagrass growth? *Marine Ecology Progress Series* 378: 71-80.

2008

O'Neil, J. M. & Capone, D.G. (2008) Nitrogen Cycling on Coral Reefs. Chapter X, In: Capone, D.G., Carpenter, E.J., Bronk, D.A. & Mulholland, M.R. (Eds.) Nitrogen in the Marine Environment. Elsevier Press. pp. 937-977.

Paerl, H.W., Joyner, J.J., Joyner, A., Arthur, K.E., Paul, V.J., **O'Neil, J.M.** and Heil, C.A. (2008) Co-occurrence of dinoflagellate and cyanobacterial harmful algal blooms in Florida coastal waters: A case for dual nutrient (N and P) input controls. *Marine Ecology Progress Series* 371:143-153.

Arthur, K.A. and **O'Neil, J.M.** (2008) Green Turtle Foraging Behavior in Moreton Bay, Australia Using Crittercam. In: Marshall, G.J, editor. Proceedings of the 2007 Animal-Borne Imaging Symposium; 2007 Oct 10-13; Washington D.C., National Geographic Society; 2008. pp. 39-44.

Glibert, P.M., Azanza, R., Burford, M., Furuya, K., Abal, E., Al-Azri, A., Al-Yamani, F., Anderson, P., Anderson, D.M., Beardall, J., Berg, G.M., Brand, L., Bronk, D., Brookes, J., Burkholder, J.M., Cembella, A., Cochlan, W.P., Collier, J.L., Collos, Y., Diaz, R., Doblin, M., Drennen, T., Dyrman, S., Fukuyo, Y., Furnas, M., Galloway, J., Graneli, E., Ha, D.V., Hallegraeff, G., Harrison, J., Harrison, P.J., Heil, C.A., Heimann, K., Howarth, R., Jauzein, C., Kana, A.A., Kana, T.M., Kim, H., Kudela, R., Legrand, C., Mallin, M., Mulholland, M., Murray, S., **O'Neil, J.**, Pitcher, G., Qi, Y., Rabalais, N., Raine, R., Seitzinger, S., Salomon, P.S., Solommon, C., Stoecker, D.K., Usup, G., Wilson, J., Yin, K., Zhou, M., Zhu, M. (2008) Ocean urea fertilization for carbon credits poses high ecological risks. *Mar. Poll. Bull.* 56: 1049-1056.

2007

Benson, E., **O'Neil, J.M.** and Dennison, W.C. (2008) Del-15 Nitrogen signal in the macrophyte *Valsineria americana* from Upper Saranac Lake, NY *Hydrobiologia* 596:187-196. [Published online 28 July 2007: DOI 10.1007/s10750-00709095-0].

Arthur, K.E., **O'Neil, J.M.**, Limpus, C.J. Abernathy, K. and Marshall, G.J. (2007). Using animal-borne imaging to assess green turtle (*Chelonia mydas*) foraging ecology in Moreton Bay, Australia. *Marine Technology Society Journal.* 41: 5-9

2006

Ahern, K.S. **O'Neil, J.M.**, Udy, J.W., and Albert, S., (2006) Effects of iron on filament growth and productivity of the cyanobacterium *Lyngbya majuscula* using. *Marine and Freshwater Biology* 57:167-176.

Capper, A, Tibbetts, IR, **O'Neil, J.M.** & Shaw, GR (2006) Feeding preference and deterrence in rabbitfish *Siganus fuscescens* for the cyanobacterium *Lyngbya majuscula* in Moreton Bay, South East Queensland, Australia, *Journal of Fish Biology* 68 (5):1589-1609.

Capper, A, Tibbetts, IR, **O'Neil, J.M.** & Shaw, GR (2006) Dietary selectivity for the toxic cyanobacterium *Lyngbya majuscula* and resultant growth rates in two species of opisthobranch mollusc. *Journal of Experimental Marine Biology and Ecology* 331:133-144.

Glibert, P.M., Heil, C.A., **O'Neil, J.M.**, Dennison, W.C. and O'Donohue, M.J. (2006) Inputs, Composition, and Rates of Uptake of Nitrogen, Phosphorus, Silica and Carbon in Moreton Bay, Queensland, Australia: Evidence for Differential Limitation of Plankton Biomass and Production *Estuaries* 29:107-119.

Mulholland, M.R., Bernhardt, P.W., Heil, C.A., Bronk, D.A. and **O'Neil, J.M.** (2006) Nitrogen fixation and release of fixed nitrogen in the Gulf of Mexico. *Limnology and Oceanography* 51:1762-1776.

2005

O'Neil, J.M. & Dennison, W.C. (2005) *Lyngbya majuscula* in Southeast Queensland waterways. Chapter In: Abal, E.G., Bunn, S.E. and Dennison, W.C. (eds). Healthy Catchment, Health Waterways. South East Queensland Regional Water Quality Strategy, Brisbane City Council. pp 119-148.

Albert, S., **O'Neil, J.M.**, Udy, J.W., Ahern, K.S., O'Sullivan, C.M. and Dennison W.C. (2005) Blooms of the cyanobacterium *Lyngbya majuscula* in coastal Queensland, Australia: disparate sites, common factors. *Marine Pollution Bulletin* 51: 428-437.

Watkinson, A.J., **O'Neil, J.M.**, and Dennison, W.C. (2005) Ecophysiology of the bloom forming cyanobacterium *Lyngbya majuscula* in Moreton Bay, Australia. *Journal of Harmful Algae* 4: 697-715.

Capper, A, Tibbetts, IR, **O'Neil, J.M.** & Shaw, GR (2005) The fate of *Lyngbya majuscula* toxins in three potential consumers. *Journal of Chemical Ecology*. 31 (7): 1595-1606.

2004

Bronk, D.A., Sanderson, M.P., Mulholland, M.R., Heil, C.A. and **O'Neil, J.M.** (2004) Organic and inorganic nitrogen uptake kinetics in field populations dominated by *Karenia brevis*. In: Steidinger, K.A., Landesberg, J.H., Tomas, C.R., and Vargo, G.A. (Eds.) *Harmful Algae 2002*. Florida Fish and Wildlife Conservation Commission, Florida Institute of Oceanography, and Intergovernment Oceanographic Commission of UNESCO, St. Petersburg FL, USA p. 80-83.

Capper, A. Tibbetts, I.R., **O'Neil, J.M.** and Shaw, G.R. (2004). A review of feeding preferences and deterrence in three faunal species associated with cyanobacterial blooms of *Lyngbya majuscula* in southeast Queensland, Australia In: Steidinger, K.A., Landesberg, J.H., Tomas, C.R., and Vargo, G.A. (Eds.) *Harmful Algae 2002*. Florida Fish and Wildlife Conservation Commission, Florida Institute of Oceanography, and Intergovernmental Oceanographic Commission of UNESCO, St. Petersburg FL, USA p. 461-465.

Heil, C.A., Mulholland, M.R., Bronk, D.A., Bernhardt, P. and **O'Neil, J.M.** (2004) Bacterial and size fractionated primary production within the 2001 *Karenia brevis* bloom on the West Florida shelf. In: Steidinger, K.A., Landesberg, J.H., Tomas, C.R., and Vargo, G.A. (Eds.) *Harmful Algae 2002*. Florida Fish and Wildlife Conservation Commission, Florida Institute of Oceanography, and Intergovernmental Oceanographic Commission of UNESCO, St. Petersburg FL, USA p. 38-41.

Mulholland, M.R., Heil, C.A., Bronk, D.A., **O'Neil, J.M.** and Bernhardt, P. (2004) Does nitrogen regeneration from the Nitrogen fixing cyanobacteria *Trichodesmium spp.* fuel *Karenia brevis* blooms in the Gulf of Mexico? In: Steidinger, K.A., Landesberg, J.H., Tomas, C.R., and Vargo, G.A. (Eds.) *Harmful Algae 2002*. Florida Fish and Wildlife Conservation Commission, Florida Institute of Oceanography, and Intergovernmental Oceanographic Commission of UNESCO, St. Petersburg FL, USA p. 47-50.

2001

Hewson, I., **O'Neil, J.M.** Fuhrman, J.A. & Dennison W.C. (2001) Virus-like particle distribution and abundance in sediments and overlying waters along eutrophication gradients in two subtropical estuaries. *Limnology and Oceanography* 46:1734-1746.

Hewson, I., **O'Neil, J.M.** & Dennison, W.C. (2001) Virus-like particles associated with *Lyngbya majuscula* (Cyanophyta; Oscillatoriaceae) bloom decline in Moreton Bay, Australia. *Aquatic Microbial Ecology*. 25:207-213.

Hewson, I., **O'Neil, J.M.** Heil, C.A., Bratbak, G. & Dennison W.C. (2001). Effect of elevated viruses on benthic microbial communities. *Aquatic Microbial Ecology*, 25:1-10.

Hewson, I., **O'Neil, J.M.** & Abal, E. (2001) A novel bloom of the surf diatom *Anaulus australis*, in southeast Queensland. *J. Plankton Res.* 23:1233-1236.

Koop, K., Hutchings, P.A. Hoegh-Guldberg, O., Ambariyanto, Booth, D., Brodie, J., Bucher, D., Capone, D., Coll, J., Dennison, W., Erdmann, M., Harrison, P., Larkum, A.W.D., **O'Neil, J.M.**, Steven, A., Tentori, T., Ward, S., Yellowlees, D. (2001) ENCORE: The effect of nutrient enrichment on coral reefs. Synthesis of results and conclusions. *Marine Pollution Bulletin* 42: 91-120.

Pre-2000

O'Neil, J.M. (1999) Grazer interactions with nitrogen-fixing marine cyanobacteria: adaptation for N-acquisition? *Bulletin de l'Institut oceanographique, Monaco*, 19:293-317.

Dennison, W.C., **O'Neil, J.M.** Duffy, E.J., Oliver, P.E., and Shaw, G.R. (1999) Blooms of the cyanobacterium *Lyngbya majuscula* in coastal waters of Queensland, Australia. *Bulletin de l'Institut oceanographique, Monaco*, 19:501-506.

Glibert, P.M. and **JM O'Neil** (1999) Dissolved organic nitrogen release and amino acid oxidase activity by *Trichodesmium* spp. *Bulletin de l'Institut oceanographique, Monaco*, 19:265-272.

O'Neil, J.M. (1998) The colonial cyanobacterium *Trichodesmium* as a physical and nutritional substrate for the harpacticoid copepod *Macrosetella gracilis*. *Journal of Plankton Research* 20: 43-59.

O'Neil, J.M., Metzler, P.M. & Glibert, P.M. (1996) Ingestion of ¹⁵N₂ -labelled *Trichodesmium* sp. and ammonium regeneration by the harpacticoid copepod *Macrosetella gracilis*. *Marine Biology* 125: 89-96.

O'Neil, J.M. & Roman, M.R. (1994) Ingestion of the cyanobacterium *Trichodesmium* spp. by pelagic harpacticoid copepods *Macrosetella*, *Miracia* and *Oculosetella*. *Hydrobiologia*. 292/293 235-240.

Carpenter, E.J., **O'Neil, J.M.**, Dawson, R., Capone, D.G., Siddiqui, P.J.A. Roennenberg, T., & Bergman, B. (1993) The tropical diazotrophic phytoplankter *Trichodesmium*: biological characteristics of two common species. *Mar. Ecol. Prog. Ser.* 95: 295-304.

O'Neil, J.M. & Roman, M.R. (1992) Grazers and Associated Organisms of *Trichodesmium*. In: E.J. Carpenter, D.G. Capone & J. Rueter (Eds.), *Marine Pelagic Cyanobacteria: Trichodesmium and other Diazotrophs*, 61-73. Kluwer Academic Press.

Hawser, S.P., **O'Neil, J.M.**, Roman, M.R. & Codd, G.A. (1992) Toxicity of blooms of the cyanobacterium *Trichodesmium* to zooplankton. *Journ. Appl. Phycol.* 4:79-86.

Capone, D.G., **O'Neil, J.M.**, Zehr, J., & Carpenter, E.J. (1990) Basis for diel variation in nitrogenase activity in the marine planktonic cyanobacterium *Trichodesmium thiebautii*. *Mar. Ecol. Prog.* 56: 3532-3536.

O'Neil, J.M. & Capone, D.G.(1989) Nitrogenase activity in tropical carbonate marine sediments. Mar. Ecol. Prog. Ser. 56:145-156.

Wickner, R.B., Koh, T.J., Crowley, J.C., **O'Neil, J.M.** & Kaback, D.B. (1987). Molecular Cloning of chromosome I DNA from *Saccharomyces cerevisiae*: Isolation of the MAK 16 gene. Yeast Vol. 1

C. Contracts and Grants 2009

1. Ongoing Projects

a) NOAA ECOHAB Regional *Karenia* Nutrient Dynamics in the Eastern Gulf of Mexico: 2007-2012. 5 year, multidisciplinary study on nutrient and grazer interactions involved in bloom formations of the harmful dinoflagellate *Karenia*. \$500K (O'Neil). CoPIs: C. Heil (FFWC); D. Bronk (VIMS); K. Dixon (Mote); G. Hitchcock (U Miami); G. Kirkpatrick (Mote); M. Mulholland (ODU)

b) LyngbyaHAB: Ecology of the toxic cyanobacterium *Lyngbya spp.* in Florida estuarine and coastal waters. National Oceanographic and Atmospheric Administration: ECOHAB. 2005-2008 \$152K. (Co-Principal Investigator, 17% time with H. Paerl UNC; V. Paul Smithsonian Marine Station, FL). No cost extension through July 2009.

2. Recent Projects

a) National Geographic pilot project: Assessing the Use of the Critter-Cam on the green sea turtle *Chelonia mydas* foraging behaviour during *Lyngbya majuscula* blooms in Moreton Bay, Australia (in-kind; travel and research supplies)w/ Greg Marshall (National Geographic); Karen Arthur (Smithsonian Marine Lab); Col Limpus (EPA Queensland).

b) Maryland Coastal Bays: Nutrient dynamics in Maryland Coastal Bays: 25K (Feb-Sep 2007); with T. Carruthers; T. Fisher. Investigating land source effects on nutrient and plankton dynamics in Maryland Coastal Bays.

c) Prediction and Management Strategies for Blooms of the Toxic Cyanobacterium *Lyngbya majuscula* in Coastal Australian Waters. Australian Research Council Linkage grant. 2002-2005 (Principal Investigator, 50% time) with TD Waite (University of New South Wales, Sydney). \$450K AUD (no cost extension through Dec 2006).

3. Previous Awards

a) Nutritional links between *Gymnodinium breve* and *Trichodesmium spp.* blooms in the eastern Gulf of Mexico: Does the regeneration of recently fixed N₂ support the growth and development of *G. breve* blooms? National Science Foundation Biological Oceanography. 2001-2004. (subcontract- travel and supplies from USF, 16% time) with CA Heil (USF), M. Mullholland (ODU) D. Bronk (VIMS) \$240K.

C. Conferences, Seminars and Presentations

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- Beckert, K.A., **O'Neil, J.M.**, Fisher, T.R, Roman, R.V. (2009) Characterization and comparison of stream nutrients, land use, and loading patterns in Maryland Coastal Bay watersheds. Atlantic Estuarine Research Federation Meeting, Ocean City, M.D. Mar 5-7, 2009.
- Heil, C.A., **O'Neil, J.M.**, Mulholland, M.R., Bronk, D.A. and Hitchcock, G.(2009). Shifts in nutrient sources and processing in coastal *Karenia brevis* blooms. 5th U.S. Conference on Harmful Algae. Nov 15-19, 2009. Ocean Shores, Washington.
- O'Neil, J. M.** and K. Meyer. (2009). Bacterial enumeration, productivity and microbial grazing. Talk at NOAA ECOHAB: *Karenia* meeting, May 21-22, 2009, VIMS, Gloucester, VA.
- O'Neil, J.M.**, and Marshall, G. (2007) Using the Crittercam to assess turtle grazing behaviour on the cyanobacterium *Lyngbya majuscula* the "wild-view". February 12, 2007; University of Queensland, Stradbroke Island Research Station Seminar.
- O'Neil, J.M.** and Coles, V.J. (2008) Nitrogen fixation in Chesapeake Bay tributaries: A seasonally important nitrogen term? Ocean Sciences/ASLO Mtg. March 2-7, 2008, Orlando, FL
- Needham, D.A., **O'Neil, J.M.**, Beckert, K.A., Fertig, B. and Carruthers, T. (2008) Virus and bacteria distribution and abundance along a eutrophication gradient in the coastal bays of Maryland, USA. Ocean Sciences/ASLO Mtg. March 2-7, 2008, Orlando, FL
- Beckert, K.A., Fertig, B. **O'Neil, J.M.**, Carruthers, T., Dennison, W.C. and Fisher, T. Effect Of Watershed Land Use On Nutrient Dynamics in Maryland Coastal Bays. Atlantic Estuarine Research Federation Meeting, Lewes DE; Mar 14-15, 2008.
- Heil, C.A., Bronk, D.A., Mulholland, M.R., **O'Neil, J.M.**, Bernhardt, P. Murasko, S. and Havens, J. Effects of daylight surface aggregation behavior on nutrient dynamics of a *Karenia brevis* bloom. ASLO Ocean Sciences meeting, March 2-7, 2008, Orlando, FL.
- Arthur, K.E. and **O'Neil, J.M.**, (2007) Using the Crittercam to assess green turtle (*Chelonia mydas*) foraging ecology in Moreton Bay. 1st International Animal Borne Imaging Symposium, National Geographic, Washington, DC. Invited co presenters:<http://www.nationalgeographic.com/abis/speakers.html>
- O'Neil, J.M.**, Ward, S., Albert, S., Ahern, K., Shaw C., Shaw, G.R. and Jones, R. (2006) Effects of Cyanobacterial Blooms on Coral Reefs. AGU Ocean Sciences/ASLO Conference, Honolulu, HI, Feb 2006.
- O'Neil, J.M.** (2006) Altered Oceans: The Rise of Slime. Seminar to the Choptank Tributary Group Annual Meeting, Horn Point, August 2006.
- O'Neil, J. M.** Albert, S., Osborne, N., Shaw, G.R. Toxin levels in the cyanobacterium *Lyngbya majuscula* in relation to tissue nutrient content & bloom intensity. GEOHAB Open Meeting: Eutrophication and HABS, Baltimore, MD March 6-11, 2005.
- Borgatti, R.; **O'Neil, J. M.**; Dennison, W. C.; Feller, I. C., Effects of nutrient enrichment on nitrogen fixation in mangrove microbial communities in Bocas del Toro, Panama. 9th International Symposium on Biogeochemistry of Wetlands. Baton Rouge, LA. March 2005
- Borgatti, R.; **O'Neil, J. M.**; Dennison, W. C.; Feller, I. C., Effects of nutrient enrichment on nitrogen fixation in the mangrove microbial communities in Bocas del Toro, Panama. Estuarine Research Foundation Meeting (ERF) October 16-20, 2005 Norfolk, VA.

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- Capper, A., Tibbetts, I.R., **O'Neil, J. M.** and Shaw, G.R. The Fate of *Lyngbya majuscula* toxins in three herbivorous grazers. 34th Annual Benthic Ecology Meeting, Williamsburg, VA April 6-10, 2005.
- Glibert, P.M., Heil, C.A., Alexander, J., Revilla, M., Murasko, S. Hoare, A., **O'Neil, J.M.**, Dennison, W.C. and Hollander, D. Organic and inorganic nutrients, rates of phytoplankton nutrient uptake, and their relationship with phytoplankton community composition in Florida Bay and in a comparative subtropical ecosystem in Australia. Paper presented at Florida Bay and Surrounding Ecosystems meeting, December 11–14, 2005, Duck Key, FL.
- Heil, C. A., Glibert, P.M. **O'Neil, J. M.**, Dennison, W.C., Hollander, D., Greenwood, G.G., O'Donohue, M.J., Costanzo, S. Revilla, M., Alexander, J., Hoare, A. and Murasko, S. Comparative analysis of the relationships between nutrient cycling and phytoplankton community composition in two eutrophied subtropical estuaries: Florida Bay, USA and Moreton Bay, Australia. GEOHAB Open Meeting: Eutrophication and HABS, Baltimore, MD March 6-11, 2005.
- Heil, C.A., Bronk, D.A., Mulholland, M.R. and **O'Neil, J.M.**. *Karenia brevis* and *Trichodesmium*: Quantifying the link between N₂ fixation and HABS in the Gulf of Mexico. Invited talk, Gordon Research Conference on Mycotoxins and Phycotoxins, June 19–24, 2005, Colby College, Waterville, ME
- Joyner, J. J.; Paerl, H. W.; **O'Neil, J. M.**; Bronk, D. A., Nutrient effects on growth rates and metabolism of benthic cyanobacteria *Lyngbya* spp. from Florida. Estuarine Research Foundation Meeting (ERF) October 16-20, 2005 Norfolk, VA.
- O'Neil, J.M.**, Heil, C.A., Bernhardt, P. Mulholland, M.R., Bronk, D.A. Effect of copepod grazers on alkaline phosphatase activity in *Trichodesmium* spp. from the Gulf of Mexico. American Society of Limnology and Oceanography (ASLO) Honolulu, HI February 2004.
- O'Neil, J. M.** Albert, S., Osborne, N., Shaw, G. R., Heil, C. A., Mulholland, Bronk, D. A., Nitrogen acquisition by the toxic marine cyanobacterium *Lyngbya majuscula* from Moreton Bay Australia and Tampa Bay Florida. XIth International Conference on Harmful Algae, Cape Town, South Africa (November 15-19, 2004).
- Bernhardt, P.W., Mulholland, M. R., **O'Neil, J.M.**, Bronk, D.A. and Heil C.A. N₂ fixation and N regeneration in *Trichodesmium* IMS101 grown in chemostats at various growth rates. Presented at the American Society of Limnology and Oceanography's Ocean Sciences Meeting, Honolulu, HI (Feb. 15-20, 2004).
- Bronk, D. A., Sanderson, M. P., Mulholland, M. R., Heil, C. A., and **O'Neil, J. M.** Organic and inorganic nitrogen and carbon uptake kinetics infield and culture populations of *Karenia brevis*. Paper presented at 2004 American Society of Limnology and Oceanography (ASLO) winter meeting, Feb 15-20, 2004, Honolulu HI.
- Heil, C. A., Murasko, S., **O'Neil, J. M.**, Bronk, D. A., Mulholland, M. Phosphorus dynamics in the eastern Gulf of Mexico: Phosphorus uptake and regeneration within *Trichodesmium* and *Karenia brevis* blooms. Paper presented at 2004 American Society of Limnology and Oceanography (ASLO) winter meeting, Feb 15-20, 2004, Honolulu HI.
- Heil, C. A., Murasko, S., **O'Neil, J.M.**, Mulholland, M.R., and Bronk, D.A. Phosphorus uptake and regeneration within two *Karenia brevis* blooms on the West Florida Shelf. Presented at the XIth International Conference on Harmful Algae, Cape Town, South Africa (November 15-19, 2004).

Mulholland, M. R., Bernhardt, P.W., Bronk, D.A., **O'Neil, J.M.**, and Heil, C.A. Does nitrogen regeneration from the N₂ fixing cyanobacteria *Trichodesmium* spp. fuel *Karenia brevis* blooms in the Gulf of Mexico? Presented at the American Society of Limnology and Oceanography's Ocean Sciences Meeting, Honolulu, HI (Feb. 15-20, 2004).

Murasko, S., Heil, C.A., **O'Neil, J.M.**, Mulholland, M.R. and Bronk, D.A. A comparison of alkaline phosphatase activity during three *Karenia brevis* blooms. Poster presented at the XIth International Conference on Harmful Algae. Capetown, South Africa. (Nov. 15-19, 2004).

Shaw, G.R., Wickramasinghe, W., Lam, P., Eaglesham, G., Codd, G., **O'Neil, J.M.**, Rasmussen, P. Saint, C., Shaw, C., Moore, M. Toxicological aspect of *Trichodesmium* in Queensland, Australia. XIth International Conference on Harmful Algae, Cape Town, South Africa (November 15-19, 2004).

O'Neil, J.M., Lenes, J.M., Heil, C.A., Bernhardt, P. Mulholland, M.R., Bronk, D.A., Byrne, R.H. and Walsh, J.J. Dissolved iron uptake by the cyanobacteria *Trichodesmium* spp. in surface waters of the Gulf of Mexico. American Society of Limnology and Oceanography (ASLO) Salt Lake City, UT February 2003.

O'Neil, J.M. (2003) Australia's Noxious Cyanobacteria: Does a "Red Continent" Mean Blue-Green Waters? Smithsonian Environmental Research Center. May 2003

O'Neil, J. M. Ecophysiology of cyanobacterial blooms in Australia and the Gulf of Mexico
REU students Horn Point. July 2003.

E. Active Memberships in Professional Societies

American Geophysical Union
American Society for Limnology and Oceanography
Australian Coral Reef Society
International Society for Study of Harmful Algae

IV. Teaching and Training

1999-2004 Lecturer (Assistant Professor), Biological and Chemical Sciences Faculty, Centre for Marine Studies, University of Queensland, Brisbane, Australia
2002- present Assistant Research Professor, Member Graduate Faculty, MEES Program.

A. Readings in Aquatic Science MEES 608A: Taught Spring semester 2008/2010 at Horn Point.

B. Biological Oceanography MEES 622 – co-instructor Fall 2009 with Raleigh Hood (course coordinator) and main co-instructors: Vic Kennedy, Eva Marie Koch. Lectures on microzooplankton, energetics, harmful algae and grazing & field-laboratory work aboard *R/V Rachel Carson*.

C. Graduate Students Supervised as Major Advisor or Co-Advisor at University of Queensland (UQ).

1. Degrees Completed

Webb, Graham; Honours, Environmental Science 1998; UQ. "Assessing zooplankton grazing in Moreton Bay by measuring short-term changes in chlorophyll *a* concentrations."

Hewson, Ian; Honours, Botany 2000; UQ. "Dynamics of marine viruses along eutrophication gradients in Australian subtropical estuaries."

Watkinson, Andrew; Honours; Botany 2000; UQ “Ecophysiology of the bloom forming cyanobacteria *Lyngbya majuscula* in Moreton Bay.

Albert, Simon; Honours; Environmental Science 2001;UQ. “The effect of soil extracts on the physiology of *Lyngbya majuscula* (Cyanophyta).”

Lawn, Tanya; Honours; Botany 2002;UQ. “Dynamics and Effects of Macrofauna Associated with *Lyngbya majuscula* in Moreton Bay.”

Ahern, Kathleen; Honours; Environmental Science 2003; UQ. Effect of nutrients on the cyanobacterium *Lyngbya majuscula*: A bioassay technique.”

O’Sullivan, Cherie; Honours; Environmental Science 2004; UQ. “Organic characterization and impact on *Lyngbya majuscula* blooms in Deception Bay, South East Queensland.

Capper, Angela; PhD Zoology/Centre for Marine Studies 2004; UQ.“Ecotoxicology of the Cyanobacterium *Lyngbya majuscula* and Four Herbivores in Moreton Bay, South East Queensland, Australia.

D. Graduate Students Supervised as Major Advisor at University of Maryland MEES program:

1. Degrees Completed:

Borgatii, A. Rachel; MS Environmental Science MEES; 2008: “Nutrient enrichment effects on mangrove sediments from differing tree height zones in Bocas del Toro, Panama.

Beckert, Kristen; MS Ecology MEES; 2008: “Watershed land use and nutrient dynamics in Maryland Coastal Bays, U.S.A.”

2. Current:

Kevin Meyer	PhD	(Oceanography MEES UM College Park)	Start: Sep 2008
Brianne Walsh	MS	(Environmental Science MEES UM College Park)	Start: Sep 2009

E. Graduate Students Committees at University of Maryland MEES program:

1. Graduate Committee Member: Degrees Completed

Eric Nagel	MS	2004 (MEES UM College Park)
Monica Salerno	MS	2006 (MEES UM College Park)
Tim Salmon	PhD	2006 (Env. Engineering Univ. New South Wales)
Anne Thessen	PhD	2007 (MEES UM College Park)
Ji Li	MS	2008 (MEES UM College Park)
Desmond Johns	MS	2009 (MEES UM College Park)

2. 2009 Graduate Student current Committee Membership

Caroline Fortunato	PhD	(MEES UM College Park)
Yonghui Gao	PhD	(MEES UM College Park)

F. Research Experience for Undergraduates (REU) Program Mentor- Maryland Seagrant

Kahla Elliston	University of Texas A & M, Corpus Christi	2005
Jeanette Davis	Hampton University, Hampton, Virginia	2006
David Needham	Huntington College, Montgomery, AL	2007
Elizabeth Brunner	St. Mary’s College of Maryland	2009

G. Student Interns

Emily Benson Colgate University '06, Sep 2006- May 2007
Kyleen Breslin St. Paul's High School, Brooklandville, MD, May 2008

V. Outreach and Service last 5 yrs.

A. International

Queensland Environmental Protection Agency, Brisbane, Australia; *Lyngbya* Steering Committee. Science Advisor. External Reviewer-Scientific Expert Panel.

Southeast Queensland Healthywaterways Campaign, Brisbane City Council and Shires, *Lyngbya* Scientific Expert Panel: Science Advisor on cyanobacterial ecophysiology.

B. National

Collaborated with *Los Angeles Times Science* Editor Ken Weiss on Part 1 of 5 piece Pulitzer Prize winning article "Altered Oceans"; published in LA Times July 30-Aug 3 2006 (http://www.latimes.com/news/local/oceans/la-oceans-series_0_7842752.special)

Research featured in *Nature* News Feature Oct 2007: Lane, Nick (2007) "What's in the Rising Tide? *Nature* 449: 778-780.

Research subject of National Geographic *Wild Chronicles* on PBS and National Geographic Channel: Episode #. 37 2008

C. State

Member: Harmful Algal Task Force, DNR Annapolis. 2007-present

Member: Coastal Bays Science and Technology and Advisory Committee: 2008-present

Member Board of Directors Chesapeake Girl Scout Council, Dover DE. Covers Eastern Shore (DE, MD, VA). Environmental representative. 2005-present

D. UMCES and Laboratory

Horn Point Open House Chair (2008)

Horn Point Laboratory Recycling Committee (2002-2005; Chair 2006-present)

Horn Point Open House Committee (2007-present)

Horn Point Environmental Sustainability Committee (2007-present)

Horn Point Laboratory Environmental Education Committee (2006- present)

Horn Point Laboratory Education Committee Member (2002-2006)

Horn Point Laboratory Diving Safety Committee (2002-2006)

Student Seminar Coordinator (June 2002-2004).

MEES Ecology AOS Admissions committee (2006-2009)

Chair MEES Graduate Student Colloquium Committee: Head of organizing committee for MEES Colloquium held at Horn Point September 17-18, 2004; participant each year.

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- E. Editorial Board, Journal of Harmful Algae (2005- present): Editor for Cyanobacterial submissions
 - F. Proposal reviewer for: NSF, NY Sea Grant, NOAA ECOHAB;
 - G. Manuscript reviewer for: Estuarine and Coast Science, Oecologia, MERES Limnology and Oceanography; FEMS Microbiology, Hydrobiologia; Journal of Harmful Algae, Microbial Ecology, Applied and Environmental Microbiology