

Gregory Daniel O'Mullan
School of Earth and Environmental Sciences
Queens College, City University of New York
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Areas of Expertise: Water resource monitoring; Environmental microbiology; Bioaerosols; Microbial exchange among sediment, water & air; Sewage pollution; Antimicrobial technology for water treatment.

POSITIONS AND EDUCATIONAL BACKGROUND

Current Academic and Administrative Positions:

- Professor, School of Earth and Environmental Sciences, Queens College, 2019-present
- Graduate Program Director, School of Earth & Environmental Sciences, QC, 2010-16, 19-present
- Doctoral Faculty, Earth and Environmental Sciences, Graduate Center of CUNY, 2009-present
- Adjunct Associate Research Scientist, Lamont-Doherty Earth Observatory, Columbia Univ., 2008-present

Current Industrial Positions:

- Director of Microbiology and Environmental Testing, QuatCare LLC, 2018-present

Educational Background:

- **Ph.D. Princeton University**, Department of Ecology and Evolutionary Biology, 2005
Advisor: B. B. Ward; Dissertation: "*Diversity and composition of ammonia oxidizing bacterial assemblages in aquatic environments and their impact on biogeochemical function*"
- **M.A. Princeton University**, Department of Ecology and Evolutionary Biology, 2002
- **M.S. University of Medicine and Dentistry of New Jersey / Rutgers University**, joint program in Cell and Developmental Biology, 2000. Advisor: R. C. Vrijenhoek; Thesis: "*Speciation gene flow and hybridization in mussels (Bivalvia: Mytilidae) from mid-Atlantic hydrothermal vents*"
- **B.S. Cook College, Rutgers University**, Environmental Science/Marine Science, 1998

Additional Education/Certificates for Course Completion:

- Marine Biological Laboratory at Woods Hole, Microbial Diversity Summer Course, 2004
- Marine Biological Laboratory at Woods Hole, Molecular Evolution Summer Course, 2003

Prior Professional Positions:

- Chairman, School of Earth and Environmental Sciences, Queens College, 2016-2019
- Associate Professor, School of Earth and Environmental Sciences, Queens College, 2015-2019
- Assistant Professor, School of Earth and Environmental Sciences, Queens College, 2008 – 2015
- Postdoctoral Research Scientist, Lamont-Doherty Earth Observatory- Columbia Univ., 2006-2008
- Postdoctoral Research Associate, Princeton University, Department of Geosciences, 2005 – 2006
- Research Assistant II, University of Connecticut, Department of Molecular and Cell Biology, 2000

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TEACHING

Courses Taught at Queens College as Primary Instructor (F2008-F2018) (42 courses):

- EnSci 99- A Practical Guide to Environmental Choices (Sp18)
- EnSci 100- Intro to Env. Sci, Our Planet in the 21st Century (F10, S11, F11, F12, S13, S14, F14, Sp15, Sp16)
- EnSci 203/Geo 799- Environmental Microbiology (F11, F13, Sp15, Sp17, Su18, F19)
- EnSci 373W- Environmental Problem Solving (Capstone) (F19)
- Geo 009- Environmental Issues and Answers (F08, F09, F10)
- Geo 383- Special Topics- Aquatic Microbiology (Su15)
- Geo 766- Analytical Approaches in Environmental Geoscience (F09)
- Geo 788- Cooperative Ed. Placement, MS Internship (S10, S11, S12, S13, S14, S15, S16, S17, F17, S18, F18)
- Geo 799- Special Topics: Aquatic Geomicrobiology (S09)
- Geo 793- Independent Study courses: Informatics in Geosciences (S18); Molecular Evolution for Geosciences (S13); Bioremediation (F10); Microbial Ecology, (S10); Molecular Tech. Geobiology (S09)
- HMNS 102- Honors Science Research- (F15, F16)
- HNRS 225- Honors Seminar, Science Forward- Science and Technology in New York City (F16, F17, F18)

MENTORING

Mentor for External Research Fellowships Awarded to Student Advisees or Co-advisees (11):

- Mr. Angel Montero- Hudson River Foundation Polgar Fellow, 2017
- Ms. Elizabeth Farrell- Hudson River Foundation Polgar Fellow, 2016
- Dr. Brian Brigham- Hudson River Foundation Mark B. Bain Graduate Fellowship, 2015-2016
- Mr. Angel Montero- Hudson River Foundation Polgar Fellow, 2013
- Ms. Erin Schneider- Hudson River Foundation Polgar Fellowship, 2012
- Dr. Brian Brigham- NOAA-NERR Graduate Fellowship, 2010-2013
- Dr. Suzanne Young- Hudson River Foundation Polgar Fellowship, 2010
- Ms. Maren Mellendorf- Marshall-Plan Fellowship, visiting PhD student from Austria, 2010
- Dr. M. Elias Dueker- Hudson River Foundation Mark B. Bain Graduate Fellowship, 2010-2011
- Dr. M. Elias Dueker- Hudson River Foundation Polgar Fellowship, 2009
- Ms. Sarah McGrath- Hudson River Foundation Polgar Fellowship, 2007

Mentor to Research Students: ** indicates authorship of article published from work in lab*

Dissertation Advisor for Ph.D. Students (2):

- Dr. B. Brigham* (GC-CUNY '18, co-advised w/ J. Bird)(currently Postdoc at Univ. of Texas San Antonio)
- Dr. M. E. Dueker* (Columbia '12, co-advisor w/ M. Uriarte , all research conducted in my laboratory at QC) (currently Asst. Professor, Bard College)

Advisor for M.A. Thesis Students in Geological and Environmental Sciences (5):

- Ms. Emma Garrison (projected completion, Sp 2021)
- Mr. Azlan Maqbool (projected completion, Sp 2021)

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- Mr. Angel Montero* (projected completion, January 2020)
- Dr. Simon Lax (QC'12) (currently Postdoctoral Researcher at MIT)
- Dr. Suzanne Young* (QC'11) (currently consultant for World Health Organization, Switzerland)

Advisor for M.S. Students in Applied Environmental Geoscience, with Internship Project in Lab (6):

- Ms. Erin McCarthy (QC' 19)
- Ms. Anju Singh (QC' 18) (currently adjunct instructor, CUNY)
- Ms. Elizabeth Farrell (QC'17) (currently full time Lecturer, CUNY)
- Mr. Michael Kausch* (QC'14) (currently Ph.D. student at Fordham University)
- Ms. Erin Schneider* (QC'12) (currently Teacher, NYC Department of Education)
- Mr. Kale Clauson* (QC'12) (currently Technician, Oregon State University)

Postdoctoral Researchers and Visiting Scientists (3):

- Dr. M. Elias Dueker* (postdoctoral researcher 2012-14) (currently Asst. Professor, Bard College)
- Dr. Yoshitaka Matsumoto (visiting fellow 2014)(currently Associate Professor, National Institute of Technology, Toyota National College of Technology, Japan)
- Ms. Maren Mellendorf, (Austrian Marshall-Plan Fellow, 2010)

Dissertation or Thesis Committee Member for Student Researchers (8):

Mr. Michael Pecoraro (QC, MA '17), Dr. F. Santos (GC-CUNY, Ph.D.'14), Dr. S. Portilla (GC-CUNY, Ph.D.'14), Dr. E. Rice (GC-CUNY, Ph.D.'13), Dr. M. E. Dueker (research co-advisor and committee member, Columbia MA '08), Ms. M. Yilmaz (QC, MA '10), Mr. V. Acosta (QC, MA '11), Mr. Y. Choi (QC, MA '12).

FUNDING

Funding from agencies and foundations including:

National Science Foundation, US-EPA, Hudson River Foundation, New York Powerbridge, New York Seagrant, Riverkeeper, Eppley Foundation for Scientific Research, Lily Auchincloss Foundation, Wallace Foundation, and the Sloan Foundation.

SCHOLARSHIP

Patents (1):

Engel, R., **G.D. O'Mullan**, W. Blanford. May 2018, "Composition for treating water". Provisional Patent Tracking #18A0023, full patent submitted.

Peer Review Articles in Scientific Journals (34):

** and italics indicate advised or co-advised student as co-author.*

**Kausch M.E, S. Fisher, I. Fisher, P. Philips, and G. D. O'Mullan. 2020. Bacterial quality of groundwater downgradient of onsite wastewater disposal systems and the influence on eastern Long Island's embayments. Marine Pollution Bulletin. <https://doi.org/10.1016/j.marpolbul.2019.110598>*

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O'Mullan, G.D., A. Juhl, *R. Reichert, *E. Schneider, and Natalia Martinez. 2019. Patterns of sediment-associated fecal indicator bacteria in an urban estuary: benthic-pelagic coupling and implications for shoreline water quality. *Science of the Total Environment*. 656:1168-1177.

*Brigham, B., J. Bird, C. Zappa, A. Juhl, *A. Montero, **G. D. O'Mullan**. 2019. Coupling between anthropogenic inputs and enhanced CH₄ and CO₂ surface concentrations in the Hudson River Estuary. *Limnology and Oceanography*. <https://doi.org/10.1002/lno.11200>

*Dueker, M.E., S. French, and **G. D. O'Mullan**. 2018. Comparison of bacterial diversity in air and water of a major urban center. *Frontiers in Microbiology*. <https://doi.org/10.3389/fmicb.2018.02868>

O'Mullan, G.D., T.T. Eaton, and M.E. Dueker. 2018. Single-indicator strategies treat symptoms, not sources of sewage contamination, hampering water quality improvement in urban areas. *Current Pollution Reports* 4(4):280-282. doi.org/10.1007/s40726-018-0099-3

*Brigham, B., *A. Montero, **G.D. O'Mullan**, J. Bird. 2018. Acetate additions stimulate CO₂ and CH₄ production from urban wetland soils. *Soil Science Society of America Journal*. doi:10.2136/sssaj2018.01.0034

Cantwell, M.G., D.R. Katz, J.C. Sullivan, D. Shapley, J. Lipscomb, J. Epstein, A.R. Juhl, C. Knudson, **G.D. O'Mullan**. 2018. Spatial Patterns of pharmaceuticals and wastewater tracers in the Hudson River Estuary. *Water Research* 137:335-343. doi.org/10.1016/j.watres.2017.12.044

O'Mullan, G.D., M.E. Dueker, and A. Juhl. 2017 Challenges to managing microbial fecal pollution in coastal environments: extra-enteric ecology and microbial exchange among water, sediment, and air. *Current Pollution Reports*. doi: 10.1007/s40726-016-0047-z.

*Dueker, M.E.; **O'Mullan, G.D.**; Martínez, J.M.; Juhl, A.R.; Weathers, K.C. 2017. Onshore Wind Speed Modulates Microbial Aerosols along an Urban Waterfront. *Atmosphere* 8, 215. doi.10.3390/atmos8110215

*Montero, A. M.E. Dueker, and **G.D. O'Mullan**. 2016. Culturable bioaerosols along an urban waterfront are primarily associated with coarse particles. *PeerJ*. 4:e2827; DOI 10.7717/peerj.2827

O'Mullan, G.D., *M.E. Dueker, *K. Clauson, Q. Yang, K. Umemoto, N. Zakharova, J. Matter, M. Stute, T. Takahashi, and D. Goldberg. 2015. Microbial succession and stimulation following a test well injection simulating CO₂ leakage into a shallow Newark Basin aquifer. *PLoS ONE* 10(1): e0117812. doi:10.1371/journal.pone.0117812

Yang, Q., J. Matter, T. Takahashi, M. Stute, **G.D. O'Mullan**, *K. Clauson, K. Umemoto, D. Goldberg. 2015. Groundwater geochemistry in bench experiments simulating CO₂ leakage from geological storage in the Newark Basin. *International Journal of Greenhouse Gas Control* 42:98-108.

Afshinnekoo, E., C. Meydan, S. Chowdhury, D. Jaroudi, C. Boyer, N. Bernstein, J. M. Maritz, D. Reeves, J. Gandara, S. Chhangawala, S. Ahsanuddin, A. Simmons, T. Nessel, B. Sundaresh, E. Pereira, E. Jorgensen, Sergios-Orestis Kolokotronis, Nell Kirchberger, Isaac Garcia, David Gandara, Sean Dhanraj, T. Nawrin, Y. Saletore, N. Alexander, P. Vijay, E. M. Hénaff, P. Zumbo, M. Walsh, **G. D. O'Mullan**, S. Tighe, J. T. Dudley, A. Dunaif, S. Ennis, E. O'Halloran, T. R. Magalhaes, B. Boone, A. L. Jones, T. R. Muth, K. S. Paolantonio, E. Alter, E. E. Schadt, J. Garbarino, R. J. Prill, J. M. Carlton, S. Levy, C. E. Mason. 2015. Geospatial Resolution of Human and Bacterial Diversity with City-Scale Metagenomics, *Cell Systems* 1(1):72-87 <http://dx.doi.org/10.1016/j.cels.2015.01.001>

*Dueker, M.E. and G.D. O'Mullan. 2014. Aeration remediation of a polluted waterway increases near-surface coarse and culturable microbial aerosols. *Science of the Total Environment*. 478:184-189.

Yang, Q., J. Matter, M. Stute, K. Umemoto, *K. Clauson, *M.E. Dueker, G.D. O'Mullan, T. Takahashi, N. Zakharova, D. Goldberg. 2014. Groundwater hydrogeochemistry in injection experiments simulating CO₂ leakage from a geological storage reservoir. *International Journal of Greenhouse Gas Control*. 26:193-203.

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- *Young, S., A. Juhl, and G. O'Mullan. 2013. Antibiotic resistant bacteria in the Hudson River Estuary linked to wet weather sewage contamination. *Journal of Water and Health*. 11(2):297-310.
- Eaton, T., G. O'Mullan, A. A. Rouff. 2013. Assessing contamination from continuous combined sewer outfall (CSO) discharge on a tidal creek; bacteriological and heavy metal indicators. *Annals of Environmental Science*. 7:79-92
- Francis, C.A., G.D. O'Mullan, J.C. Cornwell, B.B. Ward. 2013. Transitions in nirS-type denitrifier diversity, community composition, and biogeochemical activity along the Chesapeake Bay Estuary. *Frontiers in Aquatic Microbiology*. 4(237):1-12.
- *Dueker, M.E., G. O'Mullan, A. Juhl, K. Weathers, and M. Uriarte. 2012a. Local environmental pollution strongly influences culturable bacterial aerosols at an urban aquatic superfund site. *Environmental Science and Technology* 46(20):10926-10933.
- *Dueker, M.E., G. O'Mullan, K. Weathers, A. Juhl, and M. Uriarte. 2012b. Coupling of fog and marine microbial content in the near shore coastal environment. *Biogeosciences* 9: 803-813
- *Suter, E., A. Juhl, G. O'Mullan. 2011. Particle association of *Enterococcus* and total bacteria in the lower Hudson River Estuary, USA. *Journal of water resource and protection* 3(10):715-725.
- *Dueker, M.E., K. Weathers, G. O'Mullan, A. Juhl, and M. Uriarte. 2011. Environmental controls on coastal coarse aerosols: implications for microbial aerosol content and deposition at the waterfront. *Environmental Science and Technology* 45(8):3386-3392.
- Bouskill, N., D. Eveillard, G. O'Mullan, J. Jackson, and B. B. Ward. 2011. Seasonal and annual reoccurrence patterns in ammonia-oxidizing bacterial population structure. *Environmental Microbiology* 13(4):872-886.
- Jayakumar, A., G.D. O'Mullan, S.W.A. Naqvi, and B.B. Ward. 2009. Denitrifying bacterial community composition associated with the stages of denitrification in oxygen minimum zones. *Microbial Ecology* 58(2):350-362.
- Foster, R. and G. D. O'Mullan. 2008. Chapter 27-Nitrogen fixing and nitrifying symbioses in the marine environment. Pages 1197-1218. In: *Nitrogen in the Marine Environment*, 2nd edition. Edited by D. G. Capone, D. A. Bronk, M. R. Mulholland, and E. J. Carpenter. (2008)
- O'Mullan, G.D., and B.B. Ward. 2005. Comparison of temporal and spatial variation of ammonia oxidizing bacteria and nitrification rates in Monterey Bay, CA. *Applied and Environmental Microbiology* 71(2): 697-705.
- Ward B. B. and G. D. O'Mullan. 2005. Community-level analysis: aerobic ammonia oxidation activity measurements and gene analysis. *Methods in Enzymology* 397: 395-413.
- Giller, P., H. Hillebrand, U.K. Berninger, M.O. Gessner, S. Hawkins, P. Inchausti, C. Inglis, H. Leslie, B. Malmqvist, M. Monaghan, P J. Morin, and G.D. O'Mullan. 2004. Biodiversity effects on ecosystem functioning: emerging issues and their experimental test in aquatic environments. *Oikos* 104: 423-436.
- Francis, C., G.D. O'Mullan, and B.B. Ward. 2003. Diversity of ammonia monooxygenase (amoA) genes across environmental gradients in Chesapeake Bay sediments. *Geobiology* 1(2): 129-140.
- Won, Y.J., S.J. Hallam, G.D. O'Mullan, and R.C. Vrijenhoek. 2003. Cytonuclear disequilibrium in a hybrid zone involving deep-sea hydrothermal vent mussels of the genus *Bathymodiulus*. *Molecular Ecology* 12: 3185-3190
- Won, Y.J., S.J. Hallam, G.D. O'Mullan, I. Pan, K. Buck, and R.C. Vrijenhoek. 2003. Environmental acquisition of thiotrophic endosymbionts by deep-sea mussels of the genus *Bathymodiulus*. *Applied and Environmental Microbiology* 69(11): 6785-6792.

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Ward B. B. and G. D. O'Mullan. 2002. Worldwide distribution of *Nitrosococcus oceani*, a marine ammonia-oxidizing γ -Proteobacteria, detected in seawater by PCR and sequencing of 16S rRNA and *amoA* genes. *Applied and Environmental Microbiology* 68 (8): 4153-4157.

O'Mullan, G. D., P. A. Y. Maas, R. A. Lutz, and R. C. Vrijenhoek. 2001. A hybrid zone between hydrothermal vent mussels (*Bivalvia*: Mytilidae) from the Mid-Atlantic Ridge. *Molecular Ecology* 10 (12): 2819-2832. (Cover)

Maas, P. A. Y. , G. D. O'Mullan, R. A. Lutz, and R. C. Vrijenhoek. 1999. Genetic and morphometric characterization of mussels (*Bivalvia*: Mytilidae) from mid-Atlantic hydrothermal vents. *Biological Bulletin* 196: 265-272.

Data Reports, Management Grey Papers, & Newspaper Op-Eds (20):

Brown, T (lead author), M. Hain, P. Lindroth, and G. O'Mullan. 2019. Long Island Sound Beach Report, 2016-2019. Save the Sound. <https://www.ctenvironment.org/beach-report>

Farrell, E. and G. O'Mullan (2019). Utilizing DNA sequencing and land use data for an improved understanding of fecal contamination in Hudson River tributaries. Section II: 1-26 pp. In S. H. Fernald, D. Yozzo, and H. Andreyko (eds.), *Final Report of the Tibor T. Polgar Fellowship Program*, 2016.

Eaton, T., and G. O'Mullan. Flushing Creek plan is no pollution solution. Op-Ed October 29th, 2015, *Queens Chronicle*. http://www.qchron.com/editions/queenswide/flushing-creek-plan-is-no-pollution-solution/article_729dfe99-710f-5e3e-9750-d5248ddd0f3.html

Shapley, D. (lead author of report); study conducted by J. Liscomb, A. Juhl, and G. O'Mullan; (report editors: Lipscomb, Shapley, Epstein, O'Mullan, Juhl, and Knudson.). "How's the water: 2017. Fecal Contamination in the Hudson River and Its Tributaries (vol 4)". https://www.riverkeeper.org/wp-content/uploads/2017/11/Riverkeeper_WQReport_2017_final-1.pdf

Shapley, D. (lead author of report); study conducted by J. Liscomb, A. Juhl, and G. O'Mullan; (report editors: Lipscomb, Shapley, Epstein, O'Mullan, Juhl, and Knudson.). "How's the water: 2015. Fecal Contamination in the Hudson River and Its Tributaries (vol 4)". http://www.riverkeeper.org/wp-content/uploads/2015/06/Riverkeeper_WQReport_2015_Final.pdf

Shapley, D. and Brown, T. (lead authors of report); study conducted by J. Liscomb, A. Juhl, and G. O'Mullan; (report editors: Lipscomb, Epstein, Shapley, Juhl, and O'Mullan.). "How's the water: 2014 (vol 3). Sewage Contamination in the Hudson River Estuary". http://www.riverkeeper.org/wp-content/uploads/2014/07/Riverkeeper_Water_Quality_Hows-the-Water-Report_2014-Ir.pdf

Montero, A., B. Brigham, and G. O'Mullan. 2014. Nutrient pollution in Hudson River marshes: effects on greenhouse gas production. Section III: 1-24 pp. In S. H. Fernald, D. Yozzo, and H. Andreyko (eds.), *Final Report of the Tibor T. Polgar Fellowship Program*, 2013.

Schneider, E. and G. O'Mullan. 2013. Investigation of estuarine sediment as a reservoir for sewage associated bacteria. Section II: 1-22 pp. In S. H. Fernald, D. Yozzo, and H. Andreyko (eds.), *Final Report of the Tibor T. Polgar Fellowship Program*, 2012.

Brown, T. (lead author); study conducted by J. Liscomb, A. Juhl, and G. O'Mullan. 2012. (report editors: Lipscomb, Juhl, O'Mullan, and Wolff). How is the water? Volume 2, Sewage Contamination in the Hudson River Estuary 2006-2011. http://www.riverkeeper.org/wp-content/uploads/2012/12/RvK_How-Is-the-Water-2012.pdf

Young, S. and G. O'Mullan. 2011. Quantification and identification of antibiotic resistant microbes in the Hudson River and Flushing Bay. Section II: 1-27 pp. In S. H. Fernald, D. Yozzo, and H. Andreyko (eds.), *Final Report of the Tibor T. Polgar Fellowship Program*, 2010. Hudson River Foundation. www.hudsonriver.org/ls/reports/Polgar_Young_TP_08_10_final.pdf

O'Mullan, G. 2011. Testimony submitted to New York State Senate Environmental Committee. www.riverkeeper.org/wp-content/uploads/2011/10/OMullan-testimony-10-14-11.pdf

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Lipscomb, J., G.D. O'Mullan, A. Juhl. 2010. "Rockland County Environmental Committee report on Hudson River Water Quality". Delivered to County Legislature Environmental Committee 8/25/2010.

Dueker, M. E. and G. D. O'Mullan. 2009. Capturing the nutrient overenrichment-eutrophication-hypoxia cycle at Newtown Creek. Section II: 17 pp. *In* S. H. Fernald, D. Yozzo, and H. Andreyko (eds.), Final Report of the Tibor T. Polgar Fellowship Program, 2008. Hudson River Foundation. http://www.hudsonriver.org/lr/reports/Polgar_Dueker_TP_03_08_final.pdf

Michaels, C., J. Lipscomb, G.D. O'Mullan, A. Juhl, R. Sambrotto. 2008. "Swimmable River: towards better water quality monitoring in the Hudson River Estuary". (provided data for report and assisted in writing/editing) www.riverkeeper.org/campaign.php/hudson_water_quality

Chillrud, S., G.D. O'Mullan, W. McGillis. 2008. "Sensory Deprivation" Op-Ed, New York Times, 1/30/2008.

McGrath, S. and G. O'Mullan. 2007. Significance of estuarine hypoxia to altered nutrient cycling and toxic nitrite accumulation. Final Report of the 2007 Tibor T. Polgar Fellowship Program, Hudson River Foundation.

O'Mullan, G. D., W. McGillis, R. Sambrotto, P. Orton, B. Mailloux. 2007. Sniffing Out the Truth. Op-Ed, New York Times, Sunday 1/21/2007; sec 4, p 13.

Organizational meeting and white paper participant. 2007. "Hudson River Environmental Conditions Observing System (HRECOS): An observational network on the Hudson River Estuary" www.ecostudies.org/hrecos/HRECOS.pdf

O'Mullan, G. D. and A. Antoniou. 2002. Molecular identification of tissues from the whale shark, *Rhincodon typus*. Report to the Twelfth meeting of the Conference of Parties, in support of proposal 12.35 to add *Rhincodon typus* to Appendix II of CITES. CoP12 Inf. 31, p.7-8. www.cites.org/common/cop/12/ESF12i-31.PDF

Halanych, K. M., M. Tieger, G. D. O'Mullan, R. A. Lutz, and R. C. Vrijenhoek. 1999. Brief description of biological communities at 7°S eastern Pacific Rise. *Interridge News* 8(2): 23-27.

Broader Impacts/Synergistic Activities and Service to General Public Include:

- Science Advisor, Riverkeeper's Hudson River water quality monitoring program, collection, reporting, water quality website for public engagement (>10,000 web hits each year), 2008-present
- Participant and supporting laboratory for New York City Water Trail Association Citizen's Water Quality Testing Program (processing Eastern Queens NY sites), 2013-present
- Working group participant, NYS Department of Environmental Conservation Long Island Embayment Total Maximum Daily Load Working Group, 2019-present.
- Expert Testimony on NYS Industrial Stormwater Pollution General Permit and oxygen demand, 2018
- New York City Council testimony on proposed Army Corp storm surge barriers, October 2018
- Support of New York City Department of Design and Construction on green infrastructure public information campaign, 2017. <https://vimeo.com/227304429>

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- New York City Council testimony on CSO Long Term Control Plan, December 2017
- Invited Speaker at Congresswoman Lowey's Press Conference on Water Infrastructure, July 2013
- New York State Senate Environmental Committee testimony on Hudson Water Quality and Sewage Right to Know Legislation, October 2011

Honors Include:

- Invited Moderator, Wetlands 2050- NYC Parks and US Forest Service- Queens Borough Hall, 2018
- Invited Moderator, Clean Water Symposium- Alley Pond Environmental Center, 2018
- Invited Keynote Speaker, Chinese American Academic & Professional Society, 41st Annual Meeting, 2016
- Recipient of CUNY-Sloan Foundation, Junior Faculty Research Award in Science & Engineering, 2014
- CUNY Salute to Scholars, 2009, 2010, 2013, 2016
- Recipient of Medal for Antarctica Service, U.S. Congress (86th Congress, Public Law 600), 2005
- Scientific Observer on Deep Submergence Vehicle Alvin Dive #: 3129, 3322, 3405, 3675, 3676
- Rutgers University Outstanding Senior in Marine and Coastal Sciences, 1998
- Edward J. Bloustein Scholarship, 1994-1998

Media Coverage of Research Includes (2007-2019):

- Newspaper: >50 articles covering research projects including: New York Times, Albany Times Union, Huffington Post, City Limits, Queens Chronicle, Chemical and Engineering News, DNA info, USA Today, Poughkeepsie Journal, Tarrytown Patch, Science Daily, Outside Magazine, Popular Science Blog.
- TV and Radio: CBS nightly news, NPR- Weekend Edition, PBS- Earth Day Special "Fragile Waters", CUNY-TV Science and U, News Channel 12, Fios-1, 880 WCBS, WAMC NE public radio- Earth Wise.