JOSEPH PETER MONTOYA
CURRICULUM VITAE

Montoya, Joseph P. Professor
School of Biology
Georgia Institute of Technology

Educational Background:

A.B.	Biology	1980	University of California
Ph.D.	Organismic and Evolutionary Biology	1990	Harvard University

Employment History:

Biology Instructor, Maybeck High School, Berkeley, CA	1980 - 1981
Graduate Teaching Fellow, Harvard University	1981 - 1987
Resident Tutor in Biology, Mather House, Harvard & Radcliffe Colleges	1987 - 1990
Instructor in Organismic and Evolutionary Biology, Harvard University	1989 - 1990
Assistant Professor, Department of Organismic and Evolutionary Biology and Department of Earth and Planetary Sciences, Harvard University	1990 – 1994
Associate Professor, Department of Organismic and Evolutionary Biology and Department of Earth and Planetary Sciences, Harvard University	1994 – 1998
Associate Professor of Biology, Georgia Institute of Technology	1998 – 2005
Professor of Biology, Georgia Institute of Technology	2005 – present
Associate Chair for Undergraduate Affairs, School of Biology Georgia Institute of Technology	2010 – 2014

Current Fields of Interest:

Biological oceanography and plankton biology

Stable isotope and nutrient biogeochemistry

Dynamics of the marine and estuarine nitrogen cycle

Physiological ecology of phytoplankton and zooplankton

Recent Accomplishments and Contributions

- Named Associate Director of ECOGIG-2, an $18.8M GoMRI-supported research consortium focused on the impact of oil and gas seeps on offshore marine ecosystems.
- Chief Scientist of a series of NSF- and GoMRI funded cruise to study the impacts of the Deepwater Horizon oil spill on offshore ecosystems of the Gulf of Mexico (Aug-Sep 2010, Jul 2011, May-Jun 2012, Sep 2012, Jun-Jul 2013, May-Jun 2015).
- Lead Judge for the Siemens Regional Competition in Science and Math (2009 – present)
- Briefed Senate and House staffers on foodweb impacts of the Deepwater Horizon oil spill (Apr 2011)
- Invited speaker at a national oil-spill symposium at the University of Georgia (Jan 2011).

- Coordinator of CoS new faculty mentoring program (2006-2013).

Teaching Experience (Georgia Tech):

Fall 2016	Biology 1511	Honors Biological Principles	54 students
Spring 2016	Biology 4221/6221	Biological Oceanography	32 students
Fall 2015	Biology 1511	Honors Biological Principles	62 students
Spring 2015	Biology 1521	Honors Organismal Biology	28 students
Fall 2014	Biology 1511	Honors Biological Principles	53 students
Fall 2014	Biology 1510	Biological Principles	252 students
Spring 2014	Biology 1510	Biological Principles	160 students
Spring 2014	Biology 4221/6221	Biological Oceanography	26 students
Fall 2013	Biology 1511	Honors Biological Principles	25 students
Spring 2013	Biology 1520	Organismal Biology	112 students
Fall 2012	Biology 1511	Honors Biological Principles	24 students
Spring 2012	Biology 4221/6221	Biological Oceanography	35 students
Fall 2011	Biology 1511	Honors Biological Principles	32 students
Spring 2011	Biology 1521	Honors Organismal Biology	19 students
Fall 2010	Biology 1511	Honors Biological Principles	32 students
Spring 2010	Biology 4221/6221	Biological Oceanography	40 students
Fall 2009	Biology 1511	Honors Biological Principles	31 students
Spring 2009	Biology 1521	Honors Organismal Biology	33 students
Fall 2008	Biology 1510	Biological Principles	392 students
Fall 2008	Biology 1511	Honors Biological Principles	32 students
Spring 2008	Biology 4221/6221	Biological Oceanography	43 students
Spring 2007	Biology 4010	Marine Ecology	22 students
Fall 2006	Biology 1510	Biological Principles	450 students
Fall 2006	Biology 1511	Honors Biological Principles	32 students
Spring 2006	Biology 8005	Signals in the Sea Seminar	7 students
Fall 2005	Biology 1510	Biological Principles	436 students
Fall 2005	Biology 1511	Honors Biological Principles	30 students
Fall 2005	Biology 8106	Tools of Science	23 students
Spring 2005	Biology 4221	Biological Oceanography	13 students
Fall 2004	Biology 1510	Biological Principles	453 students
Fall 2004	Biology 1511	Honors Biological Principles	40 students
Fall 2004	Biology 8101/8106	Tools of Science	25students
Spring 2004	Biology 8803	Biogeochemical Cycles	5 students
Fall 2003	Biology 8101/8106	Tools of Science	21 students
Fall 2003	Biology 8005	Signals in the Sea	7 students

Spring 2003	Biology 4010	Aquatic Ecology	25 students
Spring 2003	Biology 8106	Tools of Science	11 students
Fall 2002	Biology 1510	Biological Principles	450 students
Spring 2002	Biology 6803	Biogeochemistry	5 students
Spring 2002	Biology 4450	Senior Seminar	20 students
Fall 2001	Biology 1510	Biological Principles	282 students
Spring 2001	Biology 4803	Biological Oceanography	10 students
Fall 2000	Biology 1510	Biological Principles	275 students
Spring 2000	Biology 4803	Biological Oceanography	10 students
Fall 1999	Biology 1510	Biological Principles	367 students
Spring 1999	Biology 1112	Introductory Biology III	69 students
Winter 1999	Biology 4803	Biological Oceanography	14 students
Fall 1998	Biology 1112	Introductory Biology III	114 students

Teaching Experience (Harvard):

Spring 1997	Science B-50	The Ocean
Fall 1996	EPS 242	Biogeochemistry of Light Stable Isotopes
Spring 1995	Science B-50	The Ocean
Fall 1995	Biology 141	Invertebrate Physiology
Fall 1995	EPS 242	Biogeochemistry of Light Stable Isotopes
Spring 1994	Biology 141	Invertebrate Physiology
Fall 1999	EPS 242	Biogeochemistry of Light Stable Isotopes
Spring 1993	Science B-50	The Ocean
Fall 1993	EPS 242	Biogeochemistry of Light Stable Isotopes
Spring 1992	Biology 141	Invertebrate Physiology
Fall 1992	EPS 242	Biogeochemistry of Light Stable Isotopes

Manuscripts in Review:

*Loick-Wilde, N, E. Eglite, D. Wodarg, I. Liskow, D. Schulz-Bull, J. W. Dippner, J.P. Montoya. Nitrogen source reconstruction for autotrophs via zooplankton amino acid nitrogen stable isotopes. Geophysical Review Letters.

Refereed Publications:

*Weber, S.C., J.I. Goes, E.J. Carpenter, V.J. Coles, and J.P. Montoya. In Press. Spatial Variation in Nutrients, Pigments, Particles, and Phytoplankton Abundance in the Amazon River Plume. Limnology and Oceanography.

*Fernández, A., K.R. Rogers, S.C. Weber, J.P. Chanton and J.P. Montoya. In Press. Deepwater Horizon oil and methane carbon entered the food web in the Gulf of Mexico. Limnology and Oceanography.

*Cardona, Y, A. Bracco, T.A. Villareal, A. Subramaniam, S.C. Weber, C.C. Achukwu, J.P. Montoya. Nutrient concentrations along the river plume salinity gradient in the Northern Gulf of Mexico over the past 30 years. In press. Deep-Sea Research.

Ziervogel, K, C. Osburn, A. Brym, J. Battles, S. Joye, N. D'Souzaa, J. P. Montoya, U. Passow, C. Arnosti. In Press. Linking heterotrophic microbial activities with particle characteristics in waters of the Mississippi River Delta in the aftermath of Hurricane Isaac. Frontiers in Marine Science.

*D'Souza, N., A. Subramaniam, A. Juhl, M. Hafez, A. Chekalyuk, S. Phan, B. Yan, I.R. MacDonald, S.C. Weber, and J.P. Montoya. In Press. Surface chlorophyll enhancement associated with natural oil seeps in the Gulf of Mexico. Nature Geoscience.

*Weber, S.C., L. Peterson, J.J. Battles, B.J. Roberts, R.N. Peterson, D.J. Hollander, J.P. Chanton, S.B. Joye, J.P. Montoya. In Press. Hercules 265 rapid response: Immediate ecosystem impacts of a natural gas blowout incident. Deep-Sea Research.

*Loick-Wilde, N., S.C. Weber, B.J. Conroy, D.G. Capone, V.J. Coles, P.M. Medeiros, D.K. Steinberg, and J.P. Montoya. 2015. Nitrogen sources and net growth efficiency of zooplankton in three Amazon River plume food webs. Limnology and Oceanography, doi 10.1002/lno.10227 (published online, print version pending)

*Dell, C., J.P. Montoya, M.E. Hay. 2015. Effect of marine protected areas (MPAs) on consumer diet: MPA fish feed higher in the food chain. Marine Ecology Progress Series, 540: 227-

Waite, A.M., L.E. Beckley, L. Guidi, J.P. Landrum, D. Holliday, J.P. Montoya, H. Paterson, M. Feng, P.A. Thompson, and E.J. Raes. 2015. Cross-shelf transport, oxygen depletion, and nitrate release within a forming mesoscale eddy in the Eastern Indian Ocean. Limnology and Oceanography, 61: 103-121.

Ziervogel, K., C. Dike, V. Asper, J.P. Montoya, J. Battles, N. D'Souza, U. Passow, A. Diercks, M. Esch, S. Joye, C. Dewald, C. Arnosti. 2015. Enhanced particle fluxes and heterotrophic bacterial activities in Gulf of Mexico bottom waters following storm-induced sediment resuspension. Deep-Sea Research II. http://dx.doi.org/10.1016/j.dsr2.2015.06.017.

Joye, S.B., J.P. Montoya, S.A. Murawski, T.M. Özgökmen, T.L. Wade, R. Montuoro, B.J. Roberts, D.J. Hollander, W.H. Jeffrey, and J.P. Chanton. 2014. A rapid response study of the Hercules gas well blowout. EOS 95: 341-342.

Villareal, T.A., C.H. Pilskaln, J.P. Montoya, M. Dennett. 2014. Upward nitrate transport by phytoplankton in oceanic waters: balancing nutrient budgets in oligotrophic seas. PeerJ 2: e302.

Crespo-Medina M, Vossmeyer A, Hunter K, Meile CD, Diercks A, Asper V, Chanton JP, Tavormina P, Orphan VJ, Shiller AM, Joung D-J, Mann C, Battles JJ, Amon R, Montoya JP, Villareal TA, Wood A, Joye SB. 2014. The rise and fall of methanotrophy following a deepwater oil-well blowout. Nature Geoscience 7: 423-427.

Goes, J.I., H. do Rosario-Gomes, A.C. Chekalyuk, E.J. Carpenter, J.P. Montoya, V.J. Coles, P.L. Yager, W.M. Berelson, D.G. Capone, R.A. Foster, D.K. Steinberg, and M. Hafez. 2014. Biogeography of phytoplankton communities in the western tropical North Atlantic as influenced by discharge from the Amazon River. Progress in Oceanography 120: 29-40.

*Horak R.E.A, Montoya J.P. 2014. Growth, nitrogen fixation, respiration, and anitrogen budget for cultures of a cosmopolitan diazotrophic endosymbiont (Teredinibacter turnerae) of shipworms. Journal of the Marine Biological Association of the United Kingdom 94:641-641

Poulson-Ellestad, K., E. McMillan, J.P. Montoya, J. Kubanek. 2014. Are offshore phytoplankton susceptible to *Karenia brevis* allelopathy? Journal of Plankton Research 36: 1344-1356.

Barada, L.P., L. Cutter, J.P. Montoya, E.A. Webb, D.G. Capone, S. Sanudo-Wilhelmy. 2013. "The distribution of thiamin and pyridoxine in the western tropical North Atlantic Amazon River plume." Frontiers in Microbiology **4**.

Voss M, H.W. Bange, J.W. Dippner, J.J. Middelburg, J.P. Montoya, B.B. Ward. 2013. The marine nitrogen cycle: recent discoveries, uncertainties and the potential relevance of climate change. Philosophical Transactions of the Royal Society B-Biological Sciences 368: 11

*Loick-Wilde N., J. Dutz, A. Miltner, M. Gehre, J.P. Montoya, M. Voss. 2012. Incorporation of nitrogen from N(2) fixation into amino acids of zooplankton. Limnology and Oceanography 57: 199-210

Yeung, L.Y., W.M. Berelson, E.D. Young, M.G. Prokopenko, N. Rollins, V.J. Coles, J.P. Montoya, E.J. Carpenter, D.K. Steinberg, R.A. Foster, D.G. Capone, P.L. Yager . 2012. Impact of diatom-diazotroph associations on carbon export in the Amazon River plume. Geophysical Research Letters 39

Rasher DB, S. Engel, V. Bonito, G.J. Fraser, J.P. Montoya, M.E. Hay. 2012. Effects of herbivory, nutrients, and reef protection on algal proliferation and coral growth on a tropical reef. Oecologia 169: 187-198

Mitra, S., D.G. Kimmel, J. Snyder, K. Scalise, B.D. McGlaughon, M.R. Roman, G.L. Jahn, J.J. Pierson, S.B. Brandt, J.P. Montoya, R.J. Rosenbauer, T.D. Lorenson, F.L. Wong, P.L. Campbell. 2012. Macondo-1 well oil-derived polycyclic aromatic hydrocarbons in mesozooplankton from the northern Gulf of Mexico. Geophysical Research Letters 39

Moisander PH, R.F. Zhang, E.A. Boyle, I. Hewson, J.P. Montoya, J.P. Zehr. 2012. Analogous nutrient limitations in unicellular diazotrophs and Prochlorococcus in the South Pacific Ocean. Isme Journal 6: 733-744

Brandt, S.b., P.L. Campbell, G.L. Jahn, D.G. Kimmel, T.D. Lorenson, B.D. McGlaughon, S.D. Mitra, J.P. Montoya, J.J. Pierson, M.R. Roman, R.J. Rosenbauer, K.J. Scalise, J.J. Snyder, and F.L. Wong. Geophysical Research Letters 39: L01605.

*Landrum, J.P., M.A. Altabet, and J.P. Montoya. 2011. Broad-scale distributions of stable nitrogen isotopes in the subtropical North Atlantic Ocean: Contribution of diazotroph nitrogen to particulate organic matter and mesozooplankton. Deep-Sea Research 58: 615-625.

Goebel, N.L., K.A. Turk, K.M. Achilles, R. Paerl, I. Hewson, A.E. Morrison, J.P. Montoya, C.A. Edwards, J.P. Zehr. 2010. Abundance and distribution of major groups of diazotrophic cyanobacteria and their potential contribution to N-2 fixation in the tropical Atlantic Ocean. Environmental Microbiology 12: 3272-3289

Somes, C.J., A. Schmittner, E.D. Galbraith, M.F. Lehmann, M.A. Altabet, J.P. Montoya, R.M. Letelier, A.C. Mix, A. Bourbonnais, M. Eby. 2010. Simulating the global distribution of nitrogen isotopes in the ocean. Global Biogeochemical Cycles 24. Gb4019 10.1029/2009gb003767

Hewson, I, R.S. Poretsky, H.J. Tripp, J.P. Montoya, J.P. Zehr. 2010. Spatial patterns and light-driven variation of microbial population gene expression in surface waters of the oligotrophic open ocean. Environmental Microbiology 12: 1940-1956

Moisander, P.H., R.A. Beinart, I. Hewson, A.E. White, K.S. Johnson, C.A. Carlson, , J.P. Montoya, and J.P. Zehr. 2010. Unicellular cyanobacterial distributions broaden the oceanic N_2-fixation domain. Science 327: 1512-1514

Tomasko, D, E.H. Hyfield-Keenan, L. DeBrabanders, J.P. Montoya, and T.K. Frazer. 2009. Assessment of water quality responses to sediment removal in Lake Hancock. Florida Scientist 72: 346-366

Hewson, I, R.S. Poretsky, S.T. Dyhrman, B. Zielinski, A.E. White, H.J. Tripp, J.P. Montoya, and J.P. Zehr. 2009. Microbial community gene expression within colonies of the diazotroph, Trichodesmium, from the Southwest Pacific Ocean. ISME J. **3**, 1286-1300, doi:10.1038/ismej.2009.75.

*Landrum JP, Montoya JP. 2009. Organic matter processing by the shrimp *Palaemonetes* sp.: Isotopic and elemental effects. Journal of Experimental Marine Biology and Ecology 380: 20-24.

Joye, S.B., V.A. Samarkin, B. N. Orcutt, I.R. MacDonald, K.U Hinrichs, M. Elvert, A.P. Teske, K.G. Lloyd, J.P. Montoya, and C.D. Meile. 2009. Metabolic variability in seafloor brines revealed by carbon and sulfur dynamics. Nature Geosci. 2: 349-354.

Paerl, R.W., R.A. Foster, B.D. Jenkins, J.P. Montoya, and J.P. Zehr. 2009. Phylogenetic diversity of cyanobacterial *narB* genes from various marine habitats. Environ. Microbiol. 10: 3377-3387.

Hewson, I., R.S. Poretsky, R.A. Beinart, A.E. White, T. Shi, S.R. Bench, P.H. Moisander, R.W. Paerl, H.J. Tripp, J.P. Montoya, M.A. Moran, J.P. Zehr. 2009. In situ transcriptomic analysis of the globally important keystone N_2-fixing taxon *Crocosphaera watsonii*. ISME J. 3: 618-631.

Hannides, C.C.S., M.R. Landry, C.R. Benitez-Nelson, R.M. Styles, J.P. Montoya, and D.M. Karl. 2009. Export stoichiometry and migrant-mediated flux of phosphorus in the North Pacific Subtropical Gyre. Deep-Sea Res. I: 56: 73-88.

Montoya J.P. 2008. Nitrogen stable isotopes in marine environments. In: Capone DG, Carpenter EJ, Mulholland MR (eds) *Nitrogen in the Marine Environment, 2nd Edition*. Academic Press, pp. 1277-1302.

*Holl, C.M. and J.P. Montoya. 2008. Diazotrophic growth of the marine cyanobacterium *Trichodesmium* IMS101 (Cyanobacteria) in continuous culture: Effects of growth rate on N_2-fixation rate, biomass, and C:N:P stoichiometry. J. Phycol. 44: 929-937.

*Parker, J.D., J.P. Montoya, and M.E. Hay. 2008. A specialist detritivore links *Spartina alterniflora* to salt marsh food webs. Mar. Ecol. Prog. Ser. 364: 87-95.

Subramaniam, A, P.L. Yager, E.J. Carpenter, C. Mahaffey, K. Bjorkman, S. Cooley, A. Kustka, J.P. Montoya, A. Sañudo-Wilhelmy, R. Shipe, and D.G. Capone. 2008. Amazon River enhances diazotrophy and carbon sequestration in the tropical North Atlantic Ocean. Proc. Natl. Acad. Sci. 105: 10460-10465

Wilson, C., T.A. Villareal, N. Maximenko, S.J. Bograd, J.P. Montoya, and C.A. Schoenbaechler. 2007. Biological and physical forcings of late summer chlorophyll blooms at 30˚N in the oligotrophic Pacific. J. Mar. Syst. doi:10.1016/j.jmarsys.2005.09.018.

*Pardo, L.H., H.F. Hemond, J.P. Montoya, and J. Pett-Ridge. 2007. Natural abundance ^{15}N in soil and litter across a nitrate-output gradient in New Hampshire. Forest Ecol. Manag. 251: 217-230.

*Waite, A.M., C.M. Holl, J.P. Montoya, P.A. Thompson, S. Pesant, L. Beckley, B. Muhling, and J. Strezelecki. 2007. Food web structure in two counter-rotating eddies based on $\delta^{15}N$ and $\delta^{13}C$ isotopic analyses. Deep-Sea Research II 54: 1055-1075.

*Holl, C.M., A.M. Waite, S. Pesant, P. Thompson, and J.P. Montoya. 2007. Unicellular diazotrophy as a source of nitrogen to Leeuwin Current Coastal Eddies. Deep-Sea Res. II 54: 1045-1054.

Montoya J.P. 2007. Natural abundance of ^{15}N in marine planktonic ecosystems. In: Michener R. and K. Lajtha (eds) *Stable Isotopes in Ecology and Environmental Science*, 2nd Edition. Blackwell Publishing, pp. 176-207.

Montoya J.P., M. Voss, and D.G. Capone. 2007. Spatial variation in N_2-fixation rate and diazotroph activity in the Tropical Atlantic. Biogeosciences 4: 369-376.

*Holl, C.M., T.A. Villareal, C.D. Payne, T.D. Clayton, C. Hart, J.P. Montoya. 2007. *Trichodesmium* in the western Gulf of Mexico: $^{15}N_2$ fixation and natural abundance stable isotope evidence. Limnol. Oceanogr. 52: 2249-2259.

De Brabandere, L., T.K. Frazer, and J.P. Montoya. 2007. Stable nitrogen isotope ratios of macrophytes and associated periphyton along a nitrate gradient in two subtropical, spring-fed streams. Freshwater Biology, doi: 10.1111/j.1365-2427.2007.01788.x.

Zehr J.P. and J.P. Montoya. 2007. Measuring N_2 Fixation in the Field. In: Bothe H, Ferguson S, Newton WE (eds) *Biology of the Nitrogen Cycle*. Elsevier, Amsterdam, p 193-202

Zehr, J.P., J.P. Montoya, B.D. Jenkins, I. Hewson, E. Mondragon, C.M. Short, M.J. Church, A. Hansen and D.M. Karl. 2007. Nitrogenase gene expression in the North Pacific Subtropical Gyre. Limnol. Oceanogr. 52,169-183.

Burns, J.A., J.P. Zehr, J.P. Montoya, A.D. Kustka, and D.G. Capone. 2006. Effect of EDTA additions on natural *Trichodesmium* spp.(Cyanophyta) populations. J. Phycol. 42: 900-904.

Krauk, J., T.A. Villareal, J.A. Sohm, J.P. Montoya, and D.G. Capone. 2006. Plasticity of N:P ratios in laboratory and field populations of *Trichodesmium* spp. Aquat. Microb. Ecol. 42: 243-253.

Montoya, J.P., and M. Voss. 2006. Nitrogen cycling in anoxic waters: Isotopic signatures of nitrogen transformations in the Arabian Sea Oxygen Minimum Zone. *In Past and Present Water Column Anoxia*, Neretin, L.N, Ed. NATO Science Series IV: Earth and Environmental Sciences, 64. Springer, Dordrecht, Netherlands.

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Joye, S.B., I.R. MacDonald, J.P. Montoya, and M. Peccini. 2005. Geophysical and geochemical signatures of Gulf of Mexico seafloor brines. Biogeosciences 2: 295-309.

*Holl, C.M. and J.P. Montoya. 2005. Interactions between nitrate uptake and N_2-fixation in *Trichodesmium*. J. Phycol. 41: 1178-1183.

Capone, D.G., J.A. Burns, C.A. Mahaffey, A.F. Michaels, J.P. Montoya, A. Subramaniam, and E.J. Carpenter. 2005. Nitrogen fixation by *Trichodesmium* spp.: An important source of new nitrogen to the tropical North Atlantic Ocean. Glob. Biogeochem. Cycles 19: GB2024, doi:10.1029/2004GB002331.

*Garton, D.W., C.D. Payne, and J.P. Montoya. 2005. Flexible diet and trophic position of Dreissenid mussels inferred from stable isotopes of carbon and nitrogen. Can. J. Fish. Aquat. Sci. 62, 1119-1129.

Montoya, J.P., C.M. Holl, J.P. Zehr, A. Hansen, T.A. Villareal, and D.G. Capone. 2004. High rates of N_2-fixation by unicellular diazotrophs in the oligotrophic Pacific. Nature 430: 1027-1031.

*Pakhomov, E.A, J.W. McClelland, K. Bernard, S. Kaehler, and J.P. Montoya. 2004. Spatial and temporal shifts in stable isotope values of the bottom-dwelling shrimp *Nauticaris marionis* at the sub-Antarctic archipelago. Mar. Biol. 144: 317-325.

*Schmidt, K., J.W. McClelland, E. Mente, J.P. Montoya, A. Atkinson, and M. Voss. 2004. Trophic-level interpretation based on delta N-15 values: Implications of tissue-specific fractionation and amino acid composition. Marine Ecology Progress Series 266: 43-58.

Joye, S.B., A. Boetius, B.N. Orcutt, J.P. Montoya, H.N. Schulz, M.J. Erickson, and S.K. Lugo. 2004. The anaerobic oxidation of methane and sulfate reduction in sediments from Gulf of Mexico cold seeps. Chemical Geology 205(3/4): 219-238.

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*McClelland, J.W., C.M. Holl, and J.P. Montoya. 2003. Relating low $\delta^{15}N$ values of zooplankton to N_2-fixation in the tropical North Atlantic: Insights provided by stable isotope ratios of amino acids. Deep-Sea Research I 50: 849-861.

Schmidt, K, A. Atkinson, J.W. McClelland, J.P. Montoya, D. Stübing, and M. Voss. 2003. Trophic relationships among Antarctic zooplankton: Some benefits and limitations of a stable isotope perspective. Limnology and Oceanography 48: 277-289.

Montoya, J.P., E.J. Carpenter, and D.G. Capone. 2002. Nitrogen-fixation and nitrogen isotope abundances in zooplankton of the oligotrophic North Atlantic. Limnology and Oceanography 47: 1617-1628.

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* Pardo, L.H., H.F. Hemond, J.P. Montoya, T.J. Fahey and T.G. Siccama. 2002. Response of natural abundance of ^{15}N in forest soils to high nitrate loss following clear-cutting. Canadian Journal of Forest Research 32: 1126-1136.

*McClelland, J.W. and J.P. Montoya. 2002. Trophic relationships and the nitrogen isotopic composition of amino acids in plankton. Ecology 83: 2173-2180.

*Pardo, L.H., H.F. Hemond, J.P. Montoya and T.G. Siccama. 2001. Long-term patterns in forest floor ^{15}N natural abundance at Hubbard Brook, N.H. Soil Science Society of America Journal. 65: 1279-1283

Zehr, J.P., J.B. Waterbury, P.J. Turner, J.P. Montoya, E. Omoregie, G.F. Steward, A. Hansen, and D.M. Karl. 2001. New nitrogen-fixing unicellular cyanobacteria discovered in the North Pacific Central Gyre. Nature 412: 635-638.

Capone, D.G. and J.P. Montoya. 2001. Nitrogen Fixation and Denitrification. Ch. 10 in Methods in Marine Microbiology, vol. 30. J.Paul, ed. 501-515.

*Voss, M., J. Dippner, J.P. Montoya. 2001. Nitrogen isotope patterns in the oxygen deficient waters of the Eastern Tropical North Pacific (ETNP). Deep-Sea Res. 48: 1905-1921.

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* Papers arising from student, post-doc, and visiting scientist projects

Tucker, J., N. Sheats, A.E. Giblin, C.S. Hopkinson, and J.P. Montoya. 1999. Using stable isotopes to trace sewage derived material through Boston Harbor and Massachusetts Bay. Mar. Environ. Res. 48: 353-375.

*Milder, J.C., J.P. Montoya, and M.A. Altabet. 1999. Carbon and nitrogen stable isotope ratios at Sites 969 and 974: Interpreting spatial gradients in sapropel properties. Proc. Deep-Sea Drilling Prog., Sci. Results (R. Zahn, M.C. Comas, and A. Klaus, eds.). Volume 161: 401-412

*Barford, C.C., J.P. Montoya, M.A. Altabet, and R. Mitchell. 1999. Steady state nitrogen isotope effects of N_2 and N_2O production in *Paracoccus denitrificans*. Appl. Env. Microbiol. 65: 989-994.

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Goericke, R. and J.P. Montoya. 1998. Estimating the contribution of microalgal taxa to total chl a in the field – variations of pigment ratios under nutrient- and light-limited growth. Mar. Ecol. Prog. Ser. 169: 97-112.

Voss, M, Nausch, G., and J.P. Montoya. 1997. Nitrogen stable isotope dynamics in the central Baltic Sea: influence of deep-water renewal on the N-cycle. Mar. Ecol. Prog. Ser. 158: 11-21.

Frazer, T.K., R.M. Ross, L.B. Quetin, and J.P. Montoya. 1997. Turnover of carbon and nitrogen during growth of larval krill, *Euphausia superba*: a stable isotope approach. J. Exp. Mar. Biol. Ecol. 212: 259-275.

Montoya, J.P., M. Voss, P. Kaehler and D.G. Capone. 1996. A simple, high-precision, high-sensitivity tracer assay for N_2 fixation. Appl. Env. Microbiol. 62: 986-993.

Christensen, J.P., D.W. Townsend and J.P. Montoya. 1996. Water column nutrients and sedimentary denitrification in the Gulf of Maine. Cont. Shelf Res. 16: 489-515.

Montoya, J.P. and J.J. McCarthy. 1995. Isotopic fractionation during nitrate uptake by marine phytoplankton grown in continuous culture. J. Plankton Res. 17**:** 439-464.

Montoya, J.P. 1994. Nitrogen Isotope Fractionation in the Modern Ocean: Implications for the Sedimentary Record, pp. 259-279. *In* R. Zahn, M. A. Kaminski, L. Labeyrie and T. F. Pederson [eds.], *Carbon Cycling in the Glacial Ocean: Constraints on the Ocean's Role in Global Change*. Springer-Verlag, Berlin.

Goericke, R., J.P. Montoya and B. Fry. 1994. Physiology of isotope fractionation in algae and cyanobacteria, pp. 187-221. *In* K. Lajtha and B. Michener [eds.], *Stable Isotopes in Ecology and Environmental Science*. Blackwell Scientific Publications, Oxford.

Montoya, J.P., P.H. Wiebe and J.J. McCarthy. 1992. Natural abundance)of ^{15}N in particulate nitrogen and zooplankton in the Gulf Stream region and Warm-Core Ring 86A. Deep-Sea Res. 39, Suppl. 1**:** S363-S392.

Montoya, J.P., S.G. Horrigan and J.J. McCarthy. 1991. Rapid, storm-induced changes in the natural abundance of ^{15}N in a planktonic ecosystem, Chesapeake Bay, USA. Geochim. Cosmochim. Acta 55**:** 3627-3638.

Montoya, J.P., S.G. Horrigan and J.J. McCarthy. 1990. Natural abundance of ^{15}N in particulate nitrogen and zooplankton in the Chesapeake Bay. Mar. Ecol. Prog. Ser. 65**:** 35-61.

Horrigan, S.G., J.P. Montoya, J.L. Nevins, J.J. McCarthy, H.W. Ducklow, R. Goericke and T. Malone. 1990. Nitrogenous nutrient transformations in the spring and fall in the Chesapeake Bay. Est. Coast. Shelf Sci. 30**:** 369-391.

Horrigan, S.G., J.P. Montoya, J.L. Nevins and J.J. McCarthy. 1990. Natural isotopic composition of dissolved inorganic nitrogen in the Chesapeake Bay. Est. Coast. Shelf Sci. 30**:** 393-410.

Invited Reviews and Comments:

Montoya J.P. 2009. OCEAN SCIENCE Old New Nitrogen. Science 323:219-220

Voss M., Montoya J.P. 2009. NITROGEN CYCLE Oceans apart. Nature 461:49-50

Manuscripts in Preparation:

*Montoya, J.P., S.C. Weber, A. Voigt, M. Voss, and S.B. Joye. Deepwater N_2-fixation in the Gulf of Mexico is linked to petrocarbon release.

*Clavère-Graciette, A., L.C. Biegala, and J.P. Montoya. Stable nitrogen isotopes in the Southwest Pacific: Diazotroph diversity and nitrogen inputs to the planktonic food web. Limnology and Oceanography

*Loick-Wilde, N., B.J. Conroy, M. Gehre, A. Miltner, D.K. Steinberg, and J.P. Montoya. Contrasting amino acid nitrogen turnover in tropical and mid-latitude zooplankton. Deep-Sea Research.

Current Research Grants

ECOGIG-2: Ecosystems Impacts of Oil and Gas Inputs to the Gulf – 2. Gulf Research Initiative Consortium Grant to the University of Georgia (lead Georgia Tech PI with co-PI Annalisa Bracco). $1,075,399 for 1/1/15 to 12/31/18 (Ga Tech component).

ECOGIG: Ecosystem Impacts of Oil and Gas Inputs to the Gulf. Gulf Research Initiative Consortium Grant to the University of Mississippi (lead Georgia Tech PI with co-PI Annalisa Bracco). $1,024,929 for 9/1/11 to 8/31/15 (Ga Tech component).

Meetings, Symposia, and Lectures (Invited Presentations only):

Gulf of Mexico Research Initiative Research Webinar (17 Jun 2015): How do hydrocarbons alter pelagic processes in Gulf of Mexico waters?

National Ocean Science Bowl Professional Development Webinar (27 Jan 2015): Impacts of oil and gas on offshore ecosystems.

Institut für Ostseeforschung, Warnemuende. Biogeochemistry seminar, May 2013.

Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2013 (Jan 2013): invited talk on interactions between modelers and experimentalists in the Gulf and multiple talks on the DWH oil spill and its aftermath.

Ocean Sciences Meeting 2012 (Feb 2012): one invited talk on the Deepwater Horizon (DWH) and multiple talks and posters on the DWH spill and the impact of the Amazon plume in tropical Atlantic waters.

CERF 2011 (November 2011): invited presentation on the impact of the DWH oil spill on pelagic environments of the Gulf of Mexico.

JSOST Principal Investigators Meeting (October 2011): invited presentation on the impact of the DWH oil spill on pelagic environments of the Gulf of Mexico.

UGA Roosevelt Institute Conference on the DWH oil spill (March 2011): invited presentation on offshore effects of the oil spill.

ASLO 2011 (San Juan): co-organized session on eutrophication across aquatic ecosystem; one contributed presentation on subsurface impacts of the Deepwater Horizon spill; co-author of multiple posters and talks on the DWH spill.

University of Georgia, Gulf Oil Spill Symposium. January 2011.

International Center for Theoretical Physics, Workshop and Conference on the impact of tropical rivers on coastal oceans. November 2009.

University of Georgia, Marine Sciences Seminar. September 2009.

Australian Institute of Marine Sciences, Townsville, Invited Presentation. September 2008.

University of Tokyo, Special Seminar in Oceanography. September 2008.

Fudan University, Special Seminar. May 2008.

Montoya, J.P., I. Hewson, and J.P. Zehr. Nitrogen fixation in the open ocean: Small cells, big deal (ESA 2007 Meeting, Invited Talk).

Institute of Oceanography, Nha Trang, Bien Dong 2007 Conference, Invited Presentation. September 2007

SIBER (Sustained Indian Ocean Biogeochemistry and Ecosystem Research) Workshop, National Institution of Oceanography, Goa, India. October 2006

Institute of Marine Sciences, UNC, Marine Science Seminar. May 2006.

Tokyo Institute of Technology. Biogeochemistry Seminar. April 2006.

University of British Columbia. EOS Seminar. February 2006.

SPOT-ON (Significant Processes, Observations and Transformations of Oceanic Nitrogen) Workshop, Warnemuende, Germany. June 2005

Tokyo Institute of Technology. Biogeochemistry Seminar. November 2004.

14th International Conference on N2-fixation. Plenary Lecture. Beijing, China. October - November 2004.

University of Southern California. Biology Seminar. April 2004.

NATO Advanced Research Workshop on "Past and Present Water Column Anoxia", Session Chair. Sevastopol, Ukraine. October 2003.

Goldschmidt Conference on Geochemistry 2003, Kurashiki Japan. Keynote presentation on compound-specific nitrogen stable isotope methods. September 2003

Schweppe Lecture: University of Texas Marine Science Institute. March 2003.

Institut für Ostseeforschung, Warnemünde, Germany. Biogeochemistry Colloquium, Oct. 2002.

Institut für Meereskunde, Kiel, Germany. Biological Oceanography Colloquium, Oct. 2002.

Cyanofix Final Meeting, Tomar Portugal, Invited lecture on N2-fixation in marine systems. September 2002.

Gordon Research Conference on Organic Geochemistry, Invited lecture on nitrogen stable isotope biogeochemistry. August 2002.

Center for Coastal Studies, Provincetown MA, June 2002.

University of Georgia, Marine Sciences Seminar, Nov. 2001.

Biocomplexity Workshop on Oceanic N2-Fixation. Catalina Marine Laboratory, University of Southern California, Sept. 2000.

SMP Workshop: Conceptual and Practical Issues in Modelling Oceanic N2-Fixation. Catalina Marine Laboratory, University of Southern California, Sept. 1999

Georgia Institute of Technology, EAS Colloquium, Mar. 1999

Georgia Institute of Technology, Ecology Seminar, Feb. 1998.

Universidad de Colima, Conferencia de Ciencias Marinas, Nov. 1997.

Georgia Institute of Technology, Biology Seminar, Feb. 1997.

Harvard University, Special Seminar in Oceanography, Jan. 1997

University of Florida, Fisheries and Aquatic Sciences Seminar, Nov. 1996.

Christian Albrechts Universität zu Kiel, Institut für Meereskunde, Seminar in Biological Oceanography, Jan. 1996

Marine Biological Laboratory, Ecosystem Center Seminar Series, Oct. 1995

University of Massachusetts, Boston, Biology Seminar, Sept. 1995

New Mexico State Univ., Chemistry and Biochemistry Seminar, Feb. 1994

Northern Arizona University, Ecology Seminar Series, Feb. 1994

International Botanical Congress, Yokohama, Japan, Sept. 1993

McGill University, Montreal, Canada, Organismic Biology Seminar Series, Jan. 1993

University of Connecticut, Marine Sciences Seminar, Nov. 1992

NATO-ARI Workshop on Carbon Cycling in the Glacial Ocean, Fellhorst, Germany, Sept., 1992

Marine Biological Laboratory, Ecosystem Center Seminar Series, Apr. 1992

Harvard University, Earth and Planetary Sciences Seminar Series, Oct. 1991

Bowdoin College, Biology Seminar Series, Sept. 1991

Christian Albrechts Universität zu Kiel, Institut für Meereskunde, Special Seminar in Biological Oceanography, Dec. 1990

Harvard University, Department of Organismic and Evolutionary Biology, Special Seminars in Oceanography, May 1990

Northeastern University, Marine Science Seminar Series, Jun. 1989

Meetings, Symposia, and Lectures (Contributed Presentations)

Montoya, J.P., S.C. Weber, A. Fernandez, D.A.O. Lee-Patterson, T.A. Villareal, A. Bracco, S.B. Joye. Spills, seeps, and cycles: Methane links the carbon and nitrogen cycles through diazotrophy (Aquatic Sciences Meeting 2015).

Weber, S.C., A. Fernandez, J.J. Battles, L.E. Peterson, B.J. Roberts, R.N. Peterson, D.J. Hollander, J.P. Chanton, S.B. Joye, and J.P. Montoya. Time scales of ecosystem response: An oil and gas blowout event comparison (Aquatic Sciences Meeting 2015).

Fernandez, A., S.C. Weber, D.A.O. Lee-Patterson, and J.P. Montoya. Tracing the Deepwater Horizon oil and methane carbon into the planktonic food web (Aquatic Sciences Meeting 2015).

Montoya, J.P., S.C. Weber, T.A. Villareal, A. Bracco, and S.B. Joye. Impact of the Deepwater Horizon incident on planktonic ecosystems: Carbon is important, but so is nitrogen! (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2015).

Jolley, K.A., S.C. Weber, and J.P. Montoya. Impacts of cold seeps on nutrient distributions in the Northern Gulf of Mexico (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2015).

D'Souza, N., A. Juhl, A. Subramaniam, M. Hafez, A. Chekalyuk, S. Phan, B. Yan, K. Ziervogel, K. Bullock, I.R. MacDonald, and J.P. Montoya. Why is chlorophyll elevated near natural seeps in the Gulf of Mexico? Evidence for bottom-up and top-down controls on planktonic microbes (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2015).

Rogers, K.L., J.P. Montoya, S.C. Weber, and J.P. Chanton. A spatial and temporal investigation of carbon isotopes in POC in the Gulf of Mexico (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2015).

Lee-Patterson, D.A.O., S.C. Weber, A. Fernandez, and J.P. Montoya. Deepwater Horizon impacts on the pelagic foodweb: Stable isotope constraints on zooplankton carbon and nitrogen sources (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2015).

Peterson, R.N., L.E. Peterson, J.P. Montoya, S.C. Weber, C.D. Meile, and S.B. Joye. Radium isotopes as conservative tracers of hydrocarbon transport through the water column (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2015).

Weber, S.C., J.J. Battles, L.E. Peterson, B.J. Roberts, T. Özgökmen, R.N. Peterson, D.J. Hollander, J.P. Chanton, S.B. Joye, and J.P. Montoya. Hercules 265 rapid response: Immediate ecosystem impacts of a rig blowout incident (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2015).

Peterson, L.E., R.N. Peterson, S.B. Joye, C. Meile, J.P. Montoya, and S.C. Weber. Assessing hydrocarbon flow through sediments using radium isotopes (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2015).

Fernandez, A., S.C. Weber, and J.P. Montoya. Imprint of the Deepwater Horizon oil and methane carbon in suspended particles in the Gulf of Mexico (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2015).

Montoya, J.P., S.C. Weber, C.C. Padilla, and S.B. Joye. Deepwater N_2-fixation in the Northern Gulf of Mexico: Spills and seeps connect the N and C cycles (Ocean Science Meeting 2014).

Jolley, K.A, S.C. Weber, E.J. Carpenter, V.J. Coles, and J.P. Montoya. Seasonal and vertical variation in particles and nutrients in the Amazon River Plume (Ocean Science Meeting 2014)

Weber, S.C., B. Garcia, S.B. Joye, A. Subramaniam, and J.P. Montoya. The Influence of Oil and Gas from Spills and Seeps on the Biogeochemistry of food webs the Northern Gulf of Mexico (Ocean Science Meeting 2014).

Landrum, J.P., M.A. Altabet, and J.P. Montoya. Concentrations and sources of nitrogen in suspended particles and mesozooplankton in the subtropical North Atlantic Ocean Basin (Ocean Science Meeting 2014).

Villareal, T.A., C.H. Pilskaln, J.P. Montoya, and M. Dennett. Upward transport of nitrate by phytoplankton: Closing nutrient budgets in the N. Pacific Ocean (Ocean Science Meeting 2014).

Montoya, J.P., S.C. Weber, J.J. Battles, C.C. Padilla, and S.B. Joye. Deepwater N_2-fixation in deep waters of the Northern Gulf of Mexico: Spills, seeps, and links between the N and C cycles (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2014).

Weber, S.C., J.J. Battles, S.B. Joye, and J.P. Montoya. Hercules 265 rapid response: Hydrographic, methane, and rate measurements quantify ecosystem impacts of a rig blowout incident. (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2014).

Smith, K, S.C. Weber, and J.P. Montoya. Isotopic indicators of oil and gas impacts on plankton: Natural abundance of carbon and nitrogen isotopes in particles in the Northern Gulf of Mexico after the Deepwater Horizon spill (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2014).

Battles, J.J., J.P. Montoya, and S.B. Joye. Aerobic methanotrophy along the chemocline of a methane rich brine basin: Patterns, limitations, and implications to pelagic ecosystems.

Bullock, K., N. D'Souza, A. Juhl, J.P. Montoya. Bacterial abundances in the water column near natural oil seeps and other oil-impacted areas in the Northern Gulf of Mexico (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2014).

Chanton, J.P., T. Zhao, J. Cherrier, S.B. Joye, D. Hollander, C. Brunner, J.P. Montoya, U. Passow, V. Asper, S. Bosman, and A. Mickle. A radiocarbon-based determination of the flux of oil to the sea floor. (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2014).

Montoya, J.P., N. Loick-Wilde, S.C. Weber, J. Goes, E.J. Carpenter, and V.J. Coles. Nutrients, nitrogen fixation, and the planktonic food web in the Amazon Plume (ASLO Meeting 2013)

Loick-Wilde, N., M. Gehra, A. Miltner, D.K. Steinberg, and J.P. Montoya. Diurnal variation in amino acid concentrations and nitrogen stable isotope abundances reveal trophic structure and nitrogen dynamics in epi- and mesopelagic zooplankton (ASLO Meeting 2013)

Weber, S.C., E.J. Carpenter, J. Goes, V.J. Coles, and J.P. Montoya. Seasonal and spatial variability in diazotrophy in the Amazon River Plume. (ASLO Meeting 2013)

Montoya, J.P., S.C. Weber, A. Subramaniam, A. Juhl, T.A. Villareal, A. Bracco, and S.B. Joye. Rates and fates of nitrogen and carbon in the water column: impact of seeps and spills on plankton biogeochemistry. (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2013)

Weber, S.C., A. Subramaniam, M. Crespo-Medina, S.B. Joye, A. Bracco, T.A. Villareal, and J.P. Montoya. Spills, seeps, and pelagic foodwebs in the Northern Gulf of Mexico: What do stable isotopes tell us about oil, gas, and discolored zooplankton? (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2013)

Joye, S.B., M. Crespo-Medina, K. Hunter, V. Asper, A. Diercks, R. Highsmith, and J.P. Montoya. Pelagic methane oxidation in the Northern Gulf of Mexico: Activity patterns before, during, and after the Macondo Blowout. (Gulf of Mexico Oil Spill and Ecosystem Science Meeting 2013)

Weber, S.C., J.I. Goes, E.J. Carpenter, V.J. Coles, and J.P. Montoya, Spatial Variation in Nutrients, Pigments, Particles, and Phytoplankton Abundance in the Amazon River Plume (Ocean Sciences Meeting 2012)

Montoya, J.P., A. Subramaniam, M. Crespo-Medina, S.B. Joye, A. Bracco, and T.A. Villareal. The Deepwater Horizon oil spill and pelagic foodwebs in the Northern Gulf of Mexico: What do stable isotopes tell us about oil, plumes, and discolored zooplankton? (Ocean Sciences Meeting 2012)

Landrum, J.P., M.A. Altabet, and J.P. Montoya. Concentrations and sources of nitrogen in suspended particles and mesozooplankton in the subtropical North Atlantic Ocean basin. (Ocean Sciences Meeting 2012).

Montoya, J.P., A. Subramaniam, V. Asper, A. Diercks, U. Passow, M. Crespo-Medina, S.B. Joye, A. Bracco, T.A. Villareal. Subsurface turbid layers in the Gulf of Mexico: Ghosts of the Deepwater Horizon oil spill? (ASLO Meeting 2011)

Montoya, J.P., A. Subramaniam, V. Asper, A. Diercks, U. Passow, M. Crespo-Medina, S.B. Joye, A. Bracco, T.A. Villareal. Deepwater Horizon oil and pelagic foodwebs in the Northern Gulf of Mexico: What do stable isotopes tell us about oil, subsurface turbid layers and discolored zooplankton? (CERF Meeting 2011)

Horak, R.A.E. and J.P. Montoya. Environmental factors that control nitrogen release from nitrogen-fixing endosymbionts of shipworms (Ocean Sciences Meeting 2010).

Moisander, P.H., B. Carter, J.P. Montoya, and J.P. Zehr. Nutrient limitation of phytoplankton and diazotroph growth in the tropical South Pacific (Ocean Sciences Meeting 2010).

Montoya, J.P. and J.P. Zehr. Nitrogen fixation in blue water: who, where, and how much? (Ocean Sciences Meeting 2008).

Horak, R.A., D. Distel, and J.P. Montoya. Controls on symbiont (*Teredinibacter turnerae*) contribution to host shipworm (*Lyrodus pedicellatus*) dietary N nutrition (Ocean Sciences Meeting 2008).

Hewson, I, P.H. Moisander, T.D. Peterson, E.A. Mondragon, J.P. Montoya and J.P. Zehr. Biogeography of prokaryotic assemblages in the equatorial Atlantic Ocean (ESA 2007 Meeting).

Montoya, J.P., C.M. Holl, M. Voss, D.G. Capone, and J.P. Zehr. Nitrogen fixation in the open ocean: Who, where, and why? (ASLO 2007 Summer Meeting, Invited Talk).

Montoya, J.P., A. Hansen, D.M. Karl, and J.P. Zehr. Size-fractionated rates and patterns of nitrogen and carbon fixation in the North Pacific Subtropical Gyre (2006 Ocean Sciences Meeting).

Horak, R.E., D.L. Distel, and J.P. Montoya. Nitrogen fixation in *Teredinibacter turnerae*, a cultivated symbiont of the marine shipworm *Lyrodus pedicellatus* (2006 Ocean Sciences Meeting).

Zehr, J.P., J.P. Montoya, C. Short, A. Hansen, B.D. Jenkins, M.J. Church, and D.M. Karl. Nitrogenase gene expression in the North Pacific Subtropical Gyre (2006 Ocean Sciences Meeting).

Holl, C.M., A.M. Waite, S. Pesant, P.A. Thompson, and J.P. Montoya. Unicellular diazotrophy as a source of nitrogen to Leeuwin Current coastal eddies (2006 Ocean Sciences Meeting).

Montoya, J.P., C. Mahaffey, T.E. Gunderson, and D.G. Capone. Nitrogen fixation in the Tropical Atlantic: insights from experimental, stable isotope, and nutrient ratio analyses (Invited talk at 2005 ASLO International Meeting, Santiago, Spain).

Montoya, J.P. and S.B. Joye. Nitrogen fixation in deep waters of the Gulf of Mexico (2005 Aquatic Science Meeting).

Holl, C.M., T.A. Villareal, C.D. Payne, T. Clayton and J.P. Montoya. Characterization of a bloom of the diazotrophic cyanobacterium, *Trichodesmium*: Implications for N and C cycling in the Gulf of Mexico (2005 Aquatic Science Meeting).

Capone, J. Burns, E.J. Carpenter, T. Gunderson, C.M. Holl, A.F. Michaels, J.P. Montoya, J.A. Sohm, A. Subramaniam (2005). Partitioning marine planktonic nitrogen fixation (2005 Aquatic Science Meeting).

Montoya, J.P., K.M. Rathbun, N. Sheats, R.M. Michener, C. Mayo (2004). Isotopic tracking of sewage nitrogen in Massachusetts Bay (2004 ASLO Summer Meeting).

Holl, C.M., J.P. Montoya, and A.M. Waite (2004) Nitrogen fixation by unicells: An investigation of vertical profiles and size fractions of the natural phytoplankton assemblage found in a warm and a cold core eddy(2004 Australian Marine Science Association Meeting).

Holl, C.M., J.P. Montoya, A.M. Waite, S. Pesant, and P.A. Thompson (2004) Diazotroph activity in Western Australia waters: Comparative analysis of nitrogen fixation in a warm core and a cold core mesoscale eddy (2004 Australian Marine Science Association Meeting).

Montoya, J.P., C.M. Holl, J.P. Zehr, T. Villareal, and D.G. Capone (2004) Quantification of nitrogen fixation by unicellular diazotrophs in oligotrophic waters (2004 Ocean Research Conference).

Montoya, J.P., J.P. Zehr, and D.G. Capone (2002). Rates and patterns of nitrogen fixation by unicellular cyanobacteria in pelagic waters (2002 Ocean Sciences Meeting).

Holl, C.M., and J.P. Montoya (2002). Interactions between nitrate uptake and nitrogen fixation in *Trichodesmium* (2002 Ocean Sciences Meeting).

Capone, D.G., J.Burns, E.J. Carpenter, M. Furnas, L. Sprague, J.P. Montoya, M.M. Mulholland. High rates of N_2-fixation in coastal waters of northern Australia (2002 Ocean Sciences Meeting).

Frazer, T.K., J.P. Montoya, M.V. Hoyer, S.K. Notestein, J.A. Hale, and D.E. Canfield, Jr. (2002). Spatial variation in the stable nitrogen isotopic composition of nitrate, submerged aquatic macrophytes and periphyton in four spring-fed streams along Florida's central Gulf Coast (2002 Ocean Sciences Meeting).

McClelland, J.W., C.M. Holl, and J.P. Montoya (2001). Stable nitrogen isotope composition of amino acids in zooplankton: Evidence for the importance of N fixation in the subtropical North Atlantic (2001 ASLO Meeting).

Montoya, J.P. and M.A. Altabet (2001). Nitrogen isotope abundances in nitrate: Isotopic constraints on nitrogen fixation in oligotrophic waters (2001 ASLO Meeting).

Zehr, J.P., P.J. Turner, E. Omoregie, A. Hansen, G. Steward, J.B. Waterbury, J.P. Montoya, L. Tupas. amd D.M. Karl (2001). Nitrogenase gene expression in the North Pacific Gyre (2001 ASLO Meeting).

Montoya, J.P., and M. A. Altabet (2000). Basin-scale variations in nitrogen isotope abundances in the Oligotrophic North Atlantic: Constraints on nitrogen fixation (2000 Ocean Sciences Meeting).

Altabet, M.A., J.P. Montoya, and M.H. Conte (2000) Consistent Sargasso Sea nitrogen fixation over the last two decades (2000 Ocean Sciences Meeting).

Montoya, J.P. and M.A. Altabet (1999) Nitrogen isotope abundances in pelagic ecosystems: Biological controls on the $\delta^{15}N$ of the oligotrophic ocean (1999 ASLO Meeting)

Lipschultz, F. and J.P. Montoya (1999) The oxygen minimum zone of the Eastern Tropical North Pacific: Hydrography and nutrients under the influence of El Nino (1999 ASLO Meeting)

Voss, M., and J.P. Montoya (1999) Nitrogen isotope patterns in the oxygen deficient waters of the Eastern Tropical North Pacific (1999 ASLO Meeting)

Montoya, J.P., M.A. Altabet, and D.G. Capone (1998) Isotopic composition of nitrate and organic matter as indicators of nitrogen fixation in the oligotrophic North Atlantic (1998 Ocean Sciences Meeting)

Capone, D.G., J.A. Burns, J.P. Montoya, E.J. Carpenter (1998) Nitrogen fixation in the tropical North Atlantic (1998 Ocean Sciences Meeting).

Montoya, J.P. and D.G. Capone (1997) Isotopic measurements of N_2 fixation in oligotrophic waters: Tracer and natural abundance approaches (1997 Aquatic Sciences Meeting)

Sheats, N, S. Wainright, and J.P. Montoya (1997) Effects of anthropogenic nitrogen on the food web of the Delaware Estuary (1997 Aquatic Sciences Meeting)

Montoya, J.P., M. Voss, and D.G. Capone (1996) Simultaneous direct measurement of nitrogen and carbon fixation by the marine planktonic cyanobacterium, *Trichodesmium* sp., in the Caribbean and Arabian Seas (1996 ASLO-AGU Ocean Science Meeting)

Siegmund, H., M. Voss, and J.P. Montoya (1996) Stable N-Isotope distribution in the Arabian Sea (1996 ASLO-AGU Ocean Science Meeting)

Capone, D.G., A. Subramanian, and J.P. Montoya (1996) A spatially and temporally extensive bloom of the diazotrophic cyanobacterium, Trichodesmium, in the Central Arabian Sea during the spring intermonsoonal (1996 ASLO-AGU Ocean Science Meeting)

Hullar, M., C.M. Cavanaugh, and J.P. Montoya (1995) The effect of ultraviolet radiation on dissolved organic carbon, bacterial activity and community structure in estuarine waters (ASM Meeting)

Barford, C., R. Mitchell, and J.P. Montoya (1995) Effects of oxygen on nitrogen isotopic fractionation during denitrification (ASM Meeting)

Montoya, J.P. (1994) Nitrogen stable isotopes as indicators of short-term inputs of nitrogen to the mixed layer (ASLO-AGU Ocean Science Meeting)

Montoya, J.P. and P.M. Glibert (1993) A stable isotope study of trophic interactions and nitrogen cycling in the Chesapeake Bay Plume (Estuarine Research Federation Conference)

Montoya, J.P. (1993) Isotopic fractionation by phytoplankton and microzooplankton: Applications to studies of the marine nitrogen cycle (International Botanical Congress, Yokohama, Japan).

Altabet, M.A. and J.P. Montoya (1992) Manual and automated (CF-IRMS) techniques for measurement of organic $\delta^{15}N$ and $\delta^{13}C$ (ICP-IV, Kiel, FRG).

Montoya, J.P. (1992) Nitrogen isotope fractionation in the modern ocean: implications for the sedimentary record (NATO Advanced Research Institute, Fellhorst, FRG)

Montoya, J.P. (1992) Nitrogen isotopes as *in situ* tracers of perturbations to ecosystems (ASLO Winter Meeting, Special Session on Coupling of Large-Scale Events and Ecosystem Responses).

Montoya, J.P. (1991) Nitrogen isotopes in studies of zooplankton ecology (Zooplankton Ecology Symp.).

Montoya, J.P. and J.J. McCarthy (1988) Laboratory studies of nitrogen isotope fractionation in plankton (AGU/ASLO Ocean Sciences Meeting).

Montoya, J.P., S.G. Horrigan, and J.J. McCarthy (1986) Rapid changes in the natural abundance of ^{15}N in plankton and dissolved nitrogen in the Chesapeake Bay (AGU Fall Meeting).

Horrigan, S.G, J.P. Montoya, J.J. and W.T. Peterson (1986) ^{15}N isotopic discrimination during nitrification at different substrate concentrations (AGU Fall Meeting).

Horrigan, S.G., J.P. Montoya, and J.J. McCarthy (1985) Natural abundance of nitrogen ($\delta^{15}N$) in the Chesapeake Bay (AGU/ASLO Ocean Sciences Meeting).

Committees and University Service (Georgia Tech):

Institute Student Regulations Committee	2014-present
Associate Chair, School of Biology	2010 – 2014
School of Biology Scheduling Committee	2009 – 2014
Chair, Undergraduate Committee	2009 - 2010
Institute Undergraduate Curriculum Committee	2008 - present
Director, Introductory Biology Program	2007 - present
School of Biology Undergraduate Committee	2006 - 2008
Advisory Board, Women's Resource Center	2006 - present
New Faculty Mentoring Coordinator, College of Sciences	2006 - present
Chair, Subcommittee on the ULC, Provosts Task Force on Interdisciplinarity	2007 - 2008
Introductory Biology Curriculum Committee	2006 - 2007
Search Committee: Earth and Atmospheric Sciences	2005 - 2006
School of Biology IT Committee	2005 - 2006
Graduate Coordinator, School of Biology	2003 - 2005

Introductory Biology Curriculum Committee	2003 - 2004
Search Committee: School of Biology Chair	2003
Search Committee: Earth and Atmospheric Sciences	2003
Graduate Committee, School of Biology	2001 – 2003
Faculty Advisory Committee, School of Biology	2001 – 2004
Summer GIFT Program participant	1999 & 2000
HHMI Research Scholarship Program participant	1999 & 2000
Co-organizer of Focused Research Program in Marine Science	1999
Seminar Series Coordinator, School of Biology	Spring 1999

Other University and Community Service:

Associate Program Director, ECOGIG-2 Consortium	beginning 2015
Executive Committee, ECOGIG Consortium	2011-2015
Lead Judge, Siemens Competition in Math, Science, and Technology	2008-present
Co-Director, ICTP School on the Impact of Tropical Rivers on Coastal Oceans (held in Trieste, Italy in November 2009)	2008-2009
Judge, Siemens Competition in Math, Science, and Technology	2007
Member, Planning Committee for the 2006 ASLO Summer Meeting	2004 - 2005
Co-chair, SPOT-ON, Int'l. Symposium on the Marine N Cycle (held in Warnemünde, Germany in June 2005)	2003-2005
NSF Field Station and Marine Labs Advisory Panel	2004
NSF Field Station and Marine Labs Advisory Panel	2003
NSF Advisory Panel in Chemical Oceanography	2003
NSF Field Station and Marine Labs Advisory Panel	2002
Cape Cod Commission Science Advisory Panel	1998 - 1999
Herchel Smith Fellowship Committee, Harvard	1997
NSF Ocean Science REU Advisory Panel	1995, 1996
Goldwater Fellowship Nomination Committee, Harvard	1996
Committee on Underrepresented Minorities in Limnology and Oceanography	1994 - 1996
NSF LMER Advisory Panel	1994
Mass Spectrometer Committee, EPS	1993-1997
Science Subcommittee, Thomas T. Hoopes Prize, Harvard	1993, 1994
Advisory Panel on Molecular Techniques in Coastal Oceanography	
OEB Undergraduate Minority Summer Program	1993 - 1996
HHMI Research Scholarship Program, Harvard	1993 - 1996
Research Science Institute	1993

Minority Science Scholarship Network, NE Board of Higher Education	1992-1998
OEB Search Committee: Nontenured Appointment in Plant Physiology	1992-1993
Committee on Graduate Students and Studies, OEB	1991-1996
MWRA Outfall Monitoring Task Force Massachusetts Office of Environmental Affairs	1991-1996
OEB Search Committee: Nontenured Appointment in Invertebrate Systematics	1991-1993
Committee on Graduate Admissions & Scholarships, EPS	1991-1993
Advisory Committee, Harvard Foundation for Intercultural and Race Relations	1990 - 1998
Committee on Graduate Studies, EPS	1990 -1991

Honors, Awards, and Recognitions:

Sigma Xi Best Paper Award, 2005.

Visiting Scholar, Institut für Ostseeforschung, Warnemünde, Germany (Jun./Aug. 1999)

Visiting Scholar, Institut für Ostseeforschung, Warnemünde, Germany (Jul./Aug. 1994)

Visiting Scholar, Institut für Ostseeforschung, Warnemünde, Germany (June, 1993)

Visiting Scholar, Christian Albrechts University, Kiel, Germany (December 1990)

Faculty in Residence, Mather House, Harvard and Radcliffe Colleges (1990-1991)

Certificate of Distinction in Teaching, Harvard University (1982, 1983, 1985, 1986)

NSF Graduate Fellowship (1981-1984)

University Medal, University of California at Berkeley (1980)

A.B. with Highest Honors (1980)

Phi Beta Kappa (1979)

Regents Scholar, University of California at Berkeley (1978-1980)

American Postal Workers Union (AFL/CIO) Scholarship (1976-1980)

Membership in Professional and Honor Societies:

American Association for the Advancement of Science

American Geophysical Union

American Society of Limnology and Oceanography

American Society for Microbiology

Graduate Students Supervised:

Ana Clavére-Graciette, Biology, Georgia Tech, Ph.D. in progress.

Sarah Weber, Biology, Georgia Tech, M.S. in progress.

Julia Grosse, Biology, Georgia Tech, M.S. 2010.
Ph.D. student in the Netherlands.

Rachel Horak, Biology, Georgia Tech, Ph.D. 2010
Post-Doctoral Fellow, University of Washington.

Jason Landrum, Biology, Georgia Tech, Ph.D. 2009.
Graduate student, International Affairs, Georgia Tech.

Yanni Sun, Biology, Georgia Tech, M.S. 2008.

Jan Drexel, Biology, Georgia Tech, M.S. 2007.
Technician, Romberg Tiburon Lab, San Francisco State University.

Carolyn Holl, Biology, Georgia Tech, Ph.D. 2004.
Research Scientist, Oceanic Institute, Waimanalo, HI.

Nicky Sheats, Earth and Planetary Sciences, Harvard, Ph.D. 2000.
Research Scientist, Center for the Urban Environment, Watson Public Policy Institute, Thomas Edison State College, NJ.

Linda Pardo, Civil and Environmental Engineering, MIT, Ph.D. 1999.
Research Scientist, U.S. Forest Service.

Carol Barford, Engineering Sciences, Harvard, Ph.D. 1997.
Research Scientist, University of Wisconsin, Madison.

Justin LeBlanc, Organismic and Evolutionary Biology,
Harvard, M.A. 1995.

Postdoctoral Fellows Supervised:

Ana Fernández, 2014 – present.

Natalie Loick-Wilde, 2011-2014
Research Scientist and Head of the Plankton Working Group, Leibniz Institut für Ostseeforschung, Warnemünde.

James W. McClelland, 1999 – 2001.
Associate Professor, University of Texas Marine Science Institute.

Nancy M. Butler, 1992 – 1993. Professor, Kutztown University.

Major Oceanographic Cruise Experience:

Gulf of Mexico[†]	R/V *Atlantis*	Apr. – May 2014
Gulf of Mexico[*]	R/V *Endeavor*	Jul. 2013
Gulf of Mexico[*]	R/V *Endeavor*	Jun. – Jul. 2013
Gulf of Mexico[*]	R/V *Endeavor*	Sep. 2012
Gulf of Mexico[*]	R/V *Endeavor*	Jun. – Jul. 2012
Gulf of Mexico[*]	R/V *Endeavor*	May – Jun. 2012
SW North Atlantic	R/V *Melville*	Sep. – Oct. 2011
Gulf of Mexico[*]	R/V *Endeavor*	July 2011
Gulf of Mexico[*]	R/V *Oceanus*	Aug. – Sep. 2010
SW North Atlantic	R/V *Knorr*	May -–Jun 2010
Southwest Pacific[†]	R/V *Kilo Moana*	Mar. – Apr. 2007
Subtropical Atlantic[*]	R/V *Seward Johnson*	Jun. – Jul. 2006

[†] Co-Chief Scientist

South China Sea	F/S *Sonne* (Germany)	April 2006
Gulf of Mexico	R/V *Seward Johnson II*	July 2002
Gulf of Mexico	R/V *Seward Johnson*	July 2001
Sargasso Sea*	R/V *Seward Johnson*	Apr. – May 2001
Sargasso Sea*	R/V *Seward Johnson*	Apr. – May 2000
Southwest Pacific, Australia†	R/V *Maurice Ewing*	Oct. – Nov. 1999
Southwest Pacific, Melanesia†	R/V *Roger Revelle*	Mar. – Apr. 1998
Eastern Tropical North Pacific*	R/V *New Horizon*	Oct. – Nov. 1997
Eastern Tropical North Pacific*	R/V *New Horizon*	May – June 1997
Tropical North Atlantic†	R/V *Seward Johnson*	October 1996
Tropical North Atlantic†	R/V *Seward Johnson*	April 1996
Arabian Sea	F/S *Meteor* (FRG)	May - June 1995
Eastern Caribbean Sea†	R/V *Seward Johnson*	January 1995
Baltic Sea	F/S *Humboldt* (FRG)	July 1994
Baltic Sea	F/S *Penck* (FRG)	June 1993
Sargasso Sea	R/V *Endeavor*	June 1992
Gulf of Maine	R/V *Cape Hatteras*	July 1991
Gulf Stream Region	R/V *Knorr*	May – June 1987
Chesapeake Bay Plume	R/V *Gyre*	August 1985
Chesapeake Bay Plume	R/V *Gyre*	June 1985
Chesapeake Bay	R/V *Warfield*	September 1984
Chesapeake Bay	R/V *Warfield*	June 1984
Caribbean Sea	B/O *Malpelo* (Colombia)	October 1983
Warm Core Rings	R/V *Knorr*	August 1982
Warm Core Rings	R/V *Knorr*	June 1982

Future Oceanographic Cruises Supported by Current Grants:

Gulf of Mexico*	R/V *Endeavor*	May 2015
South China Sea	R/V *Falkor*	Apr. & Jul. 2016
Gulf of Mexico*	R/V *Endeavor*	Jun 2016

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* Chief Scientist

† Co-Chief Scientist