

CURRICULUM-VITA

Daniel L. Roelke, Professor and Department Head
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August, 2019

EDUCATION

- 1997-98 Post-Doctoral Fellow, Consortium of Oceanographic Research and Education, Naval Research Laboratory, Stennis Space Center, Mississippi.
- 1993-97 Ph.D. Oceanography, Texas A&M University, TX
- 1990-93 M.S. Oceanography, Texas A&M University, TX
- 1985-89 B.S. Earth Science, Minor in Chemistry, Millersville University, PA

PROFESSIONAL EXPERIENCE

Primary appointments

- 2019-P Professor and Department Head, Department of Marine Biology, Texas A&M University Galveston.
- 2011-19 Professor, Department of Wildlife and Fisheries Sciences, Texas A&M University.
- 2004-11 Associate Professor, Department of Wildlife and Fisheries Sciences, Texas A&M University.
- 1998-04 Assistant Professor, Department of Wildlife and Fisheries Sciences, Texas A&M University.

Other positions

Present

- 2017-P Guest Editor, *Marine & Freshwater Research*, journal of the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia, special issue "Aspects of new monitoring, reporting, modeling and ecological research on cyanobacteria in inland waters".
- 2015-P Associate Editor, *Marine & Freshwater Research*, journal of the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia.
- 2005-P Faculty, Water Management and Hydrologic Sciences, Interdisciplinary Degree Program, Texas A&M University.
- 2005-P Faculty, Ecology and Evolutionary Biology, Interdisciplinary Degree Program, Texas A&M University.

Past

- 2016-19 Guest Editor, *Estuarine, Coastal and Shelf Science*, journal of the Estuarine Coastal Sciences Association (ECSA), United Kingdom, special issue "Coastal systems in transition: From a 'natural' to an 'anthropogenically-modified' state".
- 1998-19 Assistant/ Associate/ Full Professor, Associate Professor, Professor (joint appointment), Department of Oceanography, Texas A&M University.
- 2018 Visiting Scientist, School of the Environment, University of Technology Sydney, Australia.
- 2012-17 Editorial Board, *Marine Science and Technology Bulletin*, published by Canakkale Onsekiz Mart University, Canakkale, Turkey.
- 2010-16 Member, National Harmful Algal Blooms Committee, USA.
- 2007-16 Associate Editor, *The American Naturalist*, journal of the American Society of Naturalists.
- 2013-15 Executive Committee, Institute of Applied Mathematics and Computational Sciences, Texas A&M University.
- 2011-15 Member, Institute for Applied Mathematics and Computational Science, Texas A&M University and King Abdullah University of Science and Technology, Saudi Arabia.
- 2012 Visiting Scientist, School of the Environment, University of Technology Sydney, Australia.
- 2012 Visiting Scientist, Department of Marine Sciences, University of the Aegean, Greece.
- 2010-11 Associate Chair, Ecology and Evolutionary Biology, Interdisciplinary Research Program, Texas A&M University.
- 2008-11 Faculty Senator, Texas A&M University.
- 2006 Visiting Scientist, US Environmental Protection Agency, Western Ecology Division, Hatfield Marine Science Center, Oregon.
- 2005-08 Board Member, Texas River and Reservoir Management Society.

HONORS/AWARDS

- 2018 Invited to serve a 2nd term on the editorial board of *Marine and Freshwater Research*
- 2015 Invited to serve a 1st term on the editorial board of *Marine and Freshwater Research*
- 2015 Recipient of the Texas A&M University Wildlife and Fisheries Sciences Department "Outstanding Graduate Teaching" Award
- 2015 Recipient of the Texas Chapter American Fisheries Society "Outstanding Fisheries Educator" Award
- 2014 Invited to serve a third term on the editorial board of *The American Naturalist*
- 2014 Nominated for the Texas Chapter American Fisheries Society Education Award (did not receive)
- 2013 Re-elected to the National Harmful Algal Bloom Committee (USA)

- 2010 Nominated for Vice-Chancellor's Award for Excellence in Research (Texas A&M University, College of Agriculture and Life Sciences) (did not receive)
- 2010 Elected to the National Harmful Algal Bloom Committee (USA)
- 2010 Invited to serve a second term on the editorial board of *The American Naturalist*
- 2009 Invited to serve as "Opponent" in the dissertation defense of Andreas Brutemark (E. Graneli, Chair), University of Kalmar Sweden
- 2009 Invited to organize a special session for the 30th Annual Conference of the Society of Environmental Toxicology and Chemistry (SETAC), New Orleans, LA, USA focused on ecotoxicology and the fate of phycotoxins
- 2008 Invited to write a chapter for the multivolume Treatise on Estuarine and Coastal Science (vol. 9, Elsevier) focused on incidence of hypoxia in coastal waters
- 2008 Elected to the Faculty Senate, Texas A&M University
- 2007 Invited to join the editorial board of *The American Naturalist*
- 1998 Invited to participate in the International Council for the Exploration of the Sea: Young Scientists Conference on Marine Ecosystem Perspectives (limited to 2 participants per country)
- 1997 Awarded a Consortium of Oceanographic Research and Education (CORE) Postdoctoral Fellow

MEMBERSHIPS/SOCIETIES

- 1999-19 Coastal and Estuarine Research Federation (CERF)
- 1994-19 Association for the Sciences of Limnology and Oceanography (ASLO)
- 2003-17 American Society of Naturalists
- 1998-00, 14-16 American Fisheries Society, Texas Chapter
- 2012-14 Phycological Society of America
- 2009-10 Society of Environmental Toxicology and Chemistry
- 1999-08 Texas River and Reservoir Management Society
- 1993 Honor Society of Phi Kappa Phi

PUBLICATIONS

Underlined name indicates author was a graduate student at the time of research
Double underlined name indicates author was an undergraduate or held a B.S. at the time of research
 When multiple authors, '*' indicates corresponding or senior author

Peer-reviewed journal articles

- 94. **Roelke***, **D.L.**, **S.E. Cagle**, **R.M.W. Muhl**, **A. Sakavara**, G. Tsirtsis. 2019. Resource fluctuation patterns influence emergent properties of phytoplankton assemblages and their resistance to harmful algal blooms. *Marine and Freshwater Research. In Press.*

93. Cagle, S.E., **D.L. Roelke***, R.M.W. Muhl. 2019. Compounding effects of co-occurring disturbances on populations of a harmful bloom-forming mixotrophic protist. *Hydrobiologia*. 831: 23–31.
92. Grover, J.P., J.T. Scott, D.L. Roelke, B.W. Brooks. 2019. Dynamics of Nitrogen-Fixing Cyanobacteria with Heterocysts: A Stoichiometric Model. *Marine and Freshwater Research*. *In Press*.
91. Mazaheri Kouhanestani, Z., **D.L. Roelke***, R. Ghorbani, M. Fujiwara. 2019. Assessment of spatiotemporal phytoplankton composition in relation to environmental conditions of Gorgan Bay, Iran. *Estuaries and Coasts*. 42: 173–189.
90. **Roelke, D.L.** 2018. Grazers, pathogens and shelf-shading enhance phytoplankton species richness more and reduce productivity less when environments are less dynamic: A theoretical study. *Estuarine, Coastal and Shelf Science*. 211: 152-165.
89. Bhattacharyya, J., **D.L. Roelke***, R.M.W. Muhl, F.G. Withrow. 2018. Exploitative competition of invaders differentially influences the diversity of neutral, lumpy and intransitive phytoplankton assemblages in spatially heterogeneous environments. *Ecological Modelling*. 370: 59-66.
88. Muhl, R.M.W., **D.L. Roelke***, T. Zohary, M. Moustaka-Gouni, U. Sommer, G. Borics, U. Gaedke, F.G. Withrow, J. Bhattacharyya. 2018. Resisting annihilation: Relationships between functional trait dissimilarity, assemblage competitive power and allelopathy. *Ecology Letters*. 9: 1390-1400.
87. Nordhaus, I., **D.L. Roelke**, R. Vaquer-Sunyer, C. Winter. 2018. Coastal systems in transition from a 'natural' to an 'anthropogenically-modified' state. *Estuarine, Coastal and Shelf Science*. 211: 1-5.
86. Papanikolopoulou*, L.A., E. Smeti, **D.L. Roelke**, P.G. Dimitrakopoulos, G.D. Kokkoris, D. Danielidis, S. Spatharis. 2018. Interplay between r- and K-strategists leads to phytoplankton underyielding under pulsed resource supply. *Oecologia*. 186: 755–764.
85. Sakavara, A., G. Tsirtsis, **D.L. Roelke**, R. Mancy, S. Spatharis*. 2018. Lumpy species coexistence arises robustly in fluctuating resource environments. *Proceedings of the National Academy of Sciences, USA*. 115: 738–743.
84. Smeti, E., **D.L. Roelke***, G. Tsirtsis, S. Spatharis. 2018. Species extinctions strengthen the relationship between biodiversity and resource use efficiency. *Ecological Modelling*. 384: 75-86.
83. Withrow, F.G., **D.L. Roelke***, R.M.W. Muhl, J. Bhattacharyya. 2018. Water column processes differentially influence richness and diversity of neutral, lumpy and intransitive phytoplankton assemblages. *Ecological Modelling*. 370: pp. 22-32.
82. **Roelke, D.L.** 2017. Applying principles of resource competition theory to microalgae biomass production: A more refined relationship between species richness and productivity. *Algal Research*. 25: 431–438.
81. **Roelke***, **D.L.**, H-P. Li, C.J. Miller-DeBoer, G.M. Gable, S.E. Davis. 2017. Regional shifts in phytoplankton succession and primary productivity in the San Antonio Bay System (USA) in response to diminished freshwater inflows. *Marine and Freshwater Research*. 68: 131-145.

80. Grover*, J.P., **D.L. Roelke**, B.W. Brooks. 2017. Population persistence in flowing-water habitats: Conditions where flow-based management of harmful algal blooms works, and where it does not. *Ecological Engineering*. 99: 172-181.
79. Pinckney*, J.L., A. Quigg, **D.L. Roelke**. 2017. Interannual and seasonal patterns of estuarine phytoplankton diversity in Galveston Bay, Texas, USA. *Estuaries and Coasts*. 40: 310-316.
78. **Roelke***, **D.L.**, A. Barkoh, B.W. Brooks, J.P. Grover, K.D. Hambright, J.W. La Claire II, P.D.R. Moeller, R. Patino. 2016. A chronicle of a killer alga in the west: Ecology, assessment and management of *Prymnesium parvum* blooms. *Hydrobiologia*. 764: 29–50.
77. Hitchcock*, J.N., S.M. Mitrovic, W.L. Hadwen, **D.L. Roelke**, I.O. Grown and A.M. Rohlfs. 2016. Terrestrial dissolved organic carbon subsidizes estuarine zooplankton: an in-situ mesocosm study. *Limnology and Oceanography*. 61: 254-267.
76. Smeti*, E., S. Spatharis, **D.L. Roelke**. 2016. Spatial averaging and disturbance lead to high productivity in aquatic metacommunities. *Oikos*. 125: 812-820.
75. **Roelke***, **D.L.**, S. Spatharis. 2015. Phytoplankton succession in recurrently fluctuating environments. *PLoS ONE*. 10(3): 1-17. doi:10.1371/journal.pone.0121392.
74. **Roelke***, **D.L.**, S. Spatharis. 2015. Phytoplankton assemblage characteristics in recurrently fluctuating environments. *PLoS ONE*. 10(3): 1-25. doi:10.1371/journal.pone.0120673.
73. Davis, S.L., **D.L. Roelke***, B.W. Brooks, V.M. Lundgren, F. Withrow, W.C. Scott. 2015. Rotifer–*Prymnesium parvum* interactions: role of lake bloom history on rotifer adaptation to toxins produced by *P. parvum*. *Aquatic Microbial Ecology*. 75: 55-68.
72. Dorado, S., T. Booe, J. Steichen, A.S. McInnes, R. Windham, A. Shepard, A.E.B. Lucchese, H. Preischel, J.L. Pinckney, S.E. Davis, **D.L. Roelke** and A. Quigg*. 2015. Towards an understanding of the interactions between freshwater inflows and phytoplankton communities in a subtropical estuary in the Gulf of Mexico. *PLoS ONE*. 10(7): 1-23. doi:10.1371/journal.pone.0130931.
71. Lundgren, V.M., **D.L. Roelke***, B.W. Brooks, E. Granéli, S.L. Davis, T. Baty, W.C. Scott. 2015. *Prymnesium parvum* invasion success into coastal bays of the Gulf of Mexico: Galveston Bay case study. *Harmful Algae*. 43: 31-45.
70. Smeti, E., **D.L. Roelke**, G. Gremion, J.M. Linhart, D.B. Danielidis, S. Spatharis*. 2015. Potential mechanisms of coexistence between two globally important *Pseudo-nitzschia* (Bacillariophyta) species. *Hydrobiologia*. 762: 89-101.
69. Winemiller*, K.O., C. Montaña, **D.L. Roelke**, J.B. Cotner, J.V. Montoya, L. Sanchez, M.M. Castillo, and C.A. Layman. 2014. Pulsing hydrology determines top-down control of basal resources in a tropical river-floodplain ecosystem. *Ecological Monographs*. 84: 621–635.
68. Witmer*, A.D., **D.L. Roelke**. 2014. Human interference prevents recovery of infaunal beach communities from hurricane disturbance. *Ocean and Coastal Management*. 87: 54-60.
67. **Roelke***, **D.L.**, H-P. Li, N.J. Hayden, C.J. Miller, S.E. Davis, A. Quigg, Y. Buyukates. 2013. Co-occurring and opposing freshwater inflow effects on phytoplankton biomass,

productivity and community composition of Galveston Bay, USA. *Mar. Ecol. Progress. Ser.* 477: 61-76.

66. Grover*, J.P., **D.L. Roelke**, B.W. Brooks, G.M. Gable, M.T. Neisch, N.J. Hayden, T.W. Valenti, Jr., K.N. Prosser, G.D. Umphres, N.C. Hewitt. 2013. Ammonium treatments to suppress toxic blooms of *Prymnesium parvum* in a subtropical lake of semi-arid climate: results from *in situ* mesocosm experiments. *Water Research.* 47: 4274-4285.
65. Lundgren, V.M., **D.L. Roelke***, J.P. Grover, B.W. Brooks, K.N. Prosser, W.C. Scott, C.A. Laws, G.D. Umphres. 2013. Interplay between ambient surface water mixing and manipulated hydraulic flushing: Implications for harmful algal bloom mitigation. *Ecological Engineering.* 60: 289-298.
64. Umphres IV, G.D., **D.L. Roelke***, M.D. Netherland. 2013. The potential algacide flumioxazin has little effect on growth, survival and feed conversion of the bluegill sunfish *Lepomis macrochirus*. *Aquaculture.* 380-383: 80-83.
63. **Roelke***, **D.L.**, S. Spatharis, S.M. Mitrovic. 2012. A new hydrology: effects on ecosystem form and functioning. *Can. J. Fish. Aquat. Sci.* 69:1377-1379.
62. **Roelke***, **D.L.**, B.W. Brooks, J.P. Grover, G.M. Gable, L. Schwierzke-Wade, N.C. Hewitt. 2012. Anticipated human population and climate change effects on algal blooms of a toxic haptophyte in the south-central USA. *Can. J. Fish. Aquat. Sci.* 69:1389-1404.
61. Granéli*, E., B. Edvardsen, **D.L. Roelke**, J.A. Hagström. 2012. The ecophysiology and bloom dynamics of *Prymnesium* spp. *Harmful Algae.* 14:260-270.
60. Grover*, J.P., **D.L. Roelke**, B.W. Brooks. 2012. Modeling of plankton community dynamics characterized by algal toxicity and allelopathy: A focus on historical *Prymnesium parvum* blooms in a Texas reservoir. *Ecological Modelling.* 227:147-161.
59. Hayden, N.J., **D.L. Roelke***, B.W. Brooks, J.P. Grover, M.T. Neisch, T.W. Valenti, Jr., K.N. Prosser, G.M. Gable, G.D. Umphres, N.C. Hewitt. 2012. Beyond hydraulic flushing: Deep water mixing takes the harm out of a haptophyte bloom. *Harmful Algae.* 20:42-57.
58. Neisch, M.T., **D.L. Roelke***, B.W. Brooks, J.P. Grover, M.P. Masser. 2012. Stimulating effect of *Anabaena* sp. exudate on *Prymnesium parvum*. *Journal of Phycology.* 48:1045-1049.
57. Prosser, K.N., T.W. Valenti Jr., N.J. Hayden, M.T. Neisch, N. Hewitt, G.D. Umphres, G.M. Gable, J.P. Grover, **D.L. Roelke**, B.W. Brooks*. 2012. Low pH preempts bloom development of a toxic haptophyte. *Harmful Algae.* 20:156-164.
56. Umphres IV, G.D., **D.L. Roelke***, M.D. Netherland. 2012. A chemical approach for the mitigation of *Prymnesium parvum* blooms. *Toxicon.* 60:1235-1244.
55. **Roelke***, **D.L.**, R.H. Pierce. 2011. Effects of inflow on harmful algal blooms – some considerations. *Journal of Plankton Research.* 33: 205-210.
54. **Roelke***, **D.L.**, J.P. Grover, B.W. Brooks, J. Glass, D. Buzan, G.M. Southard, L. Fries, G.M. Gable, L. Schwierzke-Wade, M. Byrd, J. Nelson. 2011. A decade of fish-killing *Prymnesium parvum* blooms in Texas: Roles of inflow and salinity. *Journal of Plankton Research.* 33: 243-254.
53. Brooks*, B.W., J.P. Grover, **D.L. Roelke**. 2011. *Prymnesium parvum*, An emerging threat to inland waters. *Environmental Toxicology and Chemistry* (featured article). 30: 1955-1964.

52. Grover*, J.P., K.W. Crane, J.W. Baker, B.W. Brooks, **D.L. Roelke**. 2011. Spatial variation of harmful algae and their toxins in flowing-water habitats: a theoretical exploration. *Journal of Plankton Research*. 33: 211-228.
51. James, S.V., T.W. Valenti, **D.L. Roelke**, J.P. Grover, B.W. Brooks*. 2011. Probabilistic ecological assessment of microcystin-LR: A case study of allelopathy to *Prymnesium parvum*. *Journal of Plankton Research*. 33: 319-332.
50. James, S.V., T.W. Valenti, K.N. Prosser, J.P. Grover, **D.L. Roelke**, B.W. Brooks*. 2011. Sunlight amelioration of *Prymnesium parvum* acute toxicity to fish. *Journal of Plankton Research*. 33: 265-272.
49. Schwierzke-Wade, L., **D.L. Roelke***, B.W. Brooks, J.P. Grover, T.W. Valenti Jr. 2011. *Prymnesium parvum* bloom termination: Role of hydraulic dilution. *Journal of Plankton Research*. 33: 309-318.
48. Spatharis*, S., **D.L. Roelke**, P.G. Dimitrakopoulos, G.D. Kokkoris. 2011. Analyzing the (mis)behavior of Shannon index in eutrophication studies using field and simulated phytoplankton assemblages. *Ecological Indicators*. 11: 697-703.
47. **Roelke* D.L.**, Eldridge P.M. 2010. Losers in the 'Rock-Paper-Scissors' game: The role of non-hierarchical competition and chaos as biodiversity sustaining agents in aquatic systems. *Ecological Modelling*. 221: 1017-1027.
46. **Roelke***, **D.L.**, G.M. Gable, T.W. Valenti, J.P. Grover, B.W. Brooks, J.L. Pinckney. 2010. Hydraulic flushing as a *Prymnesium parvum* bloom-terminating mechanism in a subtropical lake. *Harmful Algae*. 9: 323-332.
45. **Roelke***, **D.L.**, L. Schwierzke, B.W. Brooks, J.P. Grover, R.M. Errera, T.W. Valenti Jr., J.L. Pinckney. 2010. Factors influencing *Prymnesium parvum* population dynamics during bloom formation: Results from in-lake mesocosm experiments. *Journal of American Water Resources Association*. 46: 76-91.
44. Brooks*, B.W., S.V. James, T.W. Valenti Jr., F. Urena-Boeck, C. Serrano, J.P. Berninger, L. Schwierzke, L.D. Mydlarz, J.P. Grover, **D.L. Roelke**. 2010. Comparative toxicity of *Prymnesium parvum* in inland waters. *Journal of American Water Resources Association*. 46: 45-62.
43. Dharmasiri*, U., M.A. Witek, A.A. Adams, J.K. Osiri, M.L. Hupert, T.S. Bianchi, **D.L. Roelke**, S.A. Soper. 2010. Enrichment and detection of *Escherichia coli* O157:H7 from water samples using an antibody modified microfluidic chip. *Analytical Chemistry*. 82: 2844-2849.
42. Eldridge, P.M., **D.L. Roelke***. 2010. Origins and scales of hypoxia on the Louisiana shelf: importance of seasonal plankton dynamics and river nutrients and discharge. *Ecological Modelling*. 221: 1028-1042.
41. Grover* J.P., J.W. Baker, **D.L. Roelke**, B.W. Brooks. 2010. Mathematical models of population dynamics of *Prymnesium parvum* in inland waters. *Journal of American Water Resources Association*. 46: 92-107.
40. Schwierzke, L., **D.L. Roelke***, B.W. Brooks, J.P. Grover, T.W. Valenti, Jr., M. Lahousse, C.J. Miller, J.L. Pinckney. 2010. *Prymnesium parvum* population dynamics during bloom development: a role assessment of grazers and virus. *Journal of American Water Resources Association*. 46: 63-75.

39. Valenti, Jr., T.W., S.V. James, M. Lahousse, K.A. Schug, D.L. Roelke, J.P. Grover, B.W. Brooks*. 2010. A mechanistic explanation for pH-dependent ambient aquatic toxicity of *Prymnesium parvum* Carter. *Toxicon*. 55: 990-998.
38. Valenti, Jr., T.W., S.V. James, M. Lahousse, K.A. Schug, D.L. Roelke, J.P. Grover, B.W. Brooks*. 2010. Influence of pH on amine toxicity and implications for harmful algal bloom ecology. *Toxicon*. 55: 1038-1043.
37. Baker, J.W., J.P. Grover*, R. Ramachandrannair, C. Black, T.W. Valenti, Jr., B.W. Brooks, D.L. Roelke. 2009. Growth at the edge of the niche: an experimental study of the harmful alga *Prymnesium parvum*. *Limnology and Oceanography*. 54: 1679-1687.
36. Miller, C.J., S.E. Davis*, D.L. Roelke, H-P. Li, M.J. Driffill. 2009. Factors influencing algal biomass in intermittently-connected, subtropical coastal ponds. *Wetlands*. 29: 759-771.
35. Roelke* D.L. and P.M. Eldridge. 2008. Mixing of supersaturated assemblages and the precipitous loss of species. *The American Naturalist*. 171:162-175.
34. Errera, R.M., D.L. Roelke*, R. Kiesling, B.W. Brooks, J.P. Grover, L. Schwierzke, F. Ureña-Boeck, J.W. Baker, J.L. Pinckney. 2008. The effect of imbalanced nutrients and immigration on *Prymnesium parvum* community dominance and toxicity: Results from in-lake microcosm experiments, Texas, USA. *Aquatic Microbial Ecology*. 52: 33-44.
33. Miller, C.J., D.L. Roelke*, S.E. Davis, H-P. Li, G. Gable. 2008. The role of inflow magnitude and frequency on plankton communities from the Guadalupe Estuary, Texas, USA: Findings from microcosm experiments. *Estuarine, Coastal, and Shelf Science*. 80: 67-73.
32. Roelke* D.L., R. Errera, R. Kiesling, B.W. Brooks, J.P. Grover, L. Schwierzke, F. Ureña-Boeck, J. Baker, J.L. Pinckney. 2007. Effects of nutrient enrichment on *Prymnesium parvum* population dynamics and toxicity: Results from field experiments, Lake Possum Kingdom, USA. *Aquatic Microbial Ecology*. 46:125-140.
31. Roelke* D.L., T. Zohary, K.D. Hambright, J.V. Montoya, 2007. Alternative states in the phytoplankton of Lake Kinneret, Israel (Sea of Galilee). *Freshwater Biology*. 52:399-411.
30. Baker, J.W., J.P. Grover*, B.W. Brooks, F. Ureña-Boeck, D.L. Roelke, R.M. Errera, R. Kiesling. 2007. Growth and toxicity of *Prymnesium parvum* (Haptophyta) as a function of salinity, light and temperature. *Journal of Phycology*. 43:219-227.
29. Grover*, J.P., J.W. Baker, F. Ureña-Boeck, B.W. Brooks, R. Errera, D.L. Roelke, R.L. Kiesling. 2007. Laboratory tests of ammonium and barley straw extract as agents to suppress abundance of the harmful alga *Prymnesium parvum* and its toxicity to fish. *Water Research*. 41: 2503-2512.
28. Roelke* D.L., J. Cotner, J.V. Montoya, C. Del Castillo, S. Davis, I. Snider, G. Gable, K.O. Winemiller. 2006. Optically determined sources of allochthonous organic matter and metabolic characterizations in a tropical oligotrophic river and associated lagoon. *Journal of the North American Benthological Society*. 25:185-197.
27. Cotner*, J., J.V. Montoya, D.L. Roelke, K.O. Winemiller. 2006. Seasonally variable riverine production in the Venezuelan llanos. *Journal of the North American Benthological Society*. 25:171-184.

26. Montoya, J.V., **D.L. Roelke***, K.O. Winemiller, J. Cotner, I. Snider. 2006. Hydrological seasonality and benthic algal biomass in a Neotropical floodplain river. *Journal of the North American Benthological Society*. 25:157-170.
25. Winemiller*, K.O., J.V. Montoya, **D.L. Roelke**, C. Layman, J. Cotner. 2006. Seasonally varying impact of detritivorous fishes on the benthic ecology of a tropical floodplain river. *Journal of the North American Benthological Society*. 25:250-262.
24. Buyukates, Y., **D.L. Roelke***. 2005. Influence of pulsed inflows and nutrient loading on zooplankton and phytoplankton community structure and biomass in microcosm experiments using estuarine assemblages. *Hydrobiologia*. 548:233-249.
23. Buyukates, Y., **D.L. Roelke***. 2005. Investigating system characteristics of a Southeast Texas wetland: Nutrient and plankton dynamics of a tidal creek in lower Nueces Delta. *Journal of Applied Sciences*. 5:820-828.
22. Fejes, E.M., **D.L. Roelke***, G. Gable, J.L. Heilman, K.J. McInnes, D.A. Zuberer. 2005. Microalgal productivity, community composition, and pelagic food web dynamics in a sub-tropical, turbid salt marsh isolated from freshwater inflow. *Estuaries*. 28:96-107.
21. **Roelke***, **D.L.**, Y. Buyukates, M. Williams, and I. Jean. 2004. Interannual variability in the seasonal plankton succession of a shallow, warm-water lake. *Hydrobiologia*. 513: 205-218.
20. Heinsch, F.A., J.L. Heilman*, K.J. McInnes, D.R. Cobbs, D.A. Zuberer, and **D.L. Roelke**. 2004. Carbon dioxide exchange in a high marsh on the Texas Gulf Coast: Effects of freshwater availability. *Agricultural and Forest Meteorology*. 125:159-172.
19. Murdock, J., **D.L. Roelke***, and F. Gelwick. 2004. Interactions between flow, periphyton, and nutrients in a heavily impacted urban stream: Implications for stream restoration effectiveness. *Ecological Engineering*. 22:197-207.
18. **Roelke***, **D.L.**, S. Augustine, and Y. Buyukates. 2003. Fundamental predictability in multispecies competition: The influence of large disturbance. *The American Naturalist*. 162: 615-623.
17. Fejes, E., J. Birnbaum, F. Gelwick, and **D.L. Roelke***. 2003. Vertical distribution of herbivorous zooplankton in a well-mixed lake system where the main predator is a non-selective filter-feeding fish. *Journal of Freshwater Ecology*. 18:333-336.
16. **Roelke***, **D.L.**, and Y. Buyukates. 2002. Dynamics of phytoplankton succession coupled to species diversity as a system-level tool for study of *Microcystis* population dynamics in eutrophic lakes. *Limnology and Oceanography*. 47: 1109-1118.
15. Bontempi, P., S. Davis, C. Del Castillo, **D. Roelke***, and K. Winemiller. 2002. Transformation of allochthonous dissolved organic carbon in a tropical blackwater river as measured by fluorescence analysis: Application to foodweb ecology. *SPIE* 16. 6 p. *electronic journal*.
14. **Roelke***, **D.L.** and Y. Buyukates. 2001. The diversity of harmful algal bloom-triggering mechanisms and the complexity of bloom initiation. *Human and Ecological Risk Assessment*. 7:1347-1362.
13. Van Dolah*, F.M., **D.L. Roelke**, and R. Greene. 2001. Health and ecological impacts of harmful algal blooms: Risk assessment needs. *Human and Ecological Risk Assessment*. 7:1329-1345.

12. **Roelke, D.L.** 2000. Copepod food-quality threshold as a mechanism influencing phytoplankton succession and accumulation of biomass, and secondary productivity: A modeling study with management implications. *Ecological Modelling*. 134:245-274.
11. **Roelke*, D.L.**, P.M. Eldridge, L.A. Cifuentes. 1999. A model of phytoplankton competition for limiting and non-limiting nutrients: Implications for development of estuarine and nearshore management schemes. *Estuaries*. 22:92-104.
10. **Roelke*, D.L.**, C. D. Kennedy, A.D. Weidemann. 1999. Use of discriminant and fourth-derivative analyses with high-resolution absorption spectra for phytoplankton research: Limitations at varied signal to noise ratio and spectral resolution. *Gulf of Mexico Science*. 17:17-28.
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8. Villareal*, T.A., **D.L. Roelke**, G.A. Fryxell. 1994. Occurrence of the toxic diatom *Nitzschia pungens f. multiseriis* in Massachusetts Bay, Massachusetts, U.S.A. *Marine Environmental Research*. 37:417-423.
7. **Roelke*, D.L.**, S.M. Sogard. 1993. Gender-based differences in the habitat selection and activity level in the northern pipefish (*Syngnathus fuscus*). *Copeia* 2:496-500.
6. Kang, S-H., G.A. Fryxell*, **D.L. Roelke**. 1993. *Fragilariopsis cylindrus* (Grunow) Krieger compared with other species of the diatom Family Bacillariaceae in Antarctic marginal ice edge zones. In, *Progress in Diatom Studies Contributions to Taxonomy, Ecology, and Nomenclature*. Sims, P.A. (ed.). Beiheftzur Nova Hedwigia. 106:335-352.
5. Villac*, M.C., **D.L. Roelke**, F.P. Chavez, L.A. Cifuentes, G.A. Fryxell. 1993. *Pseudonitzschia australis* Frenguelli and related species from the west coast of the U.S.A.: Occurrence and domoic acid production. *Journal of Shellfish Research*. 12:457-465.
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3. Buck*, K.R., L. Uttal-Cooke, C.H. Pilskaln, **D.L. Roelke**, M.C. Villac, G.A. Fryxell, L.A. Cifuentes, F.P. Chavez. 1992. Autoecology of *Pseudonitzschia australis*, a domoic acid producer from Monterey Bay, California. *Marine Ecology Progress Series*. 84:293-302.
2. Dickey*, R.W., G.A. Fryxell, H.R. Granade, **D.L. Roelke**. 1992. Detection of marine toxins, okadaic acid and domoic acid, in shellfish and phytoplankton in the Gulf of Mexico. *Toxicon*. 30:355-359.
1. Fryxell*, G.A., S.A. Garza, **D.L. Roelke**. 1991. Auxospore formation in the Antarctic clone *Nitzschia subcurvata* Hasle. *Diatom Research*. 6:235-245.

Peer-reviewed book chapters

2. Roelke, D.L. and S.R. Manning. 2018. *Prymnesium parvum* Carter • Golden algae. S. Shumway, J.M. Burkholder, S.L. Morton (Eds.). *Harmful algal blooms: A compendium desk reference*. Wiley-Blackwell. Pages 629-632.

1. Eldridge, P.M., D.L. Roelke. 2011. Hypoxia in waters of the coastal zone: Causes, effects, and modeling approaches. In: Wolanski, E. and McLusky D.S. (eds.) Treatise on Estuarine and Coastal Science, Waltham, Academic Press. Vol. 9, pp. 193–215.

Peer-reviewed non-profit intergovernmental agency reports

1. Roelke, D.L. 2017. Invasive *Prymnesium parvum*. Invasive Species Compendium (ISC), Centre for Agriculture and Bioscience International (CABI), online datasheet: <http://www.cabi.org/isc/datasheet/121720>

Editor-reviewed conference proceedings

7. Zhang, S., H. Gao, A. Quigg, D.L. Roelke. 2016. Remote sensing of spatial-temporal variations of chlorophyll-a in Galveston Bay, Texas. Proceedings of the State of the Bay Symposium, Galveston Bay Estuary Program. Galveston, Texas. January. Pages 5841 – 5844.
6. Roelke, D.L., B.W. Brooks, J.P. Grover. 2012. *Prymnesium parvum* blooms in south-central USA: Concerns of climate change and population growth. K.A. Pagou and G.M. Hallegraeff (Eds.), Proceedings of the 14th International Conference on Harmful Algae. Intergovernmental Oceanographic Commission of UNESCO, pp. 102-104.
5. Roelke, D.L. and Y. Buyukates. 2000. Prey-quality threshold as a potential triggering mechanism of algal blooms and its sensitivity to varied hydraulic conditions. ICES Cooperative Research Report, Young Scientists Conference on Marine Perspectives. 240:35-36.
4. Weidemann, A.D., C. Moore, L. Jugan, D.L. Roelke. 1998. An in-water, hyperspectral absorption-attenuation meter. *Oceanology International* 98.
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2. Wright, L.C., S.S. Bates, D.J. Douglas, S. Eddy, R. Forbes, D.L. Roelke, M.G. Scarrett. 1992. The American west coast domoic acid crisis. Proceedings of the Third Canadian Workshop on Harmful Marine Algae. 1893:51-55.
1. Fryxell, G.A., M.E. Reap, D.L. Roelke, L.A. Cifuentes, and D.L. Valencic. 1991. Confirmed presence of a neurotoxin-producing diatom around Galveston, Texas. Proceedings of the Galveston Bay Characterization Workshop. Galveston Bay National Estuary Program. GBNEP-6.

Agency-reviewed technical reports

9. Roelke, D.L. 2018. Water quality parameters and phytoplankton productivity and composition in the middle-Trinity River, TX during periods of high and low discharge. Final report to the Texas Water Development Board, Austin, TX, contract nos. 1548311789 and 1548312153. 23 pages.

8. Roelke, D.L., B.W. Brooks, J.P. Grover, V.M. Lundgren. 2013. Golden Algae control: Efficacy of hydraulic manipulations in coves of Lake Granbury. ERDC/EL CR-13-1, U.S. Army Engineer Research and Development Center, Vicksburg, MS. 110 pages.
7. Roelke, D.L., Brooks, B.W., Grover, J.P., Kalisek, D.M. and Harris, B.L. 2012. Approaches to Golden Algae Control: In-Lake Mesocosm Experiments, ERDC/EL CR-12-1, U.S. Army Engineer Research and Development Center, Vicksburg, MS. 62 pages.
6. Harris, B.L., D.L. Roelke, J.P. Grover, B.W. Brooks. 2010. Lake Granbury and Lake Whitney Assessment Initiative. Texas Water Resource Institute, Technical Report 392 (prepared for US Department of Energy). 109 pages.
5. Quigg A., D.L. Roelke, S.E. Davis. 2009. Freshwater inflows and the health of Galveston Bay: influence of nutrient and sediment load on the base of the food web. Final Report to the Texas Coastal Management Program (GLO Contract No. 08_007). 49 pages.
4. Buyukates, Y., D.L. Roelke. 2005. Management tools for aquatic systems: The role of periodic hydraulic disturbances on planktonic communities. Texas Water Resource Institute, Technical Report 285. 27 pages.
3. Winemiller, K.O., A. Chin, S.E. Davis, D.L. Roelke, L.M. Romero, B. Wilcox. 2005. Caddo Lake, Texas inflows study: Summary Report. The Nature Conservancy/Caddo Lake Institute. 102 pages.
2. Winemiller, K.O., A. Chin, S.E. Davis, D.L. Roelke, L.M. Romero, B. Wilcox. 2005. Caddo Lake, Texas inflows study: Annotated bibliography. The Nature Conservancy/Caddo Lake Institute. 53 pages.
1. Roelke, D.L., S. Augustine, and Y. Buyukates. 2003. Directing the Fall of Darwin's "Grain in the Balance": Manipulation of Hydraulic Flushing as a Potential Control of Phytoplankton Population Dynamics. Texas Water Resource Institute, Technical Report 245. 13 pages.

Editor-reviewed newsletter articles

1. Roelke, D.L., G.A. Fryxell, and L.A. Cifuentes. 1993. South Korean oysters gave ASP symptoms. Harmful Algal News. 7:8-9.

Book review

1. Roelke D.L. 2007. Book Review: Ecology of Harmful Algae. Ecological Studies 189. E. Graneli and J.T. Turner (Eds.). Springer-Verlag, Berlin. 413 pages. 2006. *Eos*. 88(30): 4.

POPULAR PRESS FEATURING ROELKE-LAB RESEARCH

- "Tiny algae, big problems" published by College of Agriculture and Life Sciences, Texas A&M University, July 2018 (written by Kendra Davis).
- "A little competition could rein in algal blooms" published by Futurity, Earth and Environment, August 2018 (rewritten by Keith Randall, original written by Kendra Davis).

- “Texas A&M Researchers Found A Fix For Out-Of-Control Algal Blooms” published by Texas A&M Today, Texas A&M University, August 2018 (re-posted and modified, original written by Kendra Davis)
- “The hauntingly beautiful underworld of Yucatan cenotes” CSIRO Publishing Facebook page, October 2016, an outreach program of the international journal *Marine and Freshwater Research*.
- “Meet a scientist: Daniel Roelke” Conservation Matters, May 2016, an online publication of Texas Water Resources Institute (written by Eva Vigh).
- “Protecting the Red Sea’s Coral Reefs” tamuTimes, June 17, 2014, an online publication of Texas A&M University. Also featured in the College of Agriculture and Life Sciences Newsletter posted on June 12, 2014 (written by Angel Futrell).
- “Lower lake to bring more algae” – Hood County News (regional newspaper), June 15, 2011. Also, online article brief - “Golden algae will thrive with low lake levels”
- “Texas scientists publish needed golden algae research” - New Waves, Texas Water Resources Institute's E-Newsletter, Agrilife Research and Extension, Texas A&M University, April 2011.
- “Battling golden algae Results suggest preventative lake management approaches – tx H₂O, Publication of the Texas Water Research Institute, 2011.
- “Toxic and Deadly Working to manage algae in Lake Granbury” – tx H₂O Special Edition, Publication of the Texas Water Research Institute, 2011.
- “Researchers Identify What Makes Deadly Algae More Toxic” - Science Daily, Online Publication (<http://www.sciencedaily.com>), November 11, 2009.
- “Researchers Identify What Makes Deadly Algae More Toxic” - New Waves, Texas Water Resources Institute's E-Newsletter, Agrilife Research and Extension, Texas A&M University, December 4, 2009
- “More Than A Drop In The Bucket”, True Maroon, Publication of Texas A&M University Associate of Former Students, September Issue, 2009.
- “A golden opportunity”, tx H₂O, Publication of the Texas Water Research Institute, Texas, 2008.
- “Researchers study harmful golden algae”, The Lariat online, Publication of Baylor University, April 18, 2008.
- “Study Identifies Variables That Contribute to High Golden Algae Blooms; Awarded, New Grant”, Baylor In the News, April 8, 2008.
- “Researchers Cast for Answers to Algae Problems”, Lifescapes, Publication of the College of Agriculture and Life Sciences, Spring Issue, 2007.
- “Group trying to prevent widespread lake pollution”, Hood County News Online, March 29, 2006.
- “Texas Researchers Casting for Answers to Stop Alga Problem in Texas Lakes”, AgNews, Publication of TAMU Ag Program, Oct. 6, 2006. (<http://agnews.tamu.edu/dailynews/stories/WFSC/Oct0606a.htm>)

- “What’s the Plan: Groups tackling water quality problems on Lake Granbury”, tx H₂O, Publication of the Texas Water Research Institute, Texas, 2006.
- “Texas’ Natural Lake: Research to help restore environmental flows to Caddo Lake”, tx H₂O, Publication of the Texas Water Research Institute, 2006.
- “Texas Gold Rush: Scientists seek to understand and control golden algae”, tx H₂O, Publication of the Texas Water Research Institute, Texas, 2005.
- “Caddo Studied”, Newspaper Article, Marshall News Messenger, May 5, 2005.
- “Texas the State of the Water, Finding a Balance: Narrated by Walter Cronkite”, Documentary, Texas Parks and Wildlife, Aired February 3, state wide on PBS stations, 2005.
- “Reports indicate golden algae no longer active”, Newspaper Article, Lake Country Sun, May 23, 2003.
- “Who Will Win”, Internet news report, Scientific American, May 29, 2001.

GRANTS AND CONTRACTS

Extramural Funds

(\$-number is the total award and (%-number) is the proportion of funds directly coming to the Roelke lab)

- 2019-20 Better Water-Use Efficiency Through Coupled Microalgae Production And Horticulture Industries. Triad Program, Texas A&M University, \$35,115 (\$17,558, 50%) – lead PI.
- 2019-21 Multispecies, Multinutrient plankton model for Galveston and Corpus Christi Bays with development of forms to enter and retrieve information. Texas Commission on Environmental Quality, \$327,584. – sole-PI
- 2018-19 Linkages between land use, ground water pollution, and cyanotoxins: a comparison between lake-like and stream-like systems, and between urban and rural landscapes, with C. Hernández Zepeda, Consejo Nacional de Ciencia y Tecnología (abbreviated CONACYT), \$50,000 (\$32,745, 65%) – lead-PI.
- 2016-17 Water quality in sink-hole lakes (cenotes) of the Yucatan, Mexico, with C. Munster, Yucatan Initiative, Consejo Nacional de Ciencia y Tecnología (abbreviated CONACYT) and AgriLife Research Texas A&M University, \$15,000 (100%) – lead-PI.
- 2016 Spatiotemporal variation in plankton assemblages and water quality parameters in Lake Conroe, Texas, San Jacinto River Authority, \$16,859 (100%) – sole-PI
- 2015-17 Relationships between inflows, nutrient loading, phytoplankton and dissolved oxygen in two bay systems of the western Gulf of Mexico: A numerical modeling study, with A. Quigg, Texas Commission on Environmental Quality, \$322,825 (\$278,489, 86%). – lead-PI
- 2015-16 A Prototype Information System for Monitoring and Predicting Phytoplankton Productivity over Galveston Bay, with H. Gao, NOAA Coastal Management Program, \$95,475 (\$16,607, 17%). – co-PI

- 2015-16 Phytoplankton assemblage composition and productivity in the middle-Trinity River, Texas Water Development Board, \$35,570 (100%). – sole-PI
- 2015 Efficacy of Flumioxazin as a golden algae bloom inhibitor, NuFram Inc., \$10,000 (100%) – sole-PI.
- 2014-15 Mechanisms for bloom formation of *Karenia breve* and *Prymnesium parvum* in Texas bays. National Fish and Wildlife Foundation, Conservation Scholars Program, \$36,416.00 (100%). – Investigator (this award was for graduate student research, Rika Muhl)
- 2014-15 The relative roles of niche and neutral mechanisms in controlling phytoplankton genetic and morphological diversity – “ECOGENE”, Greek Secretariat of Research and Technology (GSRT) as an Action of Excellence through the European Union, \$472,290 (\$30,000, 6%) – Investigator (non-Greeks could not be listed as co-PIs)
- 2012-13 Coupling water-column bio-optics and coral reef ecology to predict the impacts of climate change and coastal zone development on the Red Sea – beginning steps in research, with Jay Walton, Christian Voolstra, Cornelia Roder. TAMU Institute for Applied Mathematics and Computational Science, King Abdullah University of Science and Technology, \$40,000 (\$40,000, 100%). – lead PI
- 2011-12 Golden Algae Control: Efficacy of Cove Manipulations, with J. Grover, B. Brooks, US Army Corps of Engineers, \$300,000 (\$208,335, 69%). - lead PI
- 2010-14 Mathematical modeling in ecology, subprogram of KAUST Global Research Partnership: TAMU Institute for Applied Mathematics and Computational Science, with J. Walton (lead PI), King Abdullah University of Science and Technology, \$1,600,000 (\$65,000, 4%). – collaborating scientist (I was added on after award was won)
- 2010-11 Testing approaches to Golden Algae control: In-lake mesocosm experiments, with J. Grover, B. Brooks, US Army Corps of Engineers, \$450,000 (\$289,502, 64%). - lead PI
- 2008-09 Water Quality Program for Lakes Granbury, Whitney and Waco, TX, with J. Grover, B. Brooks, US Department of Energy, \$424,848 (\$215,000, 51%). - lead PI
- 2007-09 Refining a Predictive Understanding of Physical, Chemical and Biological Factors Influencing *Prymnesium parvum* Population Dynamics, with B. Brooks, J. Grover, Texas Parks and Wildlife Department, \$490,445 (\$200,000, 41%). - co-lead PI
- 2007-09 Freshwater inflows: influence of nutrient and sediment load on our ability to define beneficial flows for Galveston Bay, with A. Quigg, S. Davis, Texas Sea Grant, \$281,012 (\$20,000, 7%). - co-PI
- 2007-08 Pan-Caribbean Climate Change and Marine Ecosystem Management Program - Marine Ecosystem Assessment and Management, TAMU sub-team (Planning Period), with S. Davis, A. Filippi, Stanford Family, \$164,449 (\$50,000, 30%). - co-PI
- 2007-08 Phytoplankton Responses to Freshwater Inflows in the Trinity-San Jacinto Estuary, with A. Quigg, S. Davis, Texas Water Development Board, \$32,000 (\$10,000, 31%). - co-PI
- 2007-08 Phytoplankton Responses to Freshwater Inflows in Galveston Bay, with A. Quigg, S. Davis, Galveston Bay Estuaries Program, \$70,021 (\$20,000, 29%). - co-PI

- 2007-08 Freshwater inflows and the health of Galveston Bay: influence of nutrient and sediment load on the base of the food web, with A. Quigg, S. Davis, NOAA Coastal Management Program, \$94,704 (\$30,000, 32%). - co-PI
- 2007 Antigua and Barbuda Coastal and Marine Ecosystem Management Program – Marine Ecosystem Assessment and Management, TAMU sub-team (Interim Period), with S. Davis, A. Filippi, Stanford Family, \$100,000 (\$30,000, 30%). - co-PI
- 2006-07 Lake Granbury Water Quality Assessment, with B. Brooks, J. Grover, S. Davis, R. Kiesling, US Department of Energy, \$384,800 (\$200,000, 52%). - lead PI
- 2006-07 Advancing the predictive understanding of bloom formation and toxicity in *Prymnesium parvum*, with J. Grover, B. Brooks, R. Kiesling, Texas Parks and Wildlife Department, \$529,023 (\$200,000, 38%). - co-lead PI
- 2004-06 Reduced Freshwater Inflows and Productivity in the Guadalupe Estuary: Use of High-Resolution Spatial Mapping, with S. Davis, Texas Sea Grant (award number NA16RG1078), \$208,746 (\$104,000, 50%). - co-lead PI
- 2004-06 Bridging the Gap Between Plankton Dynamics and Spatial Variability in Water Quality in the Guadalupe Estuary (Texas): The Importance of Freshwater Pulses, with S. Davis, National Institute Water Resources/U.S. Geological Survey, National Competitive Grant Program (award number 03HQGR0122), \$233,953 (\$115,000, 49%). - co-lead PI
- 2004-06 Monitoring ecosystem health with bioindicators: mapping seasonal changes in primary productivity & the primary producers in Galveston Bay, with A. Quigg, S. Davis, Coastal Management Program, \$70,000 (\$23,000, 33%). - co-PI
- 2004-06 Use of High-Resolution Spatial Mapping to Estimate Plankton Response to Freshwater Inflows Entering Galveston Bay: Importance to Watershed Development and Ecosystem Health, with S. Davis, J. Pinckney, Galveston Bay Estuaries Program (582-4-65034), \$131,717 (\$50,000, 38%). - co-PI
- 2004-05 Developing a predictive understanding of *Prymnesium parvum* toxic bloom formation and its control, with R. Kiesling, B. Brooks, J. Grover, Texas Parks and Wildlife Department, \$565,000 (\$200,000, 35%). - co-lead PI
- 2004-05 Developing inflow recommendations for Caddo Lake, TX, with K. Winemiller, S. Davis, A. Chin, B. Wilcox, The Nature Conservancy, \$67,000 (\$7,000, 10%). - co-PI
- 2003-06 Undergraduate Research in Biodiversity and Ecological Processes in Fluctuating Environments, with R.L. Honeycutt, J. Bonner, R. Autenrieth, J. Bickam, and C. Page, National Science Foundation, Division of Environmental Biology (EEC-9912278), \$268,397 (\$53,000, 20%). - co-PI
- 2001-04 Variable Effects of Nutrients, Productivity, Consumption, and the Flood Pulse on Floodplain River Ecosystems, with K.O. Winemiller and J.B. Cotner, National Science Foundation, Ecology/Ecosystems Program (DEB-0089834), \$318,000 (\$109,000, 34%). - co-PI
- 2000-03 Productivity and Structure of a Coastal Wetland: Response to Fluctuating Freshwater Inflow, with J.L. Heilman, K.J. McInnes, and D.A. Zuberer, U.S. Department of Agriculture, National Research Initiative (00-35101-9275), \$215,000 (\$100,000, 46%). - co-lead PI

- 2000-02 Undergraduate Research in Biodiversity and Ecological Processes in Fluctuating Environments, with R.L. Honeycutt, J. Bonner, T. Lacher, and R. Autenrieth, National Science Foundation, Division of Environmental Biology (EEC-9912278), \$194,760 (\$38,952, 20%). - co-PI
- 1999-04 Water Quality Monitoring of Lake Somerville, TX, US Army Corps of Engineers, \$118,682 (100%). - sole PI
- 1999-02 Health of a Texas Estuary: Influence of Freshwater Inflow and Nutrient Loading, Texas Sea Grant (NA86RG0058), \$47,697 (100%). - sole PI

TEACHING

(year class was offered and student evaluations on a scale of 0-5 are shown in parentheses)

WFSC 404, Aquatic Ecosystems

(15-4.76, 16-4.70, 17-4.72, 18-4.59, 19-4.65)

WFSC 414, Ecology of Lakes and Rivers - formerly called Limnology

(98-4.07, 99-4.32, 00-4.74, 01-4.64, 02-4.23, 03-4.76, 04-4.15, 06-4.60, 08-n/a [PICA failure], 10-4.58, 11-4.88, 13-4.73)

WFSC 418, Ecology of the Coastal Zone

(05-4.51, 07-4.90, 09-4.96, 11-4.71, 13-4.80)

WFSC 449, Professional Aspects of Aquatic Sciences

(14-5.00, 15-4.74, 17-4.67)

WFSC 484, Undergraduate Internships

(see list of students in 'Student Supervision' section)

WFSC 611, Estuarine Ecology

(03-4.79, 07-4.89, 08-4.73, 09-4.96, 10-4.62, 12-4.46, 14-4.67)

WFSC 621, Aquatic Ecology - formerly called Lower Foodweb Dynamics of Aquatic Ecosystems cross-listed with OCNG 629

(99-4.75, 00-4.49, 01-4.67, 05-4.90)

WFSC 685, Chaos in Plankton Ecosystems

(02-4.81)

UPAS, 181 Killer Algae: Ecology and Management (First Year Seminars through the Dean of Undergraduate Programs)

(09-quality of freshman seminars in this program are not evaluated)

Guest lectures

WFSC 101, Introduction to Wildlife and Fisheries Sciences (1998-2001, 2015-17)

EEBL 603, Community Ecology, Biodiversity Mechanisms Module (2017)

MATH 442, Mathematical Modeling (2011, 2012, 2013)

MATH 469, Mathematical Biology (2012, 2013)

STUDENT SUPERVISION

Graduate Students, Chair or co-Chaired Committee

- 2014-P Cagle, Sierra (Ph.D., Wildlife and Fisheries Sciences)
- 2013-17 Bloomer, Tymon (M.S., Wildlife and Fisheries Sciences)
- 2013-17 Méndez-Jiménez, Adriana (Ph.D., Wildlife and Fisheries Sciences – transferred to Lacher)
- 2013-17 Withrow, Frances (M.S., Wildlife and Fisheries Sciences)
- 2012-14 Davis, Stephen (M.S., Wildlife and Fisheries Sciences)
- 2011-18 Muhl, Rika (Ph.D., Wildlife and Fisheries Sciences)
- 2010-14 Smeti, Evangelia (Ph.D., Department of Marine Sciences, U. Aegean, Greece)
- 2010-12 Umphres, George (M.S., Wildlife and Fisheries Sciences)
- 2010-14 Neisch, Michael (M.S., Wildlife and Fisheries Sciences)
- 2009-11 Hayden, Natanya (M.S., Wildlife and Fisheries Sciences)
- 2008-11 Hewitt, Natalie (M.S., Wildlife and Fisheries Sciences)
- 2004-09 Hsiu-Ping Li (Ph.D., Wildlife and Fisheries Sciences – transferred, finished under Santschi)
- 2004-07 Miller, Carrie (M.S., Wildlife and Fisheries Sciences)
- 2004-07 Gable, George (M.S., Wildlife and Fisheries Sciences)
- 2003-05 Errera, Reagan (M.S., Wildlife and Fisheries Sciences)
- 2001-08 Montoya Ceballos, Jose (Ph.D., Wildlife and Fisheries Sciences)
- 2000-03 Fejes, Elizabeth (M.S., Wildlife and Fisheries Sciences)
- 2000-02 Murdock, Justin (M.S., Wildlife and Fisheries Sciences)
- 1998-03 Buyukates, Yesim (Ph.D., Wildlife and Fisheries Sciences,)

Graduate Students, Member of Committee

- 2019-P Chengxue Li (Ph.D., Marine Biology, TAMUG)
- 2019-P Tiffany Chin (M.S., Marine Sciences, TAMU-CC)
- 2017-P James Fiorendino (Ph.D., Oceanography -TAMUG)
- 2015-17 Xiao Shen (M.S., Civil Engineering - TAMU)
- 2015-16 Gesundheit, Pablo (Ph.D., WFSC, TAMU) – stopped graduate school, health
- 2015-17 Preischel, Hannah (M.S., Oceanography -TAMUG)
- 2015-17 Yang, Mingyue (Ph.D., WMHS, TAMU) – did not finish
- 2013-17 Sandoval, Christopher (M.S., Wildlife and Fisheries Sciences, TAMU)

2010-17 Burgess, Allyson (M.S., Oceanography -TAMUG)
2010-16 Rose, Emily (Ph.D., Biology Department, TAMU)
2010-13 Chouly, Ou (Ph.D., Wildlife and Fisheries Sciences, TAMU)
2009-15, Weaver, Carolyn (Ph.D., TAMUG)
2008-11, Miller, Carrie (Ph.D., Biology Department, University of Oklahoma)
2008-12, Leavitt, Daniel (Ph.D., Wildlife and Fisheries Sciences, TAMU)
2006-12, Steichen, Jamie (Ph.D., TAMUG)
2005-09, Knight, Trevor (M.S., Wildlife and Fisheries Sciences, TAMU)
2004-07, Baker, Jason (Ph.D., University of Texas, Arlington)
2003-07, Hoehinghouse, David (Ph.D., Wildlife and Fisheries Sciences)
2003-07, Papadopoulos, Anthony (Ph.D., Wildlife and Fisheries Sciences)
2002-04, Romigh, Melissa (M.S., Wildlife and Fisheries Sciences)
2002-04, Salazar , Alicia (M.S., Oceanography)
2000-02, Lumson, Beth (M.S., Oceanography)
2000-04, Fletcher, William (M.S., Oceanography)
2000-03, Charbonnet, Danielle (M.S., Agricultural Engineering)
1999-04, Layman, Craig (Ph.D., Wildlife and Fisheries Sciences)
1999-02, Healy, Brian (M.S., Wildlife and Fisheries Sciences)
1999-06, Cramer, Nicholas (M.S., Soil and Crop Science)
1998-02, Ornofsdottir, Erla (Ph.D., Oceanography)
1998-02, Arrington, Albrey (Ph.D., Wildlife and Fisheries Sciences)
1998-02, Heinsch, Faith-Ann (Ph.D., Soil and Crop Science)

Substituted Into Committee

2013 Mendoza, Maria (M.S., Wildlife and Fisheries Sciences)
1998 Wilson, Amela (Ph.D., Electrical Engineering)

Graduate Council Representative for Committee

2000-03, Scherer, Andrew (Ph.D., Anthropology)
1998-03, Van Tassel, William (Ph.D., Health Education)

Undergraduate Student Research and Mentoring

2019 Pierce, Leus (WFSC, Texas A&M University, only mentored)
2018 Depew, Alexandra (GEOL, Texas A&M University, TX)

2018 Walker, Kyle (WFSC, Texas A&M University, only mentored)
2017-18 Haile, Margaret (WFSC, Texas A&M University, TX)
2017 Coe, Sarah (WFSC, Texas A&M University, only mentored)
2017 Jozwiak, Ryan (WFSC, Texas A&M University, only mentored)
2017 Loveland, Richard (WFSC, Texas A&M University, only mentored)
2017 Oakley-Fajardo, Stephanie (WFSC, Texas A&M University, only mentored)
2016 Clark, Stuart (WFSC, Texas A&M University, only mentored)
2016 Stamps, Brittany (WFSC, Texas A&M University, only mentored)
2016 Baker, Alexis (WFSC, Texas A&M University, only mentored)
2016 Johnston, Jacob (WFSC, Texas A&M University, only mentored)
2015 Alvarado, Genaro (WFSC, Texas A&M University, only mentored)
2015 Thompson, John (WFSC, Texas A&M University, only mentored)
2015 Haile, Margaret (WFSC, Texas A&M University, TX)
2014-15 Gwinn, Jesse (WFSC, Texas A&M University, TX)
2013 Bodiford, Hailey (MATH, Texas A&M University, TX)
2013 Rogers, Danielle (MATH, Texas A&M University, TX)
2012 Withrow, Frances (MATH, Texas A&M University, TX)
2011-12 Baty, Tomas (Texas A&M University, TX)
2009-10 Neisch, Michael (Texas A&M University, TX)
2007-10 Umphres, George (Texas A&M University, TX)
2006 Dean, Patrick (AGLS 105, Texas A&M University, TX)
2006 Vendrell-Velez, Rebecca (AGLS 105, Texas A&M University, TX)
2005 Martinez, Alexis (New Mexico Tech, NM)
2003-04 Gable, George (Texas A&M University, TX)
2003 Fong, Allison (University of Rhode Island, RI)
2003 Hurley, Leah (University of Akron, OH)
2005 Ludwig, Merissa (Texas A&M University, TX)
2003-05 Snider, Jennifer (Texas A&M University, TX)
2001-02 Augustine, Sarah (Texas A&M University, TX)
2001 Birnbaum, Jenny (University of Texas at Austin, TX)
2000 Jean, Jason (University of Texas at Austin, TX)
2000 Williams, Michael (Mercyhurst College, PA)

TRAINING AND MENTORING OF OTHER PROFESSIONALS

- 2015-17 Bhattacharyya, Joydeb (Postdoc, Ph.D. from Calcutta University, India)
- 2013-14 Gao, Huilin (Assistant Professor, Civil Engineering)
- 2013-14 Linhart, Jean Marie (Assistant Professor, Central Washington University)
- 2012-13 Witmer, Angela (Lecturer, Georgia Southern University, GA)
- 2012-13 Lungren, Veronica (Postdoc, Ph.D. from Linnaeus University, Sweden)
- 2012-14 Spatharis, Sophia (Lecturer, Glasgow University, Scotland)
- 2011-12 Kutlu, Banu (Assistant Professor, Tunceli University, Turkey).
- 2005-08 Schwierzke-Wade, Leslie (Research Associate, B.S. from Texas A&M University, TX)

SERVICE AT TEXAS A&M UNIVERSITY

Department-level

- 2017-19 Committee Member, Wildlife and Fisheries Departmental Bylaws Develop
- 2017 Committee Member, Wildlife, Fisheries and Ecological Sciences Building Grand Opening
- 2016-17 Committee Member, rubric post-tenure evaluation development
- 2016-19 Faculty Mentor, Kevin Conway (Associate Professor)
- 2016-19 Faculty Mentor, Jessica Yorzinski (Assistant Professor)
- 2016 Chair, Departmental Strategic Plan revision
- 2016-17 Committee Member, Fish Ecologist Search
- 2004-13, 16-19 Committee Member, Promotion and Tenure Committee
- 2013-17 Committee Member, Legacy Committee
- 2012-17 Committee Member, WFSC Faculty Advisory Board
- 2013-16 Chair, Promotion and Tenure Committee
- 2001-07, 09-16 Committee Member, Undergraduate Affairs
- 2015 Committee Member, Application Selection, Applied Biodiversity Sciences Conservation Scholars Program
- 2015 Committee Member, Avian Wetland Ecologist Search
- 2014 Committee Member, Large Mammal Ecologist Search
- 2013-14 Analyst, within university and national departmental assessments through Academic Analytics software
- 2013-14 Contributing Developer, electronic tool for assessing Faculty Achievement Reports auto-linked to a Faculty Evaluation Matrix for use during annual evaluations

2012-14 Subcommittee Chair, Fisheries Undergraduate Curriculum Revision, Subcommittee of the WFSC Undergraduate Affairs Committee

2006-13 Faculty Mentor, Mariana Mateos (Assistant Professor)

2011-12 Committee Member, WFSC Department Head Search

2010-12 Faculty Mentor, Thom DeWitt (Associate Professor)

2009-10 Advisor, Graduate Student Departmental Seminar Series Committee

2008-10 Committee Member, Extension and Research Facilitation

2008-09 Committee Member, Support Staff Search

2007-08 Chair, Quantitative Ecologist Search

2004-07 Chair, Departmental Seminar Series

2005 Committee Member, Biocomplexity Scientist Search - *rescinded*

2005 Committee Member, Department Name Change

2004-05 Committee Member, Kleberg Chair Search

2004-05 Committee Member, Microbiologist Search (Soil and Crop Sciences)

1998-01 Committee Member, Graduate Program Enhancement Fund

College-level (COALS and Geosciences)

2017-19 Committee Member, College of Agriculture and Life Sciences Promotion and Tenure Committee

2013 Committee Participant, Graduate Program Council deliberations on implementation and impacts of Ecology and Evolutionary Biology Interdepartmental Ph.D. Degree Program

2010-11 Committee Member, Texas Sea Grant Director Search Committee

2008 Ex-officio Advisor, Agriculture Program Faculty Advisory Committee

2007 Chair, Agriculture Program Faculty Advisory Committee

2005 Chair, TAES Science Roadmap Attainment Indicators, Agriculture Program Faculty Advisory Subcommittee

2005-06 Committee Member, Agriculture Program Faculty Advisory Committee

2003 Committee Member, Association of Former Students Distinguished Teaching Awards

University-level

2015 Participant, TAMU Strategic Planning Forums: Message for Departmental Representatives: Primary obstacles that will inhibit attainment of objectives and thus vision, and opportunities on which to capitalize to achieve objectives and vision.

- 2010-11 Associate Chair, Ecology and Evolutionary Biology, Interdisciplinary Research Program
- 2008-11 Faculty Mentor, Colleague Circle Mentors Program
- 2009-11 Graduate Student Assessment Committee, Marine Biology Interdisciplinary Program
- 2009 Committee Chair, Bush Excellence Award for Faculty in Public Service
- 2008-11 Faculty Senator, Texas A&M University Faculty Senate
 - Legislative Affairs Committee (2008-2011)
 - International Programs Committee (2008-10)
 - Elections Committee (2008-09, 2010-2011)
- 2008 Committee Member, Bush Excellence Award for Faculty in Public Service

OTHER PROFESSIONAL SERVICE

Editorships (all listed previously)

- 2015-P Associate Editor, *Marine & Freshwater Research*, journal of the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia.
- 2012-17 Editorial Board, *Marine Science and Technology Bulletin*, published by Canakkale Onsekiz Mart University, Canakkale, Turkey.
- 2007-16 Associate Editor, *The American Naturalist*, journal of the American Society of Naturalists, University of Chicago, USA.

National Committee

- 2010-16 Member, National Harmful Algal Blooms Committee, USA. (listed previously)

Organized Symposia and Dedicated Journal Issues

- 2016-19 Guest Editor, special issue of *Estuarine, Coastal and Shelf Sciences*, "Coastal Systems in Transition from a natural to anthropogenically modified state" (2018, volume 211).
- 2012-13 Co-Organizer, session titled "Plankton Ecology-Phytoplankton", Association for the Sciences of Limnology and Oceanography, New Orleans (February, 2013).
- 2012-13 Co-Organizer of an international workshop, "Red Sea Center Research and Collaborations", workshop series supported through King Abdullah University of Science and Technology (KAUST), Saudi Arabia (May, 2013).
- 2011 Co-Organizer of an international workshop, "Ecosystem Modeling, Simulation and Assessment - Assessing Effects of Climate Change and Human Population Growth on Natural Living Resources: The Red Sea as a Model Case Study", workshop series supported through King Abdullah University of Science and Technology (KAUST), Saudi Arabia. College Station, TX, September.
- 2010-12 Lead-Organizer of a special issue of the *Canadian Journal of Fisheries and Aquatic Sciences* showcasing themed papers under the titled section "A new hydrology: inflow effects on ecosystem form and functioning" (2012, volume 69).

- 2010-11 Lead-Organizer of special session and Moderator, “A New Hydrology: Inflow effects on ecosystem form and functioning”, Annual Conference of the American Society of Limnology and Oceanography, Aquatic Sciences, San Juan, Puerto Rico. February.
- 2009-11 Lead-Organizer of a special issue of the *Journal of Plankton Research*, Oxford University Press, titled “Effects of inflow on harmful algal blooms” (2011, volume 33).
- 2009-09 Lead-Organizer of special session and Moderator, “Ecohydrology, eutrophication and salinization of aquatic systems, and the function and fate of phycotoxins”, 30th Annual Conference of the Society of Environmental Toxicology and Chemistry (SETAC), New Orleans, LA, USA. November.

HOST FOR VISITING SCIENTISTS

- 2011-12 Banu Kutlu. Assistant Professor. Department of Fisheries, Tunceli University, Tunceli, Turkey.
- 2005-06 Luzmila Sanchez. Research Scientist. Estación Hidrobiológica de Guayana, Fundación La Salle de Ciencias Naturales. (Guayana's Hydrobiological Station, Natural Resource Foundation).

OTHER PROFESSIONAL DEVELOPMENT

- 2019 Texas A&M University System Department Head Convening, offered by the Chancellor’s Office, Hilton College Station and Conference Center, June
- 2018-19 Advanced Agricultural Leadership Training (Cohort V), offered by the College of Agriculture and Life Sciences, Texas A&M University.
- 2016 Recruitment and retention for faculty diversity, search committee training, offered by the Office of the Dean of Faculties, February.
- 2016 Improving Departmental Climate through Evidence-Based Practices workshop, hosted by ADVANCE LEAD Program and The Office of the Dean of Faculties, January.
- 2013 Training on use of Academic Analytics for peer-institution analyses.
- 2012 Faculty Development Leave (Sabbatical) with the University of Technology, Sidney (Australia) and University of the Aegean (Greece).
- 2009 Integrative Learning Workshop, Texas A&M University, Student Affairs and Academic Affairs, April.
- 2009 Issues in Creating Equity for Faculty, Joint meeting of the Texas A&M and University of Texas Faculty Senates, Austin, TX, USA.
- 2009 Faculty Professional Development Series, Is This the Right Time or Not? Preparing for Promotion to Full Professor. Texas A&M University, TX, USA.
- 2006 Faculty Development Leave (Sabbatical) with the US Environmental Protection Agency, Western Ecology Division, Hatfield Marine Science Center, OR, USA.

- 2003 Developed a Teaching Portfolio through the Texas A&M University Office of Teaching Excellence, TX, USA.
- 2002 Training on use of WebCT for distance education delivery.
- 1993 Certificate of Flow and Imaging Cytometry. Bigelow Laboratory for Ocean Sciences, Boothbay Harbor, ME, USA.
- 1988 Licensed for Scuba Diving. Y.M.C.A., Millersville, PA, USA.