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# Education:

1977	Ph.D. in Geology, University of South Carolina, Columbia, SC
1972	M.S. in Geological Oceanography, Texas A&M University, College Station, TX
1970	B.A. in Geology, University of New Hampshire, Durham, NH

#### **Academic Positions:**

# Boston University

Assistant-Associate-Professor of Earth Sciences	1977- Present
Director of Undergraduate Studies of Earth Sciences	1993-1996
Chairman, Department of Geology	1982-1987
Acting Chairman, Department of Earth Sciences	1981(sum), 1995

# Adjunct Positions

Graduate Faculty, Department of Geological Sciences,	2001- 2007
University of Maine	
Graduate Faculty, Department of Earth and Environmental	2004- Present
Sciences, University of New Orleans	

#### Sabbaticals

Dept. of Geology, Dalhousie University, Halifax, Nova Scotia	1985
Dept. of Earth and Environ. Sciences, University of New Orleans, LA	2010

# **Professional Societies and Offices:**

Geological Society of America Society of Economic Paleontologists and Mineralogists	
President, Coastal Sedimentary Research Group,	1989-1990
Society of Economic Paleontologists and Mineralogists, Eastern	
President	1988/1989
Vice President	1987/1988
International Association of Sedimentologists	
International Geological Correlations Programme (IGCP)	
Project No. 247: Quaternary Shorelines	1989-1995
National Undersea Research Center, Southeast Coordinator	1987-1989
Editorial Board: Journal of Coastal Research	
Associate Editor	1994-Present
Geological Society of America Grants Committee Member	1997-1999
Geological Society of America, NE Section Council Committee Member	1998-2001
Louisiana Gulf Shoreline Restoration Science Advisory Board	2002-2006
Chairman, Science Review Committee, Pontchartrain Restoration	
Program, Louisiana	2005-2008
Fellow of the Geological Society of America	2006
Science Advisor for Oiling of Sandy Beaches, Macado Oil Spill	2010-

#### **PUBLICATIONS:**

#### **Books and Edited Special Issues**

- FitzGerald, D.M., and Reed, D.J., (editors) 2009, Geologic and Environmental dynamics of the Pontchartrain Basin. *Journal of Coastal Research*. SI #54, 263 p.
- FitzGerald, D.M., and Knight, J., (editors), 2005, *High Resolution Morphodynamics and Sedimentary Evolution of Estuaries*, Springer, New York. 365 p.
- Davis, R.A. and FitzGerald, D.M., 2004, Beaches and Coasts, Blackwell Science, Oxford, England. 419 p.
- FitzGerald, D.M., and Rosen, P.S. (editors), 1987, *Glaciated Coasts*, Academic Press, London, England. 364 p.

#### Refereed Journal Articles and Book Chapters (\* denotes student advisee)

- \*Wilson, C., Hughes, Z.J., FitzGerald, D.M., Hopkinson, C.S., Valentine, V.J., Kolker, A.S., 2014, Marsh pool and tidal creek morphodynamics: dynamic equilibrium of northern saltmarshes?, *Geomorphology*, (in press).
- \*Susana Costas, Pedro Brito, Duncan FitzGerald, Ronald Goble, 2014, Climate-driven alternations of dune mobilization and barrier growth along the central coast of Portugal. In: I. Peter Martini (ed.), Sedimentary Coastal Zones from High to Low Latitudes: Similarities and Differences. *The Geological Society of London Special Publications* (in press).
- \*Hein, C.J., FitzGerald, D.M., Buynevich, I.V., van Heteren, S., Kelley, J.T., 2014, River-associated coasts: Barrier formation along the Gulf of Maine, In: I. Peter Martini (ed.), Sedimentary Coastal Zones from High to Low Latitudes: Similarities and Differences. The Geological Society of London Special Publications (in press).
- \*Hein, C.J., FitzGerald, D.M., Cleary, W.J., Klein, A.H.F., de Menezes, J.T., Albernaz, M.B., 2014, Coastal response to late-stage transgression and sea-level highstand, *Geological Society of America Bulletin*. (in press).
- \*Hein, C.J., FitzGerald, D.M., Barnhardt, W.A., Stone, B.D., 2013, Onshore-offshore surficial geologic map of the Newburyport East and northern half of the Ipswich Quadrangles, Massachusetts, Massachusetts Geological Survey, Geologic Map GM 13-01, 3 sheets.
- \*Hein, C.J., FitzGerald, D.M., Cleary, W.J., Albernaz, M.B.\*, de Menezes, J.T., Klein, A.H.F., 2013, Geophysical examination of an embayed Brazilian strandplain system: implications for complex coastal response to environmental change, *Sedimentology*, v. 60, p. 469-502.
- Hayes, M.O., and FitzGerald, D.M., 2013, Origin, Evolution, and Classification of Tidal Inlets with Duncan FitzGerald in Proceedings, Symposium in Applied Coastal Geomorphology to Honor Miles O. Hayes, Journal of Coastal Research, Special Issue No. 69, 14–33.
- FitzGerald, D.M., and Miner, D.D, 2013, Tidal Inlets and Lagoons along Siliciclastic Barrier Coasts, *Barrier Systems*, In: Sherman, D., (ed), *Treatise in Geomorphology, Volume 10.11: Coastal Geomorphology*, Elsevier (in press).
- FitzGerald, D.M. and Hein, C.J., 2013, Barriers of the Gulf of Alaska, In: Mcbride, R.A., et al., *Barrier Systems*, In: Sherman, D., (ed), *Treatise in Geomorphology*, V. X: Coastal Geomorphology, Elsevier (in press).
- Fagherazzi S., FitzGerald D.M., Fulweiler R.W., Hughes Z., Wiberg P.L., McGlathery K.J., Morris J.T., Tolhurst T.J., Deegan L.A., and Johnson D.S. 2013, Ecogeomorphology of Tidal Flats. In: John F. Shroder (ed.) *Treatise on Geomorphology*, Volume 12, pp. 201-220. San Diego: Academic Press.
- Fagherazzi S., FitzGerald D.M., Fulweiler R.W., Hughes Z., Wiberg P.L., McGlathery K.J., Morris J.T., Tolhurst T.J., Deegan L.A., and Johnson D.S. 2013, Ecogeomorphology of Salt Marshes. In: John F. Shroder (ed.) *Treatise on Geomorphology*, Volume 12, pp. 182-200. San Diego: Academic Press.

- Priestas, A.M., Fagherazzi, S., Wilson, C.A., and FitzGerald, D.M., 2012. Rapid wetland expansion during European settlement and implication for marsh survival under modern sediment delivery rates, Comment. *Geology* 40, e284-e285.
- \*Hein, C.J., FitzGerald, D.M., Carruthers, E.A.\*, Stone, B.D., Gontz, A.M., Barnhardt, W.A., 2012, Refining the model of barrier island formation along a paraglacial coast in the Gulf of Maine, *Marine Geology*, v. 307-310, p. 40-57.
- FitzGerald, D.M., Buynevich, I.V., and Hein, C.J., 2012, Morphodynamics and facies architecture of tidal inlets and tidal deltas, In: Davis, R.A., and Dalrymple, R.W. (eds.), Principles of tidal sedimentology, Springer, New York. Chapter 12, p. 301-333.
- \* Wilson, C.A., Hughes, Z.J., FitzGerald, D.M., 2012, The effects of crab bioturbation on mid-atlantic saltmarsh tidal creek extension: Geotechnical and geochemical changes, *Estuarine*, *Coastal and Shelf Science*, doi: 10.1016/j.ecss.2012.04.019.
- Klein, A.H.F., and Hein, **C.J.**, FitzGerald, D.M., Cleary, WJ., and de Menezes, J.T., 2012, The barrier systems of the Santa Catarina Coast, southeastern Brazil: A short review, In: Mcbride, R.A., et al., *Barrier Systems,* In: Sherman, D., (ed), *Treatise in Geomorphology, V. X: Coastal Geomorphology*, Elsevier.
- \*Costas S. and FitzGerald, D.M., 2011, Sedimentary architecture of a spit-end (Salisbury Beach, Massachusetts): the imprints of sea-level rise and inlet dynamics, Marine Geology, v. 284, p. 203-216.
- \*Hein, C.J., FitzGerald, D.M., Milne, G.A., Bard, K.A., and Fattovich, R., 2011, The road to Punt: Mid- to Late-Holocene sea level and climate changes along the African Red Sea coast and their impacts on an ancient Egyptian trade port, *Geology*, v. 39, p. 687-690.
- \*Argow, B.A., Hughes, Z.J., and FitzGerald, D.M., 2011, Ice raft formation, sediment load, and theoretical potential for northern coastal wetlands, Continental Shelf Research, v. 31, p. 1294-1305.
- Buynevich, I.V., Klein, A. H. F., FitzGerald, D.M., Cleary, W.J., Hein, C.J., Veiga, F.A., Angulo, R.J., Asp, N.E., Petermann, R., 2011, Geological legacy of storm erosion along a high-energy indented coastline: northern Santa Catarina, Brazil, Journal of Coastal Research, SI 64, p. 1840-1844.
- \*Howes, N.C., FitzGerald, D.M., Hughes, Z.J., Georgioub, I.J., Kulp, M.A., Miner, M.D., Smith, J.M., and Barras, J.M., 2010, Hurricane-induced failure of low salinity wetlands, Proceedings of the National Academy of Sciences. v. 107 no. 32, p.14014-14019. doi: 10.1073/pnas.0914582107.
- \*Miner, M.D., Kulp, M.A., FitzGerald, D.M., Flocks, J.G., and Weathers, H.D., 2009, Delta lobe degradation and hurricane impacts governing large-scale coastal behavior; South Central Louisiana, USA *Geo-Marine Letters*, DOI 10.1007/s00367-009-0156-4.
- \*Miner, M.D., Kulp, M.A., FitzGerald, D.M., and Georgiou, I.Y., 2009, Hurricane-associated ebb-tidal delta sediment dynamics: *Geology*, v. 37, no. 9, p. 851-854, doi: 10.1130/G25466A.1.
- \*Hughes, Z.J., FitzGerald, D.M., Wilson, C.A., Pennings, S.C., Więski, K., and Mahadevan, A., 2009, Rapid headward erosion of marsh creeks in response to relative sea level rise, *Geophysical Research Letters*, doi:10.1029/2008GL036000.
- Heerden, I.L., Kemp, P., Bea, R., Shaffer, G., Day, J., Morris, C., FitzGerald, D., and Milanes, A., 2009, How a Navigation Channel Contributed to Most of the Flooding of New Orleans During Hurricane Katrina, *Public Organization Review*, v. 9, p. 291-308. DOI 10.1007/s11115-009-0093-8.
- Rosen, P.S., FitzGerald, D.M., and Buynevich, I.V., 2009, Balancing natural processes and competing uses on a transgressive barrier, Duxbury Beach, Massachusetts, in: Kelley, J.T., Pilkey, O.H., and Cooper, A. Identifying America's most vulnerable oceanfront communities: A geological perspective, *Geological Society of America Special Paper* 460, p. 21-32.
- \*Buynevich, I.V., Jol, H.M., and FitzGerald, D.M., 2009, Coastal Environments. in: Jol, H.M. (ed.), GPR: Radar Theory and Applications. Elsevier, 299-322.
- FitzGerald, D.M., Fenster, M.S., Argow, B., and Buynevich, I.V., 2008, Coastal impacts due to sea-level rise. *Annual Review of Earth & Planetary Sciences*, v. 36, p. 601-667. doi/pdf/10.1146/annurev.earth.35.031306.140139

- \*Whitmeyer, S.J., and FitzGerald, 2008, Episodic dynamics of a sand wave field, *Marine Geology*, v. 252, p.24-37.
- \*Buonaiuto, F.S., Bokuniewicz, H., FitzGerald, D.M., 2008, Principal Component Analysis of Morphology Change at a Tidal Inlet: Shinnecock Inlet, NY, *Journal of Coastal Research*, v. 25, p. 867-875.
- \*Buynevich, I.V., FitzGerald, D.M., and Ronald J. Goble, 2007, An increase in North Atlantic storm activity over the past 500 years: Evidence from optically dated relict beach scarps, *Geology*, v. 35, p. 543-546.
- \*Tary, A.K., FitzGerald, D.M., and Weddle, T.K., 2007, A ground penetrating radar investigation of a glacial-marine ice-contact delta, Pineo ridge, eastern coastal Maine, in: Jol, H.M. and Baker, G.R. (eds.) Advances in Stratigraphic Analyses using GPR, *Geological Society of America Special Paper* #432, p. 79-93.
- FitzGerald, D.M., Cleary, W.J., Buynevich, I.V., Hein, C.J., Klein, A.H.F., Asp, N., and Angulo, R., 2007, Strandplain evolution along the southern coast of Santa Catarina, Brazil, *Journal of Coastal Research*, SI v. 50, p. 152-156.
- \*Argow, B., and FitzGerald, D.M., 2006, Winter processes on northern salt marshes: evaluating the impact of in-situ peat compaction due to ice loading, Wells, ME, *Estuarine, Coastal and Shelf Science*, v. 69, p. 360-369.
- Flocks, J., Ferina, N. Dreher, C., Kindinger, J., and FitzGerald, D.M., Kulp, M., 2006, High resolution stratigraphy of a recent delta lobe Progradation: north-central Gulf of Mexico. *Journal of Sedimentary Research*, v. 76, p. 429-443.
- \*Fenster, M.S., FitzGerald, D.M., and Moore, M.S., 2006, Assessing Decadal Scale Changes to a Giant Sand Wave Field in Eastern Long Island Sound, *Geology*, v. 34, p. 89-92.
- \*Himmelstoss, E.A., FitzGerald, D.M., Rosen, P.S., and Allen, J.R., 2006, Bluff evolution along coastal drumlins: Boston Harbor Islands, Massachusetts, *Journal of Coastal Research* v. 22, p. 1230-1240.
- FitzGerald, D.M., Buynevich, I.V., and Argow, B., 2006, Model of tidal inlet and barrier island dynamics in a regime of accelerated sea-level rise. *Journal of Coastal Research*, SI 39, 789-795.
- Georgiou, I., FitzGerald, D.M., and Stone, G.W., 2005, Impact of physical processes along the Louisiana coast, *Journal of Coastal Research*, Special Issue 44, p. 57-72.
- \*Buynevich, I.V., and FitzGerald, D.M., 2005, Sedimentological signatures of riverine-dominated phases in estuarine and barrier evolution along an embayed coastline, *in*: FitzGerald, D.M., and Knight, J. (eds.) *High Resolution Morphodynamics and Sedimentary Evolution of Estuaries*, Springer, New York, p. 315-334.
- FitzGerald, D.M., \*Buynevich, I.V., \*Fenster, M.S., Kelley, J.T., and Belknap, D.F., 2005, Coarse-grained sediment transport in northern New England Estuaries: A synthesis, *in*: FitzGerald, D.M., and Knight, J. (eds.) *High Resolution Morphodynamics and Sedimentary Evolution of Estuaries*, Springer, New York, p. 195-214.
- \*Fenster, M.S., FitzGerald D.M., Belknap, D.F., Knisley, B.A., Gontz A, and Buynevich I.V., 2005, Controls on estuarine sediment dynamics in Merrymeeting Bay, Kennebec River estuary, Maine, U.S.A., in: FitzGerald, D.M., and Knight, J. (eds.) *High Resolution Morphodynamics and Sedimentary Evolution of Estuaries*, Springer, New York, p. 173-194.
- \*Pendleton, E.A, and FitzGerald, D.M., 2005, Comparison of the hydrodynamic character of three tidal inlet systems, in: FitzGerald, D.M., and Knight, J. (eds.) *High Resolution Morphodynamics and Sedimentary Evolution of Estuaries*, Springer, New York, p. 83-100.
- Kelley, J.T., Barber, D.C., Belknap, D.F., FitzGerald, D.F., \*van Heteren, S., and Dickson, S.M., 2005, Sand budgets at geological historical, and contemporary time scales for a developed beach system, Saco Bay, Maine, USA, *Marine Geology*, v. 214, p. 117-142.

- Kulp, M., FitzGerald, D.M., and Penland, S., 2005, Sand sequestration within parasequences and along Paleo-shorelines of the Holocene Mississippi River delta plain. in: Bhattacharya, J., and Giosan, L. (eds.) Morpho-sedimentary evolution of deltas, SEPM Special Publication, Spec, Pub. 83, p. 321-353.
- FitzGerald, D.M., Kulp, M., Penland, P., Flocks, J., and Kindinger, J., 2004, Morphologic and Stratigraphic Evolution of Ebb-Tidal Deltas along a Subsiding Coast: Barataria Bay, Mississippi River Delta, *Sedimentology*, v. 15, p. 1125-1148.
- \*Buynevich, I.V., and FitzGerald, D.M., 2004, Sedimentological signatures of intense storms in barrier sequences, Maine, USA. in: Stone, G. and Orford, J. (eds.) Storms and their Significance in Coastal Morpho-Sedimentary Dynamics, *Marine Geology* v. 210, p. 135-148.
- Kulp, M., FitzGerald, D.M., Penland, S., Motti, J., Brown, M., Flocks, J., Miner, M., and Mobley, C., 2004, Facies architecture of a flood-tidal delta along a highly transgressive coast: Raccoon Pass, Timbalier Islands Louisiana. *Journal of Coastal Research*. SI 39, p. 346-358.
- \*Dougherty, A.J., FitzGerald, D.M., and \*Buynevich, I.V., 2004, Evidence for storm-dominated early progradation of Castle Neck barrier, Massachusetts, USA. *in*: Stone, G. and Orford, J. (eds.) Storms and their Significance in Coastal Morpho-Sedimentary Dynamics, Special Issue, *Marine Geology*, v. 210, p. 123-134.
- FitzGerald, D.M., Zarillo, G.A., and \*Johnston, S., 2003, Recent developments in the geomorphic investigation of engineered tidal inlets, *Coastal Engineering Journal*, v. 45, p. 565-600.
- Cleary, W.J. and FitzGerald, D.M., 2003, Tidal inlet response to natural sedimentation processes and dredging-induced tidal prism changes: Mason Inlet, North Carolina, *Journal of Coastal Research*, v. 19, p. 1018-1015.
- \*Buynevich, I.V. and FitzGerald, D.M., 2003, High-resolution subsurface (GPR) imaging and sedimentology of coastal ponds, Maine, U.S.A.: Implications for Holocene backbarrier evolution, *Journal of Sedimentary Research*, v. 73, p. 559-571.
- \*Buynevich, I.V., and FitzGerald, D.M., 2003, Textural and compositional characterization of recent sediments along a paraglacial estuarine coastline, Maine, U.S.A. *Estuarine, Coastal, and Shelf Science*, v.56, p. 139-153.
- FitzGerald, D.M., and \*Pendleton, E., 2002, Inlet Formation and Evolution of the Sediment Bypassing System: New Inlet, Cape Cod, Massachusetts. *Journal of Coastal Research*, v. 36. p. 290-299.
- \*Buynevich, I.V. and FitzGerald, D.M., 2002, Organic-Rich Facies in Paraglacial Barrier Lithosomes of Northern New England: Preservation and Paleoenvironmental Significance. *Journal of Coastal Research*, v. 36., p. 109-117.
- FitzGerald, D.M., \*Buynevich, I.V., Davis, R.A., Jr. and \*Fenster, M.S., 2002, New England Tidal Inlets with Special Reference to Riverine Associated Inlet Systems. *Geomorphology*, v. 48 p. 179-208.
- \*Fenster, M.S., FitzGerald, D.M., Kelley, J.T., Belknap, D.F., \*Buynevich, I.V., Dickson, S.M., 2001, Net ebb sediment transport in a rock-bound, mesotidal estuary during spring freshet conditions: Kennebec River Estuary, Maine, USA, *Geological Society of America Bulletin*, v 113, p. 1522-1531.
- \*Tary, A.K., FitzGerald, D.M., and \*Buynevich, I.V., 2001, Late Quaternary evolution of a marine-limit delta plain, southwest Maine, *in*: Weddle, T.K. and Retelle, M.J., (eds.) Deglacial History and Relative Sea Level Changes, Northern New England and Adjacent Canada, Geological Society of America Special Publication 351, p. 125-149.
- \*Buynevich, I.V. and FitzGerald, D.M., 2001, Styles of coastal progradation revealed in subsurface records of paraglacial barriers, New England, USA., *Journal of Coastal Research*, Special Issue, Special Issue # 34, Healy, T., (ed.), p. 194-208.

- FitzGerald, D.M, \*Buynevich, I.V. and Rosen, P.S., 2001, Historical and geological evidence of former tidal inlets along a retrograding barrier: Duxbury Beach, Massachusetts, USA, *Journal of Coastal Research*, Special Issue # 34, Healy, T., (ed.), p. 437-448.
- \*Buynevich, I.V., FitzGerald, D.M., Smith. L.B., Jr. and \*Dougherty, A.J., 2001, Stratigraphic evidence for the historical position of the East Cambridge shoreline, Boston Harbor, Massachusetts. *Journal of Coastal Research*, v. 17, p.620-624.
- FitzGerald, D.M., \*Buynevich, I.V., \*Fenster, M.S., and \*McKinlay, P.A., 2000, Sand dynamics at the mouth of a rock-bound, tide-dominated estuary, *Sedimentary Geology*, v. 131, p. 25-9.
- FitzGerald, D., and \*van Heteren, S., 1999, Classification of paraglacial barrier systems: coastal New England, U.S.A., *Sedimentology*, v. 46, p. 1083-1108.
- \*van Heteren, FitzGerald, D.M., \*McKinlay, P.A., and \*Buynevich, I.V., 1998, Radar facies of paraglacial barrier systems: Coastal New England, U.S.A., *Sedimentology*, v. 45, p. 181-200.
- FitzGerald, D.M., 1996, Geomorphic variability and morphologic and sedimentologic controls on tidal inlets, *Journal of Coastal Research*, Spec Issue #23, p. 47-71.
- \*van Heteren, S., FitzGerald, D.M., Barber, D.C., Kelley, J.T., and Belknap, D.F., 1996, Volumetric analysis of a New England barrier system using ground-penetrating radar and coring techniques, *Journal of Geology*, v. 104, p. 471-483.
- \*Fenster, M.S., and FitzGerald, D.M., 1996, Morphodynamics, stratigraphy, and sediment transport patterns of the Kennebec River estuary, Maine, USA, *Sedimentary Geology.*, v. 100, p. 123-145.
- Caldwell, D.W., and FitzGerald, D.M., 1995, Origin of lake outlet deltas in Maine, *Sedimentary Geology*, v. 99, p. 95-110.
- FitzGerald, D.M., Rosen, P.S., and \*van Heteren, S., 1994, New England Barriers, *in*: Davis, R.A. (ed.), *Geology of Holocene Barrier Island Systems*, Springer-Verlag, Berlin, Chap. 8, p. 305-394.
- FitzGerald, D.M., \*van Heteren, S., and \*Montello, T, 1994, Shoreline processes and damage resulting from the Halloween Eve Storm along the North and South Shores of Massachusetts Bay, U.S.A., *Journal of Coastal Research*, v. 10, p. 113-132.
- FitzGerald, D.M., \*van Heteren, S., \*McKinlay, P., and Manthorp, P.A., Humphrey, S., 1994, Investigation of former tidelands in Lynn, MA. *Coastal Management*, v. 22, p. 353-367.
- \*Smith, J.B., and FitzGerald, D.M., 1994, Sediment transport patterns at the Essex River Inlet ebb tidal delta, Massachusetts, U.S.A., *Journal of Coastal Research*, v. 10, p. 752-774.
- FitzGerald, D.M., 1993, Origin and stability if tidal inlets in Massachusetts, *in*: Aubrey, D.G., and Giese, G.S., (eds.), *Formation and Evolution of Multiple Tidal Inlet Systems*, AGI, p. 1-61.
- FitzGerald, D.M., and \*Montello, T.M., 1993, Backbarrier and inlet sediment response to the breaching of Nauset Spit and formation of New Inlet, Cape Cod, MA, *in*: Aubrey, D.G., and Giese, G.S., (eds.), *Formation and Evolution of Multiple Tidal Inlet Systems*, AGI, p. 158-185.
- FitzGerald, D.M., Baldwin, C.T., \*Ibrahim, N.A., and Humphries, S.M., 1992, Sedimentologic and Morphologic Evolution of a Beach Ridge Barrier Along an Indented Coast: Buzzards Bay, MA, in: Fletcher, C. and Wehmiller, J. (eds.), *U.S. Quaternary Coastal Systems*, SEPM Spec. Pub, p. 65-75.
- \*Hill, M.C., and FitzGerald, D.M., 1992, Evolution and Holocene Stratigraphy of Plymouth, Kingston, and Duxbury Bays, MA, in: Fletcher, C.H. and Wehmiller, J.F. (eds.), *U.S. Quaternary Coastal Systems*, SEPM Spec. Pub. p. 45-56.
- \*Fenster, M.S., FitzGerald, D.M., Bohlen, W.F., Lewis, R.S., and Baldwin, C.T., 1990. Stability of giant sand waves in Eastern Long Island Sound. *Marine Geology*, v.91, p. 207-225.
- \*Lincoln, J. M, and FitzGerald, D. M., 1988, Tidal distortions and flood dominance at five small tidal inlets in southern Maine, *Marine Geology*, v. 82, p. 133-148.
- FitzGerald, D.M., 1988, Shoreline erosional-depositional processes associated with tidal inlets, *in*: Aubrey, D.G., and Weishar, L. (eds.), *Hydrodynamics and Sediment Dynamics of Tidal Inlets*, Springer-Verlag, New York, 269-283.

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- FitzGerald, D. M., and Penland, S., 1987, Backbarrier dynamics of the East Friesian Islands, *Journal of Sedimentary Petrology*, v. 57, p. 746-754.
- FitzGerald, D. M., Penland, S., and Nummedal, D., 1984, Control of barrier island shape by inlet sediment bypassing: East Friesian Islands, West Germany, *Marine Geology*, v. 60, p. 355-376.
- FitzGerald, D. M., 1984, Interactions between the ebb-tidal delta and landward shoreline, Price Inlet, South Carolina: *Journal of Sedimentary Petrology*, v. 54, p. 1301-1316.
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# Additional Publications (articles, invited editorials and commentary, reviews, encyclopedia entries)

- Georgiou, I.Y., Hughes, Z., Weathers, H.D., Kulp, M.A., FitzGerald, D.M., 2012. Barrier Shoreline Morphology Model, in: Louisiana Comprehensive Master Plan 2012 for a sustainable Coast, Coastal Protection and Restoration Authority, 37 pp.
- Hein, C.J., FitzGerald, D., Stone, B.D., Carruthers, E.A., and Gontz, A.M., 2011, The role of backbarrier infilling in the formation of barrier island systems, In: Kraus, N.C., and Rosati, J.D. (Eds), *Coastal Sediments '11,* Proceedings of the 8th International Symposium on Coastal Engineering and Science of Coastal Sediment Processes, Miami, FL.
- Hein, C.J., FitzGerald, D.M., Barnhardt, W.A., Stone, B.D., 2010, *Onshore-offshore surficial geologic map of the Newburyport East Quadrangle, Massachusetts*, StateMap Preliminary Map, 1 sheet.
- Hein, C.J., and FitzGerald, D.M., 2009, Documenting sand and gravel resources on the inner continental shelf: Merrimack Embayment, New England, US Minerals Management Service, 83 p.
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- \*van Heteren, S., FitzGerald, D.M., \*Montello, T.M., and Fink, L.K., 1992, Stratigraphy and inferred development of the Scarborough barrier, Maine., GSA Northeastern Section Abstracts with Programs, v. 24, p. 82.
- \*Montello, T.M., FitzGerald, D.M., \*van Heteren, S. and Caldwell, D.W., 1992, The stratigraphy and evolution of the Wells barrier system, Maine, , GSA Northeastern Section Abstracts with Programs, v. 24, p. 64.
- \*Mariano, C.G., and FitzGerald, 1991, Wave-current interaction at Wells Inlet, Maine, A.C.S.E. Coastal Sediments `91, Abstracts with Programs p. 8.

- \*Smith, J.B., and FitzGerald, D.M., 1991, Hydrodynamics, sedimentology, and stratigraphy of a mixed energy, tide-dominated ebb-tidal delta: Essex Inlet, MA., GSA Northeastern Section Abstracts with Programs, v. 23, p. 130.
- Fink, L.K., and FitzGerald, D.M., 1990, Origin and Holocene evolution of swash aligned barriers in midcoast Maine, , GSA Northeastern Section Abstracts with Programs, v. 22, p. 15.
- \*Fenster, M.S., FitzGerald, D.M., and Lewis, R.S., 1990, Seismic facies of Holocene sediments in Eastern Long Island Sound, , GSA Northeastern Section Abstracts with Programs, v. 22, p. 15.
- FitzGerald, D.M., 1989, Tidal range control of barrier island length and coastal features along the coasts of New Jersey and the Delmarva Peninsula, , GSA Northeastern Section Abstracts with Programs, v. 21, p. 14.
- \*Hill, M.C., FitzGerald, D.M., and Baldwin, C.T., 1988, Plymouth, Kingston, and Duxbury Bays, MA: a long-term sediment sink, GSA Northeastern Section Abstracts with Programs, v. 20, p. 27.
- \*Fenster, M.S., FitzGerald, D.M., Lewis, R.S., Freile, D., and Baldwin, C.T., 1988, Sandwave morphology and migration in Eastern Long Island Sound, GSA Northeastern Section Abstracts with Programs, v. 20, p. 18.
- \*Goldschmidt, P.M., FitzGerald, D.M., and Fink, L.K., 1988, Inlet channel migrations and associated sediment dynamics: Popham Beach, Maine, GSA Northeastern Section Abstracts with Programs, v. 20, p. 22-23.
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- \*Coffin, C. A., FitzGerald, D. M., Baldwin, C. T., and Lewis, R. S., 1987, Origin, reworking and morphology of Holocene deposits and Long Sand Shoal, Long Island Sound, GSA Northeastern Section Abstracts with Programs, v. 19, p. 9.
- \*Fenster, M. S., FitzGerald, D. M., and Baldwin, C. T., 1987, Bedform hierarchy of the Lower Kennebec River Estuary, Maine, GSA Northeastern Section Abstracts with Programs, v. 19, p. 13.
- \*Fish, C. B., FitzGerald, D. M., Caldwell, D. W., and Baldwin, C. T., 1987, Colliforms in Marine embayments: concentration related to a circulation model, Buttermilk Bay, Massachusetts, GSA Northeastern Section Abstracts with Programs, v. 19, p. 15.
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- FitzGerald, D. M., and Fink, L. K., 1986, Sand circulation of the mouth of the Kennebec River, ME, GSA Northeastern Section Abstracts with Programs, v. 18, p. 17.
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- FitzGerald, D. M., and Penland, S., 1986, Factors controlling the historical development of the tidal flats and creeks in the East Friesian Islands, SEPM Abstracts with Programs, v. 3, p. 37.
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- FitzGerald, D. M., Fink, L. K., Fenster, M. S., Baldwin, C. T., and Goldschmidt, P., 1986, Sedimentation processes at the mouth of a tidally-dominated estuary: Kennebec River, Maine, Abstracts with Programs, Hydrodynamics and Sediment Dynamics of Tidal Inlets, Woods Hole Ocn. Inst. and U.S. Army Corps of Eng. Tidal Inlet Meeting, p. 24.

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- FitzGerald, D. M., \*Barker, C. F., \*Lincoln, J., and Fink, L. K., 1985, Tidal hydraulics of Scarboro River Inlet, Maine, GSA Northeastern Section Abstracts with Programs, v. 17, p. 19.
- Caldwell, D. W., Bartholomae, G., FitzGerald, D. M., and Belknap, D., 1985, Pleistocene and Holocene sedimentation in Lobster Lake, north central Maine, GSA Northeastern Section Abstracts with Programs, v. 17, p. 9.
- FitzGerald, D. M., \*Lincoln, J., and Fink, L. K., 1984, Hydraulic character of Maine's tidal inlets, in: GSA Northeastern Section Abstracts with Programs, v. 16, p. 16.
- \*Sands, D. R., and FitzGerald, D. M., 1983, Morphology, hydraulics and sediment transport patterns at Slocum River Inlet: Buzzards Bay, MA, GSA Northeastern Section Abstracts with Programs, v. 15, p. 182.
- \*Lincoln, J., FitzGerald, D. M., and Fink, L. K., 1983, Morphodynamics of Maine's tidal inlet systems, GSA Northeastern Section Abstracts with Programs, v. 15, p. 193.
- Fink, L. K., FitzGerald, D. M., and \*Lincoln, J., 1983, Relationship between inlet processed and spit morphology along the Maine coast, GSA Northeastern Section Abs. with Programs, v. 15, p. 173.
- FitzGerald, D. M., Nummedal, D., and Penland, S., 1983, Backbarrier dynamics of the East Friesian Islands: Amer. Geophysical Union Trans., v. 64, p. 1044.
- Penland, S., Nummedal, D. and FitzGerald, D.M.,1982, Tidal inlet morphodynamics in a high energy mesotidal environment: East Friesian Island, West Germany, Amer. Geophysical Union Trans., v. 59, p. 1128.
- FitzGerald, D. M., 1982, Relationships among barrier island sedimentation trends, tidal inlet processes and backbarrier evolution, GSA Northeastern Section Abstracts with Programs, v. 15, p. 17.
- \*Magee, A.D. and FitzGerald, D.M., 1982, Investigation of shoaling problems at Westport River Inlet, Westport, MA, GSA Northeastern Section Abstracts with Programs, v. 14, p. 37.
- Halsey, S.D., FitzGerald, D.M., and Mauriello, M.N.,1982, Comparison of downdrift offset inlets along barrier island chains: New Jersey (developed) and Delmarva Peninsula (natural), GSA Northeast-Southeastern Section Abstracts with Programs, v. 14, p. 22.
- FitzGerald, D.M., Penland, S., and Nummedal, D., 1982, Tidal inlet control of East Friesian Island morphology, 11<sup>th</sup> International Assoc. of Sedimentologists Conference, Hamilton, Ontario, Abstracts with Programs, p. 163.
- Caldwell, D. W., Chormann, J., and FitzGerald, D.M.,1981, The origin of reverse deltas in Maine, GSA Northeastern Section Abstracts with Programs, v. 12, p. 125.
- FitzGerald, D.M., 1980, Storm generated sediment transport patterns Winthrop and Yirrell Beaches: Winthrop, MA, GSA Northeastern Section Abstracts with Programs, v. 12, p. 36.
- \*Levin, D.R. and FitzGerald, D,M.,1980, Morphology and sediment transport patterns at Pamet River Inlet: Truro, MA, GSA Northeastern Section Abstracts with Programs, v. 12, p. 69.
- FitzGerald, D.M., and Nummedal, D.,1980, Stratigraphy of ebb-tidal deltas and its relationship to tidal inlet processes, AAPG-SEPM Abstracts with Programs v. 23, p. 53.
- FitzGerald, D.M., 1979, Accretionary shoreline processes at tidal inlets along the South Carolina coast, AAPG-SEPM Abstracts with Programs v.22, p. 87.
- Nummedal, D., Humphries, S.M., Finley, R., and FitzGerald, D.M.,1977, Hydraulic characteristics of mesotidal inlets in South Carolina, GSA Abstracts with Programs, v.18, p. 217.
- Nummedal, D., FitzGerald, D.M., and Humphries, S.M.,1976, Hydraulics of sediment transportation in meso-tidal inlets, GSA Northeast-Southeastern Section Abstracts with Programs, v. 17, p. 34.
- Hubbard, D.K., Ward, L.G., and FitzGerald, D.M., 1976, Reef morphology and sediment transport: Lucaya, Grand Bahama Island, AAPG-SEPM Abstracts with Programs, v. 19, p. 21.

- FitzGerald, D.M., Nummedal, D., and Kana, T., 1976, Sediment transport patterns at Price Inlet, SC, Abstract with Programs. Coastal Engineering, Amer. Soc. of Civil Engineers, Honolulu, HA p. 452.
- Hayes, M. O., Hulmes, L.H., FitzGerald, D.M., and Wilson, S.,1976, Geomorphology of Kiawah Island, SC, GSA Northeast-Southeastern Section Abstracts with Programs, v. 16, p. 34.
- Brown, P.J., Stephen, M., and FitzGerald, D.M., 1975, Variations in South Carolina Barrier Island morphology, in: Abstracts with Programs, Geol. Soc. of Amer., Southeast Meeting, v. 15.
- Hayes, M. O., Ray, P., Hubbard, D.K., and FitzGerald, D.M., 1973, Urbanization as a cause of accelerated beach erosion, GSA Abstracts with Programs, v.18, p. 217.

#### Invited Talks

- 2013 "Interactions among backbarrier marshes, sediment availability, tidal prism, and tidal inlet and barrier sand reservoirs, as they relate to SLR," Penrose-Chapman Conference: Coastal Processes and Environments Under Sea-Level Rise and Changing Climate: Science to Inform Management: Galveston, TX, 14-19 April 2013.
- 2013 "Can barrier islands survive marsh deterioration in a regime of accelerating sea level rise," University of New Orleans, New Orleans, LA
- 2012 "Impact of accelerated sea-level rise on back barrier wetlands and redistribution of tidal inlet and barrier island sand reservoirs" University of New Orleans, New Orleans, LA
- 2011 "Shoreline Clean-up Assessment Techniques for MC-252, Louisiana for Louisiana Department of Environmental Quality, Baton Rouge, LA
- 2009 "Physical Processes and Geological Framework of Tidal Inlets," North Carolina Department of Natural Resources, NC State, Raleigh, NC
- 2008 "Diverse Styles of Coastal Evolution along Santa Catarina, Brazil," American Quaternary Association, Penn State, PA
- 2008 "Long-term evolution of wetlands, and modeling capabilities," Estuarine Design and Research Needs Workshop, ERDC, Sarasota, FL
- 2007 "Impact of rising sea level on tidal inlets," North Carolina Inlets, Barriers, and Waterways Association, Wilmington, NC
- 2007 "Impacts of Rising Sea Level to Backbarrier Wetlands, Tidal Inlets, and Barrier Islands: Barataria Bay, Louisiana" Sea Level Rise Symposium, Coastal Sediments 2007, New Orleans, LA
- 2007 "Response of Backbarrier Wetlands and Barrier Chains to Sea-Level Rise along the Louisiana Coast" Coastal and Hydraulics Laboratory, Vicksburg, MS
  - "Sediment transport and Dredging Alternative at the Mouth of the Kennebec River Estuary" Coastal and Hydraulics Laboratory, Vicksburg, MS
- 2006 "Physical Impacts of Hurricane Katrina," University of the Itajai, Santa Catarina, Brazil
- 2005 "Sea Level Controls on Sedimentary Regimes: Runaway Transgression in North America and Strand Plain Development in South America," Marine Sciences Research Center, SUNY, Stony Brook, NY.
- 2005 Keynote Speaker "Monitoring Tidal Inlets at Different Temporal and Spatial Scales," Association of Brazilian Oceanographers, Vitoria, ES, Brazil.
- 2004 "Tectonic inheritance and evolution of the central Santa Catarina coast, Brazil," Department of Geology and Geophysics, University of New Orleans, LA.
- 2004 "Sand Delivery and Accumulation Forms Along the Coast And Inner Continental Shelf in

- the Gulf of Maine, University of the Itajai, Santa Catarina, Brazil.
- 2004 "Strand plain development as a function of Cretaceous tectonics, local and continental sediment sources, and multiple transgressions and regressions in southern Brazil," Naval Research Laboratory, Stennis, Mississippi.
- 2004 "Accelerated sea-level rise and its potential effects on barrier coasts of the world," Geology and Geophysics, Woods Hole Oceanographic Institution, Woods Hole, MA.
- 2004 "Model of barrier island and tidal inlet dynamics in a regime of accelerated sea-level rise," Marine and Environmental Systems, Florida Institute of Technology, Melbourne, FL.
- 2003 "Sediment transport trends in riverine-dominated estuaries: New England," Federal Department of Geology, University of Parana, Parana, Brazil.
- 2003 "Rising sea level and wetland loss and their effects on tidal exchange and sand sequestration at ebb-tidal deltas: Barataria Bay, Louisiana" Department of Geology and Geophysics, University of New Orleans, LA.
- 2003 "Geology and coastal processes of the Boston Harbor Islands" Boston Harbor Islands Biodiversity Seminar, MIT Sea Grant College, Cambridge, MA.
- 2002 "Coastal depositional systems and sedimentation processes" Four Lecture Series, University of the Itajai Valley -Itajai, Santa Catarina, Brazil.
- 2000 "Effects of spring freshets on hydraulics and sediment transport in estuaries" Department of Geology, University of Kuwait, Kuwait.
- 2000 "Rising sea level and effects on tidal inlets and adjacent shorelines" Rice University, NSF Workshop on Sea Level Rise, Houston, TX.
- 2000 Keynote Speaker "Coastal processes and geomorphic change at Popham Beach, ME," State-of Maine's Beaches Symposium, Sea Grant Program, Saco, ME.
- 2000 "Riverine-associated tidal inlets in northern New England: Sediment transport trends," Coastal Morphodynamics Symposium, Woods Hole Oceanographic Institution, Woods Hole, MA.
- 1999 Two lectures: "Tidal inlet effects on adjacent barrier islands" and "Inlet sediment bypassing and the effects of landward bar migrations: An overview" Waterways Experiment Station, Army Corps of Engineers, Vicksburg, MS.
- 1998 "New England tidal inlets associated with river systems: Application of classic inlet morphodynamics" 29<sup>th</sup> Annual Binghamton Geomorphology Symposium, Woods Hole, MA.
- 1998 "Riverine-associated tidal inlets in northern New England: Sediment transport trends, University of North Carolina at Wilmington, NC.
- 1993 "Stratigraphy and evolution of barrier systems along the northern New England coast" University of Southern Maine, Gorham, ME.
- 1991 "Sediment dynamics during high energy storms" Department of Geology, Salem State College

- 1990 "Factors controlling tidal inlet variability along the coast of New England" Department of Geological Sciences, University of Maine, Orono, ME.
- 1988 "Effects of wave-current interaction on sediment transport" SEPM Coastal Research Group, Houston, TX.
- 1988 "Tidal Inlets and coastal bays of Massachusetts" NEER's Conference, Woods Hole, MA.
- 1986 Keynote Talk "Morphology and evolution of tidal inlets" WHOI and CERC/USACOE Sponsored Conference on Hydrodynamics and Sediment Dynamics of Tidal Inlets, Woods Hole, MA.
- 1984 "Sand Transport at tidal inlets" New England Coastal Engineering Conference, USACOE, Rockport, ME.
- 1984 "Tidal inlet affects on barrier shorelines" Barrier Island Workshop, USACOE, Nags Head, NC.
- 1984 "Tidal inlet processes as they pertain to microtidal shorelines" Department of Geology, Suez Canal University, Port Said, Egypt.
- 1983 Fortieth Meeting of the Coastal Engineering Research Board, Woods Hole Oceanographic Institution, Woods Hole, MA.
- 1983 Shorelines, Harbors, and Waterways Short Course, Coastal Engineers, Springfield, VA.
- Tidal inlets in Massachusetts, Salt Ponds and Tidal Inlets Conference, Massachusetts Coastal Zone Management, Woods Hole Oceanographic Institution, Woods Hole, MA.
- 1982 "Dynamics of tidal inlet systems in Maine" Department of Geology, University of New Hampshire
- 1981 Two lectures "Geology of the New England shoreline" and "Tidal inlet processes along South Carolina" Department of Geology and Geophysics, Louisiana State University, Baton Rouge, LA.
- 1980 "Effects of the Blizzard of 1978" Bridgewater State University, Boston, MA.
- 1980 "Morphodynamics of tidal inlet shorelines" Rutgers State University, New Brunswick, NJ.
- 1980 "Sediment transport processes during the large storm events" Department of Geology, Salem State College, MA.
- 1978 "Effects of the Blizzard of 1978 to the Winthrop Shoreline" Department of Geology, Boston State College, Boston, MA.
- 1978 "Tidal inlet processes at Price Inlet, South Carolina" Department of Geology, University of New Hampshire, Durham, NH.
- 1976 "Sediment dynamics along a mesotidal inlet: Price Inlet, SC" Department of Oceanography, University of Maine, Orono, ME.
- 1976 "A sediment budget at Price Inlet, South Carolina" Department of Geology, Wesleyan University, Middleton, CT.

#### Outreach (Specialized Invited Talks and Presentations)

- 2011 Shoreline Clean-up Assessment Techniques for MC-252 in Louisiana for Louisiana Department of Environmental Quality, Baton Rouge, LA
- 2010 Is Beach Tilling a Viable Technique for Treating Buried Oil"
  Unified Command Center, Macado 252 Oil Spill, New Orleans, LA
- 2008 Three Lecture Series at University of New Orleans
  - "Evolving Wetlands and Field & Modeling Studies"
  - "Tidal Inlet Morphodynamics"
  - "Response of Sea Level Rise on Tidal Inlet-Barrier Island Systems"
- 2006 "Impact of Sea-Level Rise and Hurricanes on Salt and Freshwater Marshes," Essex County Community Foundation
- 2006 "Response of Marshes to Sea-Level Rise and Catastrophic Storms," Massachusetts Audubon Society, Wenham, MA.
- 2005 "Geologic Evolution of Castle Neck and the Great Marsh and Implications of Sea-level Rise," Trustees of Reservation, Ipswich, MA.
- 2003 "Tidal inlet signatures imaged using ground-penetrating radar along a transgressive barrier coast: Duxbury Beach, MA" Boston Society of Civil Engineers, Boston, MA.
- 2000 "Origin and coastal processes of the Boston Harbor Islands" Boston Harbor Island Symposium Boston, MA.
- 1999 "Are Northern New England Estuaries Sediment Sinks or Sources?" Boston Society of Civil Engineers, Boston, MA
- 1994 "Barrier evolution and variability along the New England coast" New England Waterways Engineers, Boston, MA.
- 1993 "Morphodynamics, sedimentology, and evolution of barriers in New England" MIT's Boston Bay Group, Cambridge, MA.
- 1991 "Tidal hydraulics and morphodynamics at Wells and Little River Inlet, Maine" Wells National Estuarine Research Reserve, Wells, ME.
- 1988 "Tidal hydraulics, morphology, and estuarine processes" Wells National Estuarine Research Reserve, Maine, Wells, ME.

#### **TEACHING:**

#### Awards

- In 2004 Received *College of Arts and Sciences Outstanding Teaching Award in the College*Honors Program
- In 2006 Received Boston University's Undergraduate Research Opportunity Mentor of the Year award.

Boston University (148 courses)

ES 142 Beaches and Shoreline Processes

(Taught 30 times to an average enrollment of 175 students)

ES HP 142 Beaches and Shoreline Processes

(Honors section with field component; taught 13 times to an average of 14 students)

GL 201 Coastal Environments, equivalent to MET ES 141 Marine Science

(Taught 13 times to an average of 25 students)

ES 101 Dynamic Geology

(Taught once, 50 students)

ES 331 Sedimentology

(Taught 16 times to an average of 17 students)

GL 503 Marine Geology, equivalent ES 440/640 Marine Geology

(Taught 4 times to an average of 18 students)

ES 333 Earth Surface Processes

(Taught 14 times to an average of 20 students)

ES 401, 402 Senior Independent Work

(15 students)

ES 541 Coastal Processes

(Taught 20 times to an average of 15 students)

GRS ES 742 Barrier Island and Tidal Inlet Dynamics

(Taught 5 times to an average of 6 students)

GRS ES 762 Non-marine Terrigenous Clastic Deposits and Processes

(Taught 4 times to an average of 4 students)

MET ES 141 Marine Science

(Taught 22 times to an average of 25 students)

MET ES 142 Shoreline Processes and Environments

(Taught 22 times to an average of 30 students)

# Professional Short Courses Taught

- 2011 Coastal Inlets Short Course, Coastal Sediments 11, Miami, FL (May 2011)
- 2007 Inlets and Entrances, Coastal Sediments 07, New Orleans, LA. (May, 2007)
- Tidal Inlet Systems: Morphodynamics, Hydraulics, and Management Applications, Association of Brazilian Oceanographers, Vitoria, ES, Brazil.
- 2002 Tectonic Effects on Coastal Depositional Systems University of Itajai, Santa Catarina, Brazil.
- 2002 Coastal Depositional Systems, Department of Geology and Geophysics, University of New Orleans.
- 2001 Tidal Inlets and Estuaries, University of North Carolina-Wilmington, NC.
- 2000 Tidal Inlet Morphodynamics and Sedimentation Processes, University of New Orleans, LA.
- 1999 Short Course on Tidal Inlets, American Society of Civil Engineers, Coastal Sediment `99, Long Island, NY.

#### **ADVISING**

Post Doctoral Student

Hughes, Zoe Hydrodynamics and sediment transport in Boston Harbor, MA, 2004-Present.

Susana Costas Holocene evolution of the southern-end of Salisbury Beach, Ma: 2008

sea-level rise and tidal Inlet forcings

Pedro Brito Sedimentary architecture of an ebb-tidal delta system of an emerging barrier island,

Troia Peninsula, Portugal.

#### PhD Students

Current:

Hein, Chris Holocene sedimentologic evolution of the Merrimack Embayment inner continental shelf, western Gulf of Maine. Expected graduation: 2010.

Wilson, Carol Dissection of platform marshes by ecophysical processes in response to sea-level rise. Expected graduation: 2011.

Former:

Johnston, S.J. Sediment transport in tidal channels via bedform migration. PhD thesis in progress, Boston University, Boston, Massachusetts. 237 p., 2007.

Present Position: Instructor, James Madison University, Harrisonburg, VA

Argow, B.A. Winter processes on New England salt marshes: implications for wetlands survival in a regime of accelerating sea-level rise. Ph.D., Boston University, Boston, Massachusetts, 289 p., 2006.

Present Position: Assistant Professor, Geosciences Department, Wellesley College,

Wellesley, MA.

Buynevich, I.V., Fluvial-marine interaction and Holocene evolution of sandy barriers along an indented paraglacial coastline. Ph.D. Dissertation, Boston University, Boston, Massachusetts, 339 p., 2001.

**Present Position:** Assistant Scientist, Geology and Geophysics, Woods Hole Oceanographic Institution, Woods Hole, MA.

van Heteren, S., Preserved records of coastal-morphologic and sea-level changes in the stratigraphy of paraglacial barriers. Ph.D. Dissertation, Boston University, Boston, MA, 248 p., 1996. **Present Position:** Senior Geologist, Netherlands Institute of Applied Geosciences, Utrecht, The Netherlands.

Fenster, M.S., Sand sheet facies: Long Island Sound. Ph.D. Dissertation, Boston University, Boston, Massachusetts, 328 p., 1995.

Present Position: Associate Professor, Environmental Studies, Randolph Macon College, Ashland, VA.

Masters Students (25)\*

Current:

Nick Howes, "Impact of wetland loss in Barataria Bay, Louisiana"

Ashley Bolbrock, "Salient evolution and dynamics in Boston Harbor"

Former:

Mark Rits, Emily Himmelstoss, Elizabeth Pendleton, Amy Dougherty, Anna Tary, Heidi Crider, Don Hunt, Sarah Mills, Paul McKinlay, Todd Montello, J. B. Smith, Rapi Som, Mike Hill, Peter Goldschmidt, Chris Mariano, Craig Fish, Charles Barker, David Sands, Cathy Coffin, Azim Ibrahim, Jonathan Lincoln, Andrew Magee, Doug Levin, David Sullivan, and Charles Lang.

<sup>\*</sup> Prior to 2000 the Department's preference was to accept Masters students and not Ph.D. students.

# RESEARCH GRANTS (\$3.1 million last 10 years)

Research Fu	nding		
2012-2013	Variability in lateral accretion and internal architecture of bars in tidally- influenced channels	Shell Oil Company:	\$20,000
	PI FitzGerald		
2012-2014	Collaborative Research: Biophysical alteration of wetland geomorphology response to rising sea level	National Science Foundation	\$450,000
	PI FitzGerald, Co-PI's Hughes, Mahadevan, Pennings		
2011-2013	Development of the Double Tombolo System of Miquelon-Langlade	University of Perpignan	\$2,600
	PI FitzGerald		
2011-2012	Variability in lateral accretion and internal architecture of bars in tidally-influenced channels	Shell Oil Company	\$100,000
	Sole PI		
2011-2012	Analyzing Marsh Stability in Cape Romain Wildlife Refuge: Marsh Platform Dissection as a Response to Sea-Level Rise	US Fish and Wildlife Service	\$21,804
	Sole PI		
2011-2012	Barrier Island Predictive Module for Prioritization Tool for the 2011 Louisiana Master Plan	Louisiana Office of Coastal Protection and Restoration	\$100,000
2010-2011	Sole Pl  Marsh platform dissection as a response	Dept. of Energy,	\$70,000
2010-2011	to sea level rise: physical mechanisms of erosion	NICCR Program	\$70,000
	PI, Co-PI's Hughes, Mahadevan, Pennings		
2009-2011	ETBC: Feedbacks between nutrients enrichment and intertidal substrates: erosion, stabilization, and landscape evolution	National Science Foundation	\$299,000
	PI Fagherazzi; Co-PI FitzGerald		FitzGerald's
2009-2010	Newburyport quadrangle geologic mapping project	USGS/UMass	\$17,500
	Sole PI		

2010-2014	Geologic and Geomorphic Maps for the Boston Harbor Islands	National Park Service	\$141,808
	PI, Co-PI Peter Rosen		
2009-2014	Marsh Sedimentation Study: Boston Harbor Islands National Recreation Area	National Park Service	\$280,000
	PI, Co-PI Peter Rosen		
2008- 2009	Hydrodynamic Modeling of diversions into Barataria Basin	Lake Pontchartrain Basin Foundation	\$42,000
2007- 2009	Determination Of Wave Impacts At Spectacle Island	National Park Service/Island Alliance	\$40,000
2007-2009	Strand plain geometry, stratigraphy, and evolution: Tijucas, Santa Catarina, Brazil	American Chemical Society (PRF)	\$90,000
	Sole PI		
2007-2008	Dissection of Platform Marshes by Ecophysical Processes in Response to Sea-Level Rise	Dept. of Energy, NICCR Program	\$180,000
	PI, Co-PI's Hughes, Mahadevan, Pennings		
2006-2008	Wave, hydrodynamic, and sediment trans- port study of the northern Long Island, Boston Harbor, MA	National Park Service/Island Alliance	\$197,423
	PI, Co-PI Peter Rosen		
2006- 2007	Hurricane Impact within the Caernarvon Basin: Wetland Habitat Response and Hydrodynamic Processes Sole PI	NOAA, Pontchartrain Restoration Program, LA	\$95,000
2005-2007	Hydrologic Modeling of the Pontchartrain Basin: A Simulation Study to Analyze the Feasibility of Dike and Terrace Construc- tion and Channel Constriction at the intersection of MRGO and Bayou la Loutre Reduce Saltwater Intrusion, Storm Surge Flooding, and Wetland Loss	NOAA, Pontchartrain Restoration Program, LA	\$50,752
	Sole PI		
2003- 2006	Mechanisms of Sediment Transport in Tidal Inlet Channels	Dept. of Defense Army Waterways Experiment Station	\$168,204
	Sole PI	p = 112112 3 3 3 1 3 1	
2004- 2008	Documenting sand and gravel deposits on the inner continental shelf: Merrimack Embayment, New England	Mineral Management Service	\$105,000
	FitzGerald, Co-Pl's: Steve Mabee, Mark Leckie		

2003- 2008	Boat Wake Impacts and their Role in Shore Erosion Processes, Boston Harbor Islands National Recreation Area	National Park Service	\$435,710
	FitzGerald, Co-Pl's: Peter Rosen		
2001- 2002	Estuarine Responses to Dredging: Analysis of Sedimentary and Morphological Change in a Back-Barrier Marsh to Aid Local Management Continuation Study	NOAA/CICEET	47,976
	Co-PI with Michele Dionne		
2000-2003	Geomorphic Investigation of Tidal Inlets: Applications in Coastal Engineering Sole PI	Department of Defense/Army Waterways Experimental Station	154,000
2000-2001	Acquisition of Near-Surface Geophysical	Station	
2000 2001	and Sampling Equipment for Earth Surface Processes and Quaternary Stratigraphic Research	NSF-MRI	111,692
		NSF-MRI	4,182
	PI FitzGerald, Co-PI's: Dave Marchant, Geoff Abers, Paul Goldberg	Supplemental	
1999-2001	Estuarine Responses to Dredging: Analysis of Sedimentary and Morphological Change in a Back-Barrier Marsh to Aid Local Management	NOAA/CICEET	67,652
	Co-PI with M. Dionne		
1997-2000	New Stratigraphic and Evolutionary Models for Complex Barrier Sequences	American Chemical Society	50,000
	Sole PI		
1995-1997	Sand and Gravel of the Wells, Maine Embayment: Nearshore and Barrier Sediment Volumes and Transport Paths	NOAA, MIT Sea Grant Program	15,000
	Sole PI		
1993-1994	A Sediment Budget for Maine's Sandy Embayments	NOAA, Maine Sea Grant Program	9,995
	Sole PI		
1992-1993	Study of the Surface Water, Suspended Sediments, and Nutrient Influx	Wells Estuarine Research Reserve	17,503
	FitzGerald, Co-PI: D.W. Caldwell		
1991-1992	A Study of Surface Water and Groundwater Discharges to the Wells National Estuarine Research Reserve	NOAA, National Estuarine Research Reserve	12,384
	FitzGerald, Co-PI: D.W. Caldwell		
1990-1991	Foraminiferal characterization of Wells	NOAA, National	21,000

	marsh system & stratigraphic study of Wells-Drakes Island-Laudholm barriers	Estuarine Research Reserve	
	Sole PI		
1990-1991	Surface water hydrology of the Wells National Estuarine Research Reserve	NOAA, National Estuarine Research Reserve	20,000
	FitzGerald, Co-PI: D.W. Caldwell		
1990-1991	Sediment budget for Maine's sandy embayment	MIT Sea Grant Program	6,700
	Sole PI		
1990	Investigation of backbarrier tidal channel & shoal evolution at Nauset Beach  Sole Pl	U.S. Army Corps of Engineers, Coastal Engineering Research Center	13,500
1989	Study of giant sand waves in Long	NOAA/NURP	3,000
1303	Island Sound	North Vitteria	Submersible Time
	FitzGerald, Co-PI: C. Baldwin		
1987-1988	Exploration and Inventory of Sand and Gravel Resources offshore of Boston Harbor	USGS, Minerals Management Service	22,535
	FitzGerald, Co-PI: C. Baldwin		
1987-1988	New Methodology for determining the Flux and Geometry of Septic System Plumes	EPA	10,000
	FitzGerald: Co-Pl's: Caldwell, Baldwin		
1987-1988	Long Island Sound: Seasonal Investigation of Bedforms and Animal/Sediment Interactions	NOAA/NURP	6,097 Submersible Time
	FitzGerald, Co-PI		
1987-1988	Investigation of Large Tidal Inlets/Estuaries in Maine	UME/MIT Sea Grant Program	11,000
	FitzGerald, Co-PI: Ken Fink		
1987-1988	Hydraulic and Sediment Transport Study of the Webhannet River Estuary	NOAA/Marine Sanctuary Program	10,000
	Sole PI		
1987-1988	Sedimentation and Hydraulic Study of Little River Estuary	NOAA/Marine Sanctuary Program	10,000
	Sole PI		
1986-1987	Sand circulation at the mouth of the Kennebec River	NOAA, MIT Sea Grant Program	3,000
	FitzGerald, Co-PI: Ken Fink		
1986-1987	Continuation of Pollution Study of	EPA	10,000
			- ,

	Buttermilk Bay, MA		
	FitzGerald, Co-PI's: D.W. Caldwell, Chris Baldwin		
1985-1986	Study of seismic stratigraphy and Holocene evolution of Plymouth Bay	United States Geological Survey, Minerals	22,000
	FitzGerald, Co-PI: Chris Baldwin	Management Service	
1985-1986	Pollution study of Buttermilk Bay, MA	EPA	24,000
	FitzGerald, Co-Pl's: D.W. Caldwell, Chris Baldwin		
1985-1986	Submersible study sand wave dynamics of Long Island Sound	NOAA/NURP Program	9,000 Submersible Time
	FitzGerald, Co-PI: Chris Baldwin		
1984-1985	Study of seismic stratigraphy and Holocene evolution off Nantasket Beach	United States Geological Survey,	21,000
	Sole PI	Minerals Management Service	
1984-1985	Study of Morpho-dynamics of Scarboro and Kennebec River Estuaries, Maine	NOAA, Maine Sea Grant Program	12,000
	FitzGerald, Co-PI: Ken Fink	Grant Frogram	
1983-1985	Relationships between Maine's moderate to large tidal inlets and beach	NOAA, Maine Sea Grant Program	30,000
	systems		
1002 1004	FitzGerald, Co-PI: Ken Fink	Town of Westmart	25.000
1983-1984	Pollution study of Westport River Estuary	Town of Westport	25,000
	FitzGerald, Co-Pl's: Chris Baldwin, D. W. Caldwell		
1982-1984	Hydraulic and morphologic Investigation of small sized tidal inlets in southern Maine	NOAA, Maine Sea Grant Program	21,000
	Co-PI with Ken Fink		
1982-	Investigation of Shoaling Problems at	Coastal Zone	18,200
1983	Slocum River Inlet, South Dartmouth, MA	Management	
1001 1000	Sole Pl	0	1000
1981-1982	Coastal Hazards Study of Massachusetts South Shore	Coastal Zone Management	18,000
	Sole Pl		
1980-1981	Investigation of Shoaling Problems at Bass River Inlet	Coastal Zone Management	14,000

	Sole PI		
1980-1981	Study of Reverse Deltas in Maine	Graduate School Seed Grant	1,800
	Sole PI		
1979-1980	Shoaling Study of Winthrop Harbor, MA	Coastal Zone Management	18,000
	Sole PI		
1979-1980	Westport River Inlet and Beach System Study, Westport, MA	Coastal Zone Management	17,600
	Sole PI		
1978-1979	Yirrell Beach Erosion Study	Coastal Zone Management	18,000
	Sole PI	·	

# **UNIVERSITY SERVICE**

Chair	1982-1987
Acting Chair	1995
Director of Undergraduate Studies	1993-1996
Advisory Committee for Remote Sensing	1988
Buck Committee	1988-1992
University Council (alternate)	1988-1989
National Science Olympiad Committee	1988-1989
Academic Conduct Committee	1989-1990
Selection Committee for Waquoit Bay Fellowship	1993-1994
Case-Melville Scholarship Committee	1994
Boston University Spring Phonathon	1994-2003
Joint Committee on Admissions for Seven-Year Liberal Arts/Medical Education Program	1994-present
Academic Conduct Committee`	2003-2007
34Earth Science Liaison to School of Education, Masters of Arts in Teaching Science	2004-2007
Advisory 34Bo34a34r34d34 34o34f34 34t34h34 34P34r34o34g34r34a34m34	le34 34W34r34i34t34i34n34g34 2005-2006

Natural Science Curriculum Committee 2006-2008