

CURRICULUM VITAE

THOMAS A. FRANKOVICH

Birthdate: 22 May 1968, Livingston, New Jersey

Professional address: Florida Bay Interagency Science Center
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Education

B.S., Cook College, Rutgers University. May 1990.
Major: Biology. Minor: Chemistry.
Awards and Honors: Garden State Distinguished Scholars Scholarship
Graduated with Honors.

M.S., Department of Environmental Sciences, University of Virginia, January, 1996.

Thesis title: Epiphyte production on the seagrass *Thalassia testudinum*.

Ph.D., Department of Environmental Sciences, University of Virginia, June 2006.

Dissertation title: Epiphyte light transmission relationships and biological and physico-chemical influences on seagrass epiphyte standing stock and community composition.

Awards and Honors: George Barley Graduate Fellowship 1997-2003

Phycology program, Friday Harbor Laboratories, University of Washington, June - July 1998.

Professional certifications

United States Coast Guard OUPV Captain's license - 1995, renewed 2000, 2005.
SCUBA certified, Scuba Schools International (SSI) - 1991
CPR and First Aid

Research Experience

- 1988 Research technician, M & T Chemicals, Rahway, New Jersey. Synthesized polyvinyl chloride (PVC) compounds and organo-tin compounds and prepared products for analysis.
- 1990-1991 Graduate research assistant, University of Virginia. Performed laboratory analysis on elemental composition of seagrasses of Florida Bay.
- 1991-1992 Graduate research assistant, University of Virginia. Developed analytical techniques for the accurate measurement of epiphytic calcium carbonate standing stocks.
- 1992 Water quality technician, National Undersea Research Center, Key Largo, Florida. Collected weekly seawater samples and performed low-level nutrient determinations for orthophosphate, ammonium, and nitrite + nitrate.
- 1993- Research assistant, University of Virginia. Monitoring of seagrass parameters (biomass, productivity, PAR, etc) in experimental plots in order to determine the response of seagrass communities to a chronic reduction in the amount of photosynthetically active radiation.
- 1993-1997 Senior biologist, Southeast Environmental Research Program, Florida International University, Miami, Florida. Responsible for collection, analysis, and synthesis of monthly water quality surveys encompassing Biscayne Bay, Florida Bay, Florida Keys, the southwest Florida coast, and the Ten Thousand Islands.
- 1998 Graduate teaching assistant, University of Virginia. Taught introductory geology lab to undergraduate students.
- 1999 - present Graduate research fellow, George Barley Fellowship, University of Virginia. Development of methodology to measure epiphytic light attenuation and characterization of epiphytic diatom communities in Florida Bay.
- 2002-2005 Research biologist, Southeast Environmental Research Program, Florida International University, Miami, Florida. Responsible for long-term experiments manipulating nitrogen and phosphorus in seagrass beds in Florida Bay.
- 2006 - present Post-doctoral research scientist, Southeast Environmental Research Program, Florida International University, Miami, Florida. Investigating benthic vegetation dynamics and water quality in mangrove lakes.

Publications - refereed journals

- Frankovich, T.A., and J.C. Zieman. 1994. Total epiphyte and epiphytic carbonate production on *Thalassia testudinum* across Florida Bay. *Bulletin of Marine Science* 54: 679-675.
- Frankovich, T.A., and J.C. Zieman. 1995. A comparison of methods for the accurate measurement of epiphytic carbonate. *Estuaries* 18: 279-284.
- Frankovich, T.A., and J.W. Fourqurean. 1997. Seagrass epiphyte loads along a nutrient availability gradient, Florida Bay, FL, USA. *Marine Ecology Progress Series* 159: 37-50.
- Frankovich, T.A., and R.D. Jones. 1998. A rapid, precise, and sensitive method for the determination of total nitrogen in natural waters. *Marine Chemistry* 60: 227-234.
- Zieman, J.C., J.W. Fourqurean, and T.A. Frankovich. 1999. Seagrass dieoff in Florida Bay (USA): Long-term trends in abundance and growth of *Thalassia testudinum*. *Estuaries* 22: 460-470.
- Zieman, J.C., J.W. Fourqurean, and T.A. Frankovich. 2004. Reply to Lapointe, B.E. and P.J. Barile: "A technical note and comment on the article by Zieman, J.C., J.W. Fourqurean, and T.A. Frankovich entitled "Seagrass dieoff in Florida Bay (USA): Long-term trends in abundance and growth of *Thalassia testudinum*. *Estuaries* 26: 1548-1555.
- Borum, J., O. Pedersen, T.M. Greve, T.A. Frankovich, J.C. Zieman, J.W. Fourqurean and C.J. Madden. 2005. The potential role of plant oxygen and sulfide dynamics in die-off events of the tropical seagrass, *Thalassia testudinum*. *Journal of Ecology* 93: 148-158.
- Frankovich, T.A., and J.C. Zieman. 2005. A temporal investigation of grazer dynamics, nutrients, seagrass leaf productivity, and epiphyte standing stock. *Estuaries* 28: 39-50.
- Armitage, A.R., T.A. Frankovich, K.L. Heck, and J.W. Fourqurean. 2005. Experimental nutrient enrichment causes complex changes in seagrass, microalgae, and macroalgae community structure in Florida Bay. *Estuaries* 28: 422-434.
- Frankovich, T.A., and J.C. Zieman. 2005. Epiphyte light transmission relationships on the seagrass *Thalassia testudinum* König. *Aquatic Botany* 83: 14-30.
- Frankovich, T.A., E. E. Gaiser, A. Wachnicka, and J.C. Zieman. 2006. Spatial and Temporal Distributions of Epiphytic Diatoms: Relationships to salinity and nutrients in a subtropical ecosystem. *Hydrobiologia* 569: 259-271.
- Armitage, A.R., T.A. Frankovich, and J.W. Fourqurean. 2006. Variable responses within epiphytic and benthic microalgal communities to nutrient enrichment. *Hydrobiologia* 569: 423-435.

Other publications

Zieman, J.C., P.R. Carlson, K.H. Dunton, M.J. Durako, J.W. Fourqurean, K.L. Heck, T.A. Frankovich, K.S. Lee, C.A. Moncrieff, J.M. Zande. 1996. The effects of chronic light reduction on *Thalassia testudinum* at stations across the Gulf of Mexico. Final report to the EPA Environmental Research Laboratory - Gulf Breeze.

Reviewing experience

Journals - Aquatic Botany, Estuaries, Hydrobiologia, Marine Ecology, Marine Ecology Progress Series, and Wetlands Ecology and Management

Grant agencies - Mississippi - Alabama Sea Grant, Texas Sea Grant

Invited Oral Presentations

- 1999 Frankovich, T.A. The origins of carbonate muds: current and historical knowledge and the role of seagrass epiphytes. Geology Department Seminar Series, Florida International University Miami, FL, 29 October.
- 2000 Frankovich, T.A. An introduction to seagrass epiphyte communities in Florida Bay: Species composition, distribution, and effects on seagrass host. Botany Seminar Series, Biology Department, Florida International University, Miami, FL, 30 October.
- 2002 Frankovich, T.A. Grazers, nutrients and seagrass leaf turnover rates as controls on epiphyte loading. *Ponente en los Jueves de la Ciencia Seminarios 2002. Centro de Ecología, Pesquerías y Oceanografía del Golfo de México, EPOMEX y la Facultad de Ciencias Químico Biológicas, La Universidad Autónoma de Campeche, Campeche, México, 4 July.*
- 2003 Frankovich, T.A. Seagrasses in Florida Bay and the Florida Keys. Florida Keys National Marine Sanctuary Teacher Workshop, Key Largo, FL, 15 November.

Oral Presentations

- 1992 Frankovich, T.A., and J.C. Zieman. Biomass and calcium carbonate production by epiphytes of *Thalassia testudinum* across Florida Bay. Symposium on Florida Keys Regional Ecosystem, Miami, FL, 16-20 November.
- 1993 Frankovich, T.A., and J.C. Zieman. Distribution of epiphyte loads on *Thalassia testudinum* across Florida Bay. Estuarine Research Federation Conference, Hilton Head Island SC, 14-18 November.
- 1994 Frankovich, T.A., J.W. Fourqurean, and R.D. Jones. Epiphyte loads and seagrass C:N:P ratios as indicators of nutrient availability. American Society of Limnology and

Oceanography - Phycological Society of America joint meeting, Miami, FL, 12-16 June.

- 1994 Frankovich, T.A., J.C. Zieman, J.W. Fourqurean, and R.D. Jones. Factors affecting the distribution of epiphyte loads on *Thalassia testudinum* across Florida Bay. Coastal Wetlands Ecology Management Symposium, Key Largo, FL, 6-9 December.
- 1995 Zieman, J.C., J.W. Fourqurean, and T.A. Frankovich. Spatial and temporal variations in seagrass biomass and productivity across Florida Bay. Florida Bay Science Conference, Gainesville, FL, 17-18 October.
- 1995 Zieman, J.C., T.A. Frankovich, J.W. Fourqurean, and M.B. Robblee. The effects of chronic light reduction on seagrasses in Florida Bay. Estuarine Research Federation meeting, Corpus Christi, TX, 12-16 November.
- 1996 Fourqurean, J.W., M.J. Durako, T.A. Frankovich, and J.C. Zieman. What Florida Bay seagrasses indicate about nutrient availability. Workshop on Florida Bay Nutrients, Key Largo, FL, 1-2 July.
- 1996 Zieman, J.C., J.W. Fourqurean, and T.A. Frankovich. Seagrass die-off in Florida Bay: long-term trends in abundance and growth of *Thalassia testudinum* and the role of hypersalinity. 1996 Florida Bay Science Conference, Key Largo, FL, 10-12 December.
- 1996 Fourqurean, J.W., and T.A. Frankovich. Seagrass elemental content and epiphyte loads along the nutrient availability gradient in Florida Bay. 1996 Florida Bay Science Conference, Key Largo, FL, 10-12 December.
- 1999 Zieman, J.C., J.W. Fourqurean, and T.A. Frankovich. The Florida Bay seagrass dieoff 1989-1999: Decadal scale changes in seagrasses and driving variables. Estuarine Research Federation Conference, New Orleans, LA., 25-30 September.
- 2001 Pedersen, O., J. Borum, T. Greve, J. Zieman, T. Frankovich, and J. Fourqurean. Does meristematic anoxia cause episodic mass mortality among seagrasses? 7th Conference of the International Society for Plant Anaerobiosis, Nijmegen, Denmark, 4-8 June.
- 2002 Frankovich, T.A., B.J. Peterson, J.C. Zieman, and J.W. Fourqurean. Response of seagrass epiphyte loading to fertilization and gastropod grazer manipulations. International Seagrass Biology Workshop 5, Ensenada, Mexico, 7-12 October. 2003
- 2003 Frankovich, T.A., and J.C. Zieman. Epiphyte loading rates and epiphytic light attenuation characteristics along the productivity gradient in Florida Bay. All Scientists Meeting - Florida Coastal Everglades Long-term Ecological Research, Miami, FL, 5-6 January.
- 2003 Frankovich, T.A., A. Willman, J.W. Fourqurean, and K.L. Heck. Nitrogen versus phosphorus limitation of benthic primary production and the role of epiphyte grazers in Florida Bay. Joint conference on the science and restoration of the greater Everglades and Florida Bay ecosystem, Palm Harbor, FL, 13-18 April.

- 2003 Pedersen, O., J. Borum, T.M. Greve, J.C. Zieman, T.A. Frankovich, and J.W. Fourqurean. Meristem anoxia and sulfide intrusion: a mechanism for *Thalassia testudinum* short shoot mortality in Florida Bay. Joint conference on the science and restoration of the greater Everglades and Florida Bay ecosystem, Palm Harbor, FL, 13-18 April.
- 2003 Frankovich, T.A. and J.C. Zieman. Epiphytic diatom species assemblages: relationships to estuarine water quality. 17th Biennial Conference of the Estuarine Research Federation, Seattle, WA, 14-18 September.
- 2003 Zieman, J.C., J.W. Fourqurean, and T.A. Frankovich. Recent and historical changes in seagrass beds in southern Florida. 17th Biennial Conference of the Estuarine Research Federation, Seattle, WA, 14-18 September.
- 2003 Frankovich, T.A., J.C. Zieman, A. Wachnick, and E.E. Gaiser. Epiphytic diatom species assemblages in Florida Bay. 17th North American Diatom Symposium, Islamorada, FL, 20-25 October.
- 2004 Armitage, A.R., T.A. Frankovich, and J.W. Fourqurean. Seagrass community structure response to phosphorus enrichment varies along a gradient of nutrient influence in Florida Bay. 33rd Annual Benthic Ecology Meeting, Mobile, AL 25-28 March.
- 2004 Frankovich, T.A. and J.C. Zieman. Epiphyte light transmission relationships on the seagrass *Thalassia testudinum* Konig. Seagrass 2004 and the International Seagrass Biology Workshop (ISBW6), Townsville, Australia, 24 September - 1 October.
- 2005 Armitage, A.R. et al. 34th Annual Benthic Ecology Meeting, Williamsburg, VA. March 2005.
- 2005 Frankovich, T.A., E.E. Gaiser, A. Wachnicka, and J.C. Zieman. Distribution of epiphytic diatoms in a sub-tropical estuary. 2005 American Geophysical Union Joint Assembly, New Orleans, LA, 23-27 May.
- 2005 Baggett, L.P. et al. 18th Biennial Conference of the Estuarine Research Federation, Norfolk, VA, 16-21 October.
- 2005 Armitage, A.R. et al. 18th Biennial Conference of the Estuarine Research Federation, Norfolk, VA, 16-21 October.
- 2005 Frankovich, T.A., E.E. Gaiser, A.R. Armitage, and J.W. Fourqurean. Effects of nitrogen and phosphorus fertilization on epiphytic diatom communities. 18th Biennial Conference of the Estuarine Research Federation, Norfolk, VA, 16-21 October.

Poster Presentations

- 1999 Frankovich, T.A., M.B. Weatherly, and J.C. Zieman. Demographic growth characteristics of *Thalassia testudinum*: Leaf morphology and productivity. Estuarine Research Federation Conference, New Orleans, LA., 25-30 September.
- 2001 Frankovich, T.A. and J.C. Zieman. Epiphytic light attenuation on *Thalassia testudinum* in Florida Bay. 2001 Florida Bay Science Conference, Key Largo, FL, 23-26 April.
- 2002 Frankovich, T.A. and J.C. Zieman. Epiphyte accumulation rates and epiphytic light attenuation characteristics along a productivity gradient in Florida Bay. All Scientists Meeting - Florida Coastal Everglades Long-term Ecological Research, Miami, FL, 8-9 February.
- 2003 Armitage, A.R., T.A. Frankovich, and J.W. Fourqurean. N vs. P limitation of benthic primary production in Florida Bay. LTER All Scientists Meeting, Seattle, WA, 18-21 September.
- 2004 Frankovich, T.A., J.C. Zieman, A.R. Armitage, and J.W. Fourqurean. Development of epiphyte light transmission equations for subtropical seagrass epiphyte assemblages. 33rd Annual Benthic Ecology Meeting, Mobile, AL 25-28 March.
- 2005 Baggett, L.P., K.L. Heck, A.R. Armitage, T.A. Frankovich, and J.W. Fourqurean. The effects of nutrient enrichment on the seagrass *Thalassia testudinum* and its associated epiphyte grazers in Florida Bay, FL, USA. 34th Annual Benthic Ecology Meeting, Williamsburg, VA March 2005..

Other

Described new diatom species - *Cocconeis barleyi* Frankovich et DeStefano In Mario De Stefano and Oscar Romero (authors) "A survey of alveolate species of the diatom genus *Cocconeis* (Ehr.) with remarks on the new section *Alveolatae*" Bibliotheca Diatomologica Band 52, 2005.

Cover photograph - Southeastern Naturalist, volume 2, number 4, 2003 "*Rhizophora mangle* flowers"