

Michael Finiguerra

<http://homepages.uconn.edu/finiguerra/>

1084 Shennecosset Road; Groton, CT 06340

Michael.finiguerra@uconn.edu;

(Please Note: I legally changed my name from Michael Pagano in spring 2007)

Professional Experience:

Assistant Professor in Residence

Fall 2014- current

Ecology and Evolutionary Biology Department

University of Connecticut-Avery Point Campus

Sacred Heart University

Spring 2013-Spring 2014

Adjunct Professor-Biology Department; Fairfield, CT

Post-Doctoral Researcher

Fall 2013-Summer 2014

Dr. HG Dam Laboratory

University of Connecticut-Department of Marine Sciences; Groton, CT

Education:

University of Connecticut, CT

Fall 2007- Summer 2013

Ph.D. -Oceanography, GPA 3.92

Title: "Determining the Role of a Novel Sodium Channel Mutation on Tolerance to Paralytic Shellfish Toxins in the Marine Copepod *Acartia hudsonica*"

Thesis Advisor- Dr. Hans G Dam; Department of Marine Sciences

Stony Brook University, NY

Fall 2004-Spring 2007

M.S. – Marine and Atmospheric Sciences, GPA 3.53

Title: "Effect of dissolved seawater components and exposures to non-receptive bacterial cells on virion decay"

Thesis Advisor- Dr. Gordon T. Taylor; School of Marine and Atmospheric Sciences

State University of New York at Geneseo

Fall 2000-Spring 2004

B.S. Biology; Minor: Chemistry, GPA 3.1

Academic and Research Advisor/Mentor: Dr. Isidro Bosch

Research Experience for Undergraduate, NSF funded

Summer 2002

Title: "Sediment geochemistry of New York, USA, and Venice, Italy, marshes- Accumulation rates and trace metal profiles."

Advisor: Dr. Kirk Cochran and Dr. Pere Masque; Stony Brook University

Teaching and Advising:

University of Connecticut:

Advisees: 11 official, 4 unofficial

Evolutionary Biology: EEB 2245

Spring 2015

Principles of Biology I: BIOL 1107

Fall 2015

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| Principles of Biology II: BIOL 1108 | Spring 2015 |
| Genetics: MCB 2410 | Spring 2015 |
| General Ecology: EEB 2244 | Fall 2014, '15 |
| Evolution and Human Diversity: EEB 2202 | Fall 2014, '15 |
| MAR4010/5010- Biological Oceanography (1/3 team taught) | Spring 2012 |

Sacred Heart University:

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| Instructor: BIO 111- Introductory Biology, Lab | Spring 2014 |
| Instructor: BIO 111-Introductory Biology, Discussion (2 sections) | Fall 2013 |
| Instructor: BIO 112-Introductory Biology, Discussion | Spring 2013 |

Stony Brook University:

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| Lecturer: MAR 502-Biological Oceanography | Fall 2006 |
| Laboratory Instructor: Biology 203 | Spring 2005 |
| Laboratory Instructor: Biology 151 (2 sections) | Fall 2004 |

SUNY Geneseo:

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| Teaching Assistant- Biology 241: Invertebrate Laboratory | Spring 2004 |
| Teaching Assistant/Tutor-Biology 203: Principles of Ecology | Spring 2004 |
| Undergraduate Laboratory Instructor: Biology 104 | Spring 2004 |
| Teaching Assistant- Biology 303: Community Ecology | Fall 2003 |
| Undergraduate Laboratory Instructor: Biology 118 | Fall 2002, Fall 2003 |
| Vivarium-Biology Department: Senior Curator | Fall 2002-Spring 2004 |

Mentoring in Research:

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| Undergraduate Research Assistants: 10 | Summer 2008-current |
| Middle School Science Teacher: 1 | Summer 2014 |
| High School Students: 2 | Fall 2011 |

Teaching and Outreach Awards:

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| Mentorships and Excellence Award, UConn, Nomination | Spring 2015 |
| Provost's Commission on Public Engagement-Finalist | Fall 2010 |
| Nominated by peers; 1 of only 3 UConn Graduate Finalists | |
| CT SeaGrant Marine Educational Outreach Fellow | 2009-2010 |
| Herman Forest Gaia Award | Spring 2004 |

Department Committees and Organizations:

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| UConn- New Faculty Orientation panel member | Fall 2015 |
| UConn-Avery Point: Orientation Advisor | Summer 2015 |
| UConn-Avery Point: Open House recruiter | Spring 2015 |
| UConn EEB Ecology Curriculum Committee | Spring 2015 |
| UConn-Avery Point: UConn Reads regional chapter | Spring 2015 |
| UConn-Avery Point Global Café and Institute for Learning | Fall 2014-current |
| UConn-Avery Point Curriculum and Courses Committee | Fall 2014- current |
| UConn- Marine Sciences: Social Outreach Director | 2008-2012 |
| Avery Point Recreation Committee | Fall 2009-present |

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| Graduate Student Council, Marine Sciences Faculty Liaison | Spring 2008-2009 |
| Feng Colloquium committee organizer | Spring 2008 |
| Graduate Student Organization, Senator | Fall 2006-Spring 2007 |
| Student Representative- Biology Department | Fall 2002-Spring 2004 |
| President-SUNY Geneseo Ecology Club | Fall 2001-Spring 2004 |

Research Funding:

Dam, HG and **Finiguerra, M.*** \$ 128,732

CT Sea Grant: February 2014- January 2016

Title: “The Effect of Timing and Duration of Climatic Heat Waves in Long Island Sound to a Zooplankton Population.”

*Co-Author of proposal

Dam, H.G., **Finiguerra, M.***, Avery, D.E., Lin, S., Anderson, P.,

NSF- Integrative Organismal Systems 3/10-3/13 \$ 571,876

Title: “Collaborative Research: Costs and Advantages of a Novel Sodium Channel Mutation in Copepods”

*Co-Author of proposal; UConn graduate students and post-docs cannot be Co-PI

Scientific Publications:

Finiguerra, M., Avery, DE., Dam, HG. 2015 Advantages, Costs, and Trade-Offs of a Novel Sodium Channel Mutation in the Copepod *Acartia hudsonica* to Paralytic Shellfish Toxins. PLoS One June 15, doi 10.1371

Chen, L., Zhang, H., **Finiguerra, M.**, Anderson, P., Bobkov, Y., Avery, DE., Bouchard, C., Lin, S., Dam, HG. 2015 NA novel mutation from gene splicing of a voltage-gated sodium channel in a marine copepod and its potential effect on channel function. Journal Experimental Marine Biology & Ecology, vol. 469, 131-142

Finiguerra, M., Avery, DE., Dam, HG. No evidence for induction and selection of mutant sodium channel expression in the copepod *Acartia hudsonica* challenged with the toxic dinoflagellate *Alexandrium fundyense*. 2014 Ecology and Evolution 4(17): 3470-3481
Open Access

Finiguerra, M., Avery, DE., Dam, HG. Sodium channel expression in the copepod *Acartia hudsonica* as a function of exposure to paralytic shellfish toxin (PST). 2014 Harmful Algae 39: 75-80

Finiguerra M., Avery D.E., Dam H.G. 2013 Sex Specific tolerance to starvation in the copepod *Acartia tonsa*. Journal of Experimental Marine Biology and Ecology 446: 17-21.

Hammerschmidt, C., **Finiguerra, M.**, Weller, R., Fitzgerald, W., 2013 Methylmercury Accumulation in Plankton on the Continental Margin of the Northwest Atlantic Ocean. Environmental Science and Technology 47: 3671-3677.

Zhang, H., **Finiguerra, M.**, Dam, H.G., Huang, Y., Liu, G., Lin, S. 2013 An improved method for achieving high-quality RNA for copepod gene transcriptomic studies. Journal of Experimental Marine Biology and Ecology 446: 57-66.

Finiguerra, M., Escribano, DE, Taylor GT. 2011 Light-Independent Mechanisms of Virion Inactivation in Coastal Marine Systems. Hydrobiologia 665:51-66

Bosch, I., J.C. Makarewicz, T. W. Lewis, E. A. Bonk, **M. Finiguerra** and B. Groveman. 2009. Management of agricultural practices results in declines of filamentous algae in the lake littoral. *Journal of Great Lakes Research*: 35 sup.1 pp 90-99.

Theses:

Finiguerra, M. 2013 Determining the Role of a Novel Sodium Channel Mutation on Tolerance to Paralytic Shellfish Toxins in the Marine Copepod *Acartia hudsonica*. PhD Thesis. University of Connecticut, 119 pp

Finiguerra, M. 2007. Effect of dissolved seawater components and exposures to non-receptive bacterial cells on virion decay. Master's Thesis. Stony Brook University. 87 pp

Scientific Outreach and Pedagogy Communications:

Finiguerra, M., Avery, D.E., Dam, H.G. Dangerous Aquatic Prey: Can Predators Adapt to Toxic Algae. 2014 Data Nuggets (lesson plans for science teachers), *Open Access*; www.Datanuggets.org

Finiguerra, M., Avery, D.E., Dam, H.G. Case Study: Testing for Adaptation. Submitting to National Center for Case Study Research, Target: College Biology. *Draft in hand*

HG Dam & **M Finiguerra** 2013 Science Experts- Toxic Algae; Infestations Documentary. Stornoway Productions. International Release

Dam, H.G., **Finiguerra, M.B.,** Batoh, C.S., Skelton-Flores, H.K. 2012 What controls toxic algae blooms in Long Island Sound? Wracklines (CT Sea Grant publication) vol. 11,2: 9-13

Finiguerra, M. Payne, D., Dam, HG, Avery, DE. 2010 Predators and Dangerous Prey: Plankton, Toxins and Evolution. 1 hour oral presentation workshop at National Science Teachers Association Conference. Philadelphia, PA.

In Review and In Prep Manuscripts:

Dam, H.G., **Finiguerra, M.,** Batoh, C.S., Skelton-Flores, H.K., Avery, D.E. The dilution technique reveals complex interactions in the microplankton community during blooms of the toxic dinoflagellate *Alexandrium* sp. *Draft-in-Hand*.

Dam, H.G and **Finiguerra, M.** Effects of mesozooplankton on the microplankton community during blooms of the toxic dinoflagellate *Alexandrium* sp. *In prep*

Conference Proceedings:

Dam, H.G., **Finiguerra, M.,** Avery, D.E., Courneyor, B. 2014 Thermal responses of zooplankton species along a thermal gradient of the eastern USA: Evidence for phenotypic plasticity. Gordon Research Conference: Ocean Global Change Biology

Finiguerra, M., Dam, HG., Avery, DE., Burris, Z., 2013 Sex-specific adult starvation tolerance in the marine copepod *Acartia tonsa*. ASLO aquatic sciences meeting. Oral presentation

Finiguerra, M., Batoh, C.S. , Skelton-Flores, H.K., Avery, D.E. , Courneyer, B., Dam, H.G. 2011 Mircozooplankton grazing during blooms of the toxic dinoflagellate *Alexandrium* sp. in Long Island Sound. 6th symposium on Harmful Algae. Austin, TX. Oral presentation

Finiguerra, M., Skelton, H., Senft, C., Chen, L., Avery, DE., Dam, HG. 2011 Functional shifts in zooplankton grazing during the progression of a toxic dinoflagellate bloom. ASLO aquatic sciences meeting. San Juan, Puerto Rico. Oral presentation

- Weller, R. **Finiguerra, M.**, Fitzgerald, W.F., Hammerschmidt, C. Methylmercury in Plankton on the Continental Margin of the Northwest Atlantic Ocean. International Conference on Mercury as a Global Pollutant. Halifax, Canada. July 2011. Poster presentation
- Pagano, M.B.**, Escibano, D.F., Taylor, G.T. 2006. The Effects of Seawater Constituents on Viral Decay Rates. Winter ASLO Aquatic Sciences Meeting. Oral Presentation
- Pagano, M.** 2004. Digital Quadrat Analysis of Percent Filamentous Algal Cover. Great Lakes Research Consortium Student/Faculty Conference. Syracuse, NY. Oral Presentation
- Pagano, M.**, Beck, A. 2002. Sediment Geochemistry of New York and Venetian Marshes. Research Experience for Undergraduate (REU) Results Presentation to Venetian and American Scientists and Officials. Venice, Italy Oral Presentation

Scientific Outreach Activities:

- Avery Point annual undergraduate student poster symposium
Co-Creator Spring 2015
- Invited Speaker- UConn Global Café: "Heat Waves" Fall 2015
- Academic Fair Judge, Sacred Heart University 2014
- Invited Presentation: Green Falls Academy high school, CT Fall 2013
- Taste Touch and Smell of Science-
Marine science program aimed at under-privileged and minority students.
Program Organizer Fall 2010, 2012, 2014
Volunteer Summer 2008, 2009
- Marine Science Day- Exposing elementary school students to marine science
"Meet the Plankton" 2-4 sessions ea. year May 2008-2015
- Focus Group: University Public Outreach (invited participant) Fall 2010
- Educational Outreach Website Developer Spring 2010
- Career Fair Workshop- Marine Sciences Summer 2010
- 4-H 2010 CT Teen Connection Conference, Passport to Success Summer 2010
- Career Day- Northeast Academy Math and Science Day Spring 2010
- Naugatuck Valley Community College outreach seminar Spring 2010
- National Ocean Sciences Bowl-local and national competitions
Head Rules Judge 2014, 2015
Rules Judge 2008(2), 2009
Timekeeper 2007, 2011

Competitive Research Fellowship Awards:

- UConn Marine Sciences Travel Award, \$500 Spring 2013
- ASLO 2013 Aquatic Sciences Travel Award, \$500 Spring 2013
- Doctoral Dissertation Fellowship, UConn \$ 2,000 Spring 2012
- 6th HAB Symposium Student Travel Award: \$650 Fall 2011
- Manasquan River Tuna Club Scholarship, \$500 Spring 2010
- Pre-doctoral Fellowship: Competitive departmental research proposals
\$ 527 Spring 2013
\$ 2,000 Summer 2012
\$ 747 Summer 2011
\$ 542 Summer 2010
\$ 1,270 Summer 2009

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| \$ 500 | Fall 2008 |
| External funding from CT Sea Grant at the Department of Marine Sciences for Taste, Touch and Smell of Science marine science day camp | |
| \$750 | Fall 2010, 2012 |
| Center for Environmental Science and Engineering Fellowship | Spring 2009 |
| \$7,842 award | |

Research and Analytical Skills:

Grant Writing: Co-authored successful CT Sea Grant, significantly contributed to two other funded proposals, NSF & CTSG, with Dr. Dam. Authored successful grant applications at university and departmental level

Evolutionary, Ecological, and Life History: Selection experiments, cascade and dilution experiments, copepod ingestion and growth assays (individual and grouped), survivorship analyses, algal growth kinetics, trace-metal clean trophic interaction experiments

Microbiology- sterile transfer, bacterial culturing, viral plaque assay method, aquatic viral isolation, viral stock propagation, sewage contaminant quantification, bacterial and viral enumeration via epifluorescence microscopy

Molecular Biology- PCR and quantitative-PCR, single organism high-quality RNA and DNA extraction, cDNA synthesis, gel electrophoresis, fluorescent *in situ* hybridization (FISH)

Plankton Culturing: Small and large-scale copepod culturing, axenic phytoplankton culturing (diatoms, dinoflagellates, chlorophytes)

Instrumentation: Fluorometers, CHN analyzers, expertise in Coulter and Elzone particle counters, plankton wheels, quantitative PCR machines

Oceanographic Research Cruises: CTD (Conductivity, Temperature and Depth) sensors, trace metal clean rosettes and sampling, large scale plankton tows using trace metal clean techniques

Scientific Society Memberships:

Association for the Sciences of Limnology and Oceanography (ASLO)

American Association for Advancement of Science (AAAS)

American Geophysical Union (AGU)

Manuscript Reviewer:

Harmful Algae

Journal of Experimental Marine Biology and Ecology

Journal of Plankton Research

Public Library of Science (PLoS One)

Oceanographic Research Cruises:

OCE 466; R/V Oceanus. 10 days

Summer 2010

END-452 & 492: R/V Endeavour 12 days ea.

Summer 2008 & 2009

P.I.s: W. Fitzgerald, UConn and C.Hammerschmidt, Wright State University

R/V Atlantic Explorer-BIOS Research Cruise, 10 days

Fall 2009

Bermuda Institute of Ocean Sciences (BIOS); P.I.Robert Mason

Professional References:

Dr. Hans G Dam; hans.dam@uconn.edu

Dr. David Avery; david.e.avery@uconn.edu

Dr. William Fitzgerald;

william.fitzgerald@uconn.edu

Dr. Mark Jareb; jarebm@sacredheart.edu

Student References:

Ms. Charlotte Kading; clkading@gmail.com

Ms. Rafka Hage; Rafka.hage@uconn.edu