

Woods Hole Oceanographic Institution  
 MS# 55  
 266 Woods Hole Road  
 Woods Hole, MA 02543-1050  
 Phone: 215-840-7903  
 Email: fmarin@whoi.edu

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## EDUCATION

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- 2017 M.S. Oceanography and Coastal Science, minor in Applied Statistics.  
 Louisiana State University College of the Coast and Environment  
 Advisor: Malinda M. Sutor, PhD.  
 Thesis: *"Plankton communities and marine snow in the northeast Gulf of Mexico as estimated by the Video Plankton Recorder (VPR) during spring 2011."*
- 2007 B.S. Biology with distinction in Environmental Ecology and Marine Science.  
 Lock Haven University of Pennsylvania  
 Advisor: Amy L. Kutay, PhD.  
 Thesis: *"Grazing rates of naturally occurring zooplankton communities in the oligohaline waters of the Sassafra River—Chesapeake Bay transition region."*

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## GRADUATE APPOINTMENTS

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### Graduate Research Assistantship

**August 2011—December 2015**

LSU Plankton Ecology Lab

Baton Rouge, LA

- Funded by the NOAA Natural Resource Damage Assessment of the *Deepwater Horizon*.
- Digitized physical plankton samples collected from NRDA cruises using a Zooscan® plankton scanner.
- Processed digitized plankton samples using Zooprocess® and WHOI Silhouette DIGITIZER software.
- Delivered to NOAA processed data from the Digital Autonomous Video Plankton Recorder (DAVPR).
- Drafted and submitted to NOAA reports detailing the collection, processing, and analysis of DAVPR data.

### Graduate Teaching Assistantship

**January 2016—December 2016**

Introduction to Oceanography (OCS 1005)

Baton Rouge, LA

- The course was an online class with exams held on campus. Each semester enrolled ~ 80—100 students.
- Graded essays and held office hours and answered students questions regarding the course material.

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## AWARDS

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- 5<sup>th</sup> Zooplankton Production Symposium Travel Fellowship, amount \$1000
- Louisiana State University Graduate School Student Travel Award, amount \$200
- 2<sup>nd</sup> place for presentation in ecology, evolution, and environmental biology, 2007 CPUB Conference.

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## SOFTWARE

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|-----------------------------|--------------------------|-------------------------|----------------------|
| • Matlab®                   | • Visual Plankton        | • R®                    | • AutoCAD®           |
| • SAS® Statistical Software | • Seascan, Inc. Software | • SeaBird® Software     | • ImageJ®            |
| • ESRI Arc GIS®             | • Zooprocess®            | • Adobe® Creative Suite | • Plankton Digitizer |

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**PROFESSIONAL EXPERIENCE**

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**Research Assistant II****June 2017—Present**

Woods Hole Oceanographic Institution (WHOI)

Woods Hole, MA

- Research assistant to the PVLAB. Department: Applied Ocean Physics and Engineering (AOPE).
- Research assistant to the Sam Laney Laboratory. Department: Biology.
- WHOI Department of Biology Assistant.
- Ice Tethered Profiler (ITP) technician.
- Technician for the Deep Submergence Laboratory (DSL), SharkCam (REMUS), and several other AOPE faculty.

**Oceanographic Research Technician****June 2010—July 2011**

A.I.S., Inc. (Scientific and Environmental Services)

Marion, MA

- NOAA Natural Resource Damage Assessment (NRDA) *Deepwater Horizon* subsurface monitoring unit.
- Operated and maintained instrumentation such as the Video Plankton Recorder (VPR), holographic camera, plankton nets, CTD with Niskin Rosette, and specially calibrated fluorometers.
- Processed and catalogued samples of plankton, nutrients, chlorophyll, CTD, and VPR data.
- Drafted standard operating procedures for sampling routines conducted at sea.
- Coordinated the transport of data and equipment between vessels, field support, and sample intake.

**Contracted in-situ Plankton Imaging Technician****April 2011—May 2011**

Woods Hole Oceanographic Institution (WHOI)

Woods Hole, MA

- Technician for digital plankton data on a multidisciplinary research cruises in the Atlantic Ocean.
- Deployed, recovered, and maintained the plankton imaging systems (DAVPR, VPR II, and Holocam).
- Processed data and built image classifiers for machine learning and real-time plankton identification.
- Launched expendable bathythermograph sensors hourly and logged data during scheduled watches.

**Marine Fisheries Observer****April 2008—April 2011**

A.I.S., Inc. (Scientific and Environmental Services)

Marion, MA

- Contracted by National Marine Fisheries Service (NMFS) Northeast Fisheries Observer Program (NEFOP).
- Logged ~12 days at sea per month for scientific observation on Northeast commercial fishing vessels.
- Compiled reports documenting all activities related to fishing for each vessel boarded over the trips duration.
- Sampled targeted fishes for length frequency, age structures, tags, and tissue.
- Sampled and documented by-catch of marine mammals, Aves, reptiles, and rare fishes.
- Collected fishing vessel economic data, fishing gear configuration, vessel location, and local weather.
- Quantified pounds of kept and discarded fishes and marine debris for all fishing activities.

**Research Technician****April 2009—May 2009**

A.I.S., Inc. (Scientific and Environmental Services)

Marion, MA

- Contracted employee for the Massachusetts Division of Marine Fisheries.
- Tested NORBAIT<sup>®</sup>, for its effectiveness targeting Haddock and reducing by-catch of Atlantic Cod.

**Preserve Steward****June 2004—April 2008**

Pennypack Ecological Restoration Trust (PERT)

Huntingdon Valley, PA

- Performed ecological restoration of native grasslands, forests, and wetland ecosystems.
- Worked in conjunction with researchers, project managers, and field teams.
- Supervised volunteers and citizens performing community service duty.

**U.S. Fish and Game Internship****June 2005—August 2005**

John Heinz National Wildlife Refuge (JHNWR)

Philadelphia, PA

- Conducted USDA land bird surveys, and classified habitat at survey locations.
- Mapped invasive wetland plant coverage using GPS and GIS to quantify aerial herbicide to be purchased.

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**PRESENTATIONS AND COLLOQUIA**

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**ASLO<sup>1</sup> Summer Meeting**, Santa Fe, NM, USA, 5-10 June, 2016

*"Multivariate analysis on spatial and temporal variation of plankton communities and marine snow in the Gulf of Mexico using high resolution imaging data."* (Oral presentation).

Marin, F. D., and M. M. Sutor.

**6<sup>th</sup> International Zooplankton Production Symposium (ICES)**, Bergen, Norway, 9-13 May, 2016

*"Multivariate analysis on the spatial and temporal variability of plankton communities in the offshore Gulf of Mexico as estimated by the video plankton recorder (VPR)."* (Poster presentation).

Marin, F. D., and M. M. Sutor.

**ASLO<sup>1</sup> Ocean Sciences Meeting**, New Orleans, LA, USA, 21-26 February, 2016

*"Multivariate analysis on the spatial and temporal variations in plankton communities in the offshore Gulf of Mexico as estimated by the video plankton recorder (VPR)."* (Poster Presentation).

Marin, F. D., and M. M. Sutor.

**Graduate Student Symposium (GSS)**, Dauphin Island Sea Lab, AL, USA, 13-15 March, 2015

*"A multivariate analysis of planktonic communities in the Gulf of Mexico as measured by the video plankton recorder (VPR)."* (Oral Presentation).

Marin, F. D., and M. M. Sutor.

**Graduate Student Symposium (GSS)**, Louisiana Universities Marine Consortium, LA, USA, 21-23 February, 2014

*"Small-scale distributions of plankton and marine snow as measured by the Video Plankton Recorder (VPR) in the Gulf of Mexico."* (Oral Presentation).

Marin, F. D., and M. M. Sutor.

**ASLO<sup>1</sup> Aquatic Sciences Meeting**, New Orleans, LA, USA, 17-22 February, 2013

*"Biomass and community composition of plankton relative to physical parameters in the Gulf of Mexico during spring 2011."* (Oral Presentation).

Marin, F.D., and M. M. Sutor.

**ASLO<sup>1</sup> Ocean Sciences Meeting**, Salt Lake City, UT, USA, 12-17 February, 2012

**EURO-BASIN Workshop: Optical Methods in Plankton Taxonomy**, Hamburg, Germany, 10-13 September, 2012

*"ZOOVIS-DEEP: A New Shadowgraph Plankton Imaging System."* (Oral Presentation)

presented on behalf of M. C. Benfield.

**5<sup>th</sup> International Zooplankton Production Symposium**, Pucón, Chile, 14-18 March, 2011

*"Quantification of Plankton and Marine Snow in the Gulf of Mexico using the Digital-autonomous Video Plankton Recorder (DAVPR)."* (Oral Presentation).

Marin, F. D., and C. S. Davis.

**Commonwealth of Pennsylvania University Biologist Conference (CPUB)**, Erie, PA, USA, 13-15 April, 2007

*"Grazing rates of naturally occurring zooplankton communities in the oligohaline waters of the Sassafras River—Chesapeake Bay transition region."* (Oral Presentation).

Marin, F. D. *Zooplankton Grazing*, Volume IX ISSN 1555-3760.

<sup>1</sup>Association for the Sciences of Limnology and Oceanography (ASLO)

**FIELD AND LABORATORY SKILLS****In-situ Imaging and Acoustical Instrumentation**

- Video Plankton Recorder (VPRII and DAVPR).
- Digital Holographic Plankton Camera (Holocam).
- In-situ Ichthyoplankton Imaging System (ISIIS).
- ZOOVIS-DEEP.
- Bio-acoustical instruments.
- Current meters (Triton, Vector, and Signature 1000)

**Plankton Nets and Traps**

- Multiple Opening-Closing Net & Environmental Sensing System (MOCNESS): 10m<sup>2</sup>, 1m<sup>2</sup>, 1/4m<sup>2</sup>.
- Modified Tucker Trawl.
- Ring Nets: Bongo, Simple, and Wisconsin.
- Neuston Nets & Plankton Light Traps.
- Volumetric plankton traps (Van Dorn, Schindler, etc.).

**Other**

- Drone operation.
- Mist nets, kicknets, and seine nets.
- Boat trailering, and operation (up to 25 foot).
- Gillnet, longline, bottom and pelagic trawl.
- Experienced Professional Taxidermist.
- Able to perform duties under adverse field conditions.

**CTD sensors and winches**

- SeaBird® CTD: 911v3 Plus, FastCat-49, etc.
- Niskin Bottle Rosette.
- Fluorometry: AQUATRACKA®, ECOPUCK®, TURNER®.
- Radiometers, PAR sensors, Dissolved Oxygen sensors.
- Expendable Bathythermographs (XBT)
- Winch operation and cable terminations.

**Laboratory**

- Zooscan® digital plankton scanner.
- Plankton sample splitters: folsom and motoda.
- Chlorophyll filtration and extraction.
- Water Sampling: nutrients, hydrocarbons, and DO.
- Microscopy (phase-contrast, macro, simple, etc.).
- Plankton sample volume displacement.
- Preservation and staining techniques.
- Sedge-wick rafter slides.

**Shop**

- Drill press and hand drills.
- Saws (Chop/miter, table, circular, band, jig).
- Sanders (belt, disc, hand).
- Electrical soldering (splicing cables, circuit boards).

**RESEARCH CRUISES:** Work at sea on the following 17 research cruises involved zooplankton and micro-nekton sample collection with traditional sampling methods (*ring nets*, *MOCNESS*), optical sampling methods (VPR, *Holocam*), and hydrographic data (*CTD*). Marine mammal observations were a responsibility on 5 of these cruises.

<b>Year</b>	<b>Vessel Name</b>	<b>Chief Scientist</b>	<b>Region</b>	<b>Program</b>
2013	R/V <i>F. G. Walton Smith</i>	M. Sutor, Ph.D.	Gulf of Mexico, USA	NSF
2012	R/V <i>Falkor</i>	C. Davis, Ph.D.	Trans-North Atlantic, UK, GL, USA	SOI
2012	R/V <i>F. G. Walton Smith</i>	M. Sutor, Ph.D.	Gulf of Mexico, USA	NSF
2011	M/V <i>Meg Skansi</i>	T. Sutton, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2011	M/V <i>Nick Skansi</i>	M. Sutor, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2011	R/V <i>F. G. Walton Smith</i>	M. Sutor, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2011	R/V <i>Oceanus</i>	D. McGillicuddy, Ph.D.	Central Atlantic, USA, Barbados	NSF
2011	R/V <i>Oceanus</i>	C. Davis, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2011	M/V <i>Arctic</i>	C. Davis, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2010	R/V NOAA ship <i>Pices</i>	T. Sutton, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2010	R/V <i>F. G. Walton Smith</i>	M. Sutor, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2010	R/V <i>F. G. Walton Smith</i>	C. Davis, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2010	R/V <i>F. G. Walton Smith</i>	M. Sutor, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2010	M/V <i>American Diver</i>	M. Sutor, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2010	M/V <i>American Diver</i>	C. Davis, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2010	M/V <i>American Diver</i>	C. Davis, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA
2010	M/V <i>Ocean Veritas</i>	O. Pelz, Ph.D.	Gulf of Mexico, USA	NOAA/NRDA

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**MULTIMEDIA**

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LSU Graduate Research Initiative (GRI) – Blog documenting the R/V F.G. Walton Smith voyage #1304, a NOAA funded multi-disciplinary research cruise in the Northern Gulf of Mexico. <http://www.lsugri.org>

Articles written:

*“The Digital-autonomous Video Plankton Recorder (DAVPR)”*

*“In Situ Ichthyoplankton Imaging System (ISIS)”*

*“Staring at the Sea... Through Sound”*

*“Who Ordered a Dark and Stormy?”*

*In Search of Tricho* - a mini-documentary of R/V Oceanus Voyage #471, April-May 2011

<http://www.whoi.edu/page.do?pid=11596&tid=282&cid=99009>

Terra Nova Pictures: Antarctic Explorer’s Shipwreck Found – R/V Falkor Voyage #003, June-July 2012

<http://news.nationalgeographic.com/news/2012/08/pictures/120817-antarctica-scott-terra-nova-south-pole-history-science/>

Louisiana State University School of Coast and Environment Student Spotlight February, 2013 for work on the R/V Falkor research cruise 25 June - 4 August 2013.

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**OUTREACH**

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**2012-2013 Seminar Committee**

Louisiana State University, School of the Coast and Environment (SC&E).

Organized, planned, invited, and hosted scientist presenting their independent research at the SC&E seminars series held each Friday during the Fall and Spring semesters.

**2012-2016 Ocean Commotion**

An annual public school outreach event to educate about the aquatic environment.

Gave presentations describing the importance and processes involved for studying plankton.

**2013 Earth Day festival in downtown Baton Rouge.**

Public event to educate about the environment.

Operated a booth with the Coast and Environment Graduate Organization educating about the ocean.

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**CERTIFICATIONS**

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- WHOI Scientific Certified Diver.
- NAUI SCUBA Certified.
- NAUI EANx Certified Diver.
- NAUI Dry Suit Certified Diver.
- WHOI Small Boat Certification.
- DAN CPR/O<sup>2</sup>/First Aid for Professional Divers .
- NOAA/NMFS Marine Fisheries Observer Certified.
- Offshore Cold Water Survival Certified.
- Eagle Scout, 2002 Boy Scouts of America (BSA).
- Current Travel Worker Identification Card (TWIC).

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**PROFESSIONAL SOCIETIES and ORGANIZATIONS**

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- Association for the Sciences of Limnology and Oceanography (ASLO).
- International Council for the Exploration of the Sea (ICES).
- Coast and Environment Graduate Organization (CEGO).

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**OTHER EXPERIENCE**

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- Marin’s Fine Art Taxidermy: Independent Contractor part-time 1999 - 2010
- Keswick Cycle Company: Mechanic and Sales Manager 2007 - 2008
- Student Recreation Center: Rock Climbing Wall manager/instructor 2004 - 2007