

# Eric Muhlbach

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## Education

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**B.S. Marine Biology, University of Rhode Island (URI)** **2011**  
Kingston, RI  
Minor: Aquaculture and Fisheries Science

## Experience

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**Research Technician, Harmful Algal Bloom Group** **August 2013 - Present**  
**Florida Fish and Wildlife Conservation Commission**  
St. Petersburg, FL  
*Supervisor:* Dr. Alina Corcoran

- Assist in field and lab operations to collect and analyze phytoplankton and nutrient samples in support of statewide monitoring efforts.
- Assist in development of analytical procedure to identify and quantify picoplankton using flow cytometry.

**Research Associate I, Zooplankton Ecology Lab** **October 2011- August 2013**  
**Louisiana State University (LSU)**  
Baton Rouge, LA  
*Supervisor:* Dr. Malinda Sutor

- Assisted in efforts to collect, process, digitize and analyze zooplankton, ichthyoplankton, and phytoplankton samples as part of the NOAA Deep Water Horizon Natural Resource Damage Assessment (DWH NRDA).
- Conducted and oversaw all aspects of internal zooplankton sample digitization using the labs 3 Hydroptic Zooscans (high resolution, water proof, flat-bed sample scanners): training, data management, quality control (QC), progress tracking, troubleshooting, and data analysis.
- Established and oversaw Zooscan QC and technical support for cooperating NOAA NRDA labs.
- Created and optimized zooplankton training sets for use with machine learning classification algorithms.
- Led the technical demonstration at a Zooscan training workshop held at LSU. Workshop trained ~20 technicians, lab managers, contracted NOAA organizers, and a PI to digitize

- NOAA NRDA samples using the Zooscan.
- Developed SOP's and other inter/intra lab documents

**Research Assistant, Phytoplankton Ecology Lab**

**February 2010 – September 2011**

**URI - Graduate School of Oceanography**

Narragansett, RI

*Supervisor:* Dr. Susanne Menden-Deuer

- Assisted in basic lab duties and experiments: lab cleaning/autoclaving, autotroph/heterotroph culture maintenance, cell isolation, cell enumeration, and autotroph growth experiments.
- Use of Coulter Counter, microscopes, plate fluorescence reader, and fluorometer.
- Data entry and graphing with excel.
- Basic work with Linux OS, and MATLAB, in order to run and analyze filmed plankton experiments.

**Undergraduate Researcher, URI Coastal Fellowship Program**

**May 2010 - August 2010**

**URI - Graduate School of Oceanography**

Narragansett, RI

*Supervisor:* Dr. Susanne Menden-Deuer

- Designed a filmed dinoflagellate predation experiment to observe and quantify prey preference.
- Used particle tracking software to generate 3D organism tracks, and MATLAB to organize/plot track statistics.

**Cruise Experience**

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*R/V Walton Smith*

**April 2012, April 2013**

- Assisted in all aspects of cruise research: MOCNESS sampling, CTD sampling, plankton imaging system deployment, shipboard microzooplankton grazing experiment sampling, and chlorophyll filtration.

*R/V Endeavor*

**April 2011**

- Assisted in all aspects of cruise research: CTD sampling, chlorophyll filtration, fluorometer reading, Coulter Counting, and shipboard microzooplankton grazing experiment set-up and sampling.

**Presentations**

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E. Muhlbach, W. Day, S. Menden-Deuer. "Dinoflagellate prey selectivity: *Oxyrrhis marina* behavioral mechanisms allow for preferential feeding of prey species," University of Rhode Island's Coastal Fellowship Symposium, December 10, 2010. *Poster presentation.*

E. Muhlbach, W. Day, S. Menden-Deuer. "Dinoflagellate prey selectivity: *Oxyrrhis marina* behavioral mechanisms allow for preferential feeding of prey species," University of New England's 3<sup>rd</sup> annual Northeast Undergraduate Research and Development Symposium, March 05, 2011. *Oral presentation.*

## **Honors, Awards, Outreach**

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LSU Plankton Cruise Blog	2013
LSU's Annual "Ocean Commotion"	2011, 2012
1 <sup>st</sup> Place award for research poster presented at Coastal Fellowship Symposium	2010
University of Rhode Island Coastal Fellowship with Dr. Susanne Menden-Deuer	2010

## **Skills**

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### Computer:

- MATLAB
- Web: HTML/CSS/PHP/MySQL
- MS Office Suite
- Adobe Creative Suite
- ImageJ
- Linux server configuration

### Lab Instruments:

- Zooscan
- FlowCAM
- Sample Splitters: Folsom, Motoda
- Chlorophyll Analysis: Sonicator, Centrifuge, Fluorometer
- Microscopes: Stereo, Compound, Fluorescent
- Cell Counting: Sedgwick Rafter, Hemocytometer
- Beckman Coulter Counter
- Fluorecence Microplate Reader
- Millipore De-ionizer
- Fume hoods: Standard, Laminar
- Other: Filters, Pumps, Microbalances, Pipettes, Digital Cameras

### Field Instruments:

- Standard Niskin Rosette CTD package
- MOCNESS
- VPR
- ZOOVIS
- ADCP/AWCP

### Other:

- Spanish (Limited proficiency)
- Open Water Diver: Scuba Diving International
- Proficient with hand and power tools