

Brigid Elyse Carr

Bigelow Laboratory for Ocean Science

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Education

- 2018 - 2020 **MS, Marine Science, Emphasis on Marine Resource Assessment, USF College of Marine Science**
Thesis: Polychlorinated Biphenyls, Organochlorine Pesticides, and Polycyclic Aromatic Hydrocarbons in Snapper (Family Lutjanidae) from Cuba and the Wider Gulf of Mexico
Major Professor: Dr. Steven Murawski
GPA: 3.77
- 2012 - 2016 **BS, Biology, minor in Chemistry, Eckerd College**
Thesis: Using stable isotopes to study dietary patterns and foraging ground fidelity in the Loggerhead sea turtle (*Caretta caretta*)
Major Professor: Dr. Peter Meylan
GPA: 3.77

Experience

- 2023 - Present **Research Associate**
Bigelow Laboratory for Ocean Science, Dr. Steven Archer
- Shellfish/HAB toxin monitoring using LC-MS/MS
 - Organic compound analysis via GC-MS
- 2021 - 2023 **Associate Analytical Chemist**
International Atomic Energy Agency - Marine Environmental Laboratories, Dr. Imma Tolosa
- Method development and validation for plasticizer and flame retardant analysis using GC-MS/MS
 - Optimized extraction and clean-up of organic contaminants from marine matrixes
- 2016 - 2018 **Laboratory Technician**
University of South Florida College of Marine Science, Dr. Steve Murawski and Dr. David Hollander
- Extraction and clean-up of fish tissues and sediments for PAH analysis
 - Analysis of samples via HPLC and GC-MS/MS
- 2013 - 2016 **Research Assistant**
Eckerd College, Dr. David Hastings
- Extraction of sediment cores for ICP-MS analysis of metals
- 2014 - 2016 **Research Assistant**
Florida Fish and Wildlife Research Institute, Dr. Simona Ceriani
- Processed sea turtle egg samples for stable isotope analysis

Relevant Skills

Lab and Field Experience:

- Mesopelagic fish, squid, and shrimp dissection and sub-sampling
- Sediment core extrusion and sub-sampling
- Extraction and clean-up techniques, including microwave, QuEChERS, ASE, liquid-liquid, SPE fractionation, and GPC
- Hydrolysis and derivatization of biological samples
- Longline fishing and sample collection in the field
- Data analysis and sample database organization/management
- Seawater and porewater collection
- Advanced open water SCUBA certification

Laboratory Instruments: operational competency in high performance liquid chromatography with fluorescence detection (HPLC-F), gas chromatography tandem mass spectrometry (GC-MS/MS), liquid chromatography tandem mass spectrometry (LC-MS/MS), accelerated solvent extraction (ASE), gel permeation chromatography (GPC), microwave extraction instruments and methods, Buchi multivapor evaporator, genogrinder operation, general bench chemistry

Special Software: Matlab, Agilent EZChrom, Agilent MassHunter, Shimadzu LabSolutions

Cruise Experience:

February 2020: A four day long survey on the *F/V Gulf Eagle* using rod and reel fishing to collect data and samples from pelagic fishes off the coast of southern Texas.

August 2018: An eleven day long survey on the *R/V Weatherbird II* using pelagic longline fishing to collect a variety of types of data and fish samples from across the Northern Gulf of Mexico

September 2015: A ten day long survey on the R/V *Weatherbird II* collecting sediment cores, porewater samples, and O₂ measurements across the Northern Gulf of Mexico

August 2014: A seven day long survey on the R/V *Weatherbird II* collecting sediment cores and porewater samples across the Northern Gulf of Mexico

Published Peer-Reviewed Papers

Legacy and Emerging Organic Contaminants in a Sediment Core from Cienfuegos Bay, Cuba
Chemosphere, 328 (2023): 138571

B. Carr, P. Masque, C. Alonso-Hernandez, D. Huertas, I. Tolosa

Hepatobiliary PAHs and Prevalence of Pathological Changes in Red Snapper
Aquatic Toxicology, 230 (2021): 105714

E. Pulster, S. Fogelson, B. Carr, J. Mrowicki, and S. Murawski

A First Comprehensive Baseline of Hydrocarbon Pollution in Gulf of Mexico Fishes
Scientific Reports, 10.1 (2020): 1-14

E. Pulster, A. Gracia, M. Armenteros, G. Toro-Farmer, S. Snyder, B. Carr, M. Schwaab, T. Nicholson, J. Mrowicki, S. Murawski

Chronic PAH Exposures and Associated Declines in Fish Health Indices Observed for Ten Grouper Species in the Gulf of Mexico
Science of the Total Environment, 703 (2020): 135551

E. Pulster, A. Gracia, M. Armenteros, B. Carr, J. Mrowicki, S. Murawski

A Decadal Assessment of Polycyclic Aromatic Hydrocarbons in Mesopelagic Fishes from the Gulf of Mexico Reveals Exposure to Oil-Derived Sources

Environmental Science and Technology, 52.19 (2018): 10985-10996

I. Romero, T. Sutton, B. Carr, E. Quintana-Rizzo, S. Ross, D. Hollander, J. Torres

Other Relevant Publications

Chapter 15: Polycyclic Aromatic Hydrocarbon Baselines in Gulf of Mexico Fishes *in: Scenarios and Responses to Future Deep Oil Spills: Fighting the Next War* (2019), *Editors:* Murawski et al., *Publisher:* Springer Nature, Switzerland, AG

E. Pulster, A. Gracia, S. Snyder, I. Romero, B. Carr, G. Toro-Farmer, S. Murawski

Published Abstracts

Exposure of Marine Phytoplankton (*Isochrysis galbana*) to a Mixture of Organophosphate Esters: Impacts on Physiology, Metabolism, and Potential for Bioaccumulation

Poster Presentation, International Conference on Chemistry and the Environment, Venice, Italy. 2023

B. Carr, H. Ben Gharbia, J. Rolland, M. Metian, P. Bersurder, I. Tolosa

Legacy and Emerging Halogenated Flame Retardants in a Sediment Core from Cienfuegos Bay, Cuba

Oral Presentation, International Symposium on Halogenated Persistent Organic Pollutants (Dioxin2022), New Orleans, LA. 2022

B. Carr, P. Masque, C. Alonso-Hernandez, D. Huertas, I. Tolosa

Hepatic Concentrations of PCBs and PAHs in Snappers from Cuba and the Wider Gulf of Mexico

Poster Presentation, Gulf of Mexico Oil Spill and Ecosystem Science Conference, Tampa, FL. 2020

B. Carr, E. Pulster, J. Angulo-Valdes, S. Murawski

Chronic PAH exposures and associated declines in fish health indices observed for ten grouper species collected in the Gulf of Mexico

Poster Presentation, Gulf of Mexico Oil Spill and Ecosystem Science Conference, Tampa, FL. 2020

E. Pulster, A. Gracia, M. Armenteros, B. Carr, J. Mrowicki, S. Murawski

Hepatic accumulation of PCBs, OCPs, and PAHs in snappers from the northeastern coast of Cuba

Poster Presentation, Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA. 2019

B. Carr, E. Pulster, M. Armenteros, S. Murawski

Spatiotemporal Trends in PAH Baselines in Gulf of Mexico Fishes

Oral Presentation, Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA. 2019

E. Pulster, A. Gracia, S. Snyder, J. Mrowicki, I. Romero, B. Carr, G. Toro-Farmer, S. Murawski

Hepatic accumulation of PCBs, OCPs, and PAHs in Wenchman from the northeast coast of Cuba

Poster Presentation, MARCuba Marine Science Conference, Havana, Cuba. 2018

B. Carr, E. Pulster, M. Armenteros, S. Murawski

Gulf-wide baselines of polycyclic aromatic hydrocarbons (PAHs) in groupers

Oral Presentation, MARCuba Marine Science Conference, Havana, Cuba. 2018

E. Pulster, B. Carr, A. Gracia, M. Armenteros, J. Mrowicki, S. Murawski

A spatiotemporal analysis of hepatic and biliary PAHs in groupers from around the Gulf of Mexico
Poster Presentation, Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA. 2018

B. Carr, E. Pulster, A. Gracia, M. Armenteros, S. Murawski

Polycyclic aromatic hydrocarbons in sediment and gafftopsail catfish (*Bagre marinus*) collected in the Bay of Campeche
Poster Presentation, Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA. 2018

E. Pulster, I. Romero, A. Gracia, B. Carr, S. Murawski

What can bile tell us about the environmental health of the Gulf of Mexico?

Oral Presentation, Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA. 2017

Oral Presentation, American Fisheries Society Conference, Tampa, FL, 2017

E. Pulster, S. Snyder, R. Struch, B. Carr, G. Toro-Farmer, A. Gracia, S. Murawski

Comparison of using ASE and QuEChERS methods for extracting PAHs from fish liver and muscle

Poster presentation, Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, 2017

B. Carr, E. Pulster, I. Romero, D. Hollander and S. Murawski

Changing sedimentary redox conditions following DWH blowout and IXTOC-I events: geochemical and ecological implications

Oral Presentation, Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, 2017

D. Hastings, T. Bartlett, G. Brooks, B. Carr, R. Larson, K. Quinn, D. Razonale, I. Romero, P. Schwing, D. Hollander

Comparison of sedimentary redox conditions following two major marine blowouts: Deepwater Horizon and Ixtoc-1

Oral Presentation, Gulf of Mexico Research Initiative Conference, Tampa, FL, 2016

D. Hastings, T. Bartlett, B. Carr, K. Husiak, R. Larson, K. Deister, J. Kostka, W. Overholt, I. Romero, P. Schwing, A. Ruiz-Fernandez, J. Sanchez-Cabeza, D. Hollander

Surface sediments became more reducing following the BP Deepwater Horizon Blowout event: geochemical and ecological implications

Oral Presentation, Gulf of Mexico Oil Spill and Ecosystem Science Conference, Houston, TX, 2015.

D. Hastings, P. Schwing, G. Brooks, J. Kostka, R. Larson, W. Overholt, T. Bartlett, B. Carr, K. Quinn, I. Romero, D. Hollander

Professional Development/Activities/Service

06/2020 R software training course

2019 – 2020 Student representative on the USF dean's advisory committee

10/2019 Created and taught a short course on extraction and analysis methodology for organic contaminants

2014 – 2018 "Science in the Sun" St. Petersburg Science Education Festival

10/2016 C-IMAGE Communicating Your Science Workshop

2015 – 2017 Volunteer at Tampa Bay Watch

2013 – 2016 Volunteer at Marine Mammal Pathobiology Lab

Honors and Awards

01/2020 1st Place Oral Presentation, Graduate Student Symposium

03/2020 Gulf of Mexico Research Initiative Scholar

04/2019 Wells Fargo Internal Fellowship, University of South Florida

05/2016 Inducted into Sigma Xi

2012 – 2016 Eckerd College Honors Program

2012 – 2016 Trustee Academic Scholarship, Eckerd College