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## EDUCATION

1. PhD, Chemical Oceanography, University of South Florida, College of Marine Science, St. Petersburg, FL (2011)
2. BS, Marine Science (Geology), Eckerd College, St. Petersburg, FL (2006)
3. International Baccalaureate Diploma, George Washington High School, Denver, CO (2002)

## PEER-REVIEWED PUBLICATIONS

1. **Schwing, P.T.**, Flower, B.P., Romero, I.C., Brooks, G.R., Larson, R.A., Hollander, D.J., Hastings, D.W. (Submitted). A Decline in Deep-Sea Benthic Foraminifera Community Density Following the Deepwater Horizon Event in the Northeastern Gulf of Mexico. *Deep Sea Research II*.
2. Hastings, D.W., **Schwing, P.T.**, Brooks, G.R., Larson, R.A., Morford, J.L., Roeder, T., Quinn, K.D., Romero, I.C., Hollander, D. J. (Submitted). Changes in sediment redox conditions following the BP DWH Blowout event. *Deep Sea Research II*.
3. Romero, I.C., **Schwing, P.T.**, Brooks, G.R., Larson, R.A., Hastings, D.W., Flower, B.P., Goddard, E.A., Hollander, D.J. (Submitted). Hydrocarbons in deep-sea sediments following the 2010 Deepwater Horizon Blowout in the Northeast Gulf of Mexico. *Deep Sea Research II*
4. Brooks, G.R., Larson, R.A., **Schwing, P.T.**, Flower, B.P., Hollander, D.J., Romero, I.C., Moore, C., Reichart, G.J., Jilbert, T., Hastings, D.W. (Submitted). Sediment Pulse in the NE Gulf of Mexico Following the 2010 DWH Blowout. *Deep Sea Research II*.
5. Brooks, G.R., Larson, R.A., Devine, B., **Schwing, P.T.** (Submitted). Annual- to Millennial-Scale Record of Sediment Delivery to US Virgin Island Coastal Environments. *The Holocene*.
6. **Schwing, P.T.**, Johnson, A. (Submitted). A record of anthropogenic effects on sedimentation in the Manatee River, FL. *Environmental Science and Engineering*.
7. **Schwing, P.T.**, Hallock-Muller, P., Robbins, L.L., Larson, R., Beck, T., Martínez-Colón, M., and Gooch, B. (2010). West Florida Shelf: A Natural Laboratory for the Study of Ocean Acidification. U.S. Geological Survey Open-File Report 2010-1134, pp.15-22.
8. Brooks, Gregg R., Devine, Barry, Larson, Rebekka A., **Schwing, Patrick T.**, Wallace, Leslie, E. (2007) Sedimentary Development of Coral Bay, St. John, USVI: Natural and anthropogenic influences. *Caribbean Journal of Science*, Vol.43, No.2.

## ACADEMIC PUBLICATIONS

1. **Schwing, P.T.** (2011). A Sedimentary Record of Regional Land-Use and Climate Change in the Manatee River, Manatee County, Florida. Dissertation, USF, College of Marine Science, St. Petersburg, FL.

2. **Schwing, Patrick T** (2006). Regional Climatology and Anthropogenic Impacts on Coastal Sedimentation Patterns: St. John, USVI. Thesis, Eckerd College, St. Petersburg FL.

#### INVITED TALKS

1. Eckerd College Junior Seminar Series, Eckerd College, March 12, 2014.
2. Short-lived radioisotope and stable carbon isotope utility and application to the Deepwater Horizon event. Eckerd College, November 8, 2013.
3. The Deepwater Horizon blowout: chemical tracking, fate, and impacts of oil released. Saint Petersburg College, October 30, 2013.

#### SELECTED PRESENTATIONS

1. **Schwing, P.T.**, Romero, I.C., Brooks, G.R., Hastings, D.W., Larson, R.A., Hollander, D.J. (2014). Characterizing the Deep Sea Benthic Foraminifera Impact and Response to the Deepwater Horizon Event in the Northeastern Gulf of Mexico. International Oil Spill Conference, Savannah, GA.
2. **Schwing, P.T.**, Romero, I.C., Brooks, G.R., Hastings, D.W., Larson, R.A., Hollander, D.J., Reilly, L.M., Chanton, J.P. (2014). Characterizing the Impact and Response of Deep Sea Benthic Foraminifera to the Deepwater Horizon Event in the Northeastern Gulf of Mexico. ASLO Ocean Sciences Meeting, Honolulu, HI.
3. **Schwing, P.T.**, Romero, I.C., Brooks, G.R., Hastings, D.W., Larson, R.A., Hollander, D.J. (2014). Characterizing the Deep Sea Benthic Foraminifera Impact and Response to the Deepwater Horizon Event in the Northeastern Gulf of Mexico. International Oil Spill Conference, Savannah, GA.
4. **Schwing, P.T.**, Romero, I.C., Brooks, G.R., Hastings, D.W., Larson, R.A., Hollander, D.J., Reilly, L.M., Chanton, J.P. (2014) Characterizing the Deep Sea Benthic Foraminifera Impact and Response to the Deepwater Horizon Event in the Northeastern Gulf of Mexico. GOMRI Conference, Mobile, AL.
5. **Schwing, P.T.**, Flower, B.F., Brooks, G.R., Larson, R.A., Romero, I., Hollander, D.J., (2013). Using short-lived radionuclide inventories and geochronology to quantify benthic foraminifera response to the BP oil blowout. GOMRI Conference, New Orleans, LA.
6. **Schwing, P.T.**, Flower, B.P., Brooks, G.R., Larson, R.A. (2012). Using short-lived radionuclide geochronology to quantify benthic foraminifera response to the BP oil blowout. GSA Annual Meeting, Charlotte, NC.
7. Larson, R.A., Brooks, G.R., Hollander, D.H., **Schwing, P.T.**, Hill, K., Moore, C., Matsunaga, A. (2012). Utilizing  $^{234}\text{Th}$  and  $^{210}\text{Pb}$  geochronologies to detect increased sediment mass accumulation following the BP blowout event: NE Gulf of Mexico. GSA Annual Meeting, Charlotte, NC.
8. **Schwing, P.T.**, Pyrtle, A.J., Carvalho, K. (2011). Controls of heavy metal distribution in the Manatee River Watershed, FL over the last one-hundred years. ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico.
5. **Schwing, P.T.**, Pyrtle, A.J., Holmes, C.W. (2010). A radiogeochemical, land-use archive of the Manatee River Watershed, FL. GSA Annual Meeting, Denver, CO.
6. **Schwing, P.T.**, Pyrtle, A.J., Holmes, C.W. (2010). A radiogeochemical, land-use archive of the Manatee River Watershed, FL. MSPHDS symposium, Wash. D.C..

7. **Schwing, P. T.**, Pyrtle, A.J., Haynes, S. (2008). Investigating Historical Land Use Within the Manatee River Watershed. Poster, ASLO Ocean Sciences, Orlando, FL.
8. Larson, R.A., **Schwing, P.T.**, Brooks, Gregg R., Holmes, C.W., Devine, B. (2008). Short Lived Radioisotope Inventories as Tracers of Terrestrial Sediment Distribution on a Watershed Scale: St. John US Virgin Islands. ASLO Ocean Sciences, Orlando, FL.
9. Brooks, G.R., Larson, R.A., Devine, B., **Schwing, P.T.**, Wallace, L. (2008). 100-Year Record of Coastal Sediment Input: St. John, USVI. GSA Southeastern, St. Petersburg, Florida.
10. **Schwing, P. T.**, Pyrtle, A.J., Haynes, S. (2008). Investigating Historical Land Use Within Southeastern Tampa Bay. **1<sup>st</sup> Place** Poster and Interview, U. South Florida Research One Symposium, Tampa, FL.
11. **Schwing, P.T.**, Martinez, E., Pyrtle, A.J., Haynes, S. (2007). Validating a Biogeochemical Watershed Disturbance and Climate Change Proxy: Tampa Bay, FL. Poster, AGU Fall Meeting, San Francisco, CA.
12. **Schwing, Patrick T.**, Brooks, Gregg R., Devine, Barry, Larson, Rebecca A., Holmes, Charles, Wallace, Leslie E. (2005). Interaction of Regional Climatology and Anthropogenic Impacts on Sedimentation on St. John, USVI. Poster, Non-Point Source Pollution Conference, St. John, U.S. Virgin Islands.

## EMPLOYMENT

1. **U. of South Florida Postdoctoral Research Associate** (2012-present)
  - Organized C-IMAGE and DEEP C oceanographic cruises in the Gulf of Mexico, curated sediment core inventory, employed stable isotope and radiochemical methods, and cultured foraminifera in response to the ongoing effects of the Deepwater Horizon oil blowout.
  - Reference: Dr. David Hollander (727) 553-1019 or davidh@marine.usf.edu
2. **U. of South Florida Graduate Research Assistantship** (2007-2011)
  - Led sediment and biological field collection in Florida, Puerto Rico, and Gulf of Mexico, overseeing radiochemistry lab protocol, and analyzing sediment cores to determine recent anthropogenic activity and climate change.
  - Reference: Dr. Ashanti Johnson (214) 604-2797 or apyrtle@marine.usf.edu
3. **Eckerd College/USGS Marine Geology Internship (GeoCrew)** (2004-2006)
  - Collected, sampled, analyzed, and synthesized sediment core data involved in four regional projects; The Tampa Bay Project, Watersheds of the U.S. Virgin Islands, Hard-bottom research on Rattlesnake Key, FL, and anoxic cycles of Charlotte Harbor, FL.
  - Reference: Dr. Gregg Brooks (727) 864-8992 or brooksgr@eckerd.edu
4. **Institute for Broadening Participation Staff** (2007-2008)
  - Coordinated travel and program agenda for 25 students attending the American Geophysical Union Fall Meeting through the Minorities Striving and Pursuing Higher Degrees (MSPHDS) program.
  - Reference: Dr. Vivian Whitney (580) 332-4247 or vivian.williamson@sbcglobal.net
5. **Eckerd College Campus Intern** (2006-2007)
  - Managed 12 student employees, planned an international forum on environmental justice, and coordinated a U.N. cultural event.

Reference: Rev. Mona Bagasao (727) 864-7577 or bagasam@eckerd.edu

## RESEARCH PROJECTS

- 1. BP/GOMRI Gulf of Mexico Sediment Assessment (2010-present)**  
-Responded to the Macondo well blowout by retrieving hundreds of multi-core and box-core samples aboard the R/V Weatherbird II to assess the presence of oil and its effect on benthic organisms through many methods including stable isotopes and radiochemistry.  
Contact: Dr. David Hollander (727) 553-1019 or davidh@marine.usf.edu
- 2. Sedimentary Trace Elements in Juvenile Goliath Grouper Habitat (2013)**  
-correlated trace elements in the fin rays of mature goliath grouper (off-shore) to trace elements in the sediments of their juvenile habitats (near-shore), to determine the relative importance of three predominant goliath grouper nurseries throughout Florida.  
Contact: Orian Tzadik (305) 458-8922 or otzadik@mail.usf.edu
- 3. Caminada Archaeological Vibracoring Project (2012)**  
-collaborated with Goodwin and Associates Archaeology and Eckerd College as co-chief field scientist to determine the spatial extent of a near-shore Holocene midden civilization off of Grand Isle, Louisiana.  
Contact: Dr. R Chris Goodwin (301) 639-3382 or rcgoodwin@rcgoodwin.com
- 4. Dry Tortugas National Park Seafloor Mapping (2008-2009)**  
-Acquired sidescan and high-resolution bathymetric imagery of the Dry Tortugas National Park (DRTO) used for mapping topography and benthic habitat in the deeper areas of DRTO that are not imaged by other methods such as LIDAR or aerial photos aboard the R/V Bellows.  
Contact: Dr. Stan Locker (727) 553-1502 or stan@marine.usf.edu
- 5. West Florida Shelf Ocean Acidification Assessment (2008)**  
-Determined the CO<sub>2</sub> enrichment, organic content and carbonate content from surface sediment samples, and SEAS chemical parameter measurements along the West Florida Shelf aboard the R/V Suncoaster.  
Contact: Dr. Pamela Hallock-Muller (727) 553-1567 or pmuller@marine.usf.edu
- 6. Marine Radiogeochemistry of Puerto Rico (2008)**  
-Co-coordinated the push-core, surface sediment sampling, and water quality assessment of terrestrial and marine sites in Jobos, and El Yunque National Park.  
Contact: Dr. Nekesha Williams (347) 276-3104 or nbwillia@mail.usf.edu
- 7. Florida Straits Side-scan Sonar Survey (2008)**  
-Mapped and surveyed several previously unmapped features of interest on the seafloor using a pole-mounted Teledyne-Benthos C3D interferometric sidescan sonar aboard the R/V Bellows.  
Contact: Dr. Albert Hine (727) 553-1161 or hine@marine.usf.edu
- 8. Eckerd College/USGS Sedimentology Projects (2003-2009)**  
-Collected vibracores, push cores, diver-assisted push cores, CHIRP sonar data, and surface sediment samples on land and aboard several research vessels including the R/V Gilbert for four regional projects; The Tampa Bay Project, Watersheds of the U.S. Virgin Islands, Hard-bottom research on Rattlesnake Key, FL, and Anoxic cycles of Charlotte Harbor, FL.  
Contact: Dr. Gregg Brooks (727) 864-8992 or brooksgr@eckerd.edu

**TEACHING EXPERIENCE**

- 1. USF, Oceanography Camp (2011)**  
-Organized and directed several coastal and oceanographic, scientific field trips and nutrient chemistry laboratory exercises including a research cruise experience for thirty high-school-aged students.  
Contact: Teresa Greely (727) 553-3921 or greely@usf.edu
- 2. USF, Saint Petersburg General Chem. I, II Teaching Assistant (2010-2011)**  
-Instructed general chemistry I and II laboratory sections, prepared examinations and developed teaching materials for general chemistry I.  
Contact: Dr. Madhu Pandey (727) 421-8593 or mandhu@mail.usf.edu
- 3. Junior Achievement STEMTEC Instructor (2010)**  
-Instructed fifty high school students during a four-week, science and technology immersion program that emphasized STEM fields as well as professional development and business ethics.  
Contact: Carol Williams (727) 424-8919 or carolw@jawcf.org
- 4. South Carolina St. Savannah River Field Site Research Mentor (2010)**  
-Mentored two undergraduate students through a summer program of sedimentological and radiochemical research that produced two poster presentations at national conferences.  
Contact: Dr. Denise Grant (803) 536-8859 or dgrant@scsu.edu
- 5. Understanding the Profile of Tampa Bay Aquatic Quality (UPTAQ) (2008)**  
-Taught local elementary school teachers, through an EPA funded program, about cutting-edge environmental science techniques and activities that they can facilitate for their students to educate and excite them about earth science.  
Contact: Dr. Kathy Carvalho (727) 873-4063 or carvalho@stpt.usf.edu
- 6. USF Radiogeochemistry Laboratory Mentor (2007)**  
-Mentored three interns from several institutions through a summer research sedimentological and radiochemical research program that produced a presentation at a national conference.  
Contact: Dr. Ashanti Johnson (727) 553-1301 or apyrtle@marine.usf.edu
- 7. Young Adult Ecumenical Forum (YAEF) on Environmental Justice (2007)**  
-Nominated as a planning committee member to construct an international, educational, environmental justice conference featuring four guest lecturers, seminars, and service learning experiences for over one hundred young adults.  
Contact: Rev. Brandon Gilvin, noumenal@msn.com

**THESIS COMMITTEES**

1. Haley Ramirez. Title TBD. Eckerd College, B.S., 2015
2. Corday Seldon. Correlational Changes in Benthic Foraminifera Abundance and Sedimentary Redox Conditions After the Deepwater Horizon Blowout Event. Eckerd College, B.S., 2014
3. Alexandra Valente. Assessing Sources of Variability Associated with <sup>210</sup>Pb Geochronology by Gamma-ray Spectroscopy. Eckerd College, B.S. 2012

**FUNDS IN SUPPORT OF RESEARCH**

1. GOMRI Post-Doctoral Research Fellowship (2012-2014): \$50,000/year
2. U.S.F./U.S.G.S. Graduate Research Fellowship (2008-2011): \$18,000/year
3. U. South Florida Graduate Research Assistantship (2007-2008): \$18,000
4. Eckerd College Honors Scholarship (2002-2006): \$6000/year
5. Eckerd College Special Talent Scholarship (2002-2006): \$2000/year
6. Eckerd College Organization of Students Research Grant (Nov. 2005): \$500
7. Eckerd College Collegium of Natural Sciences Research Grant (Nov. 2005): \$125
8. Carnegie Laboratory Centennial Celebration Grant (Oct. 2005): \$330

### **LABORATORY EXPERIENCE**

-Manual grain size analysis	-Digisizer grain size analysis	-Petrographic Microscopy
-Gamma Spectrometry	-ICP-MS	-ICP-OES
-XRD	-Loss on ignition (LOI)	-Direct Mercury analysis
-SIRMS	-PAST	-Foraminifera taxonomy

### **PROFESSIONAL ORGANIZATION MEMBERSHIPS**

1. Sigma Xi (2006-present)
2. American Geophysical Union (2007-Present)
3. American Association for the Advancement of Science (2008-present)
4. Geological Society of America (2009-Present)
5. American Society of Limnology and Oceanography (2010-present)
6. The Micropaleontological Society (2014-present)
7. Cushman Foundation for Foraminiferal Research (2014-present)

### **INTERNATIONAL SCHOLASTIC AND RESEARCH EXPERIENCE**

1. International Ocean Drilling Program (IODP) Science Steering Evaluation Panel, Utrecht, Netherlands (2009)
2. Establishing an NSF funded Undergraduate Exchange Program between Eckerd College and Hong Kong Baptist University and Xiamen University. Hong Kong and Xiamen, China (2006)
3. Tropical Marine Geology. Fiji (2006)
4. Leadership and Management. Antarctica and Argentina (2005)
5. Tropical Marine Ecosystems. Roatan, Honduras (2004)
6. Harvest International Orphanage Mission. Havana, Cuba (2004)

### **CERTIFICATES AND HONORS**

- Accepted into the NSF and NASA funded MSPHDS Professional Development Program (2008-2010)
- Microsoft Office specialist certification (2010)
- U.S. Coast Guard safe boater certification (2010)
- Awarded 1<sup>st</sup> Place Poster/ Interview, USF Research Symposium (2008)
- Selected as instructor for EPA funded UPTAQ teaching program (2008)
- CPR certification (2007)
- Awarded Outstanding Third Year Student Award, Eckerd College (2005)
- Selected for the NOAA and USGS funded Carnegie Laboratory Centennial Celebration; Dry Tortugas (2005)

- Hilton Head Symposium invitee: Ethics, Business & Science; S.Carolina (2005)
- Eckerd College sailing certification (2005)
- National Student Leadership Conference invitee; Wash. D.C. (2003)
- National Student Leadership Summit invitee; Wash. D.C. (2004)
- PADI open water SCUBA certification (1998)

### **RELEVANT COURSEWORK**

- |   |                              |
|---|------------------------------|
| -Marine Geology/Geological Oceanography             | -Calculus I & II             |
| -Earth Systems History                              | -Physics I & II              |
| -Earth Materials                                    | -Chemistry I & II            |
| -Tropical Marine Environments<br>(Roatan, Honduras) | -Marine Invertebrate Biology |
| -Sedimentation and Stratigraphy                     | -Radiogeochem. Field Methods |
| -Marine Geochemistry                                | -Cell Biology                |
| -Tropical Marine Geology (Fiji)                     | -Earth Structure             |
| -Marine Invertebrate Paleontology                   | -Coastal Geology             |
| -Geographical Information Systems (GIS)             | -Chem. & Phys. Oceanography  |
| -Stable Isotopes                                    | -Biological Oceanography     |
| -Global Climate Change                              | -ICP-MS                      |
|   | -Env. Radiogeochemistry      |

### **VOLUNTEER EXPERIENCE**

- |                                 |  |
|---------------------------------|--|
| -Tampa Bay Watch                | -Keeping Hillsborough County Beautiful |
| -Tampa Bay Aquatic Preserves    | -SPCA-Saint Petersburg                 |
| -Medicine River Animal Hospital | -Habitat for Humanity                  |
| -Community Tampa Bay            | -Eckerd College Homeless Outreach      |
| -Pinellas Pregnancy Center      | -Community Action Stops Abuse          |
| -Maximo Presbyterian Church     | -First Presbyterian Church             |
| -Baypoint Community Church      |  |