

KATELYN SCHOCKMAN

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Miami, FL

EDUCATION

2016–2022 ***Ph.D., Marine Science with focus in Chemical Oceanography***

University of South Florida, St. Petersburg, FL

GPA: 4.0 (4.0 Scale)

2011–2015 ***B.S. with Honors, Chemistry with Biology minor***

The Ohio State University, Columbus, OH

Magna Cum Laude, GPA: 3.85 (4.0 Scale)

EMPLOYMENT HISTORY

2022–Present **Postdoctoral Associate**

University of Miami Cooperative Institute for Marine and Atmospheric Studies, National Oceanic and Atmospheric Administration (NOAA) Atlantic Oceanic and Meteorological Laboratory

- Development and implementation of standardized reference material production for ocean carbon chemistry measurements
- Improvement in analytical standard best practices for ocean chemistry measurements

2016–2022 **Graduate Research Assistant**

University of South Florida College of Marine Science (USF CMS)

- Major Advisor: Dr. Robert H. Byrne
- Dissertation: *Determinations of Chemical Equilibria in Natural Waters Using Spectrophotometric Techniques*
- Utilized analytical techniques to develop two methodologies using principles of spectrophotometric pH: (1) measures ionic strength of natural freshwaters and (2) measures the dissociation constants of the carbonate system in seawater

2018 **Teaching Assistant and Guest Lecturer**

University of South Florida College of Marine Science

- Chemical Oceanography graduate course

PUBLICATIONS

Carter, B.R., Sharp, J.D., Dickson, A.G., Álvarez, M., Fong, M.B., García-Ibáñez, M.I., Woosley, R.J., Takeshita, Y., Barbero, L., Byrne, R.H., Cai, W.-J., Chierici, M., Clegg, S.L., Easley, R.A., Fassbender, A.J., Flegler, K.L., Li, X., Martín-Mayor, M., **Schockman, K.M.**, and Wang, Z.A. Recommendations from the Ocean Carbonate System Intercomparison Forum: Quantifying and reducing uncertainties in the calculations of carbonate system equilibrium in the oceans. *Limnol. Oceanogr.*, In Review.

Schockman, K.M., Byrne, R.H., Carter, B.R., and Feely, R.A. Open-ocean characterization of the CO₂-system: Spectrophotometric determination of the bicarbonate dissociation constant ($20 \leq S_p \leq 40$, $3 \leq t \leq 35$ °C) and examination of internal consistency. *Limnol. Oceanogr.*, In Review.

Schockman, K.M. and Byrne, R.H. (2022) A hybrid conductometric/spectrophotometric method for determining ionic strength of dilute aqueous solutions. *Anal. Chim. Acta* 1220, 340008.

Schockman, K.M. and Byrne, R.H. (2021) Spectrophotometric determination of the bicarbonate dissociation constant in seawater. *Geochim. Cosmochim. Acta* 300, 231–245.

ADDITIONAL RESEARCH EXPERIENCES

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| 2023 | A16N Repeat Hydrography Cruise
NOAA/GO-SHIP, 36 days <ul style="list-style-type: none">• Co-chief scientist• Analyst for discrete pCO₂ |
| 2021 | West Coast Ocean Acidification (WCOA) Cruise
NOAA, 45 days <ul style="list-style-type: none">• Lead analyst for pH and carbonate ion concentrations• Novel measurements of pH at low temperatures to evaluate CO₂ system model accuracy |
| 2020 | Benthic Carbonate Dissolution Cruise
University of Southern California/California Institute of Technology, 8 days <ul style="list-style-type: none">• Analyst for pH and total alkalinity on discrete systems and using a minimal volume multiparameter system |
| 2017 | Gulf of Mexico Ecosystems and Carbon Cycle 3 (GOMECC-3) Cruise
NOAA, 36 days <ul style="list-style-type: none">• Analyst for pH and carbonate ion concentrations |

- 2015 **Coral Reef Ecology and Microbiology Intern**
Mote Marine Laboratory Coral Health and Disease Research Group
- Experimental comparison of black and white band diseases in two species of corals under normal oceanic and acidic conditions
 - Use of PAM imaging, micro sensors, day and night Oxygen respiration, and surface area analysis to examine corals during infection duration
- 2014 **Marine Resource Studies Study Abroad Program**
The School for Field Studies, Turks and Caicos Islands
- Performed field research to determine effectiveness of currents MPAs through coral bleaching studies, shark and turtle tagging, macro invertebrate and fish count studies, health assessments of seagrasses, mangroves, and coral reef systems
- 2014 **Undergraduate Researcher**
The Ohio State University (OSU) Department of Evolution, Ecology, and Environmental Biology
- Experimental determinations of organismal toxicity limits to antimicrobial chemicals
- 2013–2014 **Undergraduate Researcher**
The Ohio State University College of Dentistry
- Development of polymer biofilms for dental prosthetics

INVITED PRESENTATIONS (presenter underlined)

Schockman, K.M. and Byrne, R.H. June 2022. *Low temperature evaluations of the CO₂ system in seawater: Extension of bicarbonate dissociation constant (K₂) parameterization and internal consistency assessments.* Invited oral presentation at Ocean Carbonate System Intercomparison Forum (OCSIF) Year Four Meeting, Virtual.

Schockman, K.M. and Byrne, R.H. June 2020. *Accuracy of CO₂ System Calculations Improved with New Spectrophotometric K₂ Model for Seawater.* Invited oral presentation at Ocean Carbonate System Intercomparison Forum (OCSIF) Year Two Meeting, Virtual.

PRESENTATIONS (presenter underlined)

Schockman, K.M., Byrne, R.H., Moore, C.S., Gomez, F.A., and Wanninkhof, R. June 2023. *Influence of ionic strength on the characterization of the inorganic carbon system in riverine waters.* Poster presentation at ASLO Aquatic Sciences Meeting, Palma de Mallorca, Spain.

Schockman, K.M., Carter, B.R., Feely, R.A., Greeley, D., Herndon, J., and Byrne, R.H. February 2022. *Extension of bicarbonate dissociation constant (K₂) parameterization and CO₂ system*

internal consistency assessments for seawater at low temperatures. Oral Presentation at Ocean Sciences Meeting, Virtual.

Schockman, K.M. and Byrne, R.H. February 2020. *Accuracy of CO₂ System Calculations Improved with New Spectrophotometric K₂ Model for Seawater.* eLightning Oral Presentation at Ocean Sciences Meeting, San Diego, CA.

Schockman, K.M. and Byrne, R.H. April 2019. *Using Novel Spectrophotometric Determination of CO₂ Dissociation Constant, K₂, To Improve CO₂ System Calculations.* Poster Presentation at Ocean Visions 2019 – Climate Summit, Atlanta, GA.

Schockman, K.M. and Byrne, R.H. February 2019. *Spectrophotometric Determination of Carbonate Dissociation Constant, K₂, in Seawater.* Poster Presentation at ASLO Aquatic Sciences Meeting, San Juan, PR.

Schockman, K.M. and Byrne, R.H. August 2018. *Spectrophotometric Determinations of Carbonate Dissociation Constants in Seawater.* Poster Presentation at Goldschmidt Conference, Boston, MA.

Schockman, K.M. and Byrne, R.H. March 2018. *Spectrophotometric Determinations of Carbonate Dissociation Constants in Seawater.* Poster presentation at USF Graduate Student Research Symposium, Tampa, FL.

Sharp, J., Hudson-Heck, E., **Schockman, K.M.,** Tierney, C., and Byrne, R.H. February 2018. *Acidification in the Gulf: Insights from measurements of pH and [CO₃²⁻] on GOMECC-3.* Poster presentation at Ocean Sciences Meeting, Portland, OR.

Schockman, K.M. and Byrne, R.H. January 2018. *Spectrophotometric Determinations of Carbonate Dissociation Constants in Seawater.* Oral presentation at the USF CMS Graduate Student Symposium, St. Petersburg, FL. (**Best Oral Presentation**)

Schockman, K.M. and Byrne, R.H. January 2017. *Determination of Carbonate Dissociation Constants in Seawater Using Spectrophotometric pH.* Oral presentation at the USF CMS Graduate Student Symposium, St. Petersburg, FL.

HONORS AND ACHIEVEMENTS

2023	Sackett Prize for Innovative Research (USF CMS), \$1.5K
2019–2022	William and Elsie Knight Endowed Fellowship Fund for Marine Science (USF CMS), \$28K annually
2021	Renate E. Bernstein Outstanding Authorship Award (USF CMS), \$1K
2018–2019	St. Petersburg Downtown Partnership Fellowship in Coastal Science (USF CMS), \$23K
2018	1 st Place Oral Presentation at USF CMS Graduate Student Symposium

2017–2018	Paul Getting Endowed Memorial Fellowship in Marine Science (USF CMS), \$13K
2015	Lab Intern Stipend Award (Mote Marine Laboratory), \$1K
2014–2015	Gary Booth Scholarship (OSU), \$3K
2011–2015	Maximus Scholarship (OSU), \$12K annually

PROFESSIONAL AFFILIATIONS

Ocean Carbonate System Intercomparison Forum (OCSIF), AAAS, The Oceanography Society, ASLO, Phi Kappa Phi Honors Society (past)

SKILLS

Instrumental and Laboratory Skills

- Spectrophotometric pH, potentiometric pH, coulometry, high-performance liquid chromatography, UV-Visible and IR spectroscopy

Computational Skills

- MATLAB, R/R Studio, Ocean Data View, Scilab

Diving Experience

- Research Scientific Diver in Training, SSI Open Water Diver Certification

Professional Skills

- NSF Full STEAM Ahead Mentee Program, Teaching Assistant Training, Presentation Bootcamp

EXTRACURRICULAR AND COMMUNITY INVOLVEMENT

2023	Reviewer , QARTOD pH Manual
2020–2022	Peer Mentor , USF CMS Multi-dimensional Mentoring Program
2019–2022	Student Representative , USF CMS Honors and Awards Committee
2017–2022	Student Representative , USF CMS Curriculum Committee
2021	Reviewer , Journal of Geophysical Research
2020	Reviewer , Environmental Science and Technology
2017–2020	Video Recorder , USF CMS A/V Team
2018–2019	Student Representative , USF CMS Chemical Oceanography Faculty Search Committee
2018–2019	Volunteer , Meals on Wheels
2016–2018	Volunteer , St. Petersburg Science Festival
2018	Volunteer , Marine Science Advisory Committee (USF CMS) Park Clean-Up
2018	Volunteer , Marine Science Advisory Committee (USF CMS) Campus Clean-Up
2017	Volunteer Coach , YMCA of St. Petersburg Youth Soccer

2017 **Volunteer**, 4Ocean Beach Clean-Up
2017 **Volunteer**, Pinellas County Girls Incorporated Science Day
2017 **Volunteer**, Shorecrest Elementary Seine Netting Field Trip
2016–2017 **Committee Member**, USF CMS Graduate Student Symposium
2016 **Volunteer**, Blue Ocean Film Festival
2016 **Volunteer**, Pinellas County City Wide Beach Clean-Up