

# KENNETH C. RAINER

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## PROFESSIONAL PREPARATION

Caney Creek High School		Diploma, May 2001
Texas A&M University at Galveston	Biology	B.S., August 2005
Texas A&M University – Corpus Christi	Biology	M.S., August 2009
University of Florida	Environmental Education	Ph.D., (Present)

## APPOINTMENTS

### Education Coordinator (09.11 – present)

Guana Tolomato Matanzas National Estuarine Research Reserve  
505 Guana River Road, Ponte Vedra Beach, Florida 32080  
Michael Shirley, PhD 904.823.4500 (may be contacted)

#### *Responsibilities Include:*

- Oversee the development, implementation, and instruction of environmental education programs at the Guana Tolomato Matanzas National Estuarine Research Reserve (GTM NERR) in accordance with the state and federal policies of the Florida Department of Environmental Protection and the National Oceanic and Atmospheric Administration (NOAA);
  - o Since starting: \$170,002 in funds brought in through summer camps (\$165,654), rentals, donations, and permitting; \$1,934,236 in total grant funds (\$519,430 education specific funds); 1,083 educational programs facilitated; 15,751 students attended educational programs; 26,432 public outreach individuals reached; increased students' estuarine literacy by 13.6% in elementary programs; 11.5% in middle/high school programs; 10.8% in summer camps
- supervise four Environmental Educators, student-interns (College/High School), and volunteers assisting with educational activities;
- develop environmental education materials and expand environmental programming to model research and stewardship efforts;
- develop, co-manage, and provide training for the Interpretive Guide program at the GTM NERR;
- assist with the development of the GTM NERR's Interpretive Master Plan, including re-design of interpretive kiosk panels;
- prepare written reports, work plans, grants, budgets, brochures, and articles;
- develop and manage website and social media content;
- develop ideas and initiate the development of environmental education exhibits for Reserve facilities;
- organize, coordinate, and conduct a variety of workshops, classes, and trainings at the GTM NERR for all audience groups;
- coordinate and collaborate among Reserves regarding grants and educational programming;
- assist NERRA and Friends of the GTM Reserve establish technological foundation for collaborative efforts (Google Apps for Nonprofits);
- serve as a liaison in coordinating Reserve programs and events with other sectors and Friends of the GTM;
- represent the Reserve at meetings, conferences, and offsite events; and,
- coordinate public permitting, submit invoicing, and coordinate facility rentals.

### Adjunct Professor (01.15 – present)

Flagler College  
74 King Street, St Augustine, FL 32084  
Sally Blake, PhD 904.819.6289 (may be contacted)

#### *Responsibilities Include:*

- Instruct Elementary Science Methods (EEL364), Life Science (NAS 104), Biology (NAS 111), and Elementary Science Methods (EEL 364);
- developed class website for collaboration and class documentation;
- prepare and present lectures; design lab assignments; midterm and final lab/lecture exams

**SubContractor** (01.16 – 01.18)

Teachers on the Estuary Evaluation National Product (2017)

- Assisted the development of survey tools to evaluation the NERR's National Professional Development Program
- Produced real-time analyses of data and visualization for the NERR system

Anita C. Leight Estuary Center: Otter Point Creek Component (2016)

- Created online registration system for volunteers and school groups

St. Augustine Amphitheater (2016)

- Developed the St. Augustine Amphitheater Land Management Plan

**Interpretive Kayak Guide** (01.13 – 12.14)

St. Augustine Eco Tours

111 Avenida Menendez, St Augustine, FL 32084

Zach McKenna, 904.377.7245 (may be contacted)

*Responsibilities Include:*

- Served as weekend Interpretive Kayak Guide;
- provided kayak tours of the St. Augustine waterways for the general public and students;
- provided training to new kayak guides;
- assisted with taking reservations, guest check-in, and prepare/train guest for kayaking; and,
- maintained equipment as necessary

**Education Specialist** (08.08 – 09.11)

The Harte Research Institute, Texas A&amp;M University – Corpus Christi

6300 Ocean Drive, Unit 5869, Corpus Christi, TX 78412

Gail Sutton, 361.825.2065 (may be contacted)

*Responsibilities Include:*

- Assisted development of large-scale environmental educational program called Headwaters to Ocean (H2O); built collaborations between governmental and nongovernmental agencies; researched and sought after grants and proposals; responsible for curricula development associated with Harte Research Institute Chairs' research; responsible for HRI facility tours;
- performed Laguna Outreach Coordinator duties; primary contact responsible for transportation and care of 9-11th grade students, secondary school teachers, and volunteers to the Laguna Madre Field Station to conduct student research experiences; maintained all clerical and financial responsibilities associated with the program; recruited volunteers to assist with trips;
- hosted educational events on behalf of the Harte Research Institute at Texas A&M University – Corpus Christi; developed curriculum/program material for hosted events; responsible for grant writing associated with the Education Outreach Department at the Harte Research Institute;
- coordinated teacher workshop with community partners at Sea Level Rise Conference;
- acted as technology assistant at conferences hosted by the Harte Research Institute;
- responsible for maintenance and care of lab/general equipment located in facilities; responsible for maintenance and care for vehicles and watercraft owned by the Harte Research Institute; and, responsible for researching and ordering needed lab/general supplies; and,
- initiated development of an in-house iPhone/iPad application that will be used for HRI maintenance and serve a mobile HRI website application

**Adjunct Faculty** (08.10 – 12.10)

Coastal Bend College – Kingsville Campus

1814 S. Brahma Blvd., Kingsville, TX 78363

Matthew Schweitzer, 361.592.1615 ext. 4024 (may be contacted)

*Responsibilities Include:*

- Instructed lecture and lab for Human Anatomy and Physiology I (BIOL 2401) and General Biology (BIOL 1408); and,

- maintained all student records and grades; handled student-related issues relating to coursework; prepared and delivered lessons for lecture and lab; created additional assignments to stimulate out-of-the-box thinking

#### **Graduate Teaching Assistant (08.07 – 08.08)**

Texas A&M University – Corpus Christi  
6300 Ocean Drive, Corpus Christi, TX 78412  
David Gris , PhD, 361.825.3477 (may be contacted)

##### *Responsibilities Include:*

- Began as Teaching Assistant Fall 2007, promoted to Biology 1406 Lab Coordinator Spring 2008
- As level graduate teaching assistant I instructed Introductory Biology labs; set up and break down experiments; troubleshoot experiments; trained Teaching Assistants regarding upcoming lab experiments; and, graded and handled student situations regarding the lab and/or lecture.
- As Laboratory Coordinator instructed lead Introductory Biology lab; set up and tore down experiments; troubleshoot experiments; trained Teaching Assistants regarding upcoming lab experiments; graded and handled all student situations regarding the lab and/or lecture; maintained and ordered needed supplies for laboratories; and, developed grade book and instructional PowerPoints for Teaching Assistants.

#### **Technical Assistant II (06.2006 – 08.2007)**

Texas A&M University, Lower Division Biology Department  
466 Nagle St., Heldenfels #0521, College Station, Texas 77843  
Tonna Harris-Haller, 979.845.4606 (may be contacted)

##### *Responsibilities Include:*

- Supervised two Technical Assistant I personnel, one Technical Assistant II, and four undergraduate and graduate student workers;
- conducted experiments to be implemented into lab curriculum; practiced molecular techniques;
- maintained the setup and breakdown of Biology I, II and non-majors, Zoology, and Botany;
- assisted with editing and contributing activities to be implemented into laboratory manuals;
- maintained and ordered supplies (i.e., chemical, consumable, and biological);
- assisted with training of graduate Teaching Assistants regarding labs;
- developed intricate Excel spreadsheets to monitor inventory;
- authored a training manual for the Lower Division Instructional Biology Department; and,
- responsible for maintenance and care of lab/general equipment associated with all labs

#### **Technical Assistant I (11.2005 – 06.2006)**

Texas A&M University, Lower Division Biology Department  
466 Nagle St., Heldenfels #0521, College Station, Texas 77843  
Tonna Harris-Haller, 979.845.4606 (may be contacted)

##### *Responsibilities Include:*

- Supervised four undergraduate and graduate student workers;
- assisted in conducting novel experiments to be implemented into laboratory curriculum;
- assisted with the setup and breakdown of Biology I, II and non-majors, Zoology, and Botany; and,
- assisted with editing and contributing pieces to be implemented into laboratory manuals

### **GRANTS**

- Captain Planet EcoTech Grant, \$2,500 (PI) *proposal submitted*
- Developing an Animated Education and Outreach Visualization Tool to Communicate the Roles of Dissolved Oxygen, Temperature, and Nutrients in Coastal Acidification, \$10,000 (Co-PI)
- FWC Florida-Fishing Grant, fishing gear for 75 campers 2017 and 2018 (PI)
- Advancing Climate Literacy Through Investment in In-service and Pre-service Science Educators (ACLIPSE), (Collaborative Team Member)
- The Influence of Mangrove Invasion and Rising Temperature on Belowground Processes in Coastal Ecosystems, \$13,580 for educational component (Education component lead)
- Collaborative Research: Quantifying the influence of nonconsumptive predator effects on prey population dynamics, \$49,200 for education component (Education component lead)

- Spreading Seeds of Estuary Health, \$45,000 (PI)
- Creating workforce ready students that develop transferable, interactive software designed to encourage free-choice learning at National Estuarine Research Reserves. \$44,992 (Co-PI)
- Smooth Cordgrass Hydroponic Growth at School, LEEF, \$500 (PI)
- 4-H Service Learning in Aquatic and Marine Education and Conservation, \$300 (Co-PI)
- Reengineering living shorelines to halt erosion and restore coastal habitat functioning in high-energy environments, \$13,800 for educational component (Co-PI)
- NSC Capacity Building- The Estuaries Research Consortium of Northeast Florida, \$9,993 (Co-PI)
- SeaPerch Program ROV Grant, \$1,080 (PI)
- Hands on the Land Mini Grant, NEEF, \$1,263 (PI)
- Captain Planet EcoTech Grant, \$2,500 (PI)
- Gulf of Mexico – Teachers on the Estuary, Bay Watershed Education and Training (B-WET) NOAA, proposal submitted, \$99,812 (Co-PI)
- GTM NERR Investigator Facilities and Environmental Education Center Upgrade Project, NERRS, \$893,239 (Co-PI)
- Distant Delivery Method for TOTE: Update Science Collaborative Projects to have an associated educational component: Phase 1 of 3, NERRS National Science Collaborative, \$18,910 (PI)
- Spartina Restoration and Transplant Grant, U.S. Fish and Wildlife Service, \$21,364 (Co-PI)
- Regional Environmental Education Mini-Grant Program (EPA Region 4), Florida Department of Environmental Protection, 06/2014 – 06/2015, \$4,991.00 (PI)
- Building Educational Opportunities through Participation in Oyster Shell Recycling and Reef Restoration, U.S. Fish and Wildlife Service, 06/2012 – 06/2014, \$8,546.00 (PI)
- Distance learning technology demonstration in support of connecting Science Collaborative sponsored research at one Reserve with other NERR sites and their stakeholders. NERRS National Science Collaborative, 11/2012 – 04/2013, \$5,500.00 (Co-PI)

## **AWARDS**

- St. Johns County School District Outstanding Business Partner (2017 - 2018)
- Florida DEP Star Award (2013)
- St. Johns County School District Outstanding Business Partner (2012 - 2013)
- Commissioner's Business Recognition Award (2013)

## **PROFESSIONAL DEVELOPMENT**

Google Certified Educator Level 1 (2015)

- Trained on Google Tools (Drive, Docs, Sheets, Slides, Hangouts, Classroom, Sites, Groups)

Supervisor to Leader: Road Map to Success Training (2015)

- Trained on best practices and effective skills and tools to excel as an effective leader

Texas Google Summit (2014)

- Presented three sessions on using google calendars and forms in environmental education

Introductory Workshop to Climate Change Interpretation (2014)

- Co-led full day workshop on the National Network for Ocean and Climate Change Interpretation

Chesapeake Bay NERR Professional Development (2014)

- Presented on using technology in the informal education setting

National Interpretation Association, Region 3 Conference (2014)

- Co-led workshop on the National Network for Ocean and Climate Change Interpretation

National Network for Ocean and Climate Change Interpretation (2013)

- Awarded scholarship to attend workshop focused on learning techniques to strategically frame the climate change conversation

FMSEA Annual Conference (2013)

- Presented on: GTM NERR Education Programs; focus on technology in the field; offering field experiences versus field trips

**NERRS/NERRA 2012 Annual Conference (2012 & 2013)**

- Presented on: NERRS National Science Collaborative grant; use of Google Docs, Twitter, and integration of smart devices in education programming

**Education and Research: Testing Hypothesis Teacher Workshop (2012)**

- Presented on System Wide Monitoring Program and utilization of iPod equipment and PASCO equipment in field education for Formal Educators

**Florida Master Naturalist Program – Coastal Systems Module (2012)****Flagler College Clinical Educator Training (2012)****Water Words That Work (2011)**

- Professional development that introduced a method to effectively communicate environmental and additional issues to everyday citizens

**COMMUNITY INVOLVEMENT****White Oak Conservation Education Advisory Board (2015 - present)****Equality Florida, Jacksonville, Steering Committee Member (2014)****St. Johns Wetlands Center Advisory Board (2013)****National Network for Ocean and Climate Change Interpretation Study Circle (2013)****Chairperson of the NERRS Education Geek Team (2013 – present)**

- provide training for Education Coordinators on using technology in educational programming

**Creekside High School and St. Johns Technical High School Advisory Board (2011 – present)****The Coastal Bend Science Fair (2011)**

- Served as Special Awards to present the Harte Research Institute “Making a Difference” award

**The National Ocean Science Bowl – Loggerhead Challenge (2009 & 2010)**

- Volunteered as Rules Judge and Timekeeper

**The Math Counts Competition (2010 & 2011)**

- Volunteered as a Grader

**Texas A&M University – Corpus Christi Undergraduate Research Symposium (2009)**

- Judged undergraduate research posters

**Governor’s Academy for Teaching Excellence (2010 – 2011)**

- Serve as a member on the Advisory Board

**The Laguna Outreach Project (02.2008 – 08.2008)**

- Educated high school students about local marine systems at Texas A&M University – Corpus Christi’s Field Research Station
- Assisted with purchase and organization of equipment and supplies
- Drove TAMUCC vehicle with water craft in tow
- Transported individuals to Field Station using TAMUCC watercraft

**The Texas Marine Mammal Stranding Network (2003 – 2010)**

- Initiated an education outreach program for grade school students educating students about marine mammals in regards to their surrounding community
- Assisted with marine mammal rehabilitation efforts

**RESEARCH ACTIVITIES**

- McGinley, E., Rainer, K. Comparison of the nearshore and nekton fish communities in the Matanzas River Estuary. GTM NERR State of the Reserve Conference, 3 February 2017, Ponte Vedra Beach, FL.
- Russell, D., Rainer, K. Science Communication and Creating Online Student and Teacher Training Opportunities for the NERR. National Estuarine Research Reserve Annual Conference, 16 November 2016, Williamsburg, VA.

- Sharpe, K., Nuss, S., Pletta, M., Binz, J., Rainer, K. Using NERRS Science to Enhance K-12 Climate Literacy. National Marine Educators Association Conference, 27 June 2016, Orlando, FL.
- Rainer, K. Students collect reliable, scientifically defensible data while becoming estuarine literate. Coastal & Estuarine Research Federation and Southeastern Estuarine Research Society, 2015.
- Rome, B., Blum, E., Mattaliano, M., Napolilli, E., Blake, S., Rainer, K. Building Better Teachers: Connecting Informal Science to Teacher Education. Florida Association of Science Teachers Conference, 23 October 2015, Tallahassee, FL.
- Determining population structure of *Cynoscion nebulosus*, spotted seatrout, along the Texas coast using the mitochondria gene ND4
- Developing a genomic microsatellite marker library for *Micropogonias undulatus*, Atlantic croaker
- Co- Editor and Illustrator on the revision of the Saltwater Fishes of Texas: A Dichotomous Key by Edward O. Murdy

## SKILLS

### Laboratory Skills

- DNA Extraction using plant and animal tissues; Gel Electrophoresis; DNA Sequencing; Polymerase Chain Reaction; Real-Time PCR; primary cell culture; Protein Assays; Bacterial Cloning; Southern Blot; Western Blot
- Statistical and Phylogenetic Software: Arlequin, DNAsp, SPSS, Isolation By Distance Web Service and Network

### Field Research Skills

- Seining; Otter trawls; GPS; Collecting water quality and environmental parameters using YSI, PASCO, and LaMotte techniques; Vegetation transects (e.g., belt transects); Sea Turtle nest monitoring protocols; Gopher Tortoise surveys; *Spartina alterniflora* harvest and relocation; oyster reef recycling program; Elevation transects

### Certifications

- Florida certified boat operator
- PADI Open Water
- Lifeguard and First AID/CPR/AED Certified
- Drive TAMUCC Vehicles and Water-Craft
- Texas Stream Team Water Quality and Bacteria Monitor

### Fluent with Macintosh and PC (Typing – 60 wpm)

- Microsoft Office and additional software: Word, PowerPoint, Excel, Access, SkyDrive, OneNote, Outlook, Skype
- Google: Google Apps (i.e., Documents, Calendar, Sites, and additional apps), Google Earth, Data Studio
- Internet Browsers: Internet Explorer, Firefox, Safari, and Google Chrome
- Database Software: Endnote and SQLite Manager
- Additional: Adobe Acrobat Pro, Adobe Photoshop, Adobe Premiere Pro, Articulate Storyline, IntuiFace Composer and Player, Screencast, Eventbrite, Wikispaces, Prezi, Social Media Applications, Blackboard, Canvas