

Ashley A. Danley-Thomson, Ph.D., P.E.

Associate Professor, Department of Environmental and Civil Engineering
U.A. Whitaker College of Engineering, Florida Gulf Coast University
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EDUCATION

Duke University, Durham, NC June 2010 – May 2014
Ph.D. in Civil and Environmental Engineering
Dissertation Project: Development of Water and Wastewater Biofiltration Technologies for the Developing World Using Locally Available Packing Media: Case Studies in Vietnam and Haiti

Duke University, Durham, NC May 2013
Certificate in International Development Policy

Florida State University, Tallahassee, FL April 2010
Bachelor of Science in Civil Engineering
Double Major in Civil and Environmental Engineering

ACADEMIC AFFILIATIONS

Associate Professor, Florida Gulf Coast University August 2015 - Present
Department of Environmental and Civil Engineering

- ENV 6027 Bioremediation
- ENV 4891 Environmental Engineering Senior Design
- ENV 4509C Wastewater Engineering
- EES 4102C Wastewater Microbiology
- ENV 4612 Sustainability in Engineering
- ENV 4351 Solid Waste Engineering and Management
- ENV 3006C Fundamentals of Environmental Engineering
- EGN 1041C Computational Tools for Engineers
- IDS 3920 University Colloquium

Affiliate Faculty with The Water School at Florida Gulf Coast University

MAJOR HONORS

President of Board of Directors for Clean Water for Haiti October 2016 - Current
Certificate of Recognition – Undergraduate Scholarly Awards November 2019
Hinkley Center for Solid and Hazardous Waste Research Grant September 2016 – August 2019
Office of Undergraduate Studies FGCU Excellence in Mentoring Award Nomination 2018 - 2019
FGCU Faculty of the Month awarded by National Residence Hall Honorary December 2016
AECOM South Florida Representative of Water for People April 2014 – July 2014
NSF Graduate Research Opportunities Worldwide (France) January 2014 – April 2014
Fulbright Scholarship in Vietnam August 2012 – June 2013
National Science Foundation Graduate Fellow June 2010 – May 2014
Duke University Pratt School of Engineering Fellowship Recipient August 2010 – May 2012
Graduated *Summa Cum laude*, Florida State University April 2010

PUBLICATIONS

1. **Danley-Thomson, A.**, Worley-Morse, T., Contreras, S. U. J., Herman, S., Brawley, A., & Karcher, K. (2020). Determining the effects of Class I landfill leachate on biological nutrient removal in wastewater treatment. *Journal of Environmental Management*, 275, 111198.
2. Missimer, T.M., **Danley-Thomson, A. A.**, Teaf, C., Maliva, R.G., Covert, D., and Hegy, M. (2019). Natural Radiation in the Rocks, Soils, and Groundwater of Southern Florida with a Discussion on Potential Health Impacts. *International Journal of Environmental Research and Public Health*. 16(10), 1793.
3. **Danley-Thomson, A. A.**, Huang, E. C., Worley-Morse, T., & Gunsch, C. K. (2018). Evaluating the Role of Total Organic Carbon in Predicting the Treatment Efficacy of Biosand Filters for the Removal of *Vibrio cholerae* in Drinking Water During Startup. *Journal of applied microbiology*.
4. **Danley-Thomson, A.A.**, C. A. Gwin, C. Gardner and C.K. Gunsch (2015). “Cocopeat for Wastewater Treatment in the Developing World. I. Comparison to Traditional Packing Media in Lab Scale Biofiltration Columns.” *ASCE Journal of Environmental Engineering*, 04015069.
5. **Danley-Thomson, A.A.**, D. Robbins and C.K. Gunsch (2015). “Cocopeat for Wastewater Treatment in the Developing World. Field Evaluation of Constructed Wetlands Packed with Cocopeat for Wastewater Treatment in Can Tho, Vietnam.” *ASCE Journal of Environmental Engineering*, 04015070.
6. **Thomson, A.A.** and C.K. Gunsch (2015). “Evaluation of a field appropriate membrane filtration method for the detection of *Vibrio cholera* for the measurement of biosand filter performance in the Artibonite Valley, Haiti.” *Environmental Monitoring and Assessment*. 187: 484.
7. D. Robbins, C.H. Nguyen, **A.A. Thomson**. “Codigestion for Methane Capture and Use: Optimization for Backyard and Small Commercial Farmers in the Lower Mekong Basin”, Paper for the Natural Resources and Environment towards Sustainable Development: The First Conference on Science and Technology at the Ho Chi Minh City University of Natural Resources and Environment, Ho Chi Minh City, Vietnam (December 14, 2012).
8. **Danley-Thomson, A.A.**, Un Jan, S., Herman, S., and T. Worley-Morse (2019). “Determining Effects of Class I Landfill Leachate on Biological Nutrient Removal in Wastewater Treatment”. Pending submission to the *Journal of Environmental Management*.
9. **Danley-Thomson, A. A.** and Missimer, T.M. (2020) “Per- and Poly-Fluoroalkyl Substances in Groundwater: A Review”. In preparation.
10. Un Jan, S., **Danley-Thomson, A.A.**, Kim, J.Y., Lewis, R. “Comprehensive evaluation of Aquifer Storage and Recovery (ASR) as a viable interim and long-term solution for Total Maximum Daily Loads (TMDL) and Estuary protection in Southwest Florida”. In preparation.
11. Nance, R., **Danley-Thomson, A.A.**, Kim, J.Y., Lewis, R. “Dispersed Water Management as a Viable Interim Solution for Caloosahatchee Estuary Protection and Lake Okeechobee Water Storage Needs”. In preparation.
12. Scuderi, J., **Danley-Thomson, A.A.**, Kim, J.Y., Lewis, R. “Estuary Protection Wells as an Interim Solution for Lake Okeechobee water releases for the improved management of the Caloosahatchee Estuary”. In preparation.
13. **Danley-Thomson, A.A.**, Un Jan, S., Black, A., Perez, S., Coates, J., and T. Worley-Morse (2019). “Adaptation of Biological Nutrient Removal Activated Sludge to Landfill Leachate for Improved Efficacy at Elevated Loadings in Wastewater Treatment Plant”. In preparation.
14. **Danley-Thomson, A.A.**, R. Wittebolle, and C. Rolling (2019). “Operating Model for the Long-Term Sustainability of Biosand Filtration in Haiti”. In preparation.

PRESENTATIONS

1. **Danley-Thomson, A.A.** “Phytoremediation Pre-treatment of Municipal Landfill Leachate Employing Saline-tolerant Plants Natural to South Florida”. Solid Waste Association of North America (SWANA) FL 2019 Summer Conference, Tampa, Florida (July 28 – July 30, 2019).
2. **Danley-Thomson, A.A.** “Hinkley Center Work at Florida Gulf Coast University”. Hinkley Center for Solid and Hazardous Waste Board of Directors, Orlando, Florida (May 2019).
3. **Danley-Thomson, A.A.** “Phytoremediation Pre-Treatment of Municipal Landfill Leachate Employing Saline-tolerant Plants Natural to South Florida”. Invited “Special Speaker” at the Solid Waste Seminar by SCS Engineers, Fort Myers, Florida (March 28, 2019).
4. **Danley-Thomson, A.A.** and Chris Rolling. “Operating Model for the Long-Term Sustainability of Biosand Filtration in Haiti”. Water and Health Conference: Where Science Meets Policy, Chapel Hill, NC (October 29 – November 2, 2018).
5. **Danley-Thomson, A.A.**, D. Lantagne, et al. “Sustainability and Success of Biosand Filter Implementation Programs”. Side Event. Water and Health Conference: Where Science Meets Policy, Chapel Hill, NC (October 29 – November 2, 2018).
6. **Danley-Thomson, A.A.** “Determining Effects of Class I Landfill Leachate on Biological Nutrient Removal in Wastewater Treatment”. Solid Waste Association of North America (SWANA) FL 2018 Summer Conference, West Palm Beach, Florida (July 15 – July 17, 2018).
7. **Danley-Thomson, A.A.** “Global Development Engineering: Providing Access to Clean Water and Managing the Nutrient Cycle”. Verbal Presentation at the National Academy of Engineering Grand Challenges & Undergraduate Research Symposium, September 6, 2017 and October 25, 2017, Fort Myers, FL.
8. **Danley-Thomson, A.A.** and Claudia K. Gunsch. “Evaluating the Role of Total Organic Carbon in Predicting the Treatment Efficacy of Biosand Filters for the Removal of *Vibrio cholerae* in Drinking Water”, Poster Presentation at UNC Water, Sanitation and Health International Conference, Chapel Hill, NC (October 10 – 14, 2016).
9. **Danley-Thomson, A.A.** “Membrane filtration field enumeration of *V. cholerae*, Presentation at ASCE Environment and Water Resources Institute (EWRI), West Palm Beach, FL (May 22 – 26, 2016).
10. **Danley-Thomson, A.A.** “Determining Effects of Leachate-Associated Toxicity and Dissolved Organic Nitrogen on Biological Wastewater Treatment and Effluent-Receiving Waters” at the Hinkley Center’s Research Selection Committee (RSC), Orlando, FL (May 19, 2016).
11. **Danley-Thomson, A.A.** “Cocopeat as a Biofiltration Medium in Constructed Wetlands for the Sustainable Treatment of Wastewater: A case study in Vietnam”, Presentation to FGCU College of Engineering, FGCU, Fort Myers, FL (February 10, 2015).
12. **Danley-Thomson, A.A.** “Bacteria: The heroes of wastewater treatment?”, Presentation to FGCU College of Engineering, FGCU, Fort Myers, FL (February 10, 2015).
13. **Danley-Thomson, A.A.** “Humanitarian Engineering: Efficacy of Water and Wastewater Treatment Technologies in Low-Income Countries”, Presentation to FGCU student chapter of Florida Water Environment Association, FGCU, Fort Myers, FL (October 22, 2014).
14. **Danley-Thomson, A.A.** “Development of Water and Wastewater Biofiltration Technologies for the Developing World Using Locally Available Packing Media: Case Studies in Vietnam and Haiti”, Dissertation Defense, Duke University, Durham, NC (March 25, 2014).
15. **Thomson, A.A.** “Removal of coliform bacteria and nutrients from wastewater using vertical flow constructed wetlands packed with cocopeat: A case study in Can Tho, Vietnam”, Presentation at WEFTEC: The Water Quality Event, Chicago, IL (October 3 - 7, 2013).
16. **Thomson, A.A.** “Cocopeat Biofiltration and Debriefing from My Time as a Cultural Ambassador in Vietnam”, Presentation at the Fulbright Final Enrichment Seminar, Con Dao, Vietnam (June 20, 2013).

17. **Thomson, A.A.** “Cocopeat as a Biofiltration Media in Constructed Wetlands for the Sustainable Treatment of Wastewater”, Presentation at the Fulbright Southeast Asia Conference, Bangkok, Thailand (March 7, 2013).
18. D. Robbins, C.H. Nguyen, **A.A. Thomson.** “Codigestion for Methane Capture and Use Optimization for Backyard and Small Commercial Farmers in the Lower Mekong Basin”, Presentation at the Natural Resources and Environment towards Sustainable Development: The First Conference on Science and Technology at the Ho Chi Minh City University of Natural Resources and Environment, Ho Chi Minh City, Vietnam (December 14, 2012).
19. **Thomson, A.A.** “Using Cocopeat filled Constructed Wetlands to treat Septic Tank Effluent”, Presentation to students and faculty of College of Environment and Natural Resources, Can Tho University, Can Tho, Vietnam (October 5, 2012)
20. **Thomson, A.A.** “Cocopeat biofiltration: A New Collaboration Between RTI International, Duke University and Can Tho University”, Presentation to the faculty of the College of Environment and Natural Resources, Can Tho University, Can Tho, Vietnam (September 15, 2012).

STUDENT PRESENTATIONS

1. “Phytoremediation Pre-treatment of Municipal Landfill Leachate Employing Saline-tolerant Plants Natural to South Florida”. Showcase of Undergraduate Research Experiences (S.U.R.E.). October 30, 2019, Florida Gulf Coast University, Fort Myers, Florida.
2. “Evaluation of saline-tolerant Florida native plants for pre-treatment of landfill leachate”. Solid Waste Association of North America (SWANA) FL 2019 Summer Conference, Tampa, Florida (July 28 – July 30, 2019).
3. Showcase of Undergraduate Research Experiences (S.U.R.E.). October 30, 2019, Florida Gulf Coast University, Fort Myers, Florida.
4. “Evaluation and optimization of floating aquatic treatment wetlands for phytoremediation pre-treatment of municipal landfill leachate employing saline-tolerant plants natural to South Florida”. Research Day, April 11, 2019, Florida Gulf Coast University, Fort Myers, Florida.
5. “Application of Ecosystem Services Framework to Evaluate Environmental Issues”. Research Day, April 11, 2019, Florida Gulf Coast University, Fort Myers, Florida.
6. “Evaluation and optimization of floating aquatic treatment wetlands for phytoremediation pre-treatment of municipal landfill leachate employing saline-tolerant plants natural to South Florida”. Florida Undergraduate Research Conference, February 22 – 23, 2019, University of North Florida, Jacksonville, Florida.
7. “Assessment of Moringa Seed , Coated Sand Filter as a Secondary Drinking Water Treatment Step Following Biosand Filtration: A Field Study at ECHO, Appropriate Technology Village”. Florida Undergraduate Research Conference, February 22 – 23, 2019, University of North Florida, Jacksonville, Florida.
8. “Evaluation and optimization of floating aquatic treatment wetlands for phytoremediation pre-treatment of municipal landfill leachate employing saline-tolerant plants natural to South Florida”. Florida Collegiate Honors Council Conference, February 8 – 10, 2019, Altamonte Springs, FL
9. “Adaptation of biological nutrient removal activated sludge for reduction of COD and nitrogen in landfill leachate”, Engineering Session in Showcase for Undergraduate Research Experience (SURE), September 4, 2018, FGCU Fort Myers, FL.

10. “Determining Effects of Class I Landfill Leachate on Biological Nutrient Removal in Wastewater Treatment”. FGCU Undergraduate Research Symposium, December 8, 2017, Fort Myers, FL.
11. “Determining effects of leachate-associated toxicity and dissolved organic nitrogen on biological wastewater treatment and effluent-receiving waters”. Florida Collegiate Honors Council Conference, February 9-11, 2018, Fort Myers, FL.
12. “Determining Effects of Class I Landfill Leachate on Biological Nutrient Removal in Wastewater Treatment”. Solid Waste Association of North America, Florida Section Annual Conference and Hinkley Center Colloquium, July 23 – 25, 2017, Sanibel, Florida.
13. “Determining Effects of Class I Landfill Leachate on Biological Nutrient Removal in Wastewater Treatment”. 27th Annual Southwest Florida Water Resources Conference, American Water Resources Association. Student Water Resources Research Poster Contest, February 2, 2018, Fort Myers, FL. Winner of Undergraduate Research Poster Presentation.
14. “Determining Effects of Class I Landfill Leachate on Biological Nutrient Removal in Wastewater Treatment”. Florida Collegiate Honors Council Annual Conference 2018, February 9 – 11, 2018, Fort Myers, FL.
15. “Treatment of surface water for human consumption with a combination clay-activated charcoal filter”. Research Day, April 2016, Florida Gulf Coast University, Fort Myers, Florida.
16. “Determining Effects of Class I Landfill Leachate on Biological Nutrient Removal in Wastewater Treatment”. Research Day, April 2016, Florida Gulf Coast University, Fort Myers, Florida.

SKILLS: Water quality testing (microbial and chemical); Biosand filter evaluation; Constructed wetland construction, operation, and evaluation; Water quality and biotechnology laboratory; AutoCAD; ArcGIS; Life Cycle Analysis and SimaPro

PROFESSIONAL DEVELOPMENT ACTIVITIES AND TRAININGS

1. SimaPro Software and Life Cycle Analyses, “Environmental impacts of food production & consumption”. Webinar, *Pre Consultants*, November 12, 2019.
2. Integrating Sustainability Across the Curriculum Academy, *Florida Gulf Coast University*, May 2019.
3. SimaPro User Certificate Program, Training, *Long Trail Sustainability*, May 22, 2019. Included the following training courses:
 - a. Applied Life Cycle Analysis in SimaPro
 - b. Modeling in Product Stages
4. ExCEED Teaching Workshop, *American Society of Civil Engineers*, June 2017.

STUDENT RESEARCH MENTORING AND CREATIVE ACTIVITIES

Lead Advisor

What if the cities in Southwest Florida and throughout the Southeastern United States (SE U.S.) could transform from being ecologically-extractive to ecologically-restorative? (July 2019 – current). Mentored 2 graduate students.

Amendments to Floating Treatment Wetlands to enhance treatment (January 2021 – current). Mentored 8 undergraduates and 1 graduate students.

Improving Local and Regional Environmental Governance by Linking Ecosystem Services to Development Impacts for Improved Sustainability (January 2019 – current). Class Term Project, mentored 33 undergraduate students.

Baffled Mangrove Subaquatic Vegetation Natural Treatment System for the C-43 Storage Basin for Improved Caloosahatchee River Water Quality (January 2020 – June 2020). Mentored 3 undergraduate students.

Design of Sustainable Methods for Recovered Materials (January 2020 – current). Mentored 2 undergraduate students.

Life Cycle Analysis of Anaerobic Digestion of Food Waste (January 2020 – June 2020). Mentored 2 undergraduate students.

Onsite wastewater treatment design for Eremo Carceri Franciscan Monastery in Assisi, Italy (January 2020 – June 2020). Mentored 3 undergraduate students.

Ecosystem services evaluation of Lake Okeechobee releases into the Caloosahatchee River and Estuary (January 2020 – current). Mentored 3 undergraduate students.

Evaluation and optimization of floating aquatic treatment wetlands for phytoremediation pre-treatment of municipal landfill leachate employing saline-tolerant plants natural to South Florida (September 2018 – current). Mentored 10 undergraduate students and 2 graduate student.

Determining Effects of Leachate-Associated Toxicity and Dissolved Organic Nitrogen on Biological Wastewater Treatment and Effluent-Receiving Waters. (January 2017 – January 2018) Mentored 7 undergraduate students.

Applying an ecosystem services framework to evaluate environmental losses due to lack of wastewater infrastructure to provide evidence for improved wastewater infrastructure and management (January 2019 – May 2019). Mentored 2 undergraduate students.

Phytoremediation of leachate in storage ponds using algae (January 2019 – May 2019). Mentored 3 undergraduate students.

Leachate pretreatment by retrofitting leachate storage tank for intermittent cycle extended aeration system operation for reduction of chemical oxygen demand and total inorganic nitrogen (January 2019 – May 2019). Mentored 3 undergraduate students.

Adaptation of biological nutrient removal activated sludge to landfill leachate for improved treatment efficacy at elevated loadings in wastewater treatment plants (January 2019 – May 2019). Mentored 3 undergraduate students.

Evaluation of Total Coliform Removal in dual filtration process of a biosand filter and moringa f-sand filter (September 2018 – December 2018). Mentored 2 undergraduate students.

Hyperspectral imaging of spectral irradiance of bacteria (September 2017 – May 2018). Mentored 5 undergraduate students.

Microorganisms of children's toys in the Family Resource Center at FGCU (September 2017 – December 2017). Mentored 4 undergraduate students.

Evaluation of coliform removal efficacy of intermittently-operated biosand filter with varied water sources (September 2017 – December 2017). Mentored 4 undergraduate students.

Does improved water quality enhance health outcomes in under-serviced areas in developing nations? (August 2017 – July 2018). Mentored 2 undergraduate students.

Blair Foundation Environmental Sciences Scholarship for summer research (May 2017 – August 2017). Mentored 1 undergraduate student.

The Wudder: A creative ceramic water filtration technology (August 2016 – December 2016). Mentored 4 undergraduate students.

Co-Advisor

Quantification of common UV filters in Southwest Florida water bodies and methods to include the community in reducing concentrations (January 2020 – current). Mentored 8 undergraduate students.

Trans-Atlantic Dust Characteristics and Potential Impact on Human Health in S.W. Florida (January 2021 – current). Mentored 1 graduate student.

Using Exfiltration Trenches for Stormwater Management in South Florida (January 2021 – current). Mentored 1 graduate student.

Comparison of Energy Consumption of Typical Wastewater Treatment Plants in Southwest Florida (January 2021 – current). Mentored 1 graduate student.

How characterization change of the production aquifer affects the successful design and operation of a brackish-water reverse osmosis plant over the intended lifespan of the facility: The Town of Jupiter, Florida (January 2021 – current). Mentored 1 graduate student.

Sustainable Development of the Babcock Ranch Weirs (January 2020 – May 2020). Mentored 3 undergraduate students.

Residential Rain Garden Design for the City of Clearwater (January 2020 – May 2020). Mentored 3 undergraduate students.

Charlotte County Storage Pond Water Quality Issues (January 2020 – May 2020). Mentored 3 undergraduate students.

Alternative Uses for Calcium Carbonate Water Treatment Sludge (January 2020 – May 2020). Mentored 3 undergraduate students.

Restoration and Enhancement of FGCU's Buckingham Property Drainage Canals with Special Consideration of Gopher Tortoise Habitat (January 2020 – May 2020). Mentored 3 undergraduate students.

Optimized Design of Equalization Basin to Improve Overall Wastewater Treatment Plant Operation and Effluent Water Quality (January 2020 – May 2020). Mentored 3 undergraduate students.

South Florida Estuary Protection Plan (January 2019 – August 2019). Mentored 3 undergraduate students.

Hydrogen Sulfide Biofiltration Design for Lift Stations (January 2019 – August 2019). Mentored 2 undergraduate students.

Design of a Cost-Effective Solution to Remove Fats, Oils, and Grease at Lift Stations (January 2019 – August 2019). Mentored 3 undergraduate students.

Feasibility and Impact Study of Sustainable Initiatives on FGCU Campus (January 2017 – May 2017). Mentored 30 undergraduate students.

Review of Function, Energy Efficiency, and Feasibility of Current Renewable Energy Methods (January 2017 – May 2017). Mentored 30 undergraduate students

REPRESENTATIVE GRANTS

Evaluation and optimization of floating aquatic treatment wetlands for phytoremediation pre-treatment of municipal landfill leachate employing saline-tolerant plants natural to South Florida (Project PI). Funded by the Hinkley Center for Solid and Hazardous Waste. September 2018 – current. Funding amount: \$91,532.

Construction, optimization, and cost-benefit analysis of floating aquatic treatment wetlands for phytoremediation pre-treatment of municipal landfill leachate employing saline-tolerant plants (Project PI). Funded by the Florida Gulf Coast University 2019 Honors Summer Research Fellowship. May 2019 – August 2019. Funding amount: \$19,060.

Leachate pretreatment by retrofitting leachate storage tank for intermittent cycle extended aeration system operation for reduction of chemical oxygen demand and total inorganic nitrogen (Project PI). Funded by Sarasota County Solid Waste Division. January 2019 – May 2019. Funding amount: \$2,574.

Sustainable, Cost-effective Water Resource Management Plan with Engineering Approach for Lake Okeechobee to Protect South Florida Estuary from Algae Blooms (Project Co-PI). Co-authored with Jong-Yeop Kim. Funded by the Florida Gulf Coast University Scholarship Enhancement Initiative. Funding amount: \$21,483.

Evaluation of Total Coliform Removal in dual filtration process of a biosand filter and moringa sand filter (Project PI). Funded by ECHO, Inc. September 2018 – December 2018. Funding amount: \$2,003.

Does improved water quality enhance health outcomes in under-serviced areas in developing nations? (Project PI). Funded by Small Grant for Preliminary Study (SGPS) from the Office of Research & Graduate Studies at FGCU. August 2017 – July 2018. Funding amount: \$4,920.

Determining Effects of Leachate-Associated Toxicity and Dissolved Organic Nitrogen on Biological Wastewater Treatment and Effluent-Receiving Waters (Project PI). Funded by the Hinkley Center for Solid and Hazardous Waste. January 2017 – January 2018. Funding amount: \$48,000.

OTHER RESEARCH FUNDING

- FGCU Faculty Senate Professional Development Grant in Spring 2019 for \$1,000 to attend workshop to learn Simapro software for teaching in ENV 4612C Sustainability in Engineering.
- Received a FGCU Faculty Senate Professional Development Grant in Fall 2018 for \$1,250.
- Received a FGCU Professional Development Enhancement Award in Fall 2018 for \$1,000.
- As part of my role as President of Clean Water for Haiti, I was a part of the successful grant writing effort to the International Foundation which led to a grant of \$25,000 in January 2018 which will fund the construction, installation, and 5 years of follow-up of 2,500 biosand filters to be located in Central Haiti.
- Applied for Senate funding Spring 2018 (\$750) to attend the annual Florida Solid Waste Association of North America Conference, to be located in West Palm Beach at the PGA National Resort from July 15 – 17, 2018.
- Received a FGCU Faculty Senate Professional Development Grant in Fall 2017 for \$1,275.

- In Summer 2017, I received the Small Grant for Preliminary Study (SGPS) from the Office of Research & Graduate Studies and the Faculty Senate Grants & Research Team for \$4,920.
- In Summer 2017, I was awarded the ETI/WCE Research Development Fund summer support \$3,000 in order to focus time on writing a strong proposal to submit to the NSF CAREER Grant Program.
- Blair Foundation Environmental Sciences Scholarship for summer research. Advisor to Shane Herman, summer research student, May 2017 – August 2017. \$5,000.

OTHER EXPERIENCE

Project Engineer, AECOM Technical Services, Inc. **April 2014 – July 2015**

- Wastewater lift station design
- Wastewater treatment plant FDEP operating permit renewal
- Drinking water treatment plant design and construction management
- Wastewater basin analysis and design
- Report writing
- Correspondence with Florida Department of Environmental Protection, Southwest Florida Water Management District, South Florida Water Management District

Graduate Research Assistant, Duke University **June 2010 – May 2014**

- Research drinking water quality and microbe removal by biosand filter
- Field research in Haiti studying biosand filters and *Vibrio cholerae* removal
- Wastewater treatment using peat-packed biofilters, redox zone optimization
- Field research in Vietnam researching cocopeat and wastewater treatment
- Fellowship and grant writing

Teaching Assistant, Duke Univ. College of Engineering **Aug. 2013 – Dec. 2013**

- *Environmental Microbiology*
- Laboratory instructor for 20 undergraduate and graduate students
- Weekly office hours: lecture follow-up, homework assistance, test preparation, mentoring
- Graded homework for 20 undergraduate and graduate students
- Proctor Exams
- Substitute lecturer

Teaching Assistant, Duke Univ. College of Engineering **January 2012 – May 2012**

- *Biological Principles in Environmental Engineering*
- Laboratory instructor for 30 undergraduate students, wastewater quality (Membrane filtration technique, dissolved oxygen and biological oxygen demand, plating, chemical oxygen demand and nutrient testing)
- Weekly office hours: lecture follow-up, homework assistance, test preparation, mentoring
- Graded homework for 30 undergraduate students, 10 graduate students
- Proctor Exams

Fulbright Student, Can Tho, Vietnam **August 2012 – July 2013**

- Conducted independent research on wastewater treatment with constructed wetlands filled with coconut waste product, cocopeat
- Included design, water quality analysis, and genetic analysis of microbial community within wastewater and biofiltration media (cocopeat)
- Advocated for and procured necessary lab equipment and materials

- Represented the only foreign Ph.D. student at the College of Environment and Natural Resources at Can Tho University
- Arranged shipping of cocopeat samples and water samples back to the US to do genetic testing at Duke University
- Assisted several English education classes

OTHER HONORS

Office of Undergraduate Studies FGCU Excellence in Mentoring Award 2018 - 2019

- Nominated for this prestigious award at Florida Gulf Coast University
- Nominated for the 2018-2019 school year

National Residence Hall Honorary Faculty of the Month December 2016

- Nominated by Jackson Cornelius (student in Wastewater Microbiology EES 4102C and Solid Waste Management ENV 4351C)

Morris K. Udall Scholar, Executive Branch of U.S. Government May 2009

- Awarded to 80 full-time students across the United States who are taking a course of study related to the *environment*, health care or tribal public policy
- Good academic standing and maintain satisfactory progress toward career
- Scholars chosen based on *academic record* and *demonstrated* interest in public policy
- Udall Foundation is an agency within *Executive Branch* of the United States government; the foundation is supported by two distinct funds within the *U.S. Treasury*
- Recognition from Florida State University:
 - Online Profile: <https://news.fsu.edu/student-stars/2009/07/01/ashley-danley/>
 - Announcement of Award: <https://news.fsu.edu/news/students-campus-life/2009/04/07/junior-ashley-danley-wins-prestigious-udall-scholarship/>
- Spirit of Service Award, The Florida Senate
 - Recognized at Florida Senate Number 12, April 23, 2009
 - Award given in recognition of academic achievement in attaining the 2009 Morris K. Udall Scholarship Award

Represented “Skill” on **Florida State University’s** “Strength, Skill, Character” **Institutional Commercial**

- https://www.youtube.com/watch?v=oWWdbDzk_II
- Aired during all football games in the stadium and on national television
- Given this honor for scholarly excellence and academic achievement

PREVIOUS INTERNATIONAL EXPERIENCE

- Cambodia (May 2013): Community development. Worked with Wetlands Work (Phnom Penh) to conduct follow-up visits to wetlands installed on floating homes in the Tonle Sap lake.
- Vietnam (August 2012 – June 2013): Community development. On a Fulbright scholarship, I conducted research on wastewater treatment with constructed wetlands filled with coconut waste product, cocopeat. Included the design, water quality analyses, and genetic analyses of microbial community within wastewater and biofiltration media.

- Haiti (May – June 2011): Community development. Served as field researcher for Clean Water for Haiti, testing over 50 biosand filters, a household water treatment technology, to analyze removal efficacy of *Vibrio cholerae*, the causative agent for cholera, during the cholera outbreak.
- Haiti (May 2010): Community development. Evaluated drinking water availability in 5 villages in order to assess appropriateness of biosand filters as drinking water treatment technology.
- Haiti (May 2009): Community development. Captured data via GPS and created map in order to prepare plans for community hospital.
- Costa Rica (May 2006): Community development. Involved maintenance, repairs, and painting of community center.
- Nicaragua (May 2006): Community development and health. Involved volunteering at several children's homes in several cities.
- Ghana (June 2005): Community development. Met with several women's groups to discuss women's issues and volunteered at orphanages.
- Mexico (June 2004): Community development. Building homes and relationships in Juarez.