

# Environmental Engineering Department News

Texas A&M University-Kingsville

## Special Points of interest:

- December Commencement
- PhD Proposals and Scholarships awarded
- A&WMA Events
- Student Organizations

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- Upcoming Events

## EVEN Highlights



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2016

## Student Achievements

**December 11th Graduates—Doctorate of Philosophy:** Dr. Xiangting Hou, **Master of Science:** Olufunso Adetunji, Bonaventure Ezech, Rohan Jayasuriya, Wisdom Oghenerurie, Jesus Prado, and Adekunle Teniola, **Bachelor of Science:** Fernando Arredondo. **Congratulations Everyone !!** Wisdom Oghenerurie is continuing his education in our Doctoral Program.

Gerardo Pinzon (PhD) wrote a proposal to **Energy and Sustainability AGEP Mini-Grant** titled “*Improving the Impact Analysis of Shale Oil and Natural Gas Production on Regional Rural Communities Using Industrial and Environmental Engineering Techniques*” and was awarded **\$7,000**.

Nebechi Osia (PhD) was awarded the **Waste Management Research and Study Scholarship** from the **Air & Waste Management Association** in recognition of her exceptional work in Waste Management Research and Study. She received the **Women’s Auxiliary to the American Institute of Mining, Metallurgical, and Petroleum Engineers Scholarship**. Nebechi has written two proposals to **Energy and Sustainability AGEP Mini-Grant** both have been awarded for a total of **\$12,030**.

**AAEES** and **AWMA Student Chapters** participated in the several events: **Beach Clean Up** (February 2016): Collaboration with **AWMA** and **Adopt-A-Beach** to clean up **Corpus Christi North Beach**; **Bigger Event** (February 2016): Volunteer event coordinated by the **Student Government Association**. They painted buildings at the **Dick Kleberg Park**; **Spring Fling** (March 2016): A fundraising event hosted by the **Student Activities Office, TAMUK**. They sold candied bacon; **Gardening Volunteers** (April 2016): Spent a Saturday morning helping the **Weavers of Love** (community garden) with the upkeep of their vegetables. Tasks included-mowing, weeding, planting, and watering.

**Carson Alsop** (BS) received the **Javelina Legacy Champion Award**. This award is for student champions who have followed in the footsteps of family members, loved ones, or mentors who are Javelina alumni. April 2016.

**Lijun Dai** (MS) passed her **Fundamentals in Engineering Exam** and is now an **Engineer in Training**.

**Francisco Haces** (PhD) and **Kristen Hernandez** (MS) represented the department at the **Academic Majors Fair** on Saturday, January 27, 2016.



Dr. Xiangting Hou



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## Student Organizations

If you are interested in joining the **AAEES Student Organization** please contact **Hunter Balzen** (BS), President at [tamuk.aees@gmail.com](mailto:tamuk.aees@gmail.com). If interested in joining the **AWMA Student Organization** please contact **Kailas Malwade** (PhD), President at [AWMA.tamuk@yahoo.com](mailto:AWMA.tamuk@yahoo.com). If you are a PhD student and interested in joining the **Association of Doctoral Students (ADS)** please contact **Lewis Haynes** (PhD), President at [adstamuk@gmail.com](mailto:adstamuk@gmail.com).



Top picture: Beach Clean UP,  
Bottom picture: Gardening Volunteers



## Student Achievements (cont.)

**Seyed Siavash Bassam** (PhD) presented his research work on “*Simulating Daily and Sub-Daily Water Flow in Large, Semi-Arid Watershed using SWAT: A Case Study of Nueces River Basin, Texas*” at the [2015 AGU Fall Meeting](#), December 14-18, 2015, San Francisco, California.

**Oluwatosin Oyelakin** (PhD) successfully defended his Dissertation titled “*Thermal Swing Adsorption to Capture and Recover Toxic Vapor Emissions from Condensate Storage Tanks used for Unconventional Energy Exploration*”. Advisor: **Dr. David Ramirez**.

**Doris Otero** (PhD) successfully defended her Dissertation Proposal titled “*Coupling of Coastal Hydrodynamic-Wave Model and Groundwater Flow Model to Simulate Storm Surge Impacts on Groundwater Flooding in South Florida*”. Advisor: **Dr. Jianhong Ren**.

**Chih-Yuan Chang** (PhD) successfully defended his Dissertation titled “*Investigation of Ambient Ozone Effects of Shale Oil and Gas Development Using Air Quality Modeling and Remote Sensing*”. Advisor: **Dr. Kuo-Jen Liao**.

The **EVEN 3328 (Environmental Engineering Process Fundamentals)** class visited the [O.N. Stevens Water Treatment Plant](#) in Corpus Christi, TX. The class learned about the design and operation of this drinking water treatment facility. (pictured right are **Amir Ghobadi** (PhD), BS students **Yvonne Dives-Gomez, Jennifer Paiz, Shelby Loveland, Cole Buckalew, Leilany Vasquez** and **Dr. David Ramirez**).

The **EVEN 6329 (Environmental Monitoring and Measurements)** class—**Water Purification Challenge Winners!** - by **Dr. Thomas Lynn**. On March 30th, student teams completed in a hands-on experimental design contest. The goal of the contest was to design and operate a multi-process treatment system that can produce high quality water from contaminated surface water. The teams were allowed to design their system by integrating multiple processes including coagulation, lime addition, and sand filtration into their treatment system. The product water was required to have an acceptable pH (6-8) and be filtered within a certain time (at least 1 liter in 15 minutes). In addition, the winning team would have the lowest product water turbidity (or amount of suspended solids in the water). The members on the winning team were **Onyinyechi “Hannah” Anyansó, Alexandra Juarez, and Chisara Anoruo** (pictured right). This team produced water with the lowest turbidity (0.4 NTU) which equated to 97% removal efficiency and they figured out how to design, construct and operate the system within one week! The winning team also faced formidable opponents from 2nd place **Sulochana Eati, Mena Batir and Trent Pinion** and 3rd Place **Gurupreet Siddhu, Michael Seymour, Karthik Eedala and Olusola Fasae** (not pictured) who both obtained greater than 87% turbidity removal efficiencies.

One of the great challenges that water treatment engineers face is to figure out how to integrate a number of technologies into a single process that can produce high quality water. **Mena Batir** stated, “I think this was the most interesting laboratory experiment that we have performed.” Due to a lack of critical data, environmental engineers often need to design systems that combine scientific theory, academic rigor, intuition, and “rules of thumb” into their design. **Trent Pinion** added, “I liked this project because it gave our team a goal. I liked to see how motivated the students were in coming to the lab to achieve the best results.” Moreover, “high quality water” is a general term that means a water source meets a multitude of water quality characteristics (e.g., neutral pH and low turbidity, lead, bacteria, etc.). Obviously, students need extensive training to competently design robust systems for removing many types of contaminants within one system.

In practice, it is very important to have bright and highly motivated individuals designing our water treatment systems. Interested students can obtain these skills by enrolling in the Undergraduate, Master’s or Doctoral Degree Programs in the Department of Environmental Engineering at Texas A&M University -Kingsville. Every day, millions of people expect to open up their faucet and have clean water. Fortunately, our society can rely on environmental engineers to design these systems to deliver high quality water to our households.

**Great Job Everyone!**



## Faculty / Staff News

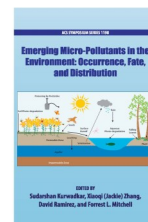
A proposal submitted by **Dr. Jiahong Ren** (TAMUK-EVEN), **Dr. Jingbo Liu** (TAMUK-CHEM), and **Dr. Ying Li** (TEES College of Engineering, TAMU-MEEN) titled “[Nanotechnology Based Selective Heavy Metal and Petroleum Hydrocarbon Removal from Wastewaters Generated in Energy Production Processes](#)” was funded for \$50,000 by the **TAMUK and TEES COE Joint Interdisciplinary Seed Grant for Energy Research Program**. Dr. Ren’s PhD student, **Nader Rezaei**, contributed significantly to the writing of this proposal.

### Publications:

**Dr. Thomas Lynn** had the following paper accepted for publication in the **Journal of Sustainable Water in the Built Environment—ASCE**: [Effect of Hydrodynamic Dispersion in Denitrifying Wood-Chip Stormwater Biofilters](#).

**Dr. Tushar Sinha**: Mazrooei A, **T. Sinha**, A. Sankarasubramanian, S. Kumar, and Christa Peters-Lidard, [Decomposition of Sources of Errors in Seasonal Streamflow Forecasting Over the U.S. Sunbelt](#), **Journal of Geophysical Research Atmosphere**. v120, pg11,809-11,825, doi:10.1002/2015JD023687.

**Dr. David Ramirez**: [Emerging Micro-Pollutants in the Environment: Occurrence, Fate, and Distribution](#), ACS Symposium Series 1198, Edity by Sudarshan Kurwadkar, Xiaoqi (Jackie) Zhang, **David Ramirez**, and Forrest I. Mitchell. This book was a result of the research efforts among 4 universities to cover important aspects of emerging micro-pollutants with regard to their environmental occurrence, analytical quantification, fate, transport (surface and sub-surface), persistence and removal mechanism. It is hoped that this book will provide an important source of information to researchers, academicians and environmental regulatory agencies so we can make this environment sustainable for generations to come.



## Institute for Sustainable Energy and the Environment (ISEE) News

**ISEE** was awarded a grant from the **Coastal Management Program**, project titled “*Laguna Madre Estuary Program Environmental Strategic Plan*” which includes a partnership with **Cameron County** and the **University of Texas-RGV**, and will entail developing a Strategic Plan that will be the basis for the founding of the **Lower Laguna Madre Estuary Program**. The total project is **\$199,920**—start date of October 2016.

**ISEE** staff and partners attended the “**State of the Bay**” **Galveston Bay Estuary Program Conference**, Galveston, TX on January 12-14, 2016.

**ISEE** staff and partners attended the **6th Annual Institute for Sustainable Energy & The Environmental Retreat** held at the EFCREO facility in Kingsville, TX on January 21-22, 2016.

**ISEE** staff and faculty met with representatives from the **Office of the Governor**, with **TCEQ Commissioner Toby Baker**, **TWDB Commissioner Bech Brunn**, and **Texas Department of Agriculture Deputy Commissioner Dan Hunter** in Austin, TX to discuss water issues, funding opportunities, and support of the proposed Laguna Madre Estuary Program on January 26-27, 2016.

**ISEE** staff and partners attended the **25th Annual South Chapter International Soil Erosion Association Conference** in San Antonio, TX on February 16-17, 2016.

**ISEE** hosted the **Soil Erosion Protection Association (SEPA) Course**, “[How to Inspect a TPDES Construction Site](#)” in Le Feria, TX on April 1, 2016.

**ISEE** submitted the following proposals: **EPA Urban Waters Program** titled “[Development of the Lower Rio Grande Valley \(LRGV\) Stormwater Detention Management Plan Using Green Engineering](#)” for **\$63,437**. and **RESTORE Program** in partnership with **Cameron County** titled “[Laguna Madre Estuary Program](#)”, for **\$1.5M**.

**Good Luck ISEE!**

Feel free to visit the following websites: <http://rgvstormwater.org>    <http://rgvlidprogram.com>    <http://tamuk-isee.com>



## Alumni News

Garrett Engelking (MS Class of '04) is the **Owner/Operator** of [C.R. Services](#) in Bulverde, Texas.

Dr. Yungang Carl Wang (MS Class of '08) is the **CEO** of [GAGO Inc., Energy for Sustainable Development](#) in Silicon Valley, CA. (Now Hiring—this company is committed to big data technologies to help customers manage the potential environmental risks).

Issac Prado (BS Class of '13) is working in China as a **Project Engineer/Teacher** with an international kindergarten school implementing sustainable gardens and teaching.

Sri Sridharan (MS Class of '04) is working with [Pioneer Natural Resources](#) in Dallas, TX as an **Environmental Supervisor**.

Vinod Balakrishnan (MS Class of '12) is working with [Atkins North America, Inc.](#) in Houston, TX as a **Water Resources Engineer**. Vinod is now certified as **P.E., CFM, and Environmental Specialist**.

Bijay Bokhim (MS Class of '03) is working with [Plains All American](#) in Houston, TX as a **Senior Corporate Air Quality Compliance Engineer**.

Linna Du (MS Class of '02) is working with [Yiheng Group](#), in Qingdao, Shandong, China as **Project Manager**.

Nereyda Facundo Torres (MS Class of '11) is working with [Flint Hills Resources](#) in Corpus Christi, TX as an **Environmental Air Permitting Engineer**.

Olufunso Adetunji, PMP (MS Class of '15) is working with the [City of Corpus Christi –Water Department](#) in Corpus Christi, TX as the **Utility Tech V**.

Daniel Heuston, P.E. (MS Class of '12) is working with [LNV Inc.](#) a Consulting Firm in Corpus Christi, TX as a **Project Engineer**.

Ayokunle Falade (MS Class of '12) is working with [Morris-Shea Bridge Company, Inc.](#) in Lake Charles, LA as a **Project Engineer**.

Marcia Baeza-Ortiz (MS Class of '09) is working with [Climarex Energy](#) in Tulsa, OK as an **Air Quality Specialist**.

Adekunle Teniola (MS Class of '15) is working with the [Commonwealth of Massachusetts—Department of Environmental Protection](#) as an **Environmental Engineer**.

Nithesh Kattakola (MS Class of '15) is working with [Horizon Advanced Systems Inc.](#) in San Francisco, CA as a **Data Analyst**.

\*\*\*[LinkedIn](#) is a great way to stay in touch with our Alumni—please connect with Catherine Allen when you can. \*\*\*

## Upcoming Events

**May 2016 Commencement** will be **May. 13, 2016 at 4p.m.** Environmental Engineering students graduating are: **PhD Student:** *Chuh-Yuan Chang and Oluwatosin Oyelakin*; **MS Students:** *Hao-Po Chang, Lijun Dai, Joshua Robbins, and Sharon Tazanu*; **BS Student:** *Isabella Aguirre, Carson Alsop, Hunter Balzen, Maria Corona, Ajia Fielden, Luis Hernandez, Juan Martinez, Josie Rios, Eva Saenz, Christina Saldivar, and Taylor Tinnell.* **Congratulations Graduates!!!**

ISEE will be hosting the **18th Annual Lower Rio Grande Valley Water Quality Planning and Management Conference**, May 17-21, 2016 at La Isla Grande, SPI, TX. For questions regarding the agenda please contact Joaquin Martinez at [Joaquin.martinez@tamuk.edu](mailto:Joaquin.martinez@tamuk.edu).

ISEE will host the **2nd Annual Municipal Parks Stormwater Management Using Low Impact Development and Green Infrastructure Mini-Conference** in Brownsville, TX in July, 2016.

ISEE will be collaborating with EPA on the **18th Annual EPA Region 6 Municipal Separate Stormwater Sewer System (MS4) Conference**, held in Oklahoma City, OK in October 2016.



**Go Javelina's !!!!**