

# Environmental Engineering Department News

Texas A&M University-Kingsville

## Special Points of interest:

- August Commencement
- AAEE / A&MA Organization Student Chapter Activities
- Graduate Poster Competition Winners and Paper Presenters

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## EVEN Highlights



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## Student Achievements

**August 8th Commencement**—Master of Science *Shubham Aggarwal, Armando Barrera, Maryam Daneshparvar, Ahmed Mahmoud Saad, Gerald Ogumerem, Rashida Sucky and Eduard Zakirov, Doctorate of Philosophy: Dr. Yaneth P. Gamboa, Dr. Prajay Gor, and Dr. Shaun T. Kusek.* Congratulations!! (pictured right are the new Doctoral Graduates)

The **American Academy of Environmental Engineers and Scientists (AAEES)** collaborated with **JSS** and won **First Place** in the “**Can You Build It**” Competition. They collected a total of 238 cans and used them to build the head of Emmet from “The Lego Movie”. Thanks to everyone who participated!

Dr. David Ramirez, Dr. Alvaro Martinez, PhD student Tosin Oyelakin, MS students Rashida Sucky and Gerald Ogumerem presented at the **107th Annual Conference and Exhibition of the Air & Waste Management Association** in Long Beach, CA on June 24-27, 2014. **Rashida** and **Gerald** were awarded the **First and Second Place Awards**, respectively in the Student Poster Competition, Master’s level. **Tosin** presented a paper entitled “*Quantification and Analysis of Hazardous Air Pollutant Emissions from Unconventional Oil and Gas Exploration Storage Tanks*”, **Dr. Ramirez** served as a Session Chair for the Student Chapter Exchange Workshop and **Dr. Martinez** presented a paper titled “*Mercury Emissions Control by Enhanced Oxidation and Life Cycle Assessment of the Technology*”.

MS students **Ahmed Mahmoud** and **Shrey Kankaria** presented posters in Green Infrastructure and Low Impact Development 2014 poster competition at the **16th Annual EPA Region 6 Stormwater Conference**, Fort Worth, TX on July 27—August 1, 2014. (posters must be accepted by the EPA Evaluation Committee in order to present.)

PhD student **Geraldo Pinzon** presented a paper titled “*Improving Impact Analysis of the Eagle Ford Shale Oil and Natural Gas Production on Regional Rural Communities*” at the **2014 Shale Energy Engineering Conference** in Pittsburgh, PA in July, 2014. (papers must be accepted by the ASCE Conference Committee in order to present)

PhD student **Nima Ghahremani** was awarded \$900 for his research grant proposal titled “*Assessment of Desalination Concentrate Stream as an Alternative Water Supply for Hydraulic Fracturing*” submitted with the **Geological Society of America**. 401 applications of the 774 submitted were awarded.



Dr. 's Prajay Gor, Yaneth Gamboa  
and Shaun Kusek



“EMMET”



## Undergrad Corner

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 Organization** please contact **Taylor Tinnell** (BS) President at [AWMA.tamuk@yahoo.com](mailto:AWMA.tamuk@yahoo.com).

If you have any questions you can contact our department at 361-593-4330 or send **Cathey Allen** an email at [allen@tamuk.edu](mailto:allen@tamuk.edu).

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## Dissertation / Thesis / Project Presentations

Yaneth P. Gamboa defended her dissertation titled "Assessment of Possible Causes of Groundwater Contamination Near ISR Uranium Mining Sites". Advisor: Lee Clapp. July 29, 2014

Prajay Gor defended his dissertation titled "Experimental and Life Cycle Assessment for Removal of Flue Gas Elemental Mercury Using Enhanced Oxidation and Wet Scrubbing". Advisor: Alvaro Martinez. July 31, 2014

Shaun Kusek defended his dissertation titled "Characterization of Submarine Groundwater Discharges and the Development of Empirical Mathematical Models and Forecasting Tools for the Quantification of SGD in Baffin Bay, Texas". Advisor: Kim Jones/Venkatesh Uddameri. July 14, 2014

Shubham Aggarwal defended his Project titled "Innovative Biological Emissions Treatment Technology Deployment to Reduce Air Pollution for petroleum Refining Operations". Advisor: Kim Jones. July 31, 2014

Armando Barrera defended his Project titled "Groundwater Substance Concentration Mapping in Kenedy County". Advisor: Lee Clapp. August 4, 2014

Maryam Daneshparvar defended her Project titled "A Human Health Risk Assessment of Exposure to Benzene in Corpus Christi Region, Texas". Advisor: Alvaro Martinez. August 7, 2014

Ahmed Mahmoud Saad defended his Project titled "Statistical Analysis of Bacterial Levels in the Arroyo Colorado River". Advisor: Lee W. Clapp. May 9, 2014

Gerald Ogumerem defended his Thesis titled "Monitoring and Characterization of VOCs in Ambient Air Near Active Gas Wells in the Eagle Ford Shale". Advisor: Lee Clapp. July 29, 2014

Rashida Sucky defended her Thesis titled "Granular Filtration of Aerosols Containing Carbon and Silica Based Nanomaterials". Advisor: David Ramirez. July 29, 2014

Eduard Zakirov defended his Thesis titled "Airborne Particulate Matter Monitoring in McMullen County". Advisor: David Ramirez. July 28, 2014

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## Alumni

Eric Faust (BS Class of '14) is working with [Department of Energy](#) in Richland, Washington as an **Environmental Engineer**.

Azia Hinojosa (BS Class of '14) is working with [Flint Hills Resources](#) in Corpus Christi, TX as an **Environmental Engineer**.

Sunhee (Kim) Park (MS Class of 2000) is working with [EA Engineering, Science, and Technology, Inc.](#) as an **Environmental Engineer**.

Vivek Gopal (MS Class of '05) is working with [Conoco-Phillips 66](#) in Houston, TX as an **Sr. Environmental Engineer**.

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

Doris Otero Luna (MS Class of '09) is working with [CB&I](#) in Boca Raton, FL as an **Coastal Engineer**.

Avanti Kavathekar, EIT (MS Class of '08) is working with [Metropolitan Water Reclamation District of Greater Chicago](#) in Chicago, IL as an **Associate Environmental Research Scientist**.

Sushil Nadkarni (MS Class of '01) is a **Partner** with [ERM: Environmental Resources Management](#) in Houston, TX.

Armando Barrera (MS Class of '14) is working with [TCEQ: Texas Commission on Environmental Quality](#) in Austin, TX as an **Environmental Permit Specialist**.

Ahmed Mahmoud and Gerald Ogumerem (MS Class of 14) returned to continue their **PhD in Environmental Engineering** at [AMK](#).

Andrea Meyer and Gisela Alfaro (BS Class of '14) returned to pursue their MS in Environmental Engineering at [AMK](#).

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

## Faculty / Staff News

The Environmental Engineering Department Welcomes **Dr. Tushar Sinha** who comes to us from North Carolina State University. Dr. Sinha received his **BS in Agricultural Engineering** from **Manharana Pratap Univ. of Agriculture & Tech**, Udaipur, India, **MS in Water Resources Engineering** from **Indian Institute of Technology (IIT) Delhi**, India and his **PhD in Hydrology** from **Purdue University**, West Lafayette, IN. His research interests include: Surface water and groundwater sustainability under climate change and human interventions, Large scale ocean-atmosphere-land surface interactions to improve streamflow and soil moisture forecasting, and Impacts of climate and land use changes on hydrologic cycle.

**Xiangting Hou (PhD)** has an article titled “Contributions of Regional Air Pollutant Emissions to Ozone and Fine Particulate Matter-Related Mortalities in Eastern U.S. Urban Areas” accepted for publication in *Environmental Research*. Advisor: Kuo-Jen Liao.

**Dr. Kuo-Jen Liao** received the *Dean's Best Paper Award* for his paper, K.J. Liao, X. Hou and D. Baker, “Impacts of Interstate Transport of Pollutants on High Ozone Events over the Mid-Atlantic United States, 2014,” *Atmospheric Environment*, 84, 100-112.

**Dr. Lucy Camacho** was awarded \$49,984 for her proposal titled “Ammonia Removal from a Wastewater Treatment Plant Effluent—Phase II” from **El Paso Water Utilities**. June 2014.

**Dr. Kim Jones** presented a paper titled “Alternative Water Supplies for Sustainable Oilfield Operations for the Shale Gas and Oil Development” at the **1st Sustainable Development of Energy Water and Environment Systems (SEE SDWES) Ohrid Conference** in Ohrid, Republic of Macedonia on June 27-July 4, 2014.

**Don Marek**, Lab Manager, attended the **Agilent Gas Chromatography/Mass Spectrometer Training** in Houston, TX in June 2014.

**Dr. Lucy Camacho** traveled to Baltimore, MD to participate at the **National Science Foundation QEM-NSF-MRI Workshop**. November 6-8, 2014.

**Dr. Lucy Camacho** presented a paper titled “Removal of Chromium (VI) and Divalent Cations from Flowback Water by Graphene Oxide-Modified Natural Zeolite” at the **14th Annual AIChE Meeting** in Atlanta, GA on November 16-21, 2014.

**Dr. Lee Clapp** and **Dr. Lucy Camacho** were awarded \$61,578 for their proposal titled “Field Measurements and Water Quality Sampling of Wastewater Effluents in the Lower Rio Grande/Rio Bravo Watershed for a Binational Synoptic Water Quality Survey of the Lower Rio Grande/Rio Bravo”.

**Dr. Lee Clapp** presented two papers at the **ASCE Shale Energy Engineering Conference** in Pittsburgh, PA on July 21-23: “Feasibility of Using Brackish Groundwater Desalination Concentrate as Hydraulic Fracturing Fluid” (Ghahremani, N., Clapp, L.) and “Monitoring and Characterization of VOCs in Ambient Air near Active Gas Wells in the Eagle Ford Shale” (Ogumerem, G., Mantrawadi, N., Nijim, M., Martinez, A., Clapp, L.). Dr. Clapp also co-chaired a Wastewater Treatment Session.

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

**ISEE** delivered **18** Storm Water Management Plans to the **TCEQ** as part of the *Stormwater Management Services* provided by the ISEE team. The 18 plans were designed as a regional plan that will be adopted by Task Force members once the TCEQ approves the document.

**ISEE** submitted two grants to the **U.S. EPA** titled “Renovation of Rio Red Research, Training & Engineering Center” for \$500,000 and “SCID15 Water Resources Planning” for **\$3,300,000** in June, 2014.

**ISEE Staff** attended the **17th Annual EPA MS4 Operator Conference** in Ft Worth, TX on July 28-31, 2014.

**ISEE** submitted LRGV LID Phase V proposal to **EPA Chapter 319 NPS Grant Program** for **\$1.2M** in July, 2014.

**ISEE** attended **STORMCON 2015** in Portland, OR. Mayokun Adekola (MS) gave a Platform presentation titled “Design and Installation of Green Roof on Amigos de Valle, San Juan, TX”. August 4-7, 2014.

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

ISEE hosted 100 high school, junior high and elementary students from Los Fresnos ISD and Edcouch-Elsa ISD during the [6th Annual Javelina Homecoming](#) event on October 18, 2014. Activities were hosted by the LRGV Javelina Engineers Alumni Association, the Stormwater Task Force and Environmental Engineering.

In October the **ISEE staff** submitted eight water related projects to the [NOAA RESTORE Program](#) for funding. **ISEE** also delivered three additional [GIS Short Courses](#) in Weslaco, TX.

A warm welcome to three new employees who joined the **ISEE Staff Team**:

**Jose Figueroa**, Brownsville, TX, B.S. Environmental Science, University-Texas at Brownsville. **GIS Instructor**

**Stephen Bookout**, Harlingen, TX, B.S. Spatial Science from Texas A&M University. **GIS Instructor**

**Joaquin Martinez**, Weslaco, TX, B.S. Computer & Informational Techn., South Texas College, Weslaco, TX. **Technology Coordinator I**

Staff, Members and Students will be attending the 4th Annual LRGV TPDES Stormwater Task Force Christmas Meeting set for December 10, 2014 in Weslaco, TX..

**Happy Holidays from the Institute for Sustainable Energy and the Environment!!**

## Eagle Ford Center for Research, Education and Outreach (EFCREO)

The [EFCREO](#) gives a warm welcome to **Dr. Jessica Schnupp** as their Research Scientist for the Center. Dr. Schnupp graduated with her Ph.D. from Environmental Engineering, [TAMU-K](#) in May 2014. Dr. Schnupp and her husband was recently blessed with a daughter, Susanna.

The [EFCREO](#) held its **4th Shale Oil and Gas Development Workshop on Management of Water Resources, Air Resources and Oilfield Waste** at the TAMU-SA Brooks City Base Campus in San Antonio, TX on November 18, 2014. The workshop aimed to align technical services and resources to support an efficient sustainable Eagle Ford Shale development. Community leaders, academia and industry representatives increased their knowledge of important issues and potential solutions being developed to better manage our water, air and oil field waste. It was a lively interchange of ideas, leading to solutions for some of the challenges being shared by the communities in the Eagle Ford Shale region, along with industry.

The EFCREO was awarded \$10,000 from the Coastal Bend Community Foundation for its research activities.

The [Eagle Ford Center for Research, Education and Outreach \(EFCREO\)](#) invites you to join them for a special announcement about new members joining its Industry/University Cooperative Research Program and Ribbon Cutting Ceremony for the [Texas A&M University-Kingsville Center for Applied Research and Entrepreneurship](#) on **Thursday, December 11, 2014 at 10:30 AM** located at 2211 S. Brahma Blvd, Kingsville, TX..

For more information on the EFCREO visit our website at <http://www.tamuk.edu/eagleford>

## Upcoming Events

**Fall 2014 Commencement** will be **December 12th at 4PM**. Environmental Engineering students graduating are: Theresa Perez, BS, and MS Students: Fayruj Ahmed, Isha Chaware, Tanviben Desai, Shrey Kankaria, Nithesh Kattakola, Sheena Neizer, Aiyawarya Parthasarathy, Aditya Shah, and Wei Yang.

**Congratulations Graduates!!**



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