DEPARTMENT OF PHYSICS AND GEOSCIENCES

Inside This Issue: Program News …1

Photo Gallery ... 5

Contact us / Editors

Contact us:

Geosciences Program Texas A&M – Kingsville MSC 175, University Blvd Kingsville TX, 78363

Phone: 361-593-3110 Fax: 361-593-2183

URL: geosciences.tamuk.edu

Editors: Dr. Thomas McGehee (kftlm00@tamuk.edu)

Dr. Haibin Su (haibin.su@tamuk.edu)



Geosciences

Newsletter

VOLUME 9, ISSUE 3

Program News

Four Students Graduated in the TAMUK Summer Commencement



Antonio Hernandez, Justin Kelley, Dakota Kubiak, and Emilio Martinez received their Bachelor of Sciences degrees in the TAMUK summer 2015 commencement. Emilio Martinez, Dakota Kubiak, Justin Kelley completed their field camp commitment with our program this summer. Antonio Hernandez completed his field camp with the summer 2014 class. These students helped our program in many ways during their time in our program and will be missed. Thanks for all you did for our Geosciences Program.

Antonio Hernandez transferred into our program from Houston Community College. He was among sixteen new majors that joined our program in the fall 2012 class. Antonio was a very good teaching assistant in our introductory labs. He was the Vice President (2013-2014) of the Geology Club in his junior year and was elected President (2014-2015) in his senior year. Antonio volunteered many hours of his time in support of geosciences students and faculty.

Justin Kelley received the Bachelor of Sciences, cum laude. Justin transferred into our program from Central Texas College in Marble Falls, Texas in the fall of 2012. In his senior year Justin was an excellent team leader on many of our Fall and Spring fieldtrips and Summer Camps.

Dakota Kubiak transferred into our program from Blinn College in Brenham, Texas in the Fall of 2012. He received his GIS Certificate from our Geosciences Program on May 7, 2015. Dakota Kubiak was the first recipient of the "Best Field Book" honor awarded by our Faculty in the past three sets of field camps for both Field Camp I and Field Camp II. The only previous "Best Field Book" honor was awarded to Brent Winborne for his field book for part one. Great job Dakota!

Emilio Martinez joined our program upon graduation from the Santa Gertrudis Academy High School. He was among nineteen new majors that came in the Fall 2011 class. Emilio received his GIS Certificate from our Geosciences Program on May 7, 2015. Emilio worked for the King Ranch while taking courses in Geosciences. Emilio was an excellent student.

Eighteen Students Joined our Program

Adriana Bonin, Aaron Barron, Travis Burford, Adriana Cisneros, Gregory Darlington, Kathleen Diaz, Alfred Dimas, Collin Favor, Justin Greenwood, Jaslyn Herrera, Dawson Jacob, Andrew Jaime, Jesus Lemus-Bohorquez, Daniel Morales, Kasey Phillips, Aaron Riddle, Margarita Wilhelm, and Brian Wilkinson, joined our program this Fall. Twelve of these incoming students are transferring into the program and nine of the students are freshmen. Welcome to our Geosciences Program and the TAMUK Community!

Adriana Bonin is a Freshman from Conroe Texas.
Aaron Barron is a Junior status internal transfer student.
Travis Burford is a Freshman from Corpus Christi Texas.
Adriana Cisneros is a Freshman from Kingsville, Texas.
Kathleen Diaz is a Junior status internal transfer student.
Alfred Dimas is a Sophomore status internal transfer student.
Collin Favor is a Sophomore status internal transfer student.
Goregory Darlington is a Freshman from Klein Texas.
Justin Greenwood is a transfer student from TAMUCC.
Jaslyn Herrera is a Freshman from Kingsville, Texas.
Andrew Jaime is a sophomore transfer student from Del Mar College.
Dawson Jacob is a Freshman from Victoria, Texas.
Jesus Lemus-Bohorquez is a Freshman from Alvin Community College.
Kasey Phelps is a transfer student from Alvin Community College.



SEP2015



Geosciences Newsletter

SEP 2015

Department of Physics and Geosciences Texas A&M University - Kingsville

Aaron Riddle is a transfer student from Blinn College. Margarita Willhelm is a transfer student from Del Mar College. Brian Wilkinson is a transfer student from Tyler Junior College.



Geosciences Program Offered GIS Workshop for Local High Schools



With the support of the grant from the National Geospatial-Intelligence Agency, Dr. Haibin Su and Dr. Brent Hedquist offered a GIS workshop for instructors from 3 local high schools (H.M. King High School, Alice High school, and Tuloso-Midway High School). During a 2 week period, from July 6th to July 17th, 3 instructors took intensive GIS and GPS training as a preparation for teaching the introductory GIS courses at their respective schools. Three of our undergraduate geosciences majors, Jacob Byerly, Mark Alaniz, and Jonathon Tuck, were hired and coupled with the high school teachers for the entire two-week training for hands-on exercises.

As part of the training, the high school instructors were provided with textbooks, software, lecture notes, lab handouts, and data. This approach will make an impact on the number of high school students exposed to and engaged in geospatial technology, while also boosting the institutional collaborations between TAMUK and local high schools.

Drs. Sanchez and Yelisetti Join our Faculty



Dr. Veronica Sanchez has accepted our structural geology tenure track position starting this Fall, 2015. Dr. Sanchez is a graduate of the University of Houston (2011) where she conducted research on the 'Structure and Tectonics of the Himalaya Orogen and Tibetan Plateau', focusing on the evolution of rifts in western and south-central Tibet. After graduation she continued her research at the U of H as a visiting research professor. She joined College of the Mainland in 2012 as assistant professor. While there she co-directed a project with a Humanities colleague to invite students from across the Gulf Coast community colleges to present original research in the Arts and/or Sciences. After three successful years, this project developed into what is now the annual Gulf Coast Intercollegiate Consortium Academic Symposium at the College. In 2014 she led a geology field-based course to Ontario and New Brunswick, Canada, where students in physical geology studied remnants of the Grenville Orogeny, the Sudbury impact crater and mining province, and also learned about sustainable energy at St., Lawrence College (Ontario). She also advised the geology club, coordinated outreach activities, and led several trips to study the geology of West

Geosciences Newsletter



Department of Physics and Geosciences Texas A&M University - Kingsville

and Central Texas, New Mexico, and Arkansas. Dr. Sanchez likes to be (and sleep) outdoors rain or shine, cold or hot; enjoys photography, running, climbing, and mountain biking. She is ecstatic about joining TAMUK!



Dr. Subbarao Yelisetti has accepted our petrophysics/geophysics tenure track position starting this Fall, 2015. His research interests involve plate tectonics and geophysical structure at continental margins. Using various types of geophysical data, his research examines crustal-scale structures of the margins which provide important control on understanding natural hazards such as earthquakes and tsunamis. His research also focuses on the detailed sediment structure in basins and in the accretionary sediment wedge at subduction zones, particularly the frozen methane gas hydrate layer which is found within a few hundred meters of the seafloor and represents a potential massive energy resource and contributor to global climate change.

Dr. Yelisetti was working as a postdoctoral fellow at the Pacific Geoscience Center in Sidney, Canada. He obtained his PhD degree in geophysics/seismology in 2014 from University of Victoria, Canada. His thesis focused on examining the detailed geological structure of the northern Cascadia margin. Prior to his PhD, he obtained MTech degree in mineral exploration in 2008 and MSc in physics in 2006 from University of Hyderabad, India. He obtained BSc degree in 2004 from Acharya Nagarjuna University, India with a specialization in mathematics, physics, and chemistry.

Dr. Yelisetti's current and ongoing research projects involve (i) obtaining the detailed crustal structure in the region of 2012 Haida Gwaii earthquake (M7.7), the second largest instrumentally recorded earthquake in Canada, (ii) characterizing the sub-seafloor structure associated with permafrost gas hydrates and fluid migration in the Arctic Beaufort Sea region, and (iii) characterizing the vergence structure along the seismically active Cascadia subduction zone, using various types of geophysical data. For additional information on his research activities, please visit his research website: http://web.uvic.ca/~subbarao/.

Hydrogeology Field Camp Attended by Students from three Universities



The Hydrogeology Field Camp conducted in Central Texas is the second-half course of our 49 day field camp. Nine students, three volunteers, four faculty members, and one Teaching Assistant spent twenty-four consecutive days together learning how to find groundwater resources for the Central Texas area. This writing-intensive, geosciences capstone course measures our participants' knowledge in Mineralogy, Petrology, Sedimentology, Structural Geology, Field Geology, and Hydrogeology. The course requires 10-16 hour work days conducting field research and preparing professional reports that are turned in and graded by our professional staff (Jim Chude, Ron Fieseler, and faculty). Three students from Corpus Christi (TAMUCC) and one student from College Station

(TAMU) were joined by 5 geology majors from our program. Mark Alaniz (TAMUK), Payton Campbell (TAMUK), Andrew Garcia (TAMUCC), Tabitha Head (TAMUCC), Alexander Johnston (TAMUK), Christian Jones (TAMU), Dakota Kubiak (TAMUK), Karen Linares (TAMUCC), and Emilio Martinez (TAMUK) attended this camp. These students gave 100% every day and produced the highest quality of work yet demonstrated in the hydrogeology field camp. One of our external participants wrote

"I would also like to thank you and the other professors for what I can honestly say was the most comprehensive and educational geologic experience of my life thus far. Having gone to big schools, it was such a relief to be around professors that took an active interest that I learned the material and understood the breath of all the minutia of what we were observing. It really tied so many things together for me, and I sincerely appreciate the effort you and the other professors put forth for the field camp."

Dakota Kubiak was the first recipient of the "Best Field Book" honor in both field camp I and Field Camp II awarded by our Faculty.





Geosciences Newsletter

Department of Physics and Geosciences Texas A&M University - Kingsville

Matt Dabney Joins Faculty in the Field as his First Professional Opportunity

Matt Dabney, who graduated in May 2015, joined our faculty for both field camps this summer. Matt was a professional staff person (usually called a graduate assistant at other field schools) that provided boundless energy, enthusiasm, and a can-do attitude. Our student participants benefited from his wealth of knowledge from last year's field camp as well as his excellent skills as a camp chef. In our collective opinion Matt played significant part in the resounding success of this year's overall camp experience.

Geosciences Hosts DOD Grant Agency Site Visit



On July 7th, Geosciences and the GIS faculty had a site visit from Mr. Dennis Walker, grant administrator for the National Geospatial-Intelligence Agency (NGA) Academic Research Program. Mr. Walker was visiting from Washington D.C. and was checking up on the progress experienced during the first year of Drs. Su's and Hedquist's NGA grant award. He spent the day visiting and evaluating the second day of the GIS workshop offered for the local high school teachers, visited with the Dean of Arts and Sciences, as well as touring the University and department facilities. Mr. Walker was pleased the progress that has been

made on the grant so far and feels that our GIS and Geosciences program has great potential to expand both in research and the coursework offered to the local and regional South Texas community. Thank you Mr. Walker!

Three Fieldtrips Planned for Fall Semester

We have three Mineralogy, Sedimentology, Geomorphology, Remote Sensing, and Paleontology field trips this Fall. If you plan to attend, mark your calendar and put your name on our sign-up sheet in the main office.

On October 1-3 (Thursday-Saturday) we will be coupling activities in Stratigraphy with the Paleontology class. This includes a lithostratigraphic and biostratigraphic study of the lower Cretaceous rocks along Fitzhugh Road near Flat Creek. We will also visit the Jackson School of Geology to observe fossil preparation and curation.

On October 8-10 (Thursday-Saturday) we will be coupling activities of Sedimentology with the Geomorphology class. This includes measuring a section and studying the paleo-topography at the end of the Precambrian.

On October 29-31 (Thursday-Saturday) we will be coupling activities of the Mineralogy class with the Remote Sensing class. This includes a mineralogical examination of the pegmatite at Badu Hill and ground-truth of a remote sensing image of this vicinity.

Drs. Ford and McGehee will Attend the GCAGS Conference to Present Posters and Serve as Judges

Drs. Ford and McGehee will attend the 2015 GCAGS Conference in Houston Texas from September 20-22. We are learning from this year's conference chairs and preparing to serve as Poster Presentation Session Chairmen for the 2016 GCAGS Conference in Corpus Christi Texas.

Lauren Hall and Dr. Buckley will Attend Vertebrate Paleontology Meeting in Dallas



Dr. Buckley will be attending the Society of Vertebrate Paleontology meetings in Dallas from 12- 17 October. Coupled with the meetings will be a field trip to north Texas dinosaur track localities. He will be accompanied by Miss Lauren Hall who is a dual credit student at The School of Science and technology in Corpus Christi. Lauren is working on fossil preparation in Dr. Buckley's lab in her limited spare time. Lauren will be officially joining our program in the Fall Semester of 2016.

John Nelson is a new GIS Lecturer for our Program



John Nelson accepted a lecturer position in our program to alleviate some of our increasing GIS course load this year. In the fall semester he is teaching two Introductory GIS classes and two GIS laboratories. John brings great experience to our department from both a teaching standpoint and in working with industry. He has taught at Del Mar College and is currently completing a second Master's Degree from TAMUCC in Geospatial

Surveying Engineering. He has also organized and co-hosted the annual Coastal Bend GIS Day with TAMUK, TAMUCC, and Del Mar College for 15 years (the next event will be at Del Mar's Center for Economic Development on Nov. 17). Welcome John!

Dr. Betsy Torrez is a new Geology Lecturer for our Program

Dr. Betsy Torrez accepted a lecturer position in our program to take teach introductory geology courses. Dr. Torrez brings us a wealth of teaching experience (Associate Professor at Sam Houston State University) and twelve years Industry Experience (Phillips Petroleum Company and ConocoPhillips). Her technical skills include expertise in structural geology, 3D seismic interpretation, petroleum reservoir characterization, prospect generation, structural framework interpretation, characterization of fractured reservoirs and fault damage zones, subsurface mapping, core analysis, cross-section restoration, and geo-modeling experience in Eagle Ford, Gulf of Mexico, south Louisiana, Rocky Mountains, and Anadarko Basin.



Geosciences Newsletter SEP 2015 Department of Physics and Geosciences Texas A&M University - Kingsville

Photo Gallery: Hydrogeology Field Camp

