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Program News

Austin Johnson Graduated in the TAMUK Summer Commencement



Second Lieutenant Austin Johnson graduated with bachelors of science double degrees in Geology and Military Science. Lt. Col. Troyer representing the A&M-Kingsville ROTC commissioned Austin Johnson as a second lieutenant in the United States Army at the 4 p.m. ceremony. Austin is now in the United States Army. We are very proud of Austin's accomplishments in our program.

Geosciences Program Welcomes Twelve New Geology Majors This Fall

Twelve geosciences majors have joined our program. Six freshmen (**Isaias Rodriguez, Divya Kalia, Terrance Dewitt, Allison Mrotek, Samantha Rowe, and Julian Sendejo**) are joining us from local high schools and two Dual Credit geology majors (**Myra L. Wilson and Jose D. Rios**) are taking University credit classes in the Rio Grande Valley. **Terrence Dewitt** and **Samantha Rowe** are internal transfer student. Isaias, Divya, Terrance, Allison and Julian are taking geosciences classes at TAMUK this semester. Four transfer students (**Kasondra Maleski, Tessa Casanova, Lenora Perkins, and Donovan Rodriguez**) have joined us from Del Mar College. Welcome to our program.



Isaias



Terrance



Allison



Samantha



Tessa



Julian



Divya



Kasondra



Lenora



Donovan

Local High School Teachers Receive GIS Certificates



With the support of their ongoing NGA grant, Drs. Su and Hedquist offered a GIS workshop for teachers from three local high schools (Bishop High School, Flour Bluff High school and London High School). During a 2-week period, from July 5th to July 15th, these instructors have taken intensive GIS and GPS training as a preparation for teaching the introductory GIS courses at their respective school. Three teaching assistants,

Aaron Barron, Monica Estrada, and Mukti Subedi, were hired and coupled with high school teachers for the entire two-week training to assist with 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. It will also boost the institutional collaborations between TAMUK and local high schools.

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Dr. Robert V. Schneider Joins our Faculty



Dr. Robert Schneider accepted our petroleum geology tenure-track position starting this Fall 2016. Dr. Schneider is a PhD graduate of University of Texas El Paso (1990) where he conducted research on *An integrated geophysical and geological investigation of the transition zone between the Colorado Plateau, Rio Grande Rift, and Basin and Range provinces: Arizona and New Mexico*. After graduation, Dr. Schneider began his career with Amoco Production Company in Houston Texas. He has twenty-five years of petroleum geology/geophysics experience in major oil companies. He has four years of academic experience at University of Louisiana at Lafayette where he served as an Assistant Professor and Director of the Energy Institute. His background and interests lie in the integration of geophysical and geological data to better understand petroleum

environments, sedimentary fluid composition and their relation to larger controlling tectonic environments.

Dr. Schneider's research interests include calibration of seismic data to geologic and well log control, basin analysis and evolution, seismic interpretation and seismic modeling/inversion to better understand hydrocarbon reservoirs in sedimentary rocks. His focus will be directed towards finding new ways to detect bypassed oil & gas plays in the Texas Gulf Coast region, investigate local geologic responses to the large-scale development of the Gulf of Mexico, and to apply new techniques to improve the imaging and interpretation of hydrocarbon systems.

Dr. Schneider will be teaching geology and petroleum geology courses in the 2016-2017 academic year. In addition to his research and teaching duties, Dr. Schneider will be working closely with Dr. Subbarao Yelisetti and other faculty to develop a multidisciplinary M.S. program in Petrophysics. He will also be working toward developing a curriculum that will add a concentration in geophysics to the B.S. degree in geology. This program's emphasis will be towards interpreting seismic data volumes and other geophysical data to understand subsurface geology.

Hydrogeology Field Camp Attended by Students from TAMUCC and TAMUK



The Hydrogeology Field Camp conducted in Central Texas is the second-half course of our 49-day field camp. Ten 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.

Four students from Corpus Christi (TAMUCC) were joined by 6 geology majors from our program. **Jacob Byerly** (TAMUK), **Colton Coons** (TAMUCC), **Monica Estrada** (TAMUK), **Scott Fenner** (TAMUK), **Eric Garza** (TAMUCC), **Austin Johnson** (TAMUK), **Cody Lopez** (TAMUCC), **Richard Lopez** (TAMUCC), **Kasey Phelps** (TAMUK), and **Jonathan Thomas** (TAMUK) attended this camp. These students gave 100% every day and produced the highest quality of work yet demonstrated in the hydrogeology field camp. We are proud of these geologists and would recommend them to our professional colleagues.

Geology Club

This fall semester is going to be a good one for the Geoscience Club. New president, Jonathan Thomas, and vice president, Daniel Morales, are not wasting any time on getting things rolling this semester. Fundraiser success is one of the highest priorities of the club this semester, and an August fundraiser completed with a September one following closely behind shows that they are committed to that fact. These funds will be used for club activities, as well as, to provide sponsorship for students attending academic events. Club activities include the alumni tailgate held on September 17th. Over 20 students and 5 alumni and numerous faculty attended, and everyone had a good time. Other tailgates will be held during most home games. We also held a workshop to make business cards for student attending the GCAGS conference in Corpus Christi.

Volunteering is also a large part of the Geoscience club. With plenty of opportunities available to volunteer in the near future, everyone will get a chance to help the geoscience club, and themselves, become a more established entity on our campus. Opportunities to become more involved include, the fall carnival, along with the September October, November, and December fundraisers. I am excited to see how the rest of the semester will go for the Geoscience club and its members. Submitted by: Jonathan Thomas

Current officers: President: **Jonathan Thomas**
Vice President: **Daniel Morales**
Treasurer: **Tomisin Alagbe**
Secretary: **Noelia Arredondo**
Historian: **Kasey Phelps**



We Have 5 Fieldtrips Scheduled for the Fall Semester

We have Mineralogy, Sedimentology, Geomorphology, and Remote Sensing undergraduate courses this fall semester. If you plan to attend mark your calendar and put your name on our sign-up sheet in the main office.

On September 10 we will be looking at modern fluvial, deltaic, lagoonal, and barrier island depositional environments in the Nueces County Area. We will be making multiple stops starting in Hazel Bazemore Park and ending in the Padre Island National Seashore Park. The objective of this fieldtrip is to observe modern sedimentation processes which produce the rock products.

On September 29 - October 1 (Thursday-Saturday) we will be leading a fieldtrip to Central Texas to study Paleozoic and Cretaceous rocks. This includes a lithostratigraphic and biostratigraphic study of the lower Cretaceous rocks along Fitzhugh Road near Flat Creek and lithostratigraphic and biostratigraphic study of Cambrian rocks near Hye, Texas. The collected data in both areas will be used to prepare two stratigraphic sections.

On October 20-22 (Thursday-Saturday) we will be coupling activities of Mineralogy with the Aqueous Geochemistry class. This includes a mineralogical examination of the pegmatite at Badu Hill and examining the chemistry of waters in and around the mine site.

On November 12 (Saturday morning) we will travel to Houston to the World Class Houston Museum of Natural Sciences. The Physical Geology classes currently have 60 people that are interested in this annual event. The Mineralogy class will join us to spend time in the Cullen Hall of Gems and Minerals. Also, we will be traveling to the 63rd Annual HGMS Houston Gem and Mineral Societies Gem, Jewelry, Mineral, and Fossil show in Humble, Texas that afternoon for student to observe the current key mineral localities where specimens are mined.

On November 17-19 (Thursday-Saturday) we will be traveling to the Slaughter Gap Ranch in Marble Falls and Enchanted Rock to study the geomorphology of each area. Students will gather elevation data and develop a hypsometric model. They will use their field observations and geologic history to develop a landscape evolution model at the conclusion of the trip.

Geosciences has Twelve Majors Working as Lab TA, Graders, or Storeroom Managers

Aaron J Barron, Gregory R Darlington, Kathleen D Diaz, Adolfo Enciso, Scott S Fenner, Jesus G Lemus Bohorquez, Kelsey M Robinette, Amanda C Rodriguez, Jonathan L Thomas, and Kasey D Phelps, will be working as teaching assistants this semester.

Aaron Barron is working as an Introduction to GIS teaching assistant with Drs. Sanchez and Su.

Gregory Darlington is working as a teaching assistant with Richard Parker in Physical Geology.

Kathleen Diaz is working as the Nature of the Earth and Universe teaching assistant with Richard Parker.

Adolfo Enciso is working as the Mineralogy TA with Dr. Ford. He is also working at the PAAC as a geology tutor.

Scott Fenner is working as the Sedimentology and Stratigraphy teaching assistant with Dr. McGehee. He is also working as the Geomorphology teaching assistant with Dr. Sanchez.

Jesus Lemus Bohorquez is working as a teaching assistant with Richard Parker in Physical Geology.

Kelsey M Robinette is working as a Physical Geology teaching assistant with Richard Parker.

Amanda C Rodriguez is working as a teaching assistant with Richard Parker for Earth Science.

Jonathan Thomas is working as an Intro to Oceans, Atmosphere, and Astronomy teaching assistant with Mr. Richard Parker.

Kasey Phelps is working with Dr. Sanchez maintaining field equipment and organizing equipment for fieldtrips.

Morgan Pope will be a grader for the physical geology classes.

Collin R Favor will be a storeroom manager this semester under the supervision of Richard Parker.



Aaron



Gregory



Kathleen



Adolfo



Scott



Jesus



Kelsey



Amanda



Jonathan



Kasey



Morgan



Collin



Extreme Crystals Weekend

Students Sarah Dillon and Felipe Alarcon-Canto will be heading to the University of Nevada Las Vegas (UNLV) to participate in the Extreme Crystals Weekend Workshop from October 6th – 9th. While there, they will get to work with some of the top researchers in the country on understanding the chemistry and physics of minerals at high pressures and temperature, simulating conditions in the Earth's mantle and core. The workshop was limited to only 20 students from around the country and Sarah and Felipe won competitive \$1,000 stipends to attend the workshop. Way to go Sarah and Felipe!

Dr. Ford Presented at the College Fall Faculty Workshop

Dr. Mark Ford presented at the Undergraduate Research Experiential Learning: Innovative Strategies & Best Practices workshop on Wednesday, August 17, 2016. The following is part of his abstract and was printed in a flyer and sent to all College Faculty in Arts and Sciences. The Workshop was attended by about 25 faculty members, including the Dean of Arts and Sciences.

Undergraduate Research & Experiential Learning in the Sciences: Expanding the Classroom and Preparing Students for the Future

Presenter: Dr. Mark Ford, Assistant Professor, Geology

In the Geosciences, in addition to a broad-based undergraduate curriculum in the classroom, we have three additional methods to prepare students for either employment or graduate study. We run up to six field trips per year and each trip is associated with one or more upper division courses. We regularly have students involved in undergraduate research projects which last from one to three semesters and also conduct course-based Honor's projects. Finally, we teach a capstone field geology course in Big Bend and Central Texas in the summer and a professional development field course over winter intersession. All of these activities expand the classroom and develop majors that are well prepared for their next endeavor.

Geophysics Updates

Dr. Yelisetti (along with Dr. Mcgehee) acquired academic licenses of IHS Kingdom (10 licenses) and Petra (16 licenses) software programs which are used for 2D/3D seismic interpretation, well log analysis and reservoir simulation. These are very useful for our geophysics/petrophysics and geology programs. Given that the original cost for a single commercial user license is ~\$100,000, this software would have cost 2.6 million dollars. Dr. Yelisetti installed this software in the GIS lab in Kleberg Hall. Geophysics also received a \$5 million 3D seismic dataset from Headington Oil Company LLC for both teaching and research purposes. Several student projects are available using this dataset. In addition, several curriculum proposals were submitted this fall semester to start an undergraduate degree in Geophysics, Minor in Geophysics and Certification in Geophysics.

Dr. Yelisetti's Research Visit to Germany

Dr. Yelisetti was a visiting professor for a period of two months over the summer at GEOMAR Helmholtz Center for Ocean Research Kiel, Germany. He collaborated with Dr. Michael Riedel on major research projects involving seismic structure of the Haida, Gwail, and Arctic regions, working towards two peer-reviewed scientific papers. During his visit, he gave an invited talk entitled "Seismic velocity and attenuation structure beneath the Vancouver Island continental shelf using visco-acoustic full waveform inversion" on the 17th of June. He also attended GEOMAR's weekly seminars related to oceanography, geology and geophysical research. He recently submitted a manuscript (co-authored with George D. Spence, Martin Scherwath, Michael Riedel, and Dirk Klaeschen) entitled "Dual-vergence structure from multiple migration of widely spaced OBSs" to Tectonophysics. He is currently working on three more research papers.

Dr. Yelisetti received a multimillion dollar seismic data set from Dr. Michael Riedel (GEOMAR, Germany). This data was acquired by the Geological Survey of Canada, Department of Fisheries and Ocean (DFO), Korea Polar Research Institute (KOPRI), Monterey Bay Aquarium Research Institute (MBARI), and the Alfred Wegener Institute (AWI). Several student projects are available using this dataset. Dr. Riedel also promised him of another seismic dataset from offshore Oregon. During his visit, he also submitted a proposal entitled "Sub-basalt imaging using multiple migration and full waveform inversion of multi-channel and ocean bottom seismic data" to get permission to use iSIMM seismic data collected by Schlumberger and the University of Cambridge. It would normally cost more than \$1,000,000 to acquire such a dataset. Dr. Yelisetti will be offering a Seismology class in spring 2017.

International Conference Attended by Sanchez

Dr. Sanchez presented research at the Workshop on the Origin and Evolution of Plate Tectonics in Ascona, Switzerland, in mid-July. The conference served to explore many aspects of Plate Tectonics and discuss where we still lack an understanding. The conference also highlighted many geodynamic models. Dr. Sanchez's contribution was a poster showcasing results from field and geochronology studies on mid-Miocene extension in the Tibet-Himalaya orogen. It focused on one small aspect of the plate tectonic "cycle". Dr. Sanchez also had the opportunity to explore the structural complexity of the Alps during a field trip organized by researchers from the Eidgenössische Technische Hochschule Zürich (ETHZ - Swiss Federal Institute of Technology in Zurich). Her abstract was entitled: *Extension in Orogenesis: Perspectives from the Tibet-Himalaya Orogen.*



Photo Gallery: Field Trips & Summer Field Camp

