Geosciences

DEPARTMENT OF PHYSICS AND GEOSCIENCES

Newsletter

VOLUME 6, ISSUE 3



SEP2012

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Program News

Geology Field Camp at TAMUK is up and running

Our Geosciences Program is evolving a new Field Camp program that is unique in the United States. We are training future Geologists with three two-week field experiences in Big Bend National Park (spring intersession), Central Texas (summer intersession), and on campus (fall intersession). The first two field experiences incorporate traditional training exercises to teach students how to map complex geological terrains and to place the knowledge gained into the development of the regional geology. The third part of our field camp is organized to provide our students local job training in the mining, petroleum, and hydrogeology industries with professionals from these career fields.



During the Spring Intersession 11 majors and three faculty (Scott Hughes, Tom McGehee, and Dan Jackson) traveled to Terlingua, Texas to study the "Tectonic Influences on the Geology of Big Bend National Park (BBNP)". Our students studied a number of outcrops that provided evidence that five major tectonic events shaped the geology of BBNP including the Late Paleozoic Marathon Orogeny, Late Triassic through Late Cretaceous rifting, Middle Tertiary volcanism and plutonism, and Late Tertiary Basin and Range faulting. Students prepared a geologic map of an exposed volcanic dike cutting the western flank of the Chisos Mountains. Students hiked up to the rim of the Blue Creek Ranch volcanic deposits to study

the differences between air fall, flow, and lahar volcanic deposits. Students prepared rock descriptions and a topographic profile from base to the rim. Students examined a number of outcrops along Hwy 386 and prepared a geologic cross section from Marathon, Texas to Persimmon Gap. A pace and compass exercise was used to describe a vertically-tilted series of turbidite beds south of Marathon.



During the Summer Intersession 8 majors and three faculty (Tom McGehee, Dan Jackson, and Rebecca Harper) traveled to Central Texas to study the "Tectonic Influences on the Geology of Central Texas." Our students studied a number of outcrops that provided evidence that three major tectonic influences shaped the geology of the Llano area including the Late Paleozoic Ouachita uplift, Late Triassic through Late Cretaceous rifting, and Miocene Balcones Faulting. Brian Hunt and Brian Smith with the Barton Springs/Edwards Aquifer Conservation District led the first part of the fieldtrip to study Trinity Formation (Cretaceous)

lithostratigraphy. Brian Hunt provided a detailed stratigraphic description with insights into the depositional environment. Our students prepared a detailed stratigraphic column of the Trinity Formation and added the sedimentary environment of each facies. With this information our majors mapped the surface geology of a neighboring ranch. We packed up the gear and traveled to Mason, Texas. Rebecca Harper, instructor at Tyler Community College, led the study of Cambrian sedimentary rock outcrops near Mason, Texas. Our majors prepared a stratigraphic section of these rock exposures. With this information our majors mapped the surface geology of part of Professor Harper's thesis area. Paul Tybor (General Manager of the Hill Country Underground Water Conservation District) and Ron Fieseler (General Manager of the Pedernales-Blanco Groundwater District), provided an exercise which involved geophysical logging of a well and interpreting the well log by reference to logs and cores from nearby wells. Mr. Jim Chude (retired geophysicist) led the group to outskirts of Fredricksburg to perform a pace and compass exercise on an unconformity between Paleozoic sedimentary deposits and Cretaceous sedimentary deposits.

We are planning the third stage of the fieldtrip and need industry support to complete this rewarding field camp for our majors. We were extremely fortunate to have the academic staff that supplied their expertise to these exercises. Special thanks from our faculty and students go to Dr. Scott Hughes, Brian Hunt, Brian Smith, Rebecca Harper, Ron Fieseler, Paul Tybor, and Jim Chude. We are indebted to all of you for freely sharing your expertise and for your energetic presentations and preparation for each of the projects. We have had resources support from Dr. John Buckley, the Corpus Christi Geological Society, the Uranium Mining Industry, the TAMUK President's Council, the Quality Enhancement Program, Dean of Students, and the Dean of Arts and Sciences. Dr. Buckley has supported us for over a decade with his land and water resources to build toward this field camp. Without all these contributors support we would be thinking about a future field camp rather than having already completed two of the three phases of our camp.

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)



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Seven Majors walked the stage in August



Alexandra Breeding, Paul Laraway, Austin Nye, Adam Pasciak, Lauren Rossen, Timothy Scott, and Randall Simpson graduated with their Bachelors of Science in Geology in August.

Alexandra Breeding completed her capstone field course at Idaho State University earlier this summer. Alexandra Breeding was a TAMUK Presidential Scholar, the recipient of numerous scholarships including the prestigious 2012 AIPG National Scholarship, an outstanding teaching assistant, and outstanding undergraduate research assistant. She has accepted a job with Uranium Energy Corporation (UEC).

Paul Laraway completed two major research projects with Dr. McGehee. Their research involved subsurface characterization and model construction for groundwater numerical simulation. Paul Laraway demonstrated high level skills in model generation and numerical simulation. Paul received the President's Award at the Inaugural University Javelina Research Symposium in 2010.

Austin Nye completed his capstone field course with James Madison Universities (JMU) Geology Field Camp in Ireland. Austin Nye was a Landman at American Shoreline, Inc. and Aurora Resources Corporation. He is currently a consultant at Nye Oil, LLC.

Adam Pasciak completed his capstone field course at Western Michigan University hydrogeology field camp. Adam Pasciak was a past president of the Geosciences Club and is credited with rejuvenating the interest in student club activities.

Lauren Rosson completed her capstone field course with Boise State University Geology Department in Sardinia Italy. Lauren Rossen has accepted a job with Vir Tex Oil and Gas in Corpus Christi.

Timothy Scott completed his capstone field course at Idaho State University earlier this summer. Timothy Scott received the "2012 Outstanding Field Student" award from the geosciences faculty.

Randall Simpson completed his capstone course with University of Nevado-Reno this summer.

Sixteen new majors join our Geosciences Program

We are happy to have 16 new majors enroll in classes this Fall, 2012.

Andrew Aery is an entering freshman from Friendswood, Texas.

Jacob Byerly is an entering freshman from Corpus Christi, Texas. Jacob Byerly is a Presidential Scholar.

Antonio Hernandez is a sophomore transfer student from Houston Community Colleges. Mr. Hernandez is one of the high school earth science prep students from the University of Texas GeoFORCE Program.

Austin Johnson is an entering freshman from Cibolo, Texas.

Alexander Johnston is an entering freshman from San Antonio, Texas.

Dakota Kubiak is a transfer student from Blinn College.

Stephanie Garza is a transfer student from University of Texas Pan American.

Justin Mauck is a transfer student from Coastal Bend College.

Timothy McClurkan is an entering freshman from Georgetown, Texas.

Casey Mibb is a transfer student from Del Mar College. She is also a Presidential Scholar.

Veronica Nieto is an internal transfer student.

Scott Sundland is a transfer student from the Lone Star College System.

Horacio Talip is an entering freshman from Kingsville, Texas.

Rafael Villegas is a Post Baccalaureate student from Biology.

Charles Winn is a transfer student from TAMUCC.

Juan Zamora is a Post Baccalaureate student from Biology.



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Geosciences Club President's Page (Michael Parker)

The officers of the TAMUK Geosciences Club are excited to usher in a great new semester for our club members! We have a lot of fun and educational events lined up, such as movie nights, club activities, and guest speakers. The elections held at the end of last semester brought some familiar faces and new blood into the club leadership, with Michael Parker as Club President, Jonathan Sulaica as Vice President, Cody Barker as Club Treasurer, Sarah Roos as Club Secretary, and Jeff Ellsworth as our Club Historian. If you have any ideas or suggestions for the club, please bring it up during our meetings (which are free to attend and open to all), or simply tell one your club officers about it! We are open to new ideas, and are dedicated to making this a great year for the Geosciences Club!

AAPG Student Chapter President's Page (Stephannie Resendez)

Texas A&M University – Kingsville AAPG student chapter is looking forward to a wonderful school year! With the help of our Treasurer (Naomi Pankratz), Secretary (Sarah Roos), Vice President (Jordan Schwabe) and President (Stephannie Resendez) we are planning to increase our service to the local area. Specific service activities that we are implementing include continuation of water monitoring activities from last year and expanding our presence in local schools where we explain geology to elementary students. These students are always excited to learn some of the basics of geology and to get to actually work directly with rock, mineral, and fossil specimens. Lisa McLaughlin will lead a field trip to the Canyon Dam spillway where a 1983 flood carved out a gorge, exposing some spectacular geology. We also are working toward an expanded agenda of professional speakers to give our majors a better understanding of what they will be doing as professional geologists.

Upcoming Fall Fieldtrips

We will be traveling to Central Texas again for both Fall fieldtrips. We will conduct hydrogeology and geomorphology field exercises on the first fieldtrip on September 27-29. Brian Smith and Brian Hunt are taking us on a tour of the hydrogeology of Barton Springs. Ron Fieseler and Paul Tybor will be leading our group on a pumping test and log a water well. Professor Jackson will lead the geomorphology group to study karst features. On October 18-20 we will meet Frank Roberts at Badu Hill to map the feature and the surrounding geology. Dan Jackson has structural geology exercises planned for his class. We are also planning to go to the Houston Museum of Natural Sciences on November 14 to look at the "World's Finest Mineral Collection."

Brent Hedquist is our new faculty replacement for Dr. Yu



We are proud to announce that **Dr. Brent Hedquist** is joining our Department this Fall, coming from Saginaw Valley State University in Michigan. He has also held an appointment at Brigham Young University in Idaho. Dr. Hedquist graduated from Arizona State University in Geography in 2010. Brent's dissertation title "Micro-Scale Evaluation of the Urban Heat Island in Phoenix, Arizona" and subsequent research at Saginaw Valley and BYU Idaho will provide Texas new expertise in a needed area of GIS and Remote Sensing research. Dr. Hedquist will be teaching geography courses and providing leadership for the University GIS Laboratory.

Bree McClenning is a new Graduate Teaching Assistant for our Program



Bree McClenning accepted a graduate teaching position in our program to alleviate some of our load this fall semester. In the Fall semester she will teach three classes at TAMUK while finishing the final editing phase (mid-October) of her Master's thesis (A&M main campus). Dr. McGehee and Dan Jackson will be mentoring/supporting her teaching experience at TAMUK.

Drs. Jaehyung Yu and Tom McGehee receive the top paper award

The National Council for Geographic Education awarded Drs **Jaehyung Yu** and **Thomas McGehee** the best article award for Geographic Program Development 2012. Our paper "Vertical Integration of Geographic Information Sciences: A Recruitment Model for GIS Education" was chosen by the NCGE Journal of Geography Awards Task Force from among those published in Volume 110. Dr. Yu will be traveling from South Korea to San Marcos, Texas to present this work.



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Drs. Jaehyung Yu and Scott Hughes retires





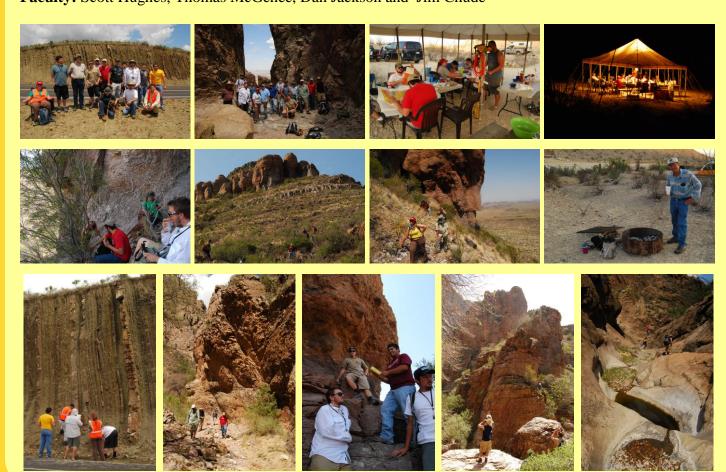
Drs. Jaehyung Yu and Scott Hughes retired this year, but both are active geoscientists in other parts of the world. Dr. Jaehyung Yu is in South Korea in his former geosciences department in Chungnam National University, South Korea. He is continuing his Master's work in Economic Geology. Dr. Scott Hughes is working out of his home in Oroville, California. Jaehyung Yu helped our program in recruiting, professional recognition, instructional quality, collegiality, etc. Scott Hughes helped our geology program advance to a new instructional level. He is currently a consultant to our program and will lead the Big Bend fieldtrip next year. Our Department will miss our friends (Jae and Scott), but, they are only an email or phone call away.

Geospatial Technologies Research Laboratory

Dr. **Brent Hedquist** will be overseeing the Geospatial Lab this year. Introductory and intermediate GIS workshops will be offered to Faculty and staff on campus. There will also be a graduate teaching assistant in the lab part-time to be available for software support and for workshop instruction. A Fall opening event for the lab will be announced shortly. There are plans for celebrating GIS Day on November 14th. Please contact Dr. Hedquist if you want to volunteer to help promote GIS on campus during this week.

TAMUK Spring Intersession Geology Field Camp 2012 - Big Bend

Students: Cody Barker, Devon Cuevas, Michael Garza, Christina Jones, Jorge Luarca, Jacob Reese, Preston Ridley, Jordan Schwabe, Cesar Serna, Aaron Storbeck, and Brent Winborne **Faculty:** Scott Hughes, Thomas McGehee, Dan Jackson and Jim Chude



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TAMUK Summer Intersession Geology Field Camp 2012 - Llano

Students: Cody Barker, Devon Cuevas, Michael Garza, Christina Jones, Jorge Luarca, Jacob Reese, Preston

Ridley, and Brent Winborne

Faculty: Thomas McGehee, Dan Jackson, and Rebecca Harper

Jim Chude, Paul Tybor, Brian Smith, Brian Hunt, John Buckley, and Ron Fieseler

