TEXAS A&M UNIVERSITY KINGSVILLE®

Department of Physics and Geosciences

Fall 2018 Newsletter

Volume 7 **Issue 1**

Contents

Around our Department

New Multidisciplinary Petrophysics Graduate Program has launched

The Petrophysics Graduate Program was approved by the Texas Higher Education Coordinating Board (THECB) in Spring 2018. Since then, it has been advertised through several channels, including Earthworks (a job site for Geosciences), the job webpages for the Seismological Society of America and the University Corporation for Atmospheric Research, as well the Social Media pages for our University's College of Graduate Studies and the Society of Exploration Geophysics (SEG). Additionally, Dr. Yelisetti (the Graduate Coordinator for the program) sent the flyer to all the SEG student chapters around the world (over 225) and Society of Petrophysicists and Well Log Analysts (SPWLA) student chapters (over 35).

Earth Science Departments in over 102 international universities in Asia, Africa, Europe, Australia, North America, and South America were contacted and asked to advertise the flyer in their respective departments. The petrophysics flyer is posted on the College of Graduate Studies website: https://www.tamuk.edu/grad/flyers/petrophysics.pdf

A total of **115** students from all over the world showed interest in the program. Nine students applied for Fall 2018 admission. Five students are currently enrolled in Fall 2018 classes. There are seven applications either accepted or pending for Spring 2019. Exploration Geophysics, Advanced Petrophysics and Advanced Topics in Geology are currently offered in Fall 2018. Seismology, Applied Geology and Advanced Reservoir Engineering courses will be offered in Spring 2019.

MS in Petrophysics Graduate Students - Fall 2018

Toluwalope Bamisile
Erin Matthys
Howard August Palacios
Monica Estrada
Ajibola Samo

Scholarship Opportunities for MS in Petrophysics Students

A Graduate Scholarship Fundraising campaign is underway. Pooling the funds from the Physics, Geology and Natural Gas Engineering programs, we have set up two scholarships - Geosciences Board Petrophysics Graduate Scholarship (for incoming students) and The Petrophysics Excellence Scholarship (for enrolled students). We have also contacted the local petroleum industry to get scholarship support for students. A Petrophysics Scholarship Committee was set up in October. This will include representatives from Geophysics, Geology, Natural Gas Engineering programs. The scholarship guidelines (which have been posted to the website) are as follows:

- Bachelor's degree
- Have an undergraduate cumulative grade point average of 3.00 or higher and a minimum GRE composite (Q+V) score of 294.
- The student must maintain a full time status.
- Student must demonstrate exceptional academic ability and achievement.
- Students must demonstrate community/extracurricular involvement.
- Students must demonstrate leadership abilities.
- Students should list all awards and recognitions in their application packet.

To apply, students should submit their CV, transcripts, test scores, recommendation letters from faculty members or supervisors to Dr. Subbarao Yelisetti (subbarao.yelisetti@tamuk.edu). Please log into the program website to see scholarship deadlines.

Around our Department

Two Students Graduated from the BS in Physics Program in May 2018

Blas Guadiana Thomas Cruz

The Department of Physics and Geosciences is happy to congratulate two of our students; they are our Physics program's **first two graduates under the new TPC curriculum**. They worked hard for three years, and have made history in our department. Great job!

Enrollment increased in the BS in Physics Program

Since the transition to the TPC curriculum by our Physics Program, our enrollment has increased significantly. A total of **19** students are enrolled with a declared BS in Physics major in Fall 2018. Furthermore, six students are double majoring (with Physics being one of their majors). This is a significant increase before our curriculum conformed to the TPC standards, with just three students being enrolled a few years prior. This is representative of our program's great outlook, and of an increase in demand for jobs requiring a strong physics background. Great news coming from our department!

Meet our New Faculty

Dr. Himali Kalakhety - Adjunct Faculty of Physics

Academic Background:

- B. S. in Physics, Chemistry, and Mathematics
- M. Sc. in Condensed Matter Physics
- M. S. in Physics
- Ph. D. in Physics

We are excited to work with you!

Courses for Fall 2018:

- PHYS 1375—Physics
- PHYS 2325/2125—University Physics I
- PHYS 1302—College Physics II

Recent Publications:

- Search for physics beyond the standard model in dilepton mass spectra in proton-proton collisions at $\sqrt{s} = 8$ TeV
- Search for Narrow Resonances in Dilepton Mass Spectra in p -p Collisions at $\sqrt{s} = 8$ TeV
- Search for High-Mass Resonances Decaying to Muon Pairs in pp Collisions at $\sqrt{s} = 8$ TeV

Meet the Department Staff

Darrien Salinas

Major: Communications, concentrating in Speech

Short Interview

What is your favorite part of the job?

I like knowing what's going on with the Physics Department. I also like the environment. It is a very friendly and forgiving workspace. Work gets done in a non-anxious manner.

How does your schedule fit in with your job? Do you like your hours?

Yes, I like my work hours. And when I can, I find the time to come in to the department to hang out! I wish I could work more! It's a goodbalance between my school and my work. You'll often find me hanging around the office even when I'm not scheduled to work because I like it so much.

What are your thoughts on your overall role at the department ?

I like it. I feel my role is helping me be a better communicator and a more organized person. Specially when it comes to the more involved things, such as field trips, I like how they help me grow. In many ways, it's practice for the real world. My job made me realize I like communicating more than I thought I did.

Has working at the department office made your academic life easier in any way?

Yes. I believe by working at this department I am setting up good relationships with people who can help me. Even now, I feel like even though I am not a [physics] major, I can approach any of the professors here with any questions I have, because they are very friendly.

Serjio Rodriguez

Major: Biomedical Sciences

Short Interview

What is your favorite part of the job?

Hanging out with Ms. Sylvia. She's fun to be around.

How does your schedule fit in with your job? Do you like your hours?

Yes, I like my work hours. And when I can, I find the time to come in to the department to hang out! I like being at the office, even if I'm not working.

What are your thoughts on your overall role at the department ?

The job is fun. We are probably the department with the most field trips, and it can get confusing when you have to process the paperwork for several of them at once.

Has working at the department office made your academic life easier in any way?

Yes! Now, since I work with a lot of professors, I feel more comfortable approaching them with questions about physics and related topics. I have also seen a significant increase in my math grades because of working at the department .

Homecoming Parade

As part of the Homecoming Festivities, the Department of Physics and Geosciences joined the rest of Texas A&M University-Kingsville in our annual Homecoming parade. The parade was held on Thursday, October the 25th, 2018. Starting at 6 PM downtown Kingsville, the parade allowed the community to come together to celebrate the start of the Fall 2018 semester. Some of the university groups in the parade included the University's Basketball Team, the Javelina Marching Band, and our proud department. Although the weather had been a concern, with the Fall Carnival (another prominent Homecoming tradition) being cancelled just the day before, this did not stop our persistent faculty and staff from putting on a float for the parade. Special thanks to Curtis Davenport for helping with the decoration of our float! We have several pictures to commemorate the event, as well as memories which we will cherish for time to come.

Homecoming Parade

Our float had students throwing candy for attendants of the parade. We also had our department iOptron MiniTower II Telescope make an appearance. This is a powered telescope with an accuracy of 1 arc-minute. With automatic tracking for celestial bodies, and an extremely portable footprint, this is the optimal telescope for future students and scientists to observe the stars with.

The parade started at the Kingsville Courthouse, and went down Kleberg Avenue until the Post Office, and lasted about an hour. We had four students as well as Ms. Cherrie Nelson representing our department. After the parade, we had our University Hog Call, as well as our bonfire lighting, and fireworks which were heard around Kingsville. The Bon Fire was set up by the Aggie Club, at was lit at dusk that night. Our university president, Dr. Steven H. Tallant, also celebrated his last homecoming before his retirement by leading the parade with a Red Ford Thunderbird (shown above, and in the previous page). A great Homecoming for 2018!

Astronomy Nights and Star Parties

The Department of Physics and Geosciences was happy to host several Astronomy Nights this Fall 2018 Semester. Students from local schools were invited to attend. A special edition "Star Party" was held to commemorate Halloween on October 31st. Students dressed up as their favorite alien character, and prizes were given out for the best dressed.

Attendants were treated to the movie "Contact," a great science-fiction by legendary scientist Carl Sagan. Students also enjoyed Mini Golf and took a peek to the stars as the observatory was opened up. It was a great experience!

APS-AAPT-SPS Joint Conference Presentations

Dr. Lionel Hewett presented two conference papers at the annual joint American Physical Society, American Association of Physics Teachers, and Society of Physics Students meeting. The first was presented at the Spring 2017 meeting, hosted by the Department of Physics at San Antonio College, in San Antonio Texas. The meeting took place between March 9th and 11th of 2017. The presentation was on "Making In-House Videos for Lab Instruction". The abstract for this paper is attached below. The second paper was presented at the Spring 2018 meeting (as a follow-up). This meeting was held at Tarleton State University, between March 22nd and 24th, 2018. This second paper was on the "Initial Student Reactions to In-House Videos for Lab Instruction". The abstract is presented below.

Making In-House Videos for Lab Instruction

Abstract

"It is often impossible to schedule physics laboratory experiments to coincide with the lectures that cover the same material. As a results, students often enter the laboratories completely unfamiliar with both the laboratory topic and experimental equipment. Sometimes these deficiencies are also true for the student teaching assistants who help manage the laboratory sessions. Preparing these students for performing the experiments can consume considerable amount of repetitive time from our departmental faculty. In order to reduce this teaching load, we have begun preparing short demonstration videos for each lab. To reduce the costs and speed up turn-around time, we have chosen to prepare the videos in-house. This talk outlines our procedure for making such videos, discusses our experience so far, and shows some sample videos of what we have accomplished."

Initial Student Reactions to In-House Videos for Lab Instruction

Abstract

"At last year's Spring Physics Conference, I reported on making some relatively simple in-house videos to help prepare our students to perform the experiments expected of them in our undergraduate E&M laboratories. This year I will present an analysis of the feedback data we received from the students when we first began implementing these short introductory videos. More specifically, I will show what the students liked and disliked about the videos; how they felt the videos could be improved' and how the video introductions compared with the live demonstrations they saw in other physics laboratories. The conclusion of the matter is that our videos need to be improved significantly before they can accomplish their intended purpose."

Anyone interested in the projects can contact Dr. Lionel Hewett for more information