For five years now, the Jackson School of Geosciences at the University of Texas at Austin has provided a first-class, unique marine field camp experience. The field course was designed by lead instructor and research scientist Sean Gulick, who got the idea for the field course after Mead Allison, school associate director and senior research scientist, arrived at the Jackson school with equipment. Gulick, who was already working with the Jackson School’s existing equipment, realized that the department now had enough equipment to start teaching students through hands-on experience. “The best way to teach is to get out in the field, process, and interpret,” Gulick said.

After approaching co-instructor and senior research scientist John Goff, Gulick said they all jumped on board with the idea of the field course.

“There is no other field course, in the United States or perhaps in the world, that offers a complete marine geology and geophysics experience,” Gulick said. “This course has gotten them (the students) going in different research and career directions.”

In addition to Gulick, Allison, and Goff, this year’s course participants included teaching assistants Marcy Davis, Dan Duncan, and Steffen Saustrup, along with students Lindsey Lugrin (senior), Maureen LeVoir (PhD candidate), Pinar Gotkas (master’s candidate), Mark Duncan (master’s candidate), Baiyuan Gao (master’s candidate), Sebastian Ramirez (PhD candidate), Jessica Hinojosa (senior), Nathan Ganser (senior), Michael Cronin (PhD candidate), Russel Harris Aardis (senior), and Marina Frederik (PhD candidate).

Over the years, the popularity of this field camp has grown. In the first year, only nine students participated. For the last four years, 12 students have participated and each year now there is a waiting list.

“Each class is different,” Gulick said. “This year, we had four international students (Argentina, Turkey, China, and Indonesia) and eight students from the United States.” Along with the diverse demographic base, Gulick said the course has been equally divided between male and female participants.

This year’s 12 students were divided into four teams of three students, including at least one graduate student per team. The course begins with three days of pre-field lectures, followed by 2-1/2 weeks in the field, alternating between the two ships: the university-owned Itasca and the chartered Manta. While the location changes each year, work for this year’s field course was conducted in Port Aransas, Texas, and its surrounding areas, including Corpus Christi Bay, Aransas Pass, Lydia Ann Pass, and Mustang Island.

Each day, the teams collected different types of data, (including multichannel seismic, multibeam bathymetry and sides-scan sonar) on the two boats. “Every time the boat goes out, we collect two to three different types of data,” Gulick said. “We collect data in a short amount of time; with marine geophysics, we are always on the edge of too much data. It’s a large commitment for the students. It’s a hands-on, immersive, and experiential course.”

Despite the intensive coursework, the students all felt the course was the chance of a lifetime to learn the ins and outs of the field.

“We had a great time, and it was a very educational experience. It’s so much more educational than taking another class,” said Duncan.

“I took this course because it offers great, hands-on experience,” said LeVoir. “We go out and collect data, and then use the tools that are actually being used in the industry.”

“I am interested in carbonates, and I wanted to gain experience in applying geophysical technology to geological problems,” said Hurd.

“As a senior, I’m undecided and I don’t know what field I want to go into,” said Hinojosa. “I took one of Sean’s classes last semester and found it interesting. Then, I found out about this field experience course and decided to take it because it’s a great experience to go out, collect the data, and then interpret it—it’s almost like a mini-thesis. I’ve learned more in this field experience than in the classroom.”

“I took the course because of my interest in doing geophysics,” said Ganser. “I like field camps and was drawn to this, but I didn’t expect it to be like this. It turned out a lot cooler.”

All of the students agreed that learning all of the processes involved with the field camp was one of the best parts. “That was the most fun part,” Hinojosa said. “You learn a lot, especially because if you are doing only one step, you miss out on a lot of interesting things.”
Another aspect the students enjoyed was the boat experience and bonding with their shipmates.

“It was great being out in the field, out playing on the boat, and learning at the house with everyone because we are all people with similar interests,” Cronin said. “I’ve taken a lot of geology classes and this is the most unique, especially since you get to apply real-life geophysics and use the software. This is a great resume builder, and one of the most incredible learning experiences.”

“The team component is great, too,” said Hurd. “It teaches you to collaborate with and in teams, and also to be accountable.”

“I’ve learned a lot from my classmates, as well as the instructors,” Gao said. “It’s a great combination of geology and geophysics. It’s beneficial to learn each side, and I understand geology much better.”

The downsides, according to some, were learning the software … and the occasional mosquito infestations. However, the downsides experienced with the field camp turned out positive in the end.

“The bad parts were learning opportunities,” Ganser said. “All of the problems we encountered helped us problem solve. Some of the worst moments were the best learning opportunities.”

The students overwhelmingly said they enjoyed the experience and would recommend the course to others. “It shows you what things you can handle, and you learn how to handle yourselves in the field,” Ganser said. “I’ve done other field courses and this class blows all the others away in every aspect.”

“It’s a good way to separate out which step in the process is best for you,” echoed Hinojosa. “You have to experience it before you can say what you like best.”

But beyond the experience, Gulick and the other instructors involved in the field course realize that they would not be able to provide this top-notch course without the generous support of outside organizations, including the SEG Foundation. And the SEG Foundation would not be able to provide this support without our committed donors. This year, the funds that made this contribution to the University of Texas come from TGS’s five-year sustaining investment to the Foundation’s field camps program, and a special one-time program supplement from CGGVeritas.

SEG Foundation President Tom Smith, who attended the field course presentations, said, “The outstanding feature of the Jackson School Marine Geology and Geophysics Field Course is the apparent efficiency in which students learn to appreciate the process of geophysical data collection as it is carried through interpretation. It’s approximately a three-week program that tightly ties geophysics and geology together. The efficiency arises from marine seismic acquisition as opposed to land acquisition. The volume of marine data with an air gun, streamer, and chirp allows the students to make a meaningful interpretation in a short period of time. Compare this to land acquisition with either a vibrator or hammer and plate source and strings of geophones. The student’s moment of “Aha, so this is what it’s all about!” is acquired much sooner. An additional bonus in this year’s Jackson School program was collection and interpretation of seismic data at three different frequency bands. That’s a unique experience and a valuable component of the program, because it ties together

I fell in love with being at sea. This is something that I want to do. I never thought that I would want to do something like this. This trip was both career-changing and life-changing for me.

—Nathan Ganser
University of Texas at Austin
the seismic view from water bottom through the first several thousand feet of rock."

While many students complete the Marine Geology and Geophysics Field Course with a sense of accomplishment and first-hand knowledge, there are a few students who credit this course as influencing their lives. For geology major Nathan Ganser, this course proved just that.

“I’m thankful to the SEG Foundation for making this support available because a sea-going class is expensive to run and there is no way the university can run this each year,” Gulick said. “And the return for the SEG Foundation is to create a group of students with a taste of marine geology and geophysics experiences to help choose their career path, further their research, and go into the workforce.”

For more information on SEG Foundation support of field camps, please visit www.seg.org/fieldcamps. For more information on the Marine Geology and Geophysics Field Course, please visit www.ig.utexas.edu/research/mggl.

—Natalie Blythe
Communications Specialist

## Foundation grants US $120,756 to record number of field camps for 2012

Every year, the SEG Foundation receives more and more qualified applicants for its outstanding programs—and Field Camps are no exception. This year, the Field Camp Committee received a record-breaking 21 applications for funding. Out of those applications, the Foundation awarded $120,756 for 16 Field Camps for 2012, thanks to the generous support of our corporate and individual donors.

Without these grants, hundreds of geoscience students around the world would not be able to experience the challenges of collecting data in the field and interpreting it for real-life applications. SEG Foundation thanks all of our 2012 field camp donors—TGS, Geophysical Pursuit, Inc., The Scott Petty Foundation, Rutt Bridges, Richard Degner and Global Geophysical Services, Prospectiuni, and CGGVeritas—for their support!

For more information on SEG Foundation support of field camps, please visit www.seg.org/fieldcamps. For more information on the Marine Geology and Geophysics Field Course, please visit www.ig.utexas.edu/research/mggl.

### 2012 Field Camp Grant Recipients

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Lead Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa Array</td>
<td>University of Witwatersrand, South Africa</td>
</tr>
<tr>
<td>SAGE</td>
<td>Purdue University, USA</td>
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<tr>
<td>Geophysics Field School 2012</td>
<td>University of Houston, USA</td>
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<tr>
<td>Geophysics Field Camp</td>
<td>Colorado School of Mines, USA</td>
</tr>
<tr>
<td>Marine Geology and Geophysical Shipboard Experience</td>
<td>University of Texas at Austin, USA</td>
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<tr>
<td>Geophysical Field Camp in Kitui, Kenya</td>
<td>Romanian Society of Geophysics, Romania</td>
</tr>
<tr>
<td>GeoForce</td>
<td>University of Texas at Austin, USA</td>
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<tr>
<td>SEG Field Camp 2012</td>
<td>University of Indonesia</td>
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<tr>
<td>East Europe Geophysical Summer School</td>
<td>University of Bucharest, Romania</td>
</tr>
<tr>
<td>SEG Field Camp</td>
<td>Imperial College, UK</td>
</tr>
<tr>
<td>NIU/ISU Environmental Geology Field Camp</td>
<td>Northern Illinois University, USA</td>
</tr>
<tr>
<td>2nd Archaeogeophysical Student Field Camp</td>
<td>University of Belgrade, Serbia</td>
</tr>
<tr>
<td>SEG Field Camp</td>
<td>Uppsala University, Sweden</td>
</tr>
<tr>
<td>Near Surface Geophysical Investigations</td>
<td>University of Novosibirsk, Russia</td>
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<td>Indiana University Geologic Field Station</td>
<td>Indiana University, USA</td>
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<tr>
<td>Geophysics Field Camp</td>
<td>University of Gadjah Mada, Indonesia</td>
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SAGE celebrates 30 years

As summer approaches, this time of year brings fond memories to many people. With the start of this summer, participants in the Summer of Applied Geophysical Experience (SAGE) are heading into the field. SAGE is a joint program organized by Purdue University and conducted in New Mexico, USA. Many of you might have read the SAGE article in the June issue of The Leading Edge. (If not, be sure to check it out! It's on page 702.) This year marks the 30th anniversary of SAGE. Since its inception, more than 730 undergraduate students, graduate students, and qualified professionals have attended SAGE. Many have gone on to become leaders in academia, industry, and government. These SAGE alumni, and countless others, have supported the program and secured its longevity because these individuals (and organizations) believe in the program’s goal of providing an exciting, hands-on field geophysical experience.

“We teach the principles and applications of refraction and reflection seismics, mangetics, gravity, GPS, several electromagnetic methods and ground-penetrating radar in a field-based, hands-on setting,” said Lu Pellerin, SAGE instructor. “The central research activity of SAGE is the acquisition and interpretation of geophysical field data. Students learn geophysics by doing geophysics—a discovery-oriented approach.”

Despite the difficult task of funding each year, the future of SAGE continues to look bright and there is a chance for stable funding, thanks to an SAGE Endowment at the SEG Foundation. The endowment, founded by Geophysical Pursuit, Inc., is a long-term endeavor to help ensure continued funding for the program.

“When we (GPI) were looking to support one of the Foundation’s programs, we were directed to those who were in need and the SAGE field camp was an idea that resonated with us. SAGE is a great program that fills a much-needed gap for students whose schools do not offer a field camp experience. By pulling students from all over the country, SAGE provides these students with the hands-on skills needed to further their career in the field. We are proud to support SAGE and its work with the next generation of geoscientists,” said Jeff Springmeyer, Geophysical Pursuit.

The SAGE faculty invites you to join them in keeping the program going for another 30 years and beyond. To donate, please visit www.seg.org/donate and indicate “SAGE 30th” in the memo field. You also can call +1.918.497.5550 or e-mail foundation@seg.org.

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