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**RAY MARR UNDERGRADUATE RESEARCH SCHOLARSHIPS**

**Building on the Foundation begun by Jack and Jane Hamilton**

ISEM Trustee **Ray H. Marr** has generously provided funds to support undergraduate students working closely with Earth Sciences faculty on significant research projects. The funds provided by Ray will be matched by SMU, leveraging the impact of this new program. The first two undergraduates to receive the scholarships are Morgan Kennedy, who is looking for evidence of paleoearthquakes in seismic records from the Caribbean with geophysics professor Matt Hornbach, and Tyler Armstrong who will study the evolution of whales and mosasaurs through digital imaging using structured light in the Earth Sciences Visualization Laboratory. He will be working with Louis Jacobs and Mike Polcyn. Tyler is also pursuing an accelerated masters program in mechanical engineering where his undergraduate senior project involves digital recognition of the iris and retina of the eye for identification purposes. Thus, his work in the Earth Sciences Visualization Lab is consistent with the multidisciplinary focus of ISEM and the interdisciplinary initiatives of Dedman College. Ray's generosity makes permanent the accessibility of high-level research experiences for undergraduates working with top scientists.



*Roy Huffington and ISEM Trustees Jack Hamilton, Leighton Steward, and Louis Jacobs at Mile 0 Alaska Pipeline.*

ISEM's previous efforts to engage undergraduates in research relied on specific funded projects, such as the experience provided to Karen Gutierrez as a supplementary grant from the Petroleum Research Fund of the American Chemical Society, and on the vision of former ISEM Trustee **Jack and Jane Hamilton**. Karen investigated paleoenvironments of the Jurassic, some 145 million years ago, by conducting fieldwork in Portugal and by performing analyses on clay minerals and stable isotopes in Professor Neil Tabor's laboratory ([www.smu.edu/isem/2007SpringNewsletter.pdf](http://www.smu.edu/isem/2007SpringNewsletter.pdf)). Karen subsequently received a scholarship from Sandia National Laboratory to continue on to graduate school at the University of Michigan.



*ISEM Trustees Ray Marr, Jim Brooks, and Mike Forrest with Tyler Lyson in North Dakota.*

Ray's generosity and concern for students is widespread across SMU. He also has provided scholarships in the Bobby B. Lyle School of Engineering. "I was influenced by Jack Hamilton and the way he did things," said Mr. Marr. Jack and his wife Jane established The Jack and Jane Hamilton Undergraduate Research Scholars Program in Dedman College, after which the Marr Undergraduate Research Scholarships are modeled. Jack and Jane also established a fund in ISEM to draw undergraduates to the Earth Sciences. These students are recruited from first year classes and usually have no background in Earth Sciences.

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They are employed (with matching funds from SMU) in the Shuler Museum of Paleontology, which serves as a gateway to science and attracts them specifically to the Earth Sciences Department. Currently ten students are working in the Shuler laboratories and several have added Earth Sciences as a major or a minor to their curricula. Tyler Armstrong was first attracted to Earth Sciences and the Shuler Museum through a guest lecture in a physics course delivered



Marr Undergraduate Research Scholar Tyler Armstrong at work in the Shuler Lab.

by Dr. Jacobs. Jack and Jane Hamilton also established the Hamilton Visiting Scholar program in the Huffington Department of Earth Sciences. A similar concern with students at all levels, and with their engagement in significant research, led long-time ISEM friend **Suzy Ruff** to contribute significantly to research and student support stemming from Projecto PaleoAngola, a study of the iconic puzzle-like fit of Africa and South America as viewed through the rocks and fossils of coastal Angola in southwest Africa. Suzy has long been helpful to ISEM and SMU more generally, as well as to the Dallas Museum of Natural History, Dallas Zoo, and the National Geographic Society's Young Explorers Program. Suzy participated in the 2009 Year-of-Darwin Godbey Lecture Series-ISEM trip to the Galapagos Islands.



Suzy Ruff waving from the Zodiac, Galapagos Islands.



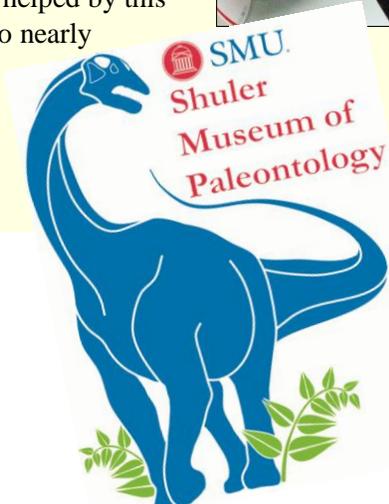
Marr Undergraduate Research Scholar Morgan Kennedy drilling test holes for a geothermal plant for a school.

### HAMILTON SUPPORT FOR STUDENTS

**Hamilton Research Assistants** working in the Shuler Museum now protect their clothes from dust with stylish lab coats sporting the new Shuler Museum logo designed by graduate students Thomas Adams and Yuri Kimura. There are currently ten Hamilton Research Assistants, bringing the total number of undergraduates helped by this program to nearly 20.



Hamilton Undergraduate Research Scholar Sarah Karimi shows Dedman College Dean Bill Tsutsui her work on variation in atmospheric CO<sub>2</sub> determined from plants.

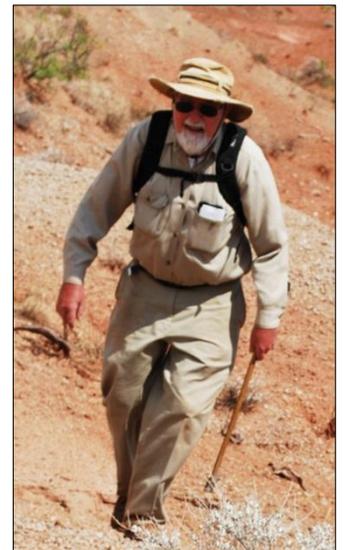


### ISEM Hosts 12<sup>th</sup> International Symposium on Early & Lower Vertebrates



Jacob Boll, a 19<sup>th</sup> Century Dallas naturalist, discovered the Permian Redbeds of Texas. Over a century later, SMU alum and ISEM Research Associate Gary Johnson organized the 12<sup>th</sup> International Symposium on Early and Lower Vertebrates, hosted by ISEM on

June 11-14. More than forty talks and posters were presented by scholars from as far away as Russia, China, Latvia, Argentina, and Sweden, and from across the US. Five presentations were made by SMU students and researchers. The proceedings will be published in the journal *Historical Biology*. Following the symposium, Gary led the group on a field trip to the Permian rocks traversed by Boll.



# PALEOANGOLA CELEBRATION IN LUANDA



On August 14, The Minister of Higher Education, Science, and Technology of the Republic of Angola hosted a celebration in Luanda announcing Projecto PaleoAngola, ([www.smu.edu/isem/2010FallNewsletter.pdf](http://www.smu.edu/isem/2010FallNewsletter.pdf)). In addition to a number of governmental and industry leaders, 400 school children came to see the unveiling of *Angolatitan*, the first dinosaur from Angola, named by project leaders Louis Jacobs, Mike Polcyn (SMU), Octavio Mateus (Portugal), and Anne Schulp (The Netherlands). Major funders of Projecto PaleoAngola are the National Geographic Society (who sent a representative, Catherine Workman, third from right, to the event), the Petroleum Research Fund, the Angolan La Vida Foundation, Esso Angola, and LS Films. Another Angolan project of LS Films, headed by Kalunga Lima, standing at far right, is a documentary on *Saving the Giant Sable Antelope*. On April 14,

Kalunga Lima presented his documentary to officials of the Angolan Consulate-General at a luncheon sponsored by ISEM Trustee Tom Meurer and Don Robillard at Hunt Consolidated in Dallas. Kalunga's short film on ISEM's Projecto PaleoAngola can be seen at [www.PaleoAngola.org](http://www.PaleoAngola.org).

**ISEM Trustees**  
Hebert Hunt and Peter Gaffney with guests at the annual Game Creek Ranch Energy Roundtable, which focused this year on energy supply and security.



Photo courtesy of Cathy and Bill Arnold.



**Mr. Bernabe Ndinofina**, President of West Africa Management Services, was given a tour of the Geothermal Laboratory by David Blackwell, Maria Richards, and students. West African Management Services facilitates all aspects of Angolan students on scholarship in the United States. Mr. Ndinofina is working with Dedman College, the Bobby B. Lyle School of Engineering, and ISEM to recruit top students to SMU.

## JAPANESE ASSOCIATION AT SMU: EARTHQUAKE RELIEF



Japan Relief T-shirts worn by Yuri Kimura (center), Louis Jacobs (left), and National Geographic Society visitors Carsten Peter (photographer), Conrad Anker (mountaineer and explorer), and Dr. John Francis (Chairman, Committee for Research and Exploration), here for an SMU-hosted Young Explorer's Workshop.

Ph.D. student **Yuri Kimura** was skype-ing with her mom in Japan on the 11<sup>th</sup> of March when the Tohoku earthquake and tsunami struck. Half a world away from the destruction, Yuri mobilized her Japanese student colleagues at SMU, and then, working through ISEM and Dallas-based Half Price Books, her group raised over \$10,000 for disaster relief. As a member of the Huffington Department of Earth Sciences, Yuri felt the need to educate about this phenomenon, so she and her colleagues organized a symposium at which Dedman College Dean Bill Tsutsui spoke of his traveling in Tokyo during the earthquake, and Professor Brian Stump explained to the packed audience the scientific understanding of the event. Yuri told of the precautions and training undertaken by all Japanese in preparation for earthquakes. Driven further, Yuri then organized her Japanese colleagues at the Society of Vertebrate Paleontology annual meeting held in Las Vegas in October. There, with the SVP, she and her colleagues raised over \$7000 for Japanese museum relief, to help restore museums damaged in the disaster. ISEM commends the initiative and compassion that Yuri has demonstrated, and thanks her for her noble efforts.

### MAJOR SUPPORTORS OF ISEM

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LS Filmes

Leighton and Lynda Steward

### Graduate Students Participate in Texas Earth Science Teachers Share-A-Thon

On November 17-19 the Conference for the Advancement of Science Teaching was held at the Dallas Convention Center. The annual meeting of the Texas Earth Science Teachers Association was held in conjunction with CAST, and Louis Jacobs served as the speaker at its breakfast. ISEM education specialist Diana Vineyard and five graduate students from SMU's Huffington Department of Earth Sciences participated in the TESTA Share-A-Thon to explain their research projects to Earth Science teachers.



Thomas Adams, Mary Milleson, and Jordan Noret speaking with teachers.



Chris Strganac and John Graf speaking with teachers.

They also provided activities that could be taken back to the classroom. The ISEM *Ocean Dallas* fieldtrip Guide ([www.smu.edu/isem/oceandallas.html](http://www.smu.edu/isem/oceandallas.html)) has been used by hundreds of Texas teachers and ISEM's 3-D lizard-in-amber activity has been accessed by teachers in over 40 countries ([www.smu.edu/isem/3D/3Dindex.html](http://www.smu.edu/isem/3D/3Dindex.html)).

