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**2013**

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## **PEROT MUSEUM OF NATURE AND SCIENCE: A Resource for Dallas and SMU**

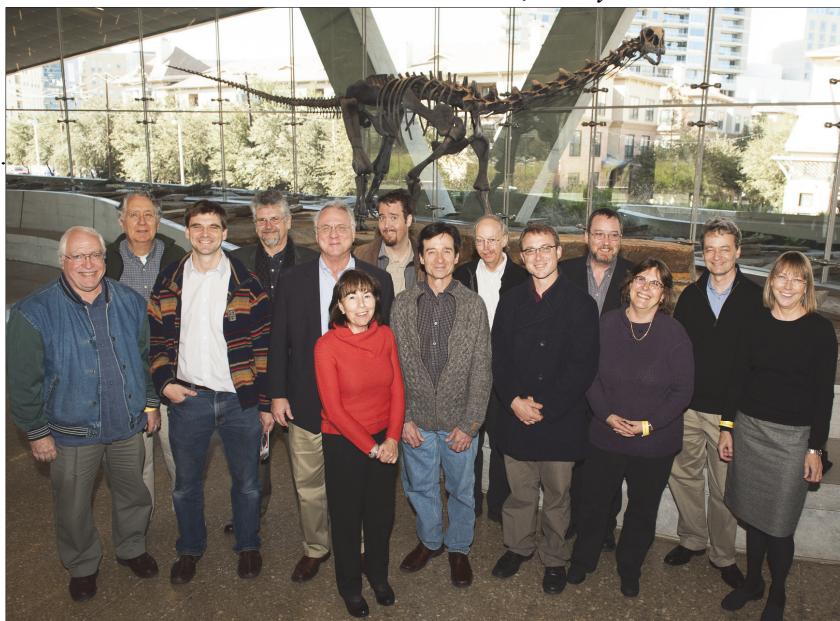
Congratulations Dallas! On December 1, 2012, the Perot Museum of Nature and Science opened the doors of its iconic building and in less than a year it has had over 1.5 million visitors. ISEM is indeed proud to have supported students and researchers who have been recognized by the Perot Museum through its incorporation of their research results into the T. Boone Pickens Life Then and Now Hall.

**Some highlights:** Welcome to the Perot! *Malawisaurus* greets the visitor in the foyer. This African dinosaur was excavated under five grants from the National Geographic Society and named by SMU researchers. It was studied in detail by Elizabeth Gomani Chindebvu for her SMU Ph.D. Elizabeth is now Director of Culture for the country of Malawi. Continuing to the T. Boone Pickens Hall on the 4<sup>th</sup> floor, a bathtub-sized Glen Rose dinosaur footprint welcomes you. Now seen by throngs of life-long learners, it was brought to SMU years ago by Ellis Shuler, former dean and founder of its Geology Department. Deeper in the Hall, Mike Polcyn's studies of marine reptile evolution are incorporated in the story of Ocean Dallas. Mike directs the visualization lab in SMU's Department of Earth Sciences. Fossil sea turtles of Texas were studied by Diana Vineyard for her Master's. The 112 million year old crocodile egg studied by Jack Rogers as part of his thesis is on display. Jack is now on the faculty of Valencia College, Florida. The skull of *Protohadros byrdi*, one of the oldest duckbilled dinosaurs in North America, is on display. It was named by SMU alum Jason Head, now on the faculty of the University of Nebraska. Thomas Adams and Chris Strganac, both SMU alums, have a corner displaying their digital imagery of a famous Glen Rose track. Thomas now works at the Witte Museum in San Antonio and Chris enjoys his position in Earth Science education at the Perot. Inspirational videos feature SMU scientists, including Bonnie Jacobs on her life with fossil plants, Mike Polcyn on his life with marine reptiles, Neil Tabor on ancient climate, and Yoshi Kobayashi on how he was inspired by Perot paleontologist Tony Fiorillo to come to SMU for his graduate studies. Yoshi is now on the faculty of Hokkaido University, Japan.

Unquestionably, SMU students have benefitted from their close relationship with renowned paleontologist Tony Fiorillo. He is an adjunct member of SMU's Roy M. Huffington Department of Earth Sciences, he serves on graduate research committees, and he includes SMU students on his expeditions to the Arctic, including ones that excavated the museum's hallmark dinosaur, *Pachyrhinosaurus perotorum*.

**A final note:** The relationship with the Perot Museum is dynamic and ongoing. ISEM has supported the introduction of a new Earth Science course at SMU, Earth and Life, which takes advantage of the tremendous assets provided by SMU and the Perot Museum of Nature and Science.

*SMU friends of the  
Perot Museum gather  
in the lobby in front  
of the dinosaur  
*Malawisaurus*.*



# Resolution of Recognition and Appreciation of H. Leighton Steward



**H. Leighton Steward** (left) served as Chair of the Institute's Board of Trustees for 16 years. During that time Leighton has worked with three ISEM presidents and played a key role in identifying and recruiting the last two, Dick Kruizinga and Louis Jacobs. Throughout his tenure Leighton has been an effective spokesman for the Institute and its programs. He has been personally generous to the Institute with time, energy and resources. For all these reasons the Institute is grateful and pleased to recognize Leighton Steward.

## ISEM Board Elects New Chair

**Scott F. Wendorf** (right, with Anthony Fiorillo and James Brooks) has been elected chair of the ISEM Board of Trustees. Scott is an attorney with a BS in geology from SMU, an MS in geology from Indiana University and his Juris Doctor from the University of Houston. He worked for Shell as an exploration geologist and practiced environmental and intellectual property law with Thompson & Knight and Baker Botts in Dallas. He is currently a Senior Counsel at Halliburton Energy Services where he is responsible for patents and intellectual property for drilling and well completion technologies. Wendorf is also President of the Combined Prehistoric Expedition Foundation.



## Downey Family Award for Faculty Excellence



The Downey Family Award for Faculty Excellence was established by Marea and former ISEM Trustee Marlan Downey to facilitate faculty advancement in Earth Sciences and Archaeology. The \$5000 award has no restrictions on its use. This year the recipient is **Dr. Heather DeShon** (left), Associate Professor in the Huffington Department of Earth Sciences. Heather is researching the interrelationship between fault structure, fluids, and earthquakes along faults located far from plate boundaries, such as the New Madrid seismic zone, which hosted M7+ earthquakes in 1811-1812.

## ISEM EXCURSIONS



## Gaffney Family Interdisciplinary Initiative at ISEM

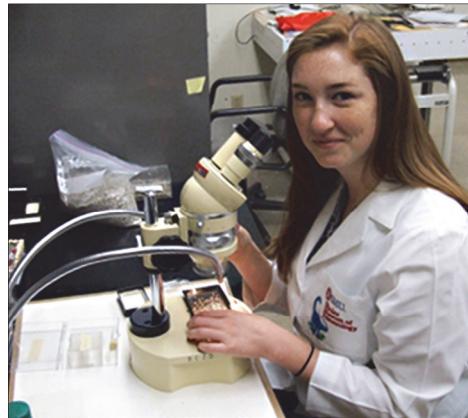


The **Gaffney Family Interdisciplinary Initiative at ISEM** provides undergraduate students with interdisciplinary research experience focused on the Great Trinity Forest. Students work with SMU faculty and community organizations to study the state of the forest, past, present, and future, testing water quality, coring for Ice Age records, performing geochemical analyses for climate studies, measuring diversity through plant transects and camera traps, mentoring at area schools, and evaluating economic impact. This is a long term effort to engage students in the interdisciplinary evaluation of one of Dallas's greatest assets.



# ISEM Undergraduate Student Research Assistants

ISEM is unique in welcoming students as early as their first semester and regardless of their majors into Earth Science laboratories, usually Shuler Museum paleontology labs, using the experience as a broader "gateway to Earth Science." The experience is meaningful because the work the students do is crucial for ISEM's Projecto PaleoAngola, which is the first field-based investigation of the effect of the tectonic opening of the South Atlantic on fossil vertebrates. Success can be measured by the diversity of majors participating, the number of participants, the number of majors and minors in Earth Sciences that pass through it, and the number of students who have leveraged their work into **Engaged Learning** recognition. Funding for this program is provided primarily by **ISEM's Hamilton Family Fund**, originally established by former trustee Jack Hamilton and his wife Jane. Projecto PaleoAngola has been supported by **Suzy Ruff**. This initiative is complemented by **ISEM's Marr Scholars Program** for Earth Science majors and minors, supported by ISEM Trustee **Ray Marr**, which focuses on undergraduates working with Earth Science professors on research leading to publication. Students with a broader calling and special talents that are appropriate to needs are introduced into the **Gaffney Family Interdisciplinary Initiative** focused on the Great Trinity Forest.



Some of ISEM's Student Research Assistants (from left to right): Marissa Mathews, Samantha Schwartz, Maureen Mullen, Elise Esquivel

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## ISEM Supports SMU J Term

During J Term 2013 ten students received scholarships from ISEM and the a Society of Exploration Geophysicists' Geoscientists Without Borders to take part in a multidisciplinary Earth Science course assessing earthquake risk in Jamaica. The class was led jointly by Matt Hornbach, Associate Professor of Geophysics at SMU, and Lyndon Brown, Head of the Jamaica Seismic Network, University of the West Indies. Jamaica's capital city of Kingston rests precariously along the western edge of the Enriquillo-Plantain Garden Fault--the same fault system that activated during the catastrophic 2010 earthquake in nearby Haiti. The Haiti Earthquake killed ~230,000 people, and there is concern that a similarly deadly earthquake could also occur near Kingston. During their trip, SMU students collected and analyzed geophysical data on land and at sea for high resolution 2D seismic imaging, slope-stability/liquefaction analysis, and physical properties of sediment core. Students worked closely with Jamaican colleagues and recorded their findings through presentations and written reports to Jamaica's Office of Disaster Preparedness and Emergency Management. Results from this study are currently being used to help prepare for future earthquakes.

Left to right: Lyndon Brown, Dr. Matt Hornbach, Ben Phrampus, Zach Frone, Stephanie Schwob, Renee McDonald, Brett Mattingly, Austen Klause, Joey Fontana, Connor Flynn, Cliff Mauroner, Emma Giddens, Gwen Carris



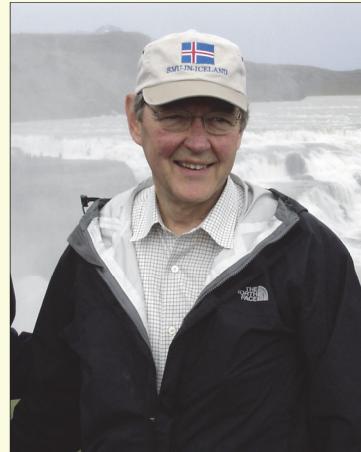
## ISEM HOSTS 4<sup>th</sup> INTERNATIONAL MOSASAUR MEETING

The 4th Triennial International Mosasaur Meeting, hosted by ISEM, the Perot Museum, and Dedman College was held at SMU in May. Over 30 scientists from 10 countries presented research on this intriguing group of gigantic marine lizards. The group was welcomed to a kick-off reception at the **Perot Museum of Nature and Science** and a tour of the Ocean Dallas exhibit, which showcases the exceptional fossil record of Dallas. Dean Bill Tsutsui presented a crowd pleasing exposition of Godzilla, a subject that turned out to be close to the heart of these marine reptile fans. A two-day field trip followed the meetings. Organized by Mike Polcyn, Director of Earth Sciences' Visualization



Lab, ISEM has a long history

of hosting scientific conferences, but this was the first ever jointly hosted by ISEM, SMU, and the Perot Museum. The Mosasaur Meeting was good practice for 2015 when the Society of Vertebrate Paleontology is expecting 1500 attendees at its 75th Annual Meeting in Dallas, hosted by ISEM, the Perot Museum, and SMU.



Congratulations to **Jim Gibbs**, who has served on the ISEM Board of Trustees for over 20 years, for being elected chair of The Foundation Members of the AAPG Corporation during the annual convention of the American Association of Petroleum Geologists. Gibbs replaces longtime chair William Fisher.

Chief Research Geoscientist for ExxonMobil Upstream Research Company, **Steve May**, met with students on the energy career path after his Departmental Friday Seminar, "Detrital Zircon Geochronology from the Bighorn Basin, Wyoming: Implications for Tectonostratigraphic Evolution and Paleogeography."



**Michael Tewes**, Regents Professor and Research Scientist at Texas A&M Kingsville and contributor of an inspirational video at the Perot Museum on the study of ocelots and other cats in the wild, visited ISEM to meet with Earth and Life students and to advise Gaffney Family Interdisciplinary Research Students on installation of camera traps in the Great Trinity Forest.

*"In my opinion, the most creative research at a university is done by the most energetic investigators, by which I mean students. Those are who we can support best."*

*Dr. Louis L. Jacobs, President*