

**2008****BOARD OF TRUSTEES****H. Leighton Steward***Chairman of the Board***Mr. L. R. Brammer, Jr.****Dr. James E. Brooks***President emeritus and Vice Chairman***Mr. Marlan W. Downey****Mr. Michael C. Forrest****Mr. Peter D. Gaffney****Mr. James A. Gibbs****Mr. Jack H. Hamilton****Mr. W. Herbert Hunt****Dr. Louis L. Jacobs***President***Dr. Bobby B. Lyle****Mr. Thomas E. Meurer****Mr. Carter R. Montgomery****Mr. Starkey A. Wilson**

*Benefiting the community by promoting and supporting interdisciplinary research at the interface of people, Earth, and the environment.*

Perhaps the most impactful event for ISEM in the past two years and certainly one for SMU is the endowment of the Roy M. Huffington Department of Earth Sciences. Roy was a friend to ISEM and a participant in its summer excursions to Alaska and Iceland. His time on these ISEM sponsored trips facilitated his contact with faculty members and afforded a chance to discuss goals and ambitions for the department. All were saddened by the loss of Roy, but he left a profound and positive legacy on Earth Sciences and SMU, as well as on ISEM.

Over the past two years, ISEM has supported students in the laboratory, with equipment grants, in coursework, in national meetings, in fieldwork, and in short, in allowing them to achieve what they can conceive. The traditional areas of focus for ISEM are in Earth Sciences and Archaeology, in facilitating interdisciplinary studies in energy and the environment. The strengths of these departments lie in field and laboratory analyses of geochemistry and geophysics as they apply to the Earth and people. Studies address past environment and the utilization of resources by ancient peoples. All of these studies train our students to be leaders in their field, competitive with graduates from other top universities. ISEM held its first Marlan and Marea Downey Graduate Research Day on February 19, 2008, which allowed our students to showcase their talents.

Besides here in Texas and the lower forty-eight, ISEM has provided assistance to SMU students working on projects in Alaska, Angola, Antarctica, Belgium, China, Ethiopia, Guatemala, Mongolia, Peru, and Portugal. Undergraduate Presidential Scholar Karen Gutierrez participated in a study of clay minerals and stable isotopes in two long cores from the Congo Basin. Upon graduation Karen received a Sandia National Laboratory Engineering and Mathematics Scholarship and is now pursuing a masters in geochemistry at the University of Michigan. Mary Milleson did her undergraduate thesis on climate change inferred from the clay minerals in the older portions of those same cores. She is continuing on for a graduate degree here at SMU under the mentorship of Neil Tabor in the Huffington Department of Earth Sciences. In Antarctica, two graduate students, Chris Strganac and Yosuke Nishida, joined a crew of seven on Livingston Island. Three of the crew were from SMU (Chris, Yosuke, and yours truly), the project leader, Ross Macphee, and Claire Fleming were from the American Museum of Natural History, Jerry Hooker was from the Natural History Museum in London, and the final member was Chris Denker, a mountaineer assigned to us by the National Science Foundation. Our SMU students sampled 100 million-year-old carbon left by plants during a time when the climate of Antarctica was much less extreme, it was without a permanent icecap, and it was well vegetated. They analyzed the isotopic composition of the carbon and reported their results in October at a national meeting in Cleveland. Their work is relevant to defining past and present latitudinal variation in the atmosphere, information that could provide much needed baseline data for understanding paleoclimate, and by extension, the development of modern climate.



Their work is relevant to defining past and present latitudinal variation in the atmosphere, information that could provide much needed baseline data for understanding paleoclimate, and by extension, the development of modern climate.

The world is in a time of quick and accelerating change. Our students must be trained to embrace change, to collect and evaluate data objectively, to consider options rationally and quantitatively, to have the intellectual skills to follow their chosen paths, and to contribute positively to society throughout their careers. The place of the ISEM is to help them in reaching these goals. As changes occur in the world and at SMU, ISEM must continually evaluate its effectiveness and adjust accordingly. I greatly appreciate your confidence and your support in pursuing our mission.

*Louis L. Jacobs, President*

**CORPORATE SPONSORS****ARC Financial****Five State Energy Company, LLC****Gaffney, Cline & Associates****Hunt Oil Company****Lyc0 Holdings Incorporated****Petro-Hunt, LLC****The Saurus Institute****CONTACT US**

Institute for the Study of Earth and Man  
N.L. Heroy Science Hall  
Southern Methodist University  
P.O. Box 750274  
Dallas, TX 75275-0274  
Telephone (214) 768-2425  
[www.smu.edu/isem](http://www.smu.edu/isem)

# ANNUAL CONTRIBUTIONS

**Student and Faculty Research Support for 2007-2008: \$246,175**

---

The generous support of our donors allows us to fulfill our mission. Please send your fully tax-deductible contribution to:

**ISEM at SMU  
P.O. Box 750274  
Dallas, TX 75275-0274**

*Please make checks payable to ISEM Foundation. Thank you!*

## MAJOR FUNDS AND SUPPORTERS

**Claude C. Albritton, Jr. Fund  
Eleanore J. and James E. Brooks Fund  
Champlin Fund  
Downey Family Award for Faculty Excellence  
Judy and James Gibbs Fund  
Jane and Jack Hamilton Fund  
Heroy Geosciences Student Support Fund  
Roy M. Huffington Fund  
Hunt Consolidated  
The Saurus Institute  
Lynda and Leighton Steward Fund  
Jean and Starkey Wilson Fund**

## **In Memoriam: Roy M. Huffington (1918-2008)**

---

SMU Geology Alumnus Roy M. Huffington died in July 2008 at the age of 90. After completing the PhD in geology at Harvard in 1943, Roy served with distinction on the staff of Admiral Spruance where he saw action during the war in the Pacific. He joined the exploration staff of the Humble company after being mustered out of the Navy. Even though he was assured that he had a bright future with the Humble he left the company and became an independent explorationist. His gas discoveries in Indonesia are legendary as are his development of the Liquefied Natural Gas market in Japan and elsewhere. For these accomplishments Roy received widespread recognition from most of the major energy organization in the United States and beyond.

Huffington's work in international energy development and his ability to move effectively in international diplomatic and commercial circles led to his appointment by President George H. W. Bush as U. S. Ambassador to Austria. This was at a time when eastern Europe was just beginning to open up as the Soviet Union began its final changes. Roy's diplomatic work extended well beyond Austria and was instrumental in establishing U. S. relations with the countries east of the Iron Curtain. For this work a number of foreign governments recognized Huffington's contributions.

Roy was generous to many organizations but especially to SMU alma mater both for him and for his wife, Phyllis. Roy's final gift endowed the Department of Geological Sciences as the **Roy M. Huffington Department of Earth Sciences**. Roy was very interested in and supportive of the **Institute for the Study of Earth and Man**. His last participation with the Institute included participation on the ISEM trip to Iceland in 2006.

Roy was active to the very end of his life and was a stimulating companion whether visiting over a business lunch, sitting on the deck of a fishing boat in Alaska, or standing atop the Mid-Atlantic Ridge in Iceland. His legacy will always be appreciated and the shared moments with Roy will always be cherished.



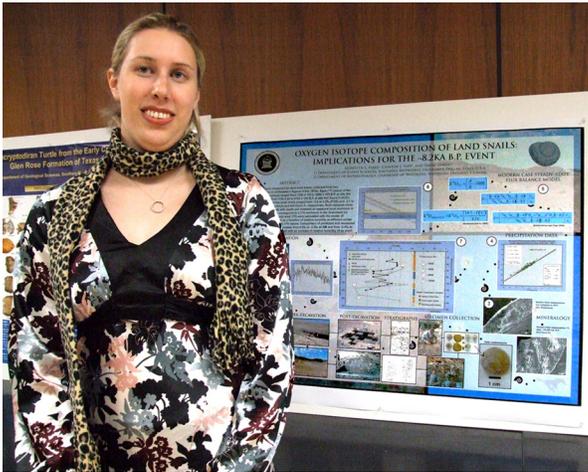
## **RESOLUTION IN MEMORY OF ROY M. HUFFINGTON**

---

The Board of Trustees of the ISEM notes with profound sadness the death of Roy M. Huffington on July 11, 2008. The Board acknowledges with deep appreciation Roy's friendship, his participation in many ISEM activities and his significant contributions to numerous programs and activities of importance to the Institute.

***“In my opinion, the most creative research at a university is done by the most energetic investigators, by which I mean graduate students. Those are who we can support best.” Dr. Louis L. Jacobs, President***

## The Marea and Marlan Downey Graduate Student Poster Day



Meredith Faber

On February 19, 2008, Marlan and Marea Downey sponsored a graduate student research day in the Institute. Students presented their research posters for review, discussion and judging. Three prizes were awarded for both Earth Sciences and Anthropology. Student participants were overwhelmingly those whose research was supported by ISEM.

Meredith Faber, Huffington Graduate Fellow, placed first in the Earth Sciences Department. Meredith’s PhD research is focused in geochemistry. She spent the summer as an intern for Nexen Petroleum USA and is looking forward to working in the industry upon graduation.

### The Winners

#### Earth Sciences

Meredith Faber  
Thomas Adams  
Juan Garcia Massini

#### Anthropology

Lauren Willis  
Martin Authier  
Andrew Boehm



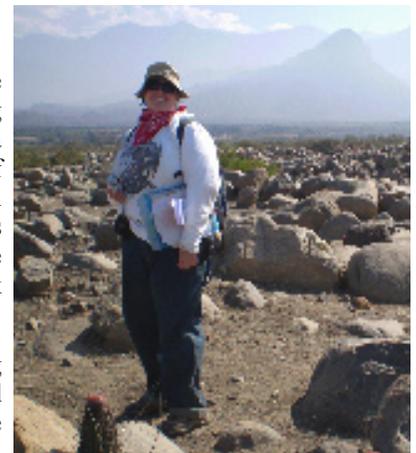
Marlan and Marea Downey

## What some of our students say...



I greatly appreciate your generous support for my research in birch mice fossils from central Inner Mongolia. I am investigating the evolutionary relationships of sicistine genera to solve a paleogeographic mystery of jumping mice that widely leapt through time and among continents in the past. *Sicista* and *Plesiosminthus* are the only forms known from the North American fossil records. Nevertheless, insufficient fossil evidence in East Asia has led to controversy over convergence versus dispersal of European forms. This Asian fossil evidence may suggest that Inner Mongolia was an active center of their evolution. The research grant enabled me to access the Institute of Vertebrate Paleontology and Paleoanthropology (China), the Smithsonian Museum, the Carnegie Museum and the South Dakota Museum of Geology. **Yuri Kimura**

I would like to thank ISEM for its support of my PhD research at the site of Santa Rita B in the Chao Valley on the north coast of Peru. The Incas employed a variety of strategies for controlling the core and provincial areas of their vast empire. Very little is currently understood about Inca administration of the north coast of Peru. The proposed work will be conducted at the site of Santa Rita B, a possible Inca administrative center located in the Chao Valley. My research focuses on looking at Santa Rita B to determine whether Inca control of the Chimú state was direct or indirect and how the Inca administrative strategy affected local Chimú practices. The funding that ISEM has provided me will allow me to carry out my dissertation research. Thank you. **Amanda Aland**



I would like to thank the ISEM for providing funding support for my experimental research on prehistoric and historic fish butchering. Despite the fact that fish are a common component of coastal archaeological sites, cutmarks are rare to non-existent on archaeological fish remains. To assess whether butchering practices leave cutmarks on fish bones and where these cutmarks occur, two colleagues and I butchered 37 fish using stone tools and a metal knife. Contrary to archaeological analyses, our research indicates that butchering commonly produces cutmarks on fish bone. We suggest that the scarcity of cutmarks reported on archaeological fish bones is the result of researchers overlooking cutmarks because they occur primarily on undiagnostic bones, taphonomic processes that may destroy or obscure cutmarks, or ancient butchering strategies that relied on limited cutting of fishes. Our research has implications for distinguishing natural from cultural fish assemblages and for understanding food-processing techniques, and is a platform for future experimental research. Thank you. **Lauren Willis**

# ISEM EXCURSIONS



The Institute organized summer field excursions in 2007 and 2008 for the interest and benefit of Trustees and friends of the ISEM. The trip in 2007 concentrated on the regional geology and geothermal resources in northwestern Wyoming. The trip began at Jackson, Wyoming, and reviewed the regional geologic setting of Jackson Hole, continuing northward into Yellowstone National Park. Leading the trip were Dr. Robert Smith of the University of Utah, and Dr. Roy Mink, formerly of the U. S. Dept. of Energy, now at the University of Idaho. The trip continued east to Cody where participants were hosted by ISEM Board Chairman **Leighton Steward**.

In addition to the geology and glacial geomorphology of the Beartooth Mountains, participants visited fossil sites on the Hoodoo Ranch where SMU's Shuler Museum were conducting research. Additional highlights of the trip included an extended visit to Cody's world class museum and a barbecue dinner at the home of the foreman of the Hoodoo Ranch arranged by ISEM Trustee **Tom Meurer**.



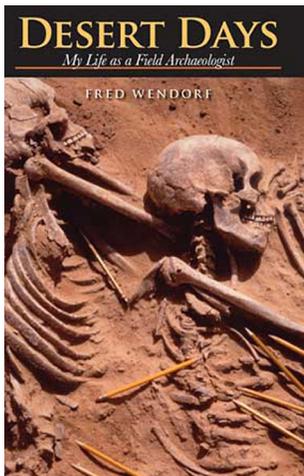
The Annual Trip in 2008 took the group to southwestern North Dakota, northwestern South Dakota and southeastern Montana -- to The Big Sky and Badlands country. Late Cretaceous strata of the Hell Creek Formation are rich in vertebrate fossils and include the Cretaceous-Tertiary extinction event when dinosaurs were driven extinct by an asteroid impact. Hosting the trip at this locality was Tyler Lyson – currently finishing his PhD in Vertebrate Paleontology at Yale. The group also visited Custer Battlefield at Little Bighorn and Medora, near the site of Theodore Roosevelt's ranch. The Red

Trail Ethanol Plant near Richardton, North Dakota provided a first hand look and a chance to discuss corn-based ethanol and its economic effects. The trip continued at the South Dakota School of Mines where Dr. James Martin provided an inside tour of the Paleontology Museum and a visit to the Big Badlands, east of Rapid City. The trip concluded with a trip to the Black Hills and Mt. Rushmore.

Documentaries of these two trips, and the preceding one to Iceland in 2006, were produced by Shade Tree Studios, through the courtesy of ISEM Trustee **Dr. Ray Marr**. They can be view at [www.smu.edu/isem/events](http://www.smu.edu/isem/events).



**JOIN US ON A TRIP TO THE GALAPAGOS**  
*Close Encounters of the Wild Kind, October 9-19, 2009*  
**For information: 214-768-2532**



## Professor *Emeritus* Publishes Autobiography

SMU's **Dr. Fred Wendorf** has just published his autobiography, ***Desert Days: My Life as a Field Archaeologist***. Fred is an Institute Fellow and Henderson-Morrison Professor of Prehistory Emeritus. In 1987 he was elected to the National Academy of Sciences.

