

2006**BOARD OF TRUSTEES****H. Leighton Steward***Chairman of the Board***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****CORPORATE SPONSORS****ARC Financial****ExxonMobil Corporation****Five State Energy Company, L.L.C.****Gaffney, Cline & Associates****Hunt Oil Company****New Horizon Exploration, Inc.****Lyco Energy Corporation****Petro-Hunt, L.L.C.****The Saurus Institute****Shell Oil Company****TXU Energy****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

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

The Institute has had a very successful year with efforts focused on its primary mission of supporting research. During 2006 the Institute provided funding for 32 research projects, of which 25 were carried on by students. Research topics ranged widely in geology and archaeology and included a number of international projects. Short reports by a cross-section of four of those graduate students appear on page 3 of this Newsletter. The Institute's ability to provide this level of research support is possible because of the generosity of a number of ISEM Trustees and friends. And those funds are again acknowledged with gratitude.

Important to signal here is the addition of new gifts that came in conjunction with the Iceland trip in July. SMU Alumnus (geology) and longtime friend of the Institute Roy M. Huffington made an endowment gift of \$105,000 and Trustees Jim Gibbs, Leighton Steward and Jack Hamilton each made gifts of \$25,000. These, added to other earlier gifts make possible the levels of research support that are described in this Newsletter and that are the principal reason for being of the Institute.

In addition to research projects that are funded by the Institute and that are principally related to students, faculty associated with the Institute have had a very successful year of funded grant and contract activity. Louis Jacobs is coordinating related research projects in New Mexico, Colorado, Utah and Wyoming which are important because they involve sites on two ranches owned by Hunt Consolidated, Inc., represented on the ISEM Board by Tom Meurer. These ranches are the Preston Nutter Ranch in eastern Utah and the Hoodoo Ranch in western Wyoming. Hunt Consolidated has provided support for this work in addition, of course, to access to the ranches. Beyond these integrated projects Jacobs also has funded projects in Angola and Mongolia. The Angola project is in part funded by the National Geographic Society which plans a short article on the project to appear in its magazine within the next few months. This project is of particular importance because Angola has been untouched by contemporary, fundamental geologic/paleontologic research and because the stratigraphic record there spans the time during which the South Atlantic Basin was in the process of opening. The project in Mongolia is fully funded by the Korean Institute of Geoscience and Mineral Resources and it involves cooperation with ISEM by three of Jacobs' Ph.D. graduates – Dr. Yuong-Nam Lee (Korea), Dr. Junchang Lu (Chinese Academy of Geologic Sciences) and Dr. Yoshitsugu Kobayashi (Hokkaido

University Museum, Japan). The project focuses on a contemporary examination and evaluation of classic dinosaur localities in Mongolia.

Other SMU faculty and scientific staff have received support from the ISEM to supplement research projects funded primarily from other sources. These include Dr. Neil Tabor, Dr. Dale Winkler, Dr. Torben Rick, Dr. Kurt Ferguson and Mr. Kent Newman.

*James E. Brooks**Chairman, ISEM Foundation*

Drs. Junchang Lu, Louis Jacobs, Yoshitsugu Kobayashi, Yuong-nam Lee
at Flaming Cliffs of Mongolia

Energy

Through the warm generosity of Nancy and Herbert Hunt the ISEM Energy Roundtable was again held at their family ranch south of Glen Rose, Texas in late April. The geniality of the setting, the careful program planning by Marlan Downey, Peter Gaffney, Mike Forrest and Herbert and the quality of the invited participants assured another very successful event. The event netted the Institute \$14,750 in voluntary contributions from the participants. Additionally, one of the new participants has subsequently opted to become a Corporate Sponsor – **Welcome ARC Financial Corporation!**

ISEM Supports Research Worldwide

Annual Contributions

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.

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
Roy M. Huffington Fund
Hunt Consolidated
The Saurus Institute
Lynda and Leighton Steward Fund
Jean and Starkey Wilson Fund**

In Memorium: William B. Heroy, Jr. (1915-2006)

On September 24, 2006, William B. Heroy, Jr. passed away in Durham, North Carolina, where he and his wife, Dorothy, lived in retirement. Bill served as President of the Institute for the Study of Earth and Man from 1971 to 1981. He succeeded his father, ISEM's Founding President, William B.



Heroy, Sr. Bill majored in geology, earning a B.S. from Dartmouth College in 1937 and his Ph.D. from Princeton University in 1941. He worked in the southwest for Texaco during WWII, and then

joined the Geotechnical Corporation in Dallas, where he worked 1945 to 1965, advancing to President of the company. Geotech was bought by the Teledyne Corporation in 1965 and Bill continued there as a senior executive until he resigned to accept the position of Vice President and Treasurer of Southern Methodist University in 1969.

Bill was always active in civic and professional affairs, having served in leadership roles in Dallas Geological and Dallas Geophysical Societies, numerous committees of the American Association of Petroleum Geologists, as longtime Treasurer of the Geological Society of America, and as President of the American Geological Institute.

Bill's career touched many lives and many institutions and left each the better. He believed very strongly in "paying back" to society and he contributed generously of his time and efforts wherever he was asked and where he felt he could make a difference.

ISEM ANNOUNCES HEROY MEMORIAL GIFT

ISEM is pleased to announce the receipt of a gift from Jack Hamilton in memory of William B. Heroy, Jr. The gift is to initiate the **Heroy Geoscience Student Support Fund** in the Institute. In making the gift Hamilton said, "This gift is intended to recognize Bill's lifelong commitment to the geosciences and his understanding of the importance of financial support in preparing geoscientists of the future! It is certainly my hope that this initiating gift will grow through the support of Bill's many friends." Jack Hamilton was a longtime associate of Bill Heroy in the senior management of The Geotechnical Corporation and then in the Geotechnical Division of The Teledyne Corporation. Hamilton is also a Trustee of the ISEM. In accepting the gift Dr. Jacobs said, "This gift is indeed a fitting way to commemorate Bill Heroy's life and contributions and we at the Institute are deeply grateful. We share Jack Hamilton's hope that the fund will grow and thus enable it to support a growing number of students in the geosciences."

Contributions to the **Heroy Geoscience Student Support Fund** may be made to **The ISEM Foundation**, in care of **Dr. Louis L. Jacobs, ISEM at SMU, Box 0273, Dallas, TX 75275-0274** and indicate that the contribution is for the **Heroy Fund**.

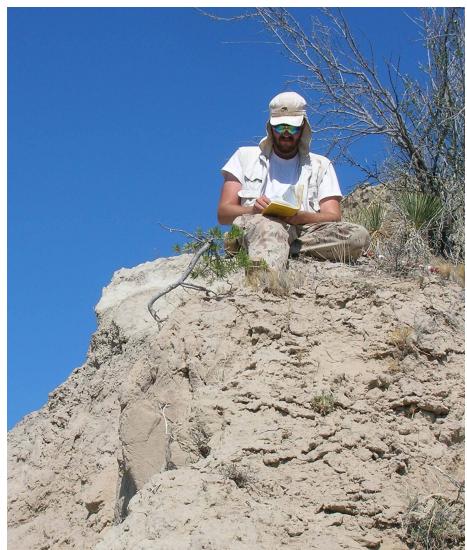
"In my opinion, the most creative research at a university is done by the most energetic investigators, by which I mean graduate students. Those are who we can support best." Dr. Louis L. Jacobs, President

What some of our students say...



My gratitude goes out to the ISEM for their support of my analyses of clays and pottery from the Chaves-Hummingbird Pueblo in west-central New Mexico. ISEM support allowed me to perform XRD analyses on numerous clay sources and over 20 pottery vessels. 2004 excavations revealed a ritual closing deposit from which 11 pottery vessels were recovered. Collaborative research with advisors from the Pueblos of Acoma, Laguna, Hopi, and Zuni indicated that all 11 vessels were manufactured locally and made specifically for the closing ritual. The funding provided by the ISEM offered the opportunity to empirically test this claim and match the pottery clays to their sources. In addition, 10 other vessels were analyzed in an attempt to prove that they too were manufactured locally. These vessels were long believed to be manufactured at the site of Pottery Mound, but funding from the ISEM allowed us to prove that these vessels were in fact made locally at the Hummingbird Pueblo. I will be able to incorporate these results into my dissertation. Thank you for your support. **Jason Theuer**

I am grateful to the Institute for the Study of Earth and Man for funding my field work in the Tieton River area of south-central Washington State. Vertebrate fossils have been known from the area for over 60 years, yet no study has examined the paleontology. The Tieton River area contains fossil mammals preserved in 30 million year old volcaniclastic deposits from the ancestral Cascade Range, and represents the earliest known terrestrial vertebrates in Washington. The field work this summer resulted in the discovery of fossils in previously unknown localities and the collection of data to construct a sound geological context for these fossils. These data will facilitate an investigation of North American Cenozoic history from a new point of view, the subject of my Master's thesis. Thank you for the support to travel and perform field work necessary for this investigation. **Christopher Strganac**



I am grateful to ISEM for its generous support of my dissertation research in Portugal. The fossiliferous Upper Jurassic terrestrial deposits in this region offer a unique opportunity to understand how ancient faunas responded to paleoclimate change. Determination of rates of faunal response and the relative importance of different climate parameters as drivers of change will have implications for modern ecosystems. The data collected during the upcoming winter field season will bolster the chemostratigraphic and paleoenvironmental analyses already in progress. Without the funds provided by ISEM, this work would not be possible. Thank you. **Scott Myers**

research, which is the study of desmostylian materials from Unalaskan Island, Alaska. The desmostylians are hippo-like mammals that are related to sea cows and elephants and known from the Northern Pacific region. The materials from Unalaskan Islands are very unique and will contribute to the study of the desmostylians. I scan the materials and create its three-dimensional image in order to reconstruct missing parts. The support from ISEM has provided me opportunities to see paleontologists in Japan and to visit the National Museum of Natural History to scan the skull of desmostylians. Thank you very much for your help. **Yosuke Nishida**



ICELAND -- Cool But Hot!!

In July 2006 fifteen ISEM Travelers made an eight day round trip from Dallas to Reykjavik, Iceland. The group included ISEM Trustees Leighton Steward, Jim Gibbs, Jack Hamilton, Bobby Lyle and Starkey Wilson; ISEM friends and supporters Roy Huffington and Ray Marr; SMU faculty, (from geology) David Blackwell and Bonnie Jacobs, and (from engineering) Bijan Mohraz, James Dunham and David Johnson; ISEM Organizers Louis Jacobs and James Brooks; and Photographer Adam Dunsworth, who was working with Ray Marr.

The trip was stimulated by the succession of ISEM trips to Alaska the three previous summers. While not exclusively related to energy, these trips contained significant components focused on Alaska's considerable geothermal energy potential. This interest in alternative energy is a logical extension of ISEM's longstanding series of programs. These programs have been largely focused on traditional carbon based energy supplies. With the nation's growing need to develop sources of energy not based on carbon, the Institute has been actively interested in exploring areas that have potential to be alternative energy sources or areas where alternative energy is already in use. Iceland, of course, is one of the world's leaders in developing and using geothermal energy.



Hydrothermal field in fault controlled valley, southern Iceland. Photo taken by Trustee Starkey Wilson on 2006 ISEM excursion.

Located atop the Mid-Atlantic ridge, the spreading center for the Atlantic Ocean Basins, thermal energy in the form of hot water is abundant. Iceland makes extensive use of hot water to heat its buildings, to keep its streets and sidewalks free of ice, to generate electricity, and to provide energy for a variety of industrial uses. Alcoa, for example, already has one bauxite processing plant in Iceland for which energy is provided by hydro energy. The company is also building a second plant which will be fueled by hydrogen energy, made economically attractive by very inexpensive geothermal energy. Aluminum ore is brought from as far away as Australia for processing here. Shell Hydrogen is also a major player in helping to set up the infrastructure to gradually convert the ground transportation system in Iceland to hydrogen fuel, starting with the Reykjavik municipal bus system. In the time there the delegation had significant visits with senior representatives of Reykjavik Energy, Shell Hydrogen, Alcoa, the Iceland Geosurvey, and Iceland NuEnergy among others. Visits included a field trip to the major geothermal producing area in the rift valley east of Reykjavik, the geothermal distribution systems in southwestern Iceland, the Shell Hydrogen Busline and system maintenance facilities.

While tightly compressed, because of the senior level of our hosts the ISEM group was able to see and experience a great deal and came away with a high level of appreciation for what the Icelanders have accomplished -- and, the challenges that lie ahead for areas committed to exploring and developing alternative energy sources.