

# Changing the World of Geosciences

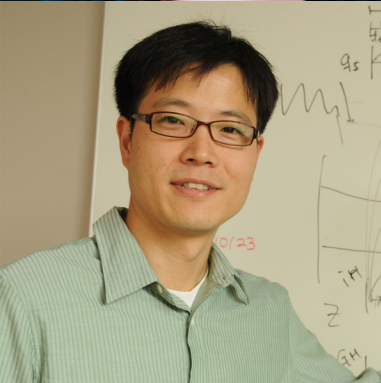
This is a great time to pursue graduate studies at the Jackson School of Geosciences. Since receiving one of the largest bequests in the history of higher education, we have experienced unprecedented growth, increasing our faculty by 50 percent while ramping up research and graduate programs across the school.

For ambitious students, the opportunities abound. We are pushing the frontiers in interdisciplinary research as well as within individual disciplines. For students interested in academic careers and fundamental research, we've dramatically expanded doctoral programs in all areas from the core to the atmosphere. Our world renowned research units, the Bureau of Economic Geology and Institute for Geophysics, offer a wide range of options for students, often on projects with major societal impact, such as carbon sequestration, the fate of the West Antarctic Ice Sheet, and unconventional hydrocarbons. Our industrial associates programs expose students to industry standards while helping them make valuable contacts. These ties are enormously helpful to students on a professional track. No matter what your career path, you will find our vast alumni network is a great asset.

We believe future advances in the geosciences will come at the interfaces of traditional disciplines. For this reason we are a highly collaborative school. We seek faculty, research scientists, and graduate students pursuing the grand challenges in the geosciences and aiming to be leaders in their fields. We welcome your interest in the Jackson School.



Sharon Mosher, Dean



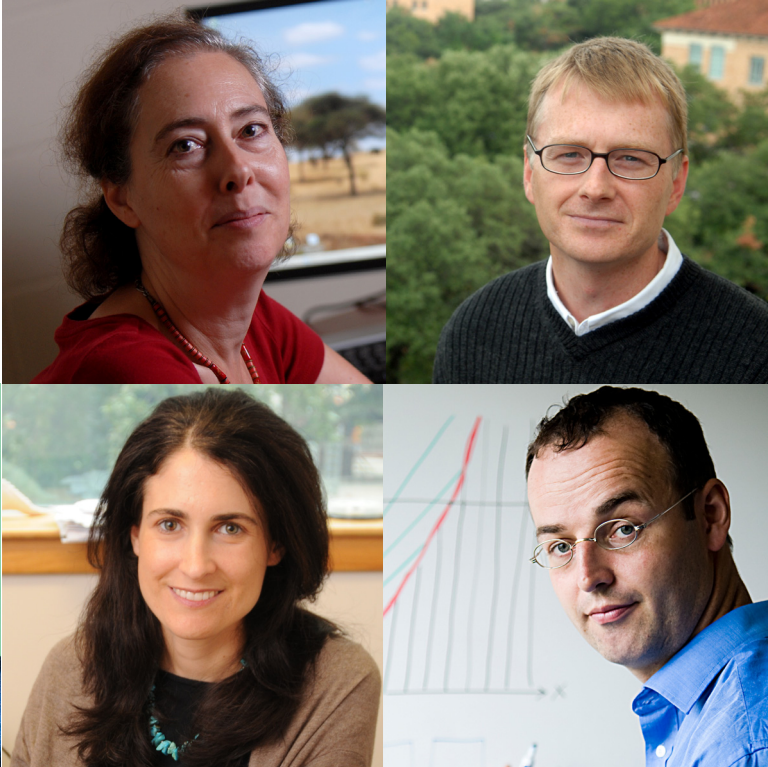
Already one of the largest earth science programs in the world, the Jackson School has experienced unprecedented growth over the past five years.

## Jackson School Distinctions

**Faculty & Researchers.** The Jackson School has leaders in all disciplines and continues to attract top talent with its ambitious vision and the largest endowment of any earth science program. Many researchers work on frontiers between disciplines where the major developments are taking place in their fields.

**Size & Scope.** With one of the largest academic geoscience communities in the world, top ten rankings, 27 research programs and centers, 50 faculty and an additional 140 research scientists, the Jackson School has nearly unparalleled breadth and depth across the earth sciences.

**Academic Community.** While benefiting from being part of the larger research campus of The University of Texas at Austin, the Jackson School is known for having its own close-knit, student-centered community. Beginning fall 2012, a new student center will anchor that community.



**Support & Opportunities.** Our highly competitive support packages are annually among the best in the country and are guaranteed for two years (M.S.) to five years (Ph.D.) for students in good standing, an offer very few schools can make. (The cost of living in Austin is also comparatively modest.) While earning a degree, graduate students have a wealth of opportunities to work at our major research units, often on projects that shape their careers. For those seeking a professional track, the school has a major on-campus recruiting presence.

**Facilities.** Our facilities are among the best in the country and student use is encouraged. Highlights include aereogeophysical and LIDAR systems, an experimental sedimentation lab including delta and deep water basins, state-of-the-art stable isotope and TIMs labs, an analytic lab for climate studies, applied geodynamics lab for salt tectonics, NSF-supported digital morphology lab, high-resolution X-ray Computed Tomography facility, TexSeis Earthquake Center ... see all 80 items online.

## From Our Students

“No matter what your research interests, we probably do what you want to do here. There are a lot of people coming in with lots of fresh ideas. I’m doing geophysics, but I’m also doing geomorphology with David Mohrig and Gary Kocurek. We’re going to come up with a great story about what is happening on Mars. There are opportunities to combine fields here that a smaller program just doesn’t have.”

— Isaac Smith, Ph.D. candidate

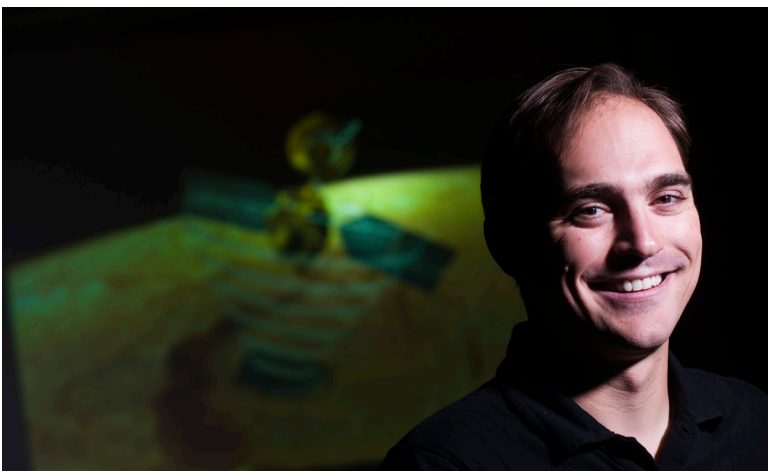
“The Jackson School and its alumni are extremely supportive of their graduate students. I decided on the Jackson School because of the combination of research opportunities, funding and support, an unrivaled depth of selection for classes to take, and diverse career opportunities.”

—Tim Shin, B.S. 2011, M.S. 2013 (expected)

“I really liked the JSG’s five years of guaranteed full support for Ph.D. students. Other schools had support, but they were ‘sort of’ guaranteed, or were only for a year, or were far below the actual cost of living there.”

—Lindsey Gulden, Ph.D. 2009

[Read more from Isaac Smith \(below\) and learn about other Jackson School graduate students on the Student Views section of our website.](#)



# Research Themes

Our research encompasses all parts of the Earth's dynamic system, investigating the linkages between the Earth's interior, surface, hydrosphere, cryosphere, biosphere, and atmosphere, and how the coupling of chemical, physical, biological, and geological processes shape the evolution of Earth and impact society. Our research themes are unconventional in that they blend deep time and present day, investigating the longer term consequences of short term processes. Graduate students can pursue research in any of these broad themes or focus on a specific discipline.

## Surface & Hydrologic Processes

From watersheds and aquifers to source-to-sink sediment transport and land surface dynamics, our research focuses on processes that shape the Earth's surface, the rock record results, and interaction with hydrologic systems.

## Solid Earth & Tectonic Processes

From plate tectonic and deformation processes to mantle evolution and dynamics and melt generation and volcanism, our research spans the range of tectonics and deep crustal processes.

## Energy Geosciences

From subsurface basin analysis and reservoir characterization to nanogeosciences and unconventional resources, we focus on hydrocarbon energy research ranging from the traditional to the cutting-edge, as well as the environmental effects of resource extraction on water and land use.

## Marine Geosciences

From tectonics at active plate margins to clastic sedimentation and carbonate systems in the marine environment, our research encompasses a wide range of marine geology and geophysics. Our rapid response program allows us to make timely field observations of transient geohazard events.

## Climate, Carbon & Geobiology

From land-water-atmosphere-biosphere interactions and climate dynamics to the carbon cycle, our research covers all aspects of climate from past to present. Our geobiology research ranges from biotic changes through time and evolutionary morphology and systematics to geomicrobiology.

## Planetary Sciences

From chemical and dynamic evolution of planets and solar system materials to planetary surface processes, our growing planetary research program covers a range of exciting new frontiers.

# Research Disciplines

Our research in individual geosciences disciplines addresses fundamental questions in each field and provides a firm foundation for our interdisciplinary research themes. Interested students can search for potential graduate supervisors either through the themes or disciplines on our website.

**Sedimentary Geology/Stratigraphy**

**Geophysics/Seismology**

**Structural Geology/Lithospheric Geodynamics**

**Hydrogeology/Glaciology**

**Petrology/Mineral Physics**

**Geochemistry/Thermo- & Geo-chronology**

**Paleontology/Geobiology**

**Atmospheric Sciences**

**Computational Geosciences**

# To Learn More & Apply

Students apply to the Jackson School following the standard procedures for The University of Texas at Austin. For information, please contact graduate coordinator Philip Guerrero (philipg@mail.utexas.edu, 512-471-6098) or visit our website at

<http://www.jsg.utexas.edu>



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