

The 2005-06 academic year was vibrant with the Institute for the Study of the Continents' (INSTOC) geophysical and tectonic activities. Led by Professors Larry Brown (Director) and Muawia Barazangi (Associate Director), INSTOC catalyzes solid earth research.

Professor Rainer Kind from Potsdam, Germany, the first recipient of the Jack E. Oliver Honorary Visiting Professorship, began his tenure with a two-week research visit to Cornell in September 2005, coincident with the first INSTOC research workshop. Kind inspired the theme for the workshop:

Tectonics of the Mantle Lithosphere. The mantle lithosphere beneath the continents is a major frontier focus for current research in seismology and geochemistry, and Kind has been a major contributor to its study. EAS faculty and distinguished visitors assessed the state of our knowledge of this critical region of the earth and brainstormed future research opportunities. EAS faculty presenters were Larry Brown, Robert Kay, Bill White, Suzanne Kay, Muawia Barazangi, Larry Cathles, Jason Phipps Morgan and Chris Andronicos. Guest presenters were Professors Don Anderson (Caltech), Karen Fischer (Brown University), Steven Roecker (RPI), George Zandt (University of Arizona), Francis Wu (SUNY Binghamton), Jim Knapp (University of South Carolina), and David Snyder (PhD '88) (Geological Survey of Canada.)

Among other visitors hosted by INSTOC was Professor Simon Klemperer (PhD '85) of Stanford University who presented a seminar on the first EARTHSCOPE controlled source experiment to image the lower crust of the Basin and Range Province in northwest Nevada. As an outgrowth of a visit from Dr. Vijay Dimri, Director of India's National Geophysical Research Institute (NGRI), discussions have begun that may lead to collaborations between geoscientists and engineers at Cornell and scientists of NGRI, for topics ranging from geophysical studies of deep lithospheric structure to environmental evaluations of groundwater to assessment of natural hazards such as earthquakes and tsunami.

On other INSTOC activity, a new project was funded by NSF for Suzanne Kay, Eric Sandvol, and Larry Brown to investigate delamination in the central Andes. Preparations continued for the deep

*A social high point was the INSTOC/EAS alumni reception held during the Society of Exploration Geophysicists 75th Anniversary in Houston. The party honored Professor Sidney Kaufman (PhD '34) who co-founded, with Professor Emeritus Jack Oliver, the COCORP program for continental deep seismic profiling. The reception brought together many of the students and post-docs who worked with Kaufman as part of COCORP, as well as many in the oil industry who participated in the COCORP initiative. During the dinner, Brown announced that Kaufman has generously established a new fund at Cornell to support travel by geoscience graduate students to national geological and geophysical conferences.*



Professor Sid Kaufman (second from left) with former students and postdocs at INSTOC reception. From left: Art Barnes, Barton Payne, Josh Walters, John Best and Tom Latham.

Suzanne Kay and Victor Ramos of the University of Buenos Aires organized a major international symposium co-sponsored by the Geological Society of America and Asociación Geológica Argentina, "Backbone of the Americas," on the American

imaging Project TAIGER in Taiwan, with a planning workshop in Taipei. Phase IV of the INDEPTH Seismology Project was discussed at the December 2005 meeting of AGU, with scouting scheduled for summer 2006. Research on Syria and Lebanon is progressing with exciting data sets from several new satellite techniques (GPS and InSAR) that reveal ground displacements for the Dead Sea fault system.

Matt Pritchard received funding from the College of Engineering and NASA to support undergraduates in the use of remotely sensed data to create the highest resolution ever maps of central Andean topography. Pritchard also received funding from NSF to develop a high-resolution, three-component surface deformation velocity field for the central Andes. He and Rick Allmendinger have been funded to investigate the co-evolution of thin- and thick-skinned deformation associated with flat subduction in western Argentina.



Tomás Zapata, Victor Ramos, Sue Kay

Cordilleran mountain belt. EAS participants were: Professors Suzanne Kay, Bob Kay and Teresa Jordan; EAS Graduate Students Stephanie Devlin, Jack Loveless, Adam Goss, and Neil McGlashan. All four major field trips were led by faculty, alumni or close associates of Cornell: Matt Gorrington (PhD '97) to the Chile triple junction region; Tomás Zapata (PhD '96) to the Neuquen Basin; Suzanne Kay, with Beatrice Coira, to the Central Plateau; Victor Ramos, Guggenheim Fellow and INSTOC Visiting Professor, to the Argentine flat slab area. Among other Cornell alumni in attendance were Manfred Strecker (PhD '87), Bob Smalley (PhD '88), Mike Bevis (PhD '82), Ben Brooks (PhD '99), Phil Gans (BA '76), Greg Hoke (PhD '05), and Nick Pinter (BA '86). ■



Reception after signing of Memorandum of Understanding with NGRI: (left to right) Muawia Barazangi, Frank Rhodes, Bob Kay, Chris Andronicos, Larry Brown, Vijay Dimri, Matt Pritchard, Jason Phipps Morgan, Larry Cathles.