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International Graduate Student Exchange Program

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The LTER Network provides a rich environment in which graduate students conduct diverse research ranging from studies of microorganisms in extreme Antarctic environments to modeling of carbon sequestration in old-growth coniferous forests. Most graduate students feel a strong affinity for the site at which they work, but many are unaware of the breadth of opportunities and resources available at scales of both the LTER and ILTER. To promote inter-site collaboration among scientists of the next generation, LTER and ILTER networks have sponsored graduate student exchange programs between the U.S., Japan, Taiwan, and China. The first two exchanges, which took place during the summers of 1997 and 1998, offered students a glimpse of the kinds of research being done in other countries and a chance to make contacts that may lead to future collaboration. The program is expected to involve many more countries in the future, and will continue to strengthen ties between ecological research sites around the globe.

Students from Mongolia, Taiwan and Japan visited LTER sites during the summer of 1997. Several students toured the North Temperate Lakes LTER in Wisconsin prior to attending the Ecological Society of America's (ESA) annual meeting in Albuquerque, NM. Other students' first site visit was to the Sevilleta LTER south of Albuquerque, which is comprised of a mosaic of biomes ranging from desert to alpine meadows. Following the ESA meeting, nine Taiwanese students and three Japanese students traveled to the H.J. Andrews Experimental Forest in Oregon. I, along with many other graduate students from Oregon State University, enjoyed meeting them and showing them around the Andrews Forest. Our visitors expressed great interest in our research, which ranged from a study of the spatial distribution of amphibians in streams to the hydrology and biogeochemistry of small watersheds. Those of us from the Andrews Forest were very impressed by presentations made by our guests showcasing their own research. Our final day together was spent visiting a satellite site of the Andrews, the Wind River Forest in Washington, which is home to the canopy crane. The crane carried us above the forest canopy, where research on canopy lichen communities and tree physiology are being conducted. The

Asian students' visit to the Andrews was an enjoyable and valuable experience for everyone involved, and connections were made which will hopefully lead to inter-site research in the future.

The reciprocal visit of U.S. students to ILTER sites in Taiwan and China occurred in June 1998. I was fortunate to be invited on this trip, and was happy to become reacquainted with some of the Taiwanese students I had met the previous summer. Our group first traveled to Fushan Experimental Forest in Taiwan where graduate students introduced us to their research projects on topics including macaque behavior, plant dispersal, and fish life histories. The second site we visited was Nanjenshan, which has an interesting vegetation structure related to disturbance by typhoon winds. We hiked through the forest with many local graduate students and senior researchers, many of us discussing possibilities for post-docs at the site, or exchange of data and research techniques. One U.S. student is presently collaborating with a scientist from Nanjenshan on a soils project. We were accompanied on our journey through Taiwan by several graduate students, and opportunities were arranged for us to get to know other students as well. The group of students from the U.S. left Taiwan much enriched by our experiences and eager to return.

The twelve U.S. students traveled to China from Taiwan, and were warmly welcomed at CERN (Chinese Ecological Research Network) headquarters in Beijing. China has 31 long-term ecological research sites. Research at the first two sites we visited emphasized agriculture. At the desert Shapotou site, sand dunes have been stabilized to prevent them from shifting to cover railroad tracks, and various crop plants are under study to determine what grows best in the marginal sandy soils. At Changwu, in a dryland farming area on the Loess Plateau, many studies are underway to determine which fertilizer and crop combinations are most successful. Other monitoring is being conducted on plant water use efficiency, erosion, and land reclamation. The last site we visited in China was Taihu, near Shanghai. Here we joined many young Chinese scientists in discussing problems related to lake ecosystems, particularly water pollution. Our hosts at this last site were interested in having students return to China to work at Taihu, and at least one of our group is considering a post-doc there. Our journey through China provided a fascinating look at how scientists function in a society with different governmental and financial constraints.

The Graduate Student Exchange program has thus far been very successful in giving participants a sense of being part of more than just the single LTER or ILTER site where they conduct their research. Everyone involved became aware of the opportunities that exist on national and international levels to conduct cross-site ecological syntheses. If global change issues are to be adequately addressed, scientists will need to be able gather data from far-flung locations. The graduate students who have been part of this exchange program have a much broader knowledge of what is available in the U.S. and Asia, and know also whom to contact to initiate collaborations. The Graduate Student Exchange Program is laying the foundations for future global research, and will continue to do so as more countries become engaged in this process.

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