The Institute for Grassland Studies was established in 2008 as a Targeted Excellence Program within the Division of Biology of Kansas State University and immediately took off, launching several exciting new programs and events that seek to strengthen our research relationships and international communication in line with several major goals. We set out with the following goal in mind:

To promote professional interactions with prominent international grassland scientists from around the world in ways that foster new research, educational opportunities, and the synthesis and application of grassland science for improved conservation and global sustainability.

Already this year, the Institute launched a website, and was formally introduced at the Konza Prairie Visitors’ Day. This was an excellent opportunity for the public to learn about the long term research and education conducted at the Konza Biological Station, as well as to be alerted to the opportunities that IGS has to offer to K-State students, faculty, international scientists and students, and the general public. These opportunities now include a program for visiting scientists that may be hosted by the IGS as they benefit from all of the research opportunities provided by the Flint hills region of Kansas, courses with a holistic focus on International grassland ecology, field experience abroad for K-State students, visiting speakers from around the world, and public forums addressing current issues surrounding grassland ecology, global change, and sustainable conservation. (Continued on Back Page)

The IGS is seeking to host international scientists who would like to partner with us by completing a long term visit to the Flint hills and our research facilities!
Visiting Scholars Program (continued)

14 KSU departments, over 60 visiting scientists and students from the U.S. and abroad, and multiple national and international environmental research organizations. As a part of this rich tradition in quality research, the IGS provides an exceptional opportunity for International scientists and Post-Doc students to experience the professional interaction that K-State has to offer while conducting research in the unique ecology of this region. Interested individuals should contact the Institute at igs@ksu.edu.

New Climate Change Project in South Africa

~J. Nippert

Kruger National Park in northeastern South Africa is the crown jewel of the South Africa National Parks system. It is home to most of the major wildlife species in Africa including elephant, giraffe, white and black rhino, African buffalo, kudu, impala and all the charismatic species that prey on them — lion, cheetah, leopard, wild dog and hyena. At present, most of these animals reside in the southern half of the park in savanna ecosystems dominated by Acacia and Combretum species.

To the north is a widespread savanna ecosystem dominated by Colophospermum mopane or simply Mopane. This ecosystem type has lower plant diversity, less grass biomass for grazers and much lower animal diversity. Elephants, already considered to be at non-sustainable population levels in Kruger, are the primary large herbivores that utilize the Mopane ecosystem type.

Based on climate correlations with existing boundaries of the distribution of Mopane across Africa, this species is thought to be relatively cold intolerant and there is a distinct boundary between Mopane in the warmer north and Acacia-Combretum ecosystems in the cooler south in Kruger National Park. Local anecdotal observations suggest that this boundary may be shifting south with global warming however.

This would have severe consequences for the conservation of the animals in the park since the park is finite in size and surrounded by private land to the south. Thus any expansion of Mopane will lead to less Acacia-Combretum habitat — and a likely overall reduction in diversity in Kruger National Park.

Jesse Nippert in the Division of Biology, along with Colorado State University faculty members Gene Kelly and Alan Knapp recently completed a research trip to South Africa to collect preliminary samples and begin planning research designed to better understand the mechanisms controlling the southern distributional limit of Mopane. Ultimately, their goal is to assess the potential for additional encroachment of this ecosystem to the south with global warming. They are working with Dr. Tony Swemmer of the South African Ecological Observatory Network. The Institute for Grassland Studies at KSU helped to sponsor Nippert’s visit to develop a collaborative research project between Konza Prairie and Kruger.
Two IGS faculty members in the Division of Biology, Dr. John Blair and Dr. Anthony Joern, visited the Chinese Academy of Sciences to present invited talks at two separate major symposia in Beijing, and to consult about research at major grassland research sites in Inner Mongolia. Both found the visits extremely interesting, learned much about grassland research in China, and established important key contacts that will lead to future research opportunities between K-State and Chinese grassland scientists.

Blair was invited by Professor Xinggou Han of the Chinese Academy of Sciences’ Institute of Botany to speak on ecological responses to fire and grazing in North American grasslands as part of the symposium “Regional and Global Network of Grassland Ecosystem Research: Issues and Perspectives”. Examples from the Konza Prairie Long-Term Ecological Research program were used to highlight the importance of long-term research for understanding interactions of ecological management and global change drivers. The symposium also celebrated the 30th anniversary of the Inner Mongolian Grassland Ecosystem Research Station (IMGERS), and featured post-meeting field trips to IMGERS and other field station conducting research on the grasslands of Inner Mongolia. The conference and field trips provided ample opportunities to discuss ongoing research projects, and potential areas for future collaborations between the US and China. As a follow-up, Blair will be attending a November grassland research planning workshop in Bavaria, co-sponsored by the Chinese Academy of Sciences and the Sino-German Center, on grassland vulnerabilities to climate and land-use changes. Plans are also underway to support a visiting scientist from the Chinese Academy of Sciences to learn about research at the Konza Prairie research site. (Continued on p. 4)
IGS Fellows at Chinese Grassland Symposia (cont.)

Joern presented two invited plenary talks about his research as part of the Symposium in Entomological Theory and Method at the invitation of Dr. Kang Le of the Institute of Zoology, Chinese Academy of Sciences. He spoke on “Grasshoppers in food webs: context-dependence and the ‘ecology of fear’” and “Ecological speciation and lineage diversification in the grasshopper Hesperotettix viridis”. In addition, he interacted with a range of grassland scientists at field sites in Inner Mongolia, one of the most extensive grasslands in the world.

Here, Joern observed important long term experiments investigating the role of climate change in insect herbivore populations, grassland food web dynamics, and a major multi-investigator study on the role of biodiversity to ecosystem stoichiometry and function. Many studies in Inner Mongolia are complementary to ongoing research at Konza Prairie, and a number of new research collaborations were discussed. Increased collaborative interactions between K-State and Chinese investigators are expected with invitations to visit KSU to begin research collaborations extended.

Many studies in Inner Mongolia are complementary to ongoing research at Konza.

Eco…

Drs. T-X Liu, Behmer, Joern, and Le Kang at a Chinese research station.

Summer Field Course Abroad

Recently, the IGS offered an unparalleled opportunity for K-State Students to experience an International perspective on Grassland Ecology through the first Summer Field Course in African Ecology. This pilot course took a dynamic mix of undergraduate and graduate students on a month-long study of the natural history, ecology, and conservation of grassland and savanna ecosystems, with a focus on Africa. Topics included savanna/grassland origin and distribution, biodiversity, vegetation ecology, wildlife populations, plant-animal interactions, human-environment interactions, and current conservation issues including climate change, natural resource management, land use and cover change, fire ecology, wildlife conservation, invasive species, and sustainable use. The course included introductory orientation sessions during the spring semester that covered topics surrounding logistics and cultural and historical contexts, 3 weeks of lecture, readings, and discussion on campus along with the 3 weeks of travel and field study in southern Africa. The students’ final reflections were presented at the University in early September. (Photo montage on back page)
One opportunity for all types of interactions was our first capstone conference, the African Issues Symposium, March 30-April 1, 2009. Taking a multi-disciplinary and fresh approach to an open dialogue on African Issues, the symposium featured keynote speakers from Ghana to South Africa, Uganda, the United Kingdom, and the United States. Contributed papers from authors in the academic and broader communities stimulated well-rounded dialogue punctuated by a panel discussion by the leading experts on each issue. The Symposium addressed many key topics such as global climate change and conservation, and built on KSU’s key strengths in the natural and social sciences in the areas of agriculture, ecology and environmental conservation, and human and animal health.

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Monday, March 23, 2009

SPEAKERS FROM AROUND THE GLOBE COMING TO K-STATE FOR AFRICAN ISSUES SYMPOSIUM ADDRESSING FOOD SECURITY, ENVIRONMENTAL SUSTAINABILITY AND HUMAN HEALTH

MANHATTAN -- Ecological sustainability doesn’t exist in a vacuum, especially in African nations, according to a Kansas State University professor who is organizing a symposium on issues facing the African continent.

"Unlike in the United States and other developed countries, African nations have an extremely strong and direct connection between environmental sustainability, agriculture and human livelihoods," said David Hartnett, university distinguished professor of biology.

The interconnected nature of these topics, combined with K-State’s expertise in these areas, is why the university is host to the African Issues Symposium: Food Security, Environmental Sustainability and Human Health, March 30 to April 1. The symposium is sponsored by K-State African Studies Center, K-State’s Institute for Grassland Studies and the K-State office of international programs.

"We want to bring international scientific expertise on these topics to K-State and bring together some of the world leaders in these areas," Hartnett said.

The symposium will feature speakers from around the world, including Monty P. Jones of Ghana, who received the 2004 World Food Prize and is credited with launching Africa’s green revolution. Other speakers include Jon Lovett, a leader in African ecology and global environmental change from the United Kingdom, and Robert Scholes, a South African world leader in grassland and savanna ecosystems. In addition, the symposium will feature speakers from Tanzania, Finland, Italy, France, Canada and the United States. The symposium is also being held in conjunction with the KSU African Studies Center's annual Undergraduate Symposium.

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We're on the Web!

www.ksu.edu/grasslandstudies

Enhancing Excellence in Grassland Research in Kansas and Worldwide

We are very excited about each of these new levels of programming and learning in the area of grassland studies that the IGS has been promoting in its first year. K-State has long been a leading institution in this regard, and it is out of this context of grassland research, that Kansas State hopes to build and strengthen research interactions through the IGS with partners in the United States and abroad where similar research and dialogue simultaneously exists.

Central to this goal, the IGS Visiting Scholars program is seeking to host international scientists with similar goals and interests who would like to partner with us by completing a long term visit to the Flint hills and our research facilities. Length of the stay, particulars of research, and details of the partnership would depend on the needs of the individuals, their research, and the University.

Summer Field Course Abroad Photos

Mokoro trip in the Okavango Delta

Learning from a local guide in Madikwe

“Sekgwa Puisano”, or “Bush Talks” provided teaching on location in the African Savanna

Basarwa guide shows traditional uses for local plants. Traditional dancers at the Khutse Reserve