

# NATURAL INQUIRER

FORT HAYS STATE UNIVERSITY  
Department of Biological Sciences

April-May 2003

Volume 2 Issue 8-9

## ALUMNI NEWS

Two former graduate students in biology at Fort Hays State University have completed the requirements for the Ph.D. degree. **Steven R. Hooper** earned the M.S. degree at FHSU in 1996 working under the direction of **Dr. Jerry Choate**. He just completed the Ph.D. at Oklahoma State University and is beginning a postdoctoral fellowship at Texas Tech University. **Dale Wayne Sparks** also earned the M.S. degree in FHSU in 1996 working under the direction of Dr. Choate. He just completed the Ph.D. at Indiana State University and presently is employed as an Instructor at that university.

Several former graduate students, **James Schmidt** (M.S. 2002), **Matt Bain** (M.S. 2002) and **Jamie Timson** (M.S. 2002) co-authored a poster with **Dr. Greg Farley** at the 2003 SWAN meeting. Their paper, entitled, *Grassland-nesting Avifauna of Crescent Lake N.W.R., Nebraska, With Notes On Their Temporal And Spatial Abundance and Distribution* summarized research from 2001 and 2002 funded by the U.S. Geological Survey.

## FACULTY HAPPENINGS

**Dr. Karen Hickman** attended the Kansas Association of Teachers of Science annual meeting 25-26 April, 2003 which was held at the Rock Springs Camp south of Junction City, KS. During the meeting graduate students from the FHSU Biological Sciences Dept. presented brief summaries of material they have used in their classrooms that was developed as a result of their participation in the Project IRIS workshops held during the summers of 2001 and 2002. These Project IRIS workshops were funded by an Eisenhower Professional Development grant awarded to Dr. Hickman and Dr. Paul Adams (Physics). Graduate students presenting were: **David Wildeman** (Ellis), **Shannon Ralph** (Dodge City), and **Crystal DeVries** (Concordia). Crystal is an M.S. student of **Dr. Duane Hinton** and David and Shannon are M.S. students of Dr. Hickman. Other students from FHSU presenting were **Caleb Howland** (B.S. 2001) from Oberlin, **Leisa Albers** (Bazine), **Kim McNinch** (Ness City), **Betty Jones**,

**Robbie Uhl** (WaKeeney), and **Kathy Rome** (Otis-Bison).

**Dr. Greg Farley** presented a paper on the long-term migratory bird data from the Fort Hays banding station at the 50th anniversary meeting of the Southwestern Association of Naturalists at the University of Oklahoma in Norman. *Patterns of Population Change in Migratory Songbirds: Samples Over A 37-Year Interval From Western Kansas* summarized over three decades of data from the same locality on warblers, a group of insectivorous birds which migrate from the northern U.S. and southern Canada to Central and South America. He determined that annual estimates of migrant numbers have not changed significantly over this interval. The majority of the data (1966-1990) were collected by retired Professor of Biology, **Dr. Charles Ely**, who initiated the banding research early in his career at FHSU.

## GRADUATE STUDENTS

**Margaret Kritsch** and **Cheryl Schmidt** presented the first year of their thesis research at the annual Southwestern Association of Naturalists meeting held in Norman, OK, 17-19 April. **Rachel Copeland** and **Dr. Karen Hickman** accompanied them on the trip. Margaret's presentation was: Kritsch, M.A. and K.R. Hickman. Effects of road construction on a bull thistle on the native plant community of Bryce Canyon National Park. Cheryl's was entitled: Schmidt, C.D. and K.R. Hickman. Competitive ability of native and non-native Old World Bluestems (*Bothriochloa* spp.) grasses.

**Margaret Kritsch** and **Cheryl Schmidt** also presented the first year of their thesis research at the annual Sigma Xi Science Research Showcase held 25 April, 2003. Margaret received the 1st place award for graduate student research for her presentation and Cheryl received the 2nd place award for graduate student research for her presentation.

**Rachel Copeland**, FHSU graduate student, has been awarded the Fleharty Fellowship for the 2003-2004 academic year.

**Rachel Copeland**, FHSU graduate student, was invited to Southwestern College, her alma mater, to speak to undergraduates in the Tri-Beta Biological Honor Society about life as a graduate student.

### BIOLOGY CLUB BITS

On Wednesday, April 16, **Mr. James Ross** (M.S. 1997) was the guest speaker for the Biology Club Speaker Series. Mr. Ross's presentation was "Living, Working and Research in Antarctica." Mr. Ross received his BS in 1974 from Colorado State University, an M.S. in 1990 from the Air Force Institute of Technology, Logistics Management, and his M.S. from FHSU in Education.

### ODDS AND ENDS

At the end of March, a group of **Dr. Karen Hickman's** students traveled to Barber and Comanche counties, KS to conduct sampling for a project requiring groundtruthing for a remote sensing project. The project is entitled: Preliminary Remote Sensing Assessment of Mixed-Grass Prairie Vegetation: Production, Species Composition, and Residual Plant Cover. Objectives include utilizing remote sensing to assess plant community characteristics within mixed-grass prairie ungrazed, rotationally and continuously grazed sites. Parameters to be measured include: above ground biomass, plant community composition (e.g. growth forms, species composition), non-native plant species encroachment, and residual plant cover. Graduate students **Rachel Copeland**, **Margaret Kritsch**, and **Cheryl Schmidt** were accompanied by undergraduates **Amy Hladek**, **John Moyer** and **Sam Zwenger**. Students spent the day traveling to various Red Hills grassland sites to clip total above ground biomass. Funding for this project was received from the Western Governor's Association. Sampling was conducted in July and will continue in September of 2003.

Two FHSU students, graduate student **Rachel Copeland** and senior **Scott Thomasson**, were both awarded \$1,000 scholarships from the Kansas associated Garden Clubs for the 2003-2004 school year. Congratulations to Rachel and Scott.

Thanks to the generosity of LI-COR® Biosciences – a Lincoln, NE, manufacturer of scientific equipment – the biology faculty at Fort Hays State University now are able to analyze samples of DNA for research and teaching. Li-Cor has

provided a DNA sequencer, which is an analytical instrument that allows a researcher to determine the sequence of nucleotide bases in a segment of DNA.

At a press conference on May 16, Dr. Edward H. Hammond, FHSU president, commented, "It will be a valuable teaching tool in that it will allow students access to biotechnology equipment not commonly found at institutions the size of FHSU. The instrument will be incorporated into many laboratory courses, with the amount of contact varying from demonstrations in the lower level courses, to actual hands-on experience at the senior and graduate level. The ability to operate the instrument will be a marketable job skill in the biotechnology and pharmaceutical industry."

LI-COR director of engineering **David L. Dilley** (B.S. Math, 1983) who represented LI-COR Biosciences at the demonstration, said the innovative partnership between FHSU and his company was designed to encourage undergraduate education in molecular biology. "LI-COR is a leading manufacturer of instruments for genomic and proteomic research. FHSU is serving as a study site for LI-COR's new 4300 DNA Sequencing System. The university is studying the benefits, challenges and operational issues that result when a curriculum incorporates a DNA sequencer in a college lab. At the completion of the study, LI-COR will donate the \$82,500 system to the university."

Dilley said the new DNA sequencer was especially well suited for undergraduate training due to a modular design that includes built-in software and networking capabilities. The instrument can adopt additional capabilities as the needs of a college curriculum grow. Additionally, the system is designed to withstand the rigors of student use. Further information about LI-COR and LI-COR systems can be obtained at [www.licor.com](http://www.licor.com).

