



A new virtual look at Biology - The Division of Biology redesigns the website to make it more user friendly and to encourage interaction between alumni and students.



Innovative Research Leads to Large Grant - Dr. Michael Herman & Dr. Loretta Johnson collaboration lead to a large NSF research grant in Ecological Genomics



Biology Attracts Award Winning Students - Multi-award winning Biology Undergraduate, Jenna Kennedy, is a perfect example of the type of student K-State Biology attracts.



The Bulletin

Division of Biology Kansas State University

Retirement Brings a New Face to Undergrad Program

Dr. Larry Williams retires beginning January 2008.

The man that has greeted and welcomed over 25 years worth of K-State students to the Biology Undergraduate Program has decided to begin a new chapter in his life; retirement. Dr. Larry Williams, University Distinguished Teaching Scholar and Associate Director of Undergraduate Studies, retired January 2008. Williams is known for his personal attention to students as well as his animated teaching style and catchy limericks.

Williams first joined the K-State faculty in 1970 as an assistant professor and after realizing that his true calling was to work with students, moved into the Office of Undergraduate Studies in 1982. He has served as the official adviser to hundreds of young adults per year and taught almost 23,000

students in the classroom. "Larry Williams' dedication to students and advisees is evident in the countless awards he has received, but most importantly in the eyes of the many students that he has guided toward bright futures," Dr.

Brian Spooner, University Distinguished Professor and Division Director said.

"College age students are such a great age group to work with," Williams said. "They've reached a level of maturity and it's probably the last time in their lives where they can really turn things around, learn how to study and make a change if they need to. Watching them transform is an amazing development."

As any retirement should be, Williams has decided to spend his time doing the things he enjoys the most, while releasing him from the more administrative

duties of his past. In agreement with the Division of Continuing Education, Williams will be teaching Biology of Aging and as a service to the Division of Biology he will maintain advising his current students that he started until they graduate.



▲ Adding to Dr. Williams long list of prestigious awards, Pat Bosco presents him with the Putting Students First Award in May 2006.

"My overlying satisfaction is the achievements of our students," Williams said. "I really get a rush when a student wins an award, or gets accepted into medical school or grad school. I feel as good about that as if it happened to me." Other science departments produce quality students. We produce quality and a quantity of students." We now graduate about 125 majors per year and half of them choose to continue their education past a bachelor's degree moving into graduate, medical, veterinary, dental, optometry and many more post graduate programs.

The responsibilities of the Undergraduate Advising Office have been handed over to Dr. Kent Kerby. Kerby received his Ph.D. from the University of Alberta in 1986. "Kent is an excellent choice for the position," Williams said. It takes a special person to advise students. According to Williams, a great adviser has to have the desire, patience, and personality to work with students. Dr. Kerby has all of that.

Dr. Kent Kerby joined his wife Dr. Angela Powers, director of K-State's A.Q. Miller School of Journalism and Mass Communications since Fall 2003, last July. Kerby comes to us from Elmhurst, Illinois where Kerby was a professor and Chair of the Department of Biology at Elmhurst College, a private four year college outside Chicago. "It has been so . . . Continued on page 2

A New Virtual Look at Biology

The Division of Biology website

received an extensive makeover last month. The new website was uploaded with more pictures and a navigation bar, in an effort to make it more user friendly and encourage communication with alumni and students.

The new site is packed with information for faculty, current & prospective students, and alumni. A new addition is the Mentor program. The mentor program was created to connect current K-State Biology students with an alum working in the field similar to the student's interest. By encouraging students to communicate with alumni in the professional world, students will be able to explore the many options available to them after graduation. The Division of Biology would like to encourage any alumni interested in the mentor program or anyone with suggestions for the website to contact the main office at (785) 532-6615 or e-mail kbiology@ksu.edu.

Williams Retires, Kerby Hired

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comfortable coming to K-State," Kerby said. "The efforts of Dean White, Dr. Spooner, and the rest of the faculty and staff have made me feel at home."

Over the last six months, Williams has mentored Kerby with the exact devoted demeanor that he shows his students. "Larry has been the perfect mentor," Kerby said. "He is there whenever you need him and he is always checking in to see how he can help out. He even left a written dialogue of what needs to be done from month to month."

Kerby expresses a similar enjoyment as Williams for advising students. "I think all of us have had that one individual that put our mistakes into perspective and saw more in us than we did. It energizes me

to help students in that way," Kerby said. "The students here are so smart and they don't even realize this. They have lofty goals and KSU can help get them there."

According to Kerby, the size and diversity of K-State's Division of Biology makes the Office of

Undergraduate Studies essential to the success of the students. "This office is so busy as a service component of the Division of Biology," Kerby said. "And as a service, we have to be ready to show off how great we are or solve problems, when current students, prospective student or parents need us."

"Larry leaves big shoes to fill in the Office of Undergraduate Studies. However, it is already clear that Kent Kerby has the commitment, attitude and enthusiasm to fill those shoes," Spooner said.



A Word From Dr. Brian S. Spooner

University Distinguished Professor and Division Director

In today's world, a quality education is essential to the success of young adults. The quality of the students that are attracted to the Division of Biology at K-State is nothing short of amazing. The talents and dedication of these young men and women have proven that they deserve nothing less from us. For that reason the Division of Biology has made it our mission to deliver excellence in three areas; scholarship, service and instruction. Our commitment to the integration of these areas in our education of undergraduates is at the heart of our central role in a student centered research institution.

Scholarship in biology research and in the education of students continues to be an exciting and successful enterprise in the Division of Biology. We have a proven track record in educating students who go on to graduate and professional schools, and who are successful in competing for prestigious national scholarships. Since 1990, we have had 44 majors that have received Goldwater, Rhodes, Marshall, Truman, Udall, and other major scholarships. In fact, the 21 Goldwater Scholarships won by Division of Biology undergraduate majors places us, one component of KSU, ahead of numerous entire colleges and universities in numbers of Goldwater winners.

The success of our faculty research enterprise is evident by a superb track record over 100 research publications per year, often with student co-authors, and an outstanding

record of extramural research support. Doing science requires money, and our faculty have acquired investigator-initiated extramural funding to buy the supplies and equipment, and pay the salaries that are key to success. The Division averages \$10M per year in grant support from the National Institutes of Health, the National Science Foundation, the National Aeronautics and Space Administration, U.S. Department of Agriculture, The Environmental Protection Agency, the Department of the Interior, the Howard Hughes Medical Institute, the American Heart Association, the American Cancer Society, and private companies and foundations. Those dollars not only drive the research, they are spent in Kansas and contribute significantly to the economy.

As might be expected with a collection of talented and successful faculty members, the Division of Biology has an impact on the College, the University, the State of Kansas, and nationally/internationally by a tradition of service activities. Biology faculty members have leadership positions within their national scientific societies and within science funding agencies.

Our mission-specific goals include (a) attracting students of high quality and diversity, with the potential to go on to graduate and professional school, as a result of our programs, faculty reputation, course quality, and opportunities for undergraduate research and scholarships, (b) providing our majors with quality advising,

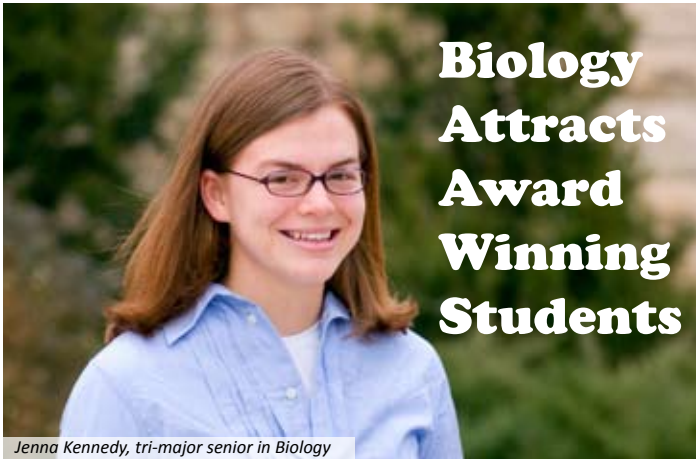
challenging courses, and both encouragement and opportunities to participate in faculty research programs

and, in general, to expand their horizons, and (c) giving all students (both majors and non-majors, introductory or advanced classes) a combination of information, understanding of the scientific method, and problem solving skills that will help them keep abreast of the dynamic field of biology and make them competitive in the job market.

In order to continue to attract the quality and quantity of students we enroll in Biology, scholarship opportunities have become increasingly important. I have just established a new scholarship endowment, the Larry G. Williams Scholarship, to honor Dr. Williams, who recently retired, for his 37 years of advising, teaching, and serving as our Associate Director for Undergraduate Studies. If you were a KSU biology student during the past 37 years, you were likely enrolled, advised, and or taught by Larry Williams (see lead article in this newsletter). If you would like to participate in establishing this scholarship, honoring Larry, and sharing in providing opportunities for students, you can make a contribution to this fund by contacting the Division office at (785)532-6615 or kbiology@ksu.edu.



Biology Attracts Award Winning Students



Jenna Kennedy, tri-major senior in Biology

Jenna Kennedy, a senior in Microbiology, Natural Resources and Environmental Sciences, and Pre-Medicine, is just the type of student that should come to mind when people think about K-State's Division of Biology. Jenna's accomplishments during her three years at KSU have been beyond impressive. In 2007, she won the national Harry S. Truman Scholarship Award and the Division of Biology Most Promising Student Award, adding to several past honors.

"This is the kind of student that we love to teach, advise, and interact with; and we have many more students like Jenna," Dr. Brian Spooner, University Distinguished Professor and Director of the Division of Biology, said. "I expect great things from Jenna and I want to make sure that the Division of Biology continues to attract students like her."

"Before becoming a biology major at K-State, I was greeted by first-rate, caring instructors even in the introductory course," Jenna said. "In the semesters that followed, my professors challenged me



Dr. Herman presents Biology's Most Promising Student award to Jenna Kennedy

both in the classroom and in my research. The quality of my coursework has nurtured a confidence within me to pursue graduate education and overseas public health work that will further my goal of a career in infectious disease in Africa," Jenna said.

"Jenna is proof that K-State excels in its mission of teaching, research, and community outreach. Donations made to support K-State's Division of Biology help recruit and retain excellent students like Jenna through students scholarships, the enhancement of facilities and equipment, and the support of faculty endeavors so that they remain top-flight educators," Dr. Spooner said.

Division of Biology undergraduates fare exceedingly well in national scholarship competition. Since 1990 Division majors have received

- 21 Goldwater Scholarships
- 1 Rhodes
- 2 Marshall
- 3 Truman
- 3 Udall
- 2 Rotary International
- 2 Phi Kappa Phi
- 3 Howard Hughes Medical Institute Predoctoral
- 3 Fulbright
- 2 USA Today
- 2 Gilman

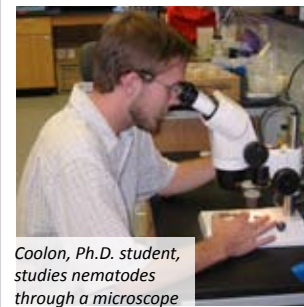
Innovative Research Leads to Large Grant



Johnson & Herman take soil sample from Konza Prairie

The Division of Biology at K-State encourages innovative scientific research. Dr. Michael Herman, KSU Biology geneticist, has proven that his research is just that. Herman was awarded over a half million dollar grant last August, from the National Science Foundation to continue his research on soil nematodes in the emerging field of ecological genomics.

Ecological Genomics, or EcoGen investigates the connection between genomes and a changing environment. "Most genomic research these days focuses on medically relevant questions that help us understand what goes wrong when we get sick. We can think about the environment in the same way. Global change is making the environment sick, and we're using genomics to understand exactly what's going wrong," Herman said. Past studies of nematodes in a laboratory



Coolon, Ph.D. student, studies nematodes through a microscope

setting have shown that the active genes in lab nematodes are different than those living in the natural environment. Herman hopes to pinpoint which genes are activated or deactivated based on different environmental conditions. With the results, scientists will be able to answer many questions about soil ecology such as soil quality or potential contamination that may affect the food web, Herman said.

Herman and colleague Dr. Loretta Johnson, ecologist at K-State's Division of Biology, first formed the study of EcoGen at K-State, in 2002. The concept of EcoGen arose as the two developed an appreciation of the other's discipline. "At the time, it was rare for ecologists and geneticists to talk to each other about their science," Johnson said. Through team teaching, Herman and Johnson developed a friendship and realized that combining both ecological and genetic approaches is a powerful new way to answer questions about the environment.

With the help of Herman's colleagues, Dr. Tim Todd, K-State nematologist and Dr. John Blair, K-State ecologist, Herman will be sampling nematodes in their natural

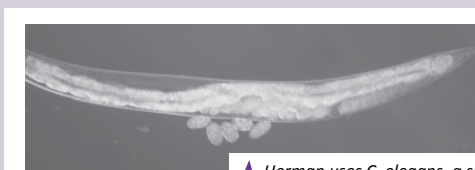
habitat from Konza Prairie Biological Station, a Long Term Ecological Research facility funded by NSF at K-State. The nematodes will be taken back to the lab to perform genome sequencing.

Joseph Coolon, PhD student in EcoGen and the first student in the program, made a key contribution to Herman's new research on nematodes with work that he started as part of his dissertation. "There are so many questions to answer because no one has done any

research in this area," Coolon said. "This has opened so many doors for me." Dr. Herman and I are very excited about the new \$622,598 NSF grant because it will provide us support to research the really interesting things we discovered during the seed grant funding from NSF EPSCoR (Experimental Program to Stimulate Competitive Research) and the Targeted Excellence Program, Coolon said.

The Ecological Genomics Institute, established as a K-State Provost's Office Targeted Excellence program, as well as its predecessor Ecological Genomics Program, originally funded by NSF EPSCoR, is co-directed by professors Herman and Johnson and headquartered at the K-State Division of Biology. "Targeted Excellence was created to fund research with the potential of enhancing K-State's status, Herman said. "The ecological genomics proposal serves as a model for others," Al Cochran, Assistant Provost at K-State said. "The proposal was very well written and their project had a great deal of merit. Ecological genomics, by its very nature, is interdisciplinary, which fits the

guidelines of Targeted Excellence." The funding from Targeted Excellence provided Herman a seed grant necessary to obtain larger grants, such as the one from NSF.



Herman uses *C. elegans*, a species of nematode for his research. The little ovals at the bottom middle are eggs.

Upcoming Events



Telefund: Division of Biology
Date: February 17 & 21, 2008

Functional Genomics Consortium 2008 Spring Symposium
Date: March 5, 2008
Location: K-State Student Union Big 12 Room, Manhattan, KS

Biology Graduate Forum
Date: March 8, 2008
Location: Big 12 Room, Kansas State Union

Arthropod Genomics Symposium
Date: April 10-13, 2008
Location: Marriott Downtown, Kansas City, MO

Naturalism in Science: Necessity or Bias
Date: April 10-12, 2008
Location: Kansas State University, Manhattan, KS

6th Annual Ecological Genomics Symposium
Date: November 14 – 16, 2008
Location: InterContinental on the Plaza, Kansas City

◀ *Upland Sandpiper, photo by D.A. Rintoul*

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