



# K-BRIN

Kansas Biomedical Research Infrastructure Network

## Training and Mentoring Newsletter

Spring 2004 Volume 2 Issue 4

# KSU students present projects at Undergraduate Research Forum

**Joseph Chapes**  
*Editor*

On April 28, the KSU Division of Biology held its Fifth Annual Undergraduate Research Scholars Forum in the Chalmers Hall Atrium.

Over 30 undergraduates presented their projects, including several K-BRIN funded students. The session was organized as a poster session where visitors could arrive and leave as they wanted to and ask presenters questions.

Several K-BRIN students found that presenting their projects was very beneficial to them.

“You can work on your public speaking skills and you can let other people know what you have been working on. You truly understand what you are doing when you can explain it to someone else,” Andra Schlagel said. Schlagel presented the project, “Sex Determination in Flour Beetles (*Tribolium castaneum*).”

Student Tyler Suelter perceived similar benefits of the experience.

“Presenting my data gives my project exposure and



*Students present projects during the KSU Undergraduate Research Scholars Forum in the Chalmers Hall Atrium. Over 30 students were involved in the event. (Staff Photo)*

allows me to get feedback from other biologists that can help me improve my methods or to gain insights into my results,” Suelter said.

Suelter’s project was called, “Environmental

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# KSU Research Forum

Influences on Root Development and Productivity in Tallgrass Prairie: Genomic and Molecular Approaches.”

While the session can benefit the student’s research, there can also be advantages in the future, as noted by student Amber Bledsoe.

“I think it was helpful to present the data, because I know I will have to explain the project during professional school interviews, and it was nice to have practice doing that,” she said. Bledsoe’s project was “Transplantation of Human Umbilical Cord Matrix Stem Cells Alleviates Apomorphine-Induced Rotations in Parkinsonian Rats.”

K-BRIN students also found that the K-BRIN organization provided many benefits to them.

“I get to learn the practical application of what I learn



*Tyler Suelter answers questions about his project. (Staff Photo)*

in the classroom and really see the concepts in action. Working in the lab reinforces what I learn in the classroom, I learn the concepts better and remember them longer. It has also shown me how much I enjoy research,” John Anderson said.

Anderson presented the project, “Characterization of Enterococcus Isolates in Cattle and Bison.”

Student Caleb Knepper found a more practical advantage of K-BRIN.

“Being in the K-BRIN program for me is critical. If I did not have the funding available from K-BRIN, I would not be able to put in nearly as much, if any, time in the lab,” Knepper said. His project was “Plant Resistance to Phloem Feeding Insects.”

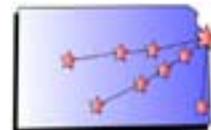
Other KSU K-BRIN students who presented at the forum were Kajsa Affolter, Ken Eilert, Kristy Morales, Jessica Morton, Jenna Nolte and Carrie Norris.



*Andra Schlagel presents her sex determination in flour beetles. (Staff Photo)*



*Caleb Knepper (Staff Photo)*



# EXTRA! EXTRA!

## News about students, events from K-BRIN schools

### Kansas State Univerisity

Senior in Biology Ken Eilert was a co-author on a paper entitled "CD81 Associates with 14-3-3 in a Redox-regulated palmitoylation-dependent manner." The paper appeared in "The Journal of Biological Chemistry."

Senior in Biology and Natural Resources and Environmental Sciences and K-BRIN Alumni Judd Patterson was recognized with a \$350 honorable mention in the Morris K. Udall scholarship competition.



*KSU Student Ken Eilert presents his project at the KSU Undergraduate Research Scholars Forum. Eilert recently co-authored a paper that appeared in "The Journal of Biological Chemistry." (Staff Photo)*

### Pittsburg State Univeristy

*Information provided by Dr. Virginia Rider*

K-BRIN Star Trainee Kerri Burson has been accepted to the Ph.D. program at the Washington University School of Medicine in St. Louis. Burson was also elected the outstanding senior woman at PSU.

Arrangements are underway for a Bioinformatics Workshop on the PSU campus for sometime in August. Bioinformatics Core Director Dr. Paul Kelly is in charge of providing the opportunity to the PSU faculty and students to gain needed expertise in data mining and analysis.

### Wichita State University

*Information provided by Dr. William Hendry*

Thirty students gave oral or poster presentations of their work at the Annual Undergraduate Research and Creative Activity Forum on April 30. Four K-BRIN students presented their projects. They were:

- Imala Alwis, Dr. William Hendry (Mentor)

- Jessica Bowser, Dr. Jeffery May (Mentor)

- Paige Hatcher, Dr. Mark Schneegurt (Mentor)

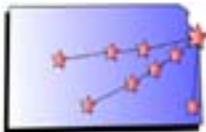
- Brandon Litzner, Dr. Mark Schneegurt (Mentor)  
Litzner received first place in the oral presentation group and Hatcher received second place in the poster presentation group

### Washburn University

*Information provided by Dr. Janice Barton*

Chemistry major Megan Swink has been admitted to the University of Kansas School of Medicine for Fall 2004. She was also awarded the four-year Harry F. and Christine H. Lose Scholarship for the amount of \$40,000 by the medical school. This is a very selective scholar

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*Focus on*

# Fort Hays State University

The "Focus on" section is made up of features on students and/or faculty at different K-BRIN Universities and how they see the K-BRIN Organization. This issue looks at Fort Hays State University.

## Eric Gourley, Student

Mentor: Duane Hinton

*What is your current project?*

"I am currently finishing the investigation of the effects of Bone Morphogenetic Proteins-2 & 4 on cardiac myocyte differentiation using mouse ES cells. I cultured murine stem cells to form embryoid bodies and then incubated them in the presence of BMP-2 or 4 beginning on day two through day ten. I then isolated the RNA from these embryoid bodies and subjected them to RT-PCR. Myosin heavy chain primers were used to PCR amplify mhc gene expression to determine the effects of the BMP."



*Eric Gourley (Photo Submitted)*

*What are your goals for your project?*

"The goals for the project were to determine what effect the different BMP's had, if any, on the production of cardiac myocytes in mammalian development. We wanted to collect that data and hopefully publish the results in a scientific journal."

*What got you interested in scientific research?*

"I was originally interested in doing field biology work until I worked with one of the faculty here at FHSU for a semester in his lab and absolutely loved the molecular work. It was fascinating to me and after that, I knew that's what I wanted to focus my major and career on."

*What is the best thing about learning about science at*

*your institution?*

"The best thing was to have been taught by professors, in lecture and lab courses, who are experts in their fields, and were willing to help students on an individual basis."

*How has K-BRIN helped you to expand your scientific knowledge and experience?*

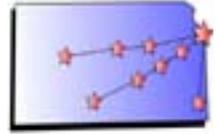
"The K-BRIN program has given me the opportunity to work in a scientific research setting by providing the funds to carry out the research, by following up on research progress, and by providing various conferences to associate with others in research fields and present research projects. The knowledge gained from those types of experiences is only available by doing them, not from a classroom setting."

*In what ways do you think this experience will help you in the future?*

"It already has helped me as I have been applying and interviewing for jobs in biological research. I became a much stronger candidate for those positions, because I have good research experience."

*What do you plan to do after you graduate?*

"I do plan on working in biomedical research and have accepted an Associate Research Scientist position at the University of Texas Southwestern Medical Center in Dallas in the Internal Medicine Department. I hope to be productive in that position and hopefully be accepted into a Ph.D. program at that or some other credible institution."



*Focus on*

# Fort Hays State University

## Duane Hinton, Mentor

*How long have you been at FHSU?*

"I have just completed my fifth year at FHSU. This is my last year here, as I have accepted a position at Washburn University. I plan to continue with the new K-INBRE program at Washburn."

*How did you get interested in scientific research?*

"I have always been interested in science and biology in particular, but early in my education, I only knew of two career paths in biology. Being a physician didn't appeal to me, so I decided that I wanted to teach biology at the high school level. It was during my second year at Washburn that I discovered the wonders of research. I credit two undergraduate advisers with helping me to discover this rewarding career; Drs. Tom O'Conner and Janice Barton. During my senior year I was given the opportunity to do some bench research under their direction. It was primarily this experience that led to my decision to continue my education in the graduate program at KUMC. It was my experiences at KU, however, that solidified my desire to "do" science and to be able to offer these same experiences to undergraduate students as a faculty mentor."

*How do you help K-BRIN students at FHSU?*

"I have had seven undergraduate students ( five have been supported by the K-BRIN program) and five master's level graduate students ( two have received funding support from K-BRIN) during my five years at FHSU. Most of these students have worked on various aspects of my major research project; Cardiac differentiation. A couple of these students, I have asked if they would be interested in working with me for a summer or during a semester of the school year, but most of my students have approached me about the possibility

of learning more about biology from a research standpoint. I serve as an adviser for these students, help them with the writing of the grant/scholarship proposals, and supervise their efforts in the lab."

*Why do you think K-BRIN is a good program?*

"Many of these students would not be able to spend time in the research lab if it were not for the financial support of the K-BRIN grant. Most of my students pay a significant percentage of their college expenses themselves, and work at part-time jobs to pay for their education. With the K-BRIN funding, this has allowed students to quit their part time jobs and to obtain some research experience as an undergraduate or at the master's level and I think it will lead to an increased number of students choosing to continue their education at the doctoral level and a career in biomedical research. One of my undergraduate students has just accepted a laboratory research assistant position at the University of Texas- Southwest in Dallas and plans to begin graduate school at the same institution the following year."

*Why do you think it is important to involve undergraduates in research?*

"The opportunity to experience science in the research laboratory gives the student the ability to better understand science. It prompts a student to ask questions. The next time they read an assignment for a biology class, they won't simply accept what the author is stating, but rather they will begin to ask 'why and how' questions. They are going to seek more from the class than what is provided. I believe it's a valuable step in teaching these students to become lifelong learners. Most if not all the students that K-BRIN has impacted desire a career in the biomedical field, whether that career is as a medical doctor, a therapist, or a research scientist; the experiences they receive through the K-BRIN program will serve to expand their education and enlighten them as to the importance of biomedical research."



# An end to an era ...

Over 100 Students, including regular campus K-BRIN scholars, Summer/Semester scholars and Star Trainees have participated in the K-BRIN over the last two years. This is the final issue of Volume Two of the K-BRIN newsletter.

The newsletter has served as one of our program's primary ways of publicizing our student's accomplishments. In fact, in the review of our program by the National Institutes of Health, the newsletter was cited as a strong vehicle with which we have documented the strength of training and mentoring in the K-BRIN program.

On July 1, the BRIN program will, to use a biological

term, metamorphasize into a new stage of development. It is our intent to continue the newsletter in the new K-INBRE program.

We will introduce our readers to this exciting new phase of Kansas training and mentoring in the summer issue of the newsletter. We hope that

all participants continue to share their accomplishments with the newsletter's editor and staff.

Joseph Chapes, K-BRIN Editor

Stephen K. Chapes, K-BRIN Training and Mentoring Core Coordinator

## EDITOR'S NOTE:

## EXTRA! EXTRA! K-BRIN News continued

*(Continued from Page 3)*

ship.

Biology majors John Eaton and Cordell Privat were also admitted to the University of Kansas School of Medicine for Fall 2004.

Chemistry major Joy Spicer has been admitted to the University of Missouri Medical School at Columbia for Fall 2004.

Two Washburn students placed in the Dehner Research Competition at the Kansas Academy of Sciences in April. Chemistry major Kenin Kent won second place for his project "N,N'- Alkylation of 2-Imidazolidone and Tetrahydro-2-pyrimidone: A Problem of Solubility." He was awarded \$75 for his achievement. Megan Swink placed third for her project "Culture Conditions and the Yeast Proteome." She was awarded \$50 for her accomplishment.



### K-BRIN Administration

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Dr. Stephen K. Chapes, Training & Mentoring Core Coordinator

Dr. Paul Kelly, Bioinformatics Core Director

Ms. Heiata Chapman, Administrative Officer

Mr. Joseph Chapes, Training & Mentoring Newsletter Editor

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Dr. Larry Williams, KSU (Co)

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Questions and comments can be sent to [jchapes@ksu.edu](mailto:jchapes@ksu.edu).