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The K-INBRE Newsletter
K-INBRIEF
Kansas IDeA Network of Biomedical Research Excellence

Spring 2005 Volume 3 Issue 4

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For more information about K-INBRE, contact your campus coordinator.

A Wonderful Opportunity

Langston University students present projects at symposium

Special Report by Sonya Williams
Campus Coordinator

On April 21, 2005, the Department of Biology at Langston University (LU), hosted the Dean for the School of Arts and Sciences 6th Annual Research Day Symposium. Dr. Sonya Williams served as the Research Day Symposium Coordinator. It was a "wonderful opportunity" for students from various disciplines to come together to showcase their research talents.

The day started at 8:00 A.M. with the registration of over 80 students, faculty mentors, advisors and supporters. Judges from the Departments of Biology, Chemistry, Agriculture and Applied Sciences, Psychology, Mathematics, English, Computer Sciences, and the Social Sciences spent the morning interviewing and questioning selected participants who decided to enter the competitive poster competition. In all, twenty-two students presented posters.

LU students Quanetta Relerford (pink shirt) and Aaron Washington (red shirt) explain their research to classmates at Langston University's 6th Annual Research Day Symposium.

Meanwhile, another group of 25 students, delivering oral presentations, were in the lecture auditorium impressing groups of judges who challenged their research knowledge on a higher scale. Among

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this group of judges was invited guest and workshop speaker Dr. Raymond E. Papka, Professor and Chairman, Department of Neurobiology and Interim Associate Dean for Research at Northeastern Ohio Universities College of Medicine. He stated that he was most impressed with the level of research that our students were engaged in for summer opportunities and throughout the school year at LU. He also said that he was used to observing graduate level competitions and was very enthusiastic about seeing the hard work, dedication and commitment that our students displayed towards presenting their research.

As the presentations came to a close, participants prepared for the luncheon. The President of LU, Dr. Ernest L. Holloway came by to offer words of wisdom and encouragement to the students and faculty alike. In his speech, he reflected on the changes that he had witnessed in the last 5 years towards enhancing the research climate at LU. He especially praised the faculty and students for their outstanding accomplishments. Time proceeded forward with remarks from the Dean for the School of Arts and Sciences, Dr. Clyde Montgomery. Dr. Montgomery made a special presentation to Ms. Irene Williams, Biomedical Program Administrative Coordinator, for outstanding service to the Department of Biology in assisting with the organization of the research day events for the last 3 years. He gave a deserved thanks to student participants and research faculty mentors for their outstanding job in assisting with the coordination of research day events.

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The students and Dr. Raymond E. Papka posed for a group picture. (Photo submitted)

Shortly thereafter, the twenty-five pre-qualified juniors, seniors and graduate level students convened at another lecture room to attend the Research Symposium Workshop. Unfortunately, LU could only enroll 25 students in this workshop. The announcement about the workshop speaker, Dr. Raymond Papka, and his accomplishments as an outstanding anatomist and neuroscientist, spread quickly around the campus. There was a waiting list with at least 15 additional names, and one professor who wanted his class of 30 students to attend!

During the workshop, Dr. Papka spoke to the students about "Undergraduate/ Graduate Education, Career Paths and Research." Dr. Papka kept the students actively engaged with Power Point presentations, and question and answer sessions. During the refreshment break period, LU presented each student with a research day bag, t-shirt, and a host of information and brochures provided by the American Association of Anatomists (AAA). Each student was also presented with a copy of Dr. Papka's book, "BIOTEST Study Aids: Histology and Neural Anatomy". 2nd Edition by Raymond E. Papka. The workshop ended with a book signing and exchange of contact information with Dr. Papka about possible internships and graduate school opportunities at his university!

In addition, the foyer was crowded with students collecting materials provided by the AAA, the Oklahoma State University College of Osteopathic Medicine, LU School of Physical Therapy, University of Oklahoma Health Sciences Center Graduate Program for Interdisciplinary Biomedical Sciences, Kansas University Medical Center, Kansas State University, and NSF Louis Stokes Oklahoma Alliance for Minority Participation Grants Consortium. Thus, LU offered their thanks to these schools and agencies. Also, the LU Public Relations office was on hand to photograph the event.

Students and faculty observe an oral presentation.

LU student Tiffany Morris gives presentation.

Christal Carpenter gives a presentation. (Photos submitted)

2005 KSU Division of Biology Undergraduate Research Scholars Forum

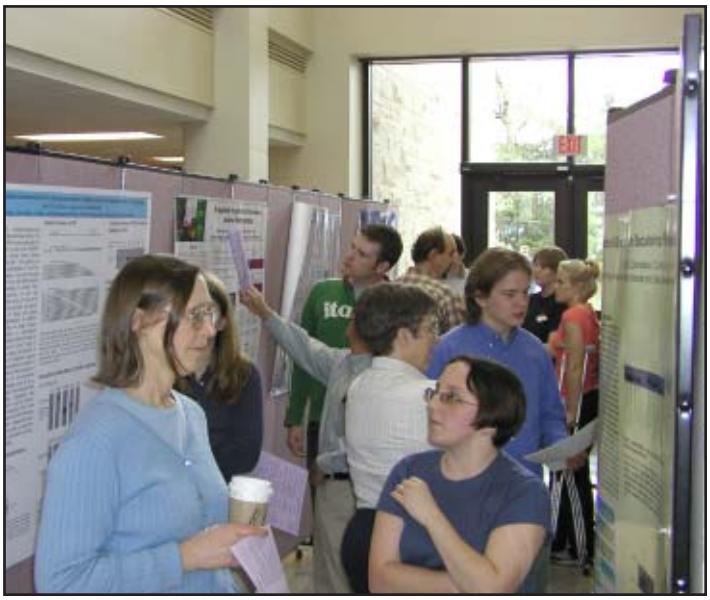
On Wednesday, April 27, KSU K-INBRE students presented their work in the 2005 KSU Division of Biology Undergraduate Research Scholars Forum.

Out of about 24 KSU undergraduates, 12 KSU INBRE students presented their proposed, in progess or completed research to interested professors and students.

The event was held in Chalmers Hall Atrium from 2:30 to 5:00 PM.

Besides K-INBRE, the event was sponsored by the Howard Hughes Medical Institute of Biological Sciences Education Program.

The poster event was held in Chalmers Hall Atrium.



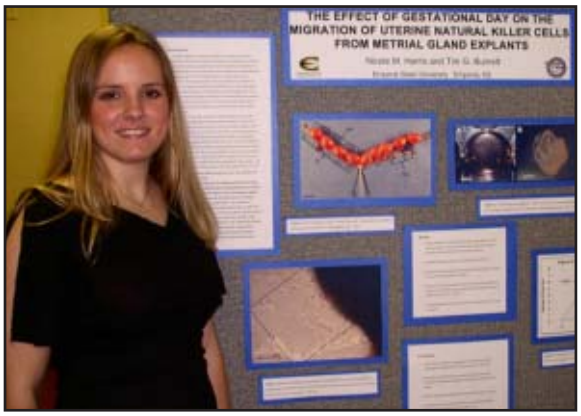
The event allowed students to discuss their research with professors and other students. Twelve K-INBRE scholars presented their work at the forum.

Emporia State University

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

Nicole Harris, Student

Mentor: Dr. Tim Burnett
Major: Biology with an emphasis in PreMed



What is the best thing about learning about science at your institution?

"You have the opportunity to get involved with just about anything you could think. This is possible due to the small class size and the ability to get to know your professors and their research. We have professors that specialize in everything from immunology to field ecology, and all the professors are always willing to help you not only with class work, but also in research if you have a desire."

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

"I hope that I can continue pursuing research, hopefully after or while obtaining a medical degree. Regardless, I will have a firm grasp on the knowledge of the research field, and be able to interpet and understand data and experiments from other projects."

What do you plan to do after you graduate? Does it include a possible career choice in biomedical research?

"I have been accepted into the Master in biomedical sciences program at the Kansas City University of Medicine and Biosciences, and hopefully after succesfully completing the program I will be accepted into the medical school. I have not yet decided what kind of physician I would like to become, but because of my experiences in undergraduate research and with the K-INBRE program I would like to pursue a career involving research and the clinical opportunities it holds."

Tim Burnett, Campus Coordinator

Former ESU Campus coordinator Dave Saunders left ESU to become Dept. Chairman at Augusta State College in Georgia. Burnett was appointed to become ESU Campus Coordinator.

Why did you want to take on the responsibilities of a campus coordinator?

"I am eager to take on the responsibilities of K-INBRE campus coordinator. It will provide more opportunities for me to work with people who recognize the enormous educational value of student research. I look forward to working with ESU faculty and K-INBRE to promote, encourage and support opportunities for undergraduate research."

In what ways do you think you can help student researchers at your institution?

"As campus coordinator I can help undergraduate researchers by administering research funding for undergraduate projects and publicizing the accomplishments of our students to serve as encouragement and models for new student researchers. For undergraduates to participate in research, faculty must be engaged in research. K-INBRE impacts faculty research at ESU in a major way by providing access to research funds that normally would not be available. This, of course, increases the number of faculty that can be involved with projects and expands the research capabilities of each of these faculty members."

Daphne Jones, Student

Mentor: Dr. Lynnette Sievert
Major: Biology with an Environmental Biology concentration

What got you interested in scientific research?

"A few years ago, I was part of a team collecting some field research on Collared Lizards, after that I was fortunate to work with Dr. Lynnette Sievert in her lab. Every research opportunity since then has been a tremendous experience, and has encouraged me to look into a research-oriented career."

What is the best thing about learning about science at your institution?

"I'm very fortunate to have the opportunity to gain hands-on experience in the lab, as well as help and encouragement from my professors."

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

"Thanks to K-INBRE, I have learned skills I would otherwise lack. I have gained experience in performing, analyzing, writing, and presenting research that most undergraduates do not have the opportunity to be involved with."

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

"Thanks to the experience I've gained, I hope to further my education at the graduate level and become involved in a research assistantship."

Dr. Lynnette Sievert, Mentor

Time at Emporia: Started teaching at ESU in 1996.
Specialty/expertise: Environmental Physiology of amphibians and reptiles

How do you help the K-INBRE students at ESU?

We work as a team. I throw out ideas and they let me know what they would like to do. Once we have an idea, all of us pitch in and gather data when we can during the day. Many of our projects involve doing observations from early morning until evening on numerous days. It's much easier when several people can gather data. Once we've gathered all of the data, we work on analysis together, and then each of us contributes to writing the manuscript. We've had one manuscript accepted this year and another is in review. During the review and publishing process I share all of the updates with the students so that they can learn how the process works.

Why do you think K-INBRE is a beneficial program?

All of the undergraduate students that have worked with me have more impressive CVs as undergraduates than I did as a beginning Ph.D. student. They are also much more aware of what it is like to do real science than I was. Numerous times one of them has commented on how doing the research gives them insights into why we need to take certain classes or master certain skills. One of my students made a comment that she had never realized that research involved so much problem solving to get things to work.

What do you believe are the attributes of students who have successful undergraduate lab experiences?

Definitely, a well developed work ethic is most important. Beyond that, a sense of curiosity and an interest in learning. Enjoying time in the lab is also important.

K-INBRE hosts regional meeting in KC

Staff Report

The K-INBRE hosted the IDeA Networks of Biomedical Research Excellence (INBRE) Regional meeting in Kansas City on May 5-6.

Dr. Fred Taylor speaks at the regional meeting.

Over 120 participants from Oklahoma, Nebraska, North and South Dakota and Kansas gathered to hear about ongoing central state INBRE and COBRE (Centers of Biomedical Research Excellence) programs. Both INBRE and COBRE grants are funded by the IdeA program of the National Centers of Research Resources of the National Institutes of Health.

The meeting was highlighted by overviews of the National Center for Research Resources by Dr. Sidney A. McNairy and the IDeA program, by Dr. Fred Taylor. Dr. Michael Sayre, A Health Scientist Administrator at NCRR, gave a "nuts and bolts" seminar on how to submit annual progress reports and the importance of citing grant numbers on publications and presentations to help show NCRR has contributed to INBRE- and COBRE- funded research efforts.

Taylor appreciated being at the meeting.

"I enjoyed meeting and interacting with the students and faculty, as well as members of the advisory committee and invited guests," he said. "The growth of physical infrastructure and the new construction demonstrate the commitment to the biomedical sciences and the strong institutional commitment. The programs have embraced the concepts and goals of inclusion and networking and are facilitating statewide participation in the biomedical sciences."

Sayre also enjoyed attending the event.

"I was delighted to be able to attend the regional meeting and meet with investigators from all five midwestern IDeA states," he said, "and I was very gratified to see the tremendous progress being made by IdeA supported investigators throughout the region."

The event gave program directors and scientists ample time to interact with NIH staff. In addition, each central state presented an overview of their INBRE and one of their COBRE grants.

One scientist from each grant program presented a scientific talk to complement the administrative elements of the conference. For example, Dr. Tonia Von Ohlen, from Kansas State University presented "Mechanisms of Dorsoventral Patterning During Neural Development." Brian Blagg, from the University of Kansas presented "Hsp90 Inhibitors, Small Molecules that Transform the Hsp90 Protein Folding."

"The presentations were impressive and interesting not only for their scientific merit but also for the breadth of scope and the collaborative nature of much that was presented," Taylor said. "I was particularly impressed by the potential translational impact of much of the ongoing research."

The first day's activities included the presentation of 31 projects in a poster session and dinner in the Fairmont Hotel's Rooftop Ballroom.

Dinner was followed by a talk "How do Researchers Hit it Off and What Can We Do to Make Academic Science more Fun?" by Michael Roberts, the Director of the Life Sciences Center at the University of Missouri at Columbia. He pointed out that great partnerships come in various forms and cannot be predicted or anticipated using a single paradigm.

The conference concluded on Friday with three break-out sessions where conferees discussed "diversity", "bioinformatics/managing resources", and "mentoring and collaboration."

Brian Blagg presents about Hsp90 Inhibitors.

Atkinson addresses evaluation team

On Wednesday, March 9, 2005, a National Center for Research Resources (NCRR) commissioned evaluation team visited four INBRE campuses. The team was here to understand how the Kansas program is established and working so as to develop an outcomes measurement document over the next year.

While the team was visiting the KUMC campus, Dr. Barbara Atkinson, Executive Vice Chancellor and Executive Dean of the School of Medicine, addressed the team about the K-INBRE.

"K-BRIN and K-INBRE grants are essential in helping to 'grow' and develop life sciences researchers in Kansas," she said. "They foster communication among researchers throughout the state. . . and they enable us to drive forward a major statewide initiative to build Kansas' strength in life sciences research."

Atkinson also talked about the goals of the K-INBRE. "We believe that these programs will result in a new generation of researchers in Cell and Developmental Biology in the state of Kansas," she said, "and will create effective multi-disciplinary research teams that will someday result in new tools and strategies for the diagnosis and treatment of diseases and the improvement of human health."

Announcements from PSU and KSU

Submitted by Virginia Rider

Tamara Potapova, a participant in the advanced immunology course offered by Dr. Chapes via the K-INBRE teleconferencing network was accepted into the Ph.D. program at the University of Oklahoma Health Sciences Center. Tamara has completed her first year and claims to be working overtime as most graduate students do! A portion of Tamara's thesis work was published in the Journal of Endocrinology Rider V, Potapova T, Dai G, and Soares MJ (2005) Stimulation of a rat uterine stromal cell line in culture reveals a molecular switch for endocrinedependent differentiation. J. Endocrinol 184:119127.

Greg Peterson, another graduate student from PSU who participated in this course has been accepted to begin his Ph.D. at K-State this fall. A portion of Greg's thesis work has been submitted for publication: Rider V, Li X, Peterson G, Dawson J, Kimler B, and Abdou NI (2005) Differential expression of estrogen receptors in women with systemic lupus erythematosus. (Submitted).

Two K-INBRE scholars, Meryl Twarog and Brent Cameron, have been accepted to the University of Washington, St. Louis for summer research experiences. There were 14 students accepted from a nationwide applicant pool of 250 students. Well done, K-INBRE scholars! Meryl will be working on G-protein signaling and Brent will enter the weird world of prions.

We are delighted for and proud of these students.

Submitted by Stephen Chapes

Kajsa Affolter, John Anderson and Caleb Knepper, who are KSU K-INBRE scholars were named "2004-2005 Most Promising Students by the Division of Biology at KSU.

Taryn Penabaz a former KSU K-BRIN scholar was a coauthor on the publication "Wright, C.W., Means, J.C., Penabaz, T., and R.J. Clem. 2005. The baculovirus antiapoptotic protein OpIAP does not inhibit Drosophila caspases or apoptosis in Drosophila S2 cells and instead sensitizes S2 cells to virus induced apoptosis. Virology 335:6171.

Christen Buseman a former K-BRIN/K-INBRE summer scholar and Jessica Morton, also a former summer scholar and Star Trainee were coauthors on the publication "Shah, J., Nandi, A., Buseman, C.M., Li, M., Krothapalli, K., Pegadaraju, V., Buffington, R., Morton, J., Omoluabi, O., Baughman, E., and Welti, R. 2004. Salicylic acid signaling in plant defense: the lipid connection. In "Biology of Molecular PlantMicrobe Interaction", Vol. 4, pp 391-393, ed. I. Tikhonovich, B. Lugetenberg, and N. Provorov, ISMPMI, St Paul, MN."

Caleb Knepper, a KSU K-INBRE scholar, was selected for the Cornell University Summer Research Internship in Plant Genomcis. He will spend his summer (2005) at Cornell University.