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# Standing in the **Spotlight**



**Joseph Chapes**  
*Editor*

Working in the lab, reading journals and presenting posters are all part of conducting research, but one of the most stressful, difficult and rewarding experiences for a research student is getting in front of an audience and explaining their investigation.



At the third annual Student Symposium, 13 K-INBRE students presented their projects to the participants of the event.

For some of the students, it was the first time they gave a scientific presentation in front of an audience. This was true for Pittsburg State student Stacy Jones.

“I was extremely nervous leading up to the presentation, mainly because I wasn’t sure what to expect. However, as I began the presentation I started to relax and the presentation was really fun,” Jones said. “It was the most difficult presentation that I have ever given. I have

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# **K-INBRE STUDENT SYMPOSIUM**

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*Stacy Jones*

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never given a presentation dealing within the realm of biology, especially a topic as specific to the field as mine was. Plus in the other presentations I have given, nobody ever had the opportunity to ask me questions. This was a cause for the nervousness. However, once it was over, I felt more exuberant than ever before.”

KU student John Hughes also enjoyed the experience.

“This was (my) first time delivering a scientific talk



*Argenia Doss*



in front of an audience. The experience was exactly how I predicted it to be, exciting and fun. (This is) because I love what I do and also because I am an innate talker,” Hughes said. “This differs from every other presentation I have ever given in that I enjoy the subject matter; it wasn’t assigned rather it was chosen by me.”

Students who gave presentations prepared for their speeches in several different ways. Many relied on the help of mentors, parents, friends and fiances. Langston University student Argenia Doss summed it up best, “Practice, Practice, Practice!”

Most of the presenters agree that giving presentations are important for research students.

“Talking about the research that one has done or is doing is always a positive thing, especially when it is done at such a technical symposium,” KU student Mithun Hebbar said. “Not only would it help in a better understanding of the project with different people expressing their opinions and views on it, but also provide the students themselves with a different perspective of the work that they have been doing.”

Washburn student Kevin Kent shared a similar opinion.

“I think any time you step back and attempt to look at your research from an outsider’s viewpoint, you take a lot from the experience, however frustrating it might seem,” he said.

Students who presented their projects have lots of advice for students who might present in the future.



*John Hughes*

“(They) just need to be natural and clear about what is to be presented,” said Sachin Mathur, University of Kansas Medical Center student. “Ideally, practicing with their mentors would give them confidence. I personally think, taking deep breaths and taking it easy when nervous, will help in overcoming initial jitters.”

Langston student Christal Carpenter, who had a head cold at the symposium, also had suggestions.

“My suggestion to future presenters is to try avoiding the koodies floating around in the air, just kidding!” she

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*Mithun Hebbar*



*Kevin Kent explains the Washburn University ball mill and the scientific uses for duct tape.*



*Sachin Mathur*

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said. “Seriously, do not be nervous and make sure you know your research well, because you are representing your mentor’s work as well as yourself and your school.”

Crystal Trang Do, a Wichita State University student, also learned from her experience at the symposium.

“My suggestions to other students would be to prepare adequately and relax,” she said. “From this experience, I learned that I am capable of more than I had expected and that although my research was just a small contribution, I did accomplish something that I was proud of.”



*Crystal Trang Do*

**List of all the student presenters, their schools and their project descriptions:**

- Christal Carpenter, Langston University, “Expression of Human Na, K-ATPase Isoforms in Insect Cells.”
- Jeremy Chen, University of Kansas, “Protein Secondary Structure Prediction Using Artificial Neural Network.”
- Crystal T. Do, Wichita State University, “Immunoblot Analysis of Protein Expression in Estrogen-Stimulated Adult Uteri from Control vs. Neonatally DES-Exposed Hamsters.”
- Argenia Doss, Langston University, “Effects of Upper Cervical Spinal Stimulation on Cardiovascular Response to Esophageal Distension.”
- Mithun Hebbar, University of Kansas, “Artificial Neural Networks in High Throughput Screening - Classifying the Activity of Various Compounds towards Cobalt.”
- John Hughes, University of Kansas, “Abrogation of Anti-La Autoantibody Production in Lupus Mice by Treatment with Ricin A-La Fusion Protein.”
- Stacy Jones, Pittsburg State University, “Beta-Catenin: A Key Modulator of Synchronized Proliferation in Progesterone Pretreated Rat Uterine Stromal Cells.”
- Kevin Kent, Washburn University, “Effects of Bases, Aldehyde Structures and Water in Solid-State Wittig Reactions.”

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*Christal Carpenter*



# Record turnout in Lawrence for third student symposium

**Joseph Chapes**  
*Editor*

On January 15 and 16, K-INBRE participants gathered in the University of Kansas Student Union in Lawrence, Kansas for the third annual Student Symposium.

One of the main highlights of the symposium was the turnout with 146 participants registered to attend.

"I was delighted to see that the numbers of graduate students and mentors who participated had increased from last year by about 20%. I hope this trend continues as one of the major purposes of the KINBRE is to increase the numbers of top students who choose biomedical research as a career," said Dr. Joan Hunt, K-INBRE Director. "It speaks in large part also to the success of our campus coordinators in stimulating interest and providing opportunities."

Administrative Officer Heiata Chapman felt the symposium was successful because of its attendance.

"I was pleased that we had representatives from each campus and I noticed that there were quite a few new faces," Chapman said. "Our numbers increased from last year, so it's good to know the group is still growing."

Thirteen students from six universities gave presentations about their projects. The event featured three other speakers. On January 15, Dr. David Albertini, Hall Professor of Molecular Medicine at KU, gave a talk titled, "Reproductive Technology in the 21<sup>st</sup> Century: Scientific Underpinnings and Socioeconomic Overtones."

Later that day, Dr. George Wilson, Associate Vice Provost at KU, gave a speech on bioscience at the University of Kansas. The next day, Dr. Robin Denell, Director of the Terry C. Johnson Center for Basic Cancer

Research at KSU, presented his lecture entitled, "What is Basic Cancer Research Anyway?"

Activities at the event included a wine and cheese reception in the KU Natural History Museum, bowling at Jaybowl and poster sessions in the Union.

During the symposium, 45 student presented posters of their projects. The projects were presented during two posters session over the two day event.

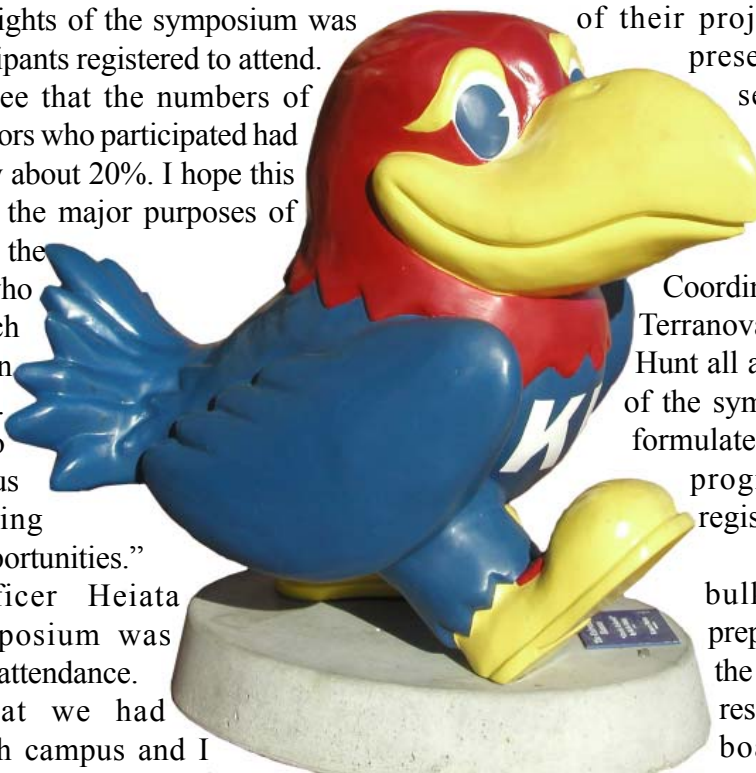
Many people helped with the organization of the event. KU Campus Coordinator Eric Munson, Dr. Paul Terranova, Associate Director, and Hunt all assisted in the development of the symposium. Also, Annie Zhu formulated the abstracts, edited the program and assisted with registration.

Marti Miller handled the bulk of the symposium preparations. She worked with the Union staff to get the rooms reserved, food selected, poster boards, tshirts and pens ordered, and hotel arrangements made. In addition, she corresponded with the symposium participants to notify them of their speaking order, poster session assignments and hotel confirmation numbers.

Overall, Hunt was very pleased with the symposium.

"My impression was that everyone truly enjoyed being part of this symposium. The speakers were well received, the meals were delicious, and I know that many new friendships were formed," she said. "Most importantly, students were able to see the value of their own work within the context of the first rate biomedical research in our state."

*Above: Statue of Jayhawk in front of KU Union.*





*Registration began for the symposium at 9:30 AM on January 15 (middle right). The first day of the event featured a poster session in the Kansas Room in the Kansas Student Union (bottom right). Dr. David Albertini was the first speaker of the symposium (bottom left). Dr. George Wilson was the last speaker on Saturday (top left). The wine and cheese reception was held in the Natural History Museum (top right).*





*On Saturday, symposium participants were able to go bowling at Jaybowl in the Union (middle left). Meals at the event were held in the Big 12 Room (top left). Dr. Robin Denell spoke on Sunday about basic cancer research (top right). On Sunday morning, the K-INBRE steering committee held a meeting (bottom right). Over 45 students presented posters during the symposium, including during the final poster session held on January 16 (bottom left).*

## ‘The riskier the road . . .’

### More active learning strategies for the classroom

*Last issue, contributing writer Robin Patterson provided ideas on how to use active learning in the classroom. Below are some more strategies that involve more risks and more pre-preparation time.*

#### **Robin R. Patterson**

*Contributing Writer*

#### ***Post-It Notes biochemistry***

Steps of a biochemical pathway are written on post-it notes and groups of students attempt to decipher the pathway on the wall. The instructor will have to prepare a handout with instructions and distribute blank post-it notes. I find this works best as a first introduction to a basic pathway such as glycolysis. Do this before you lecture on the pathway. The mild frustration the student feels when trying to decipher the post-it notes will set the stage for learning.

#### ***Dichotomous key***

Students prepare dichotomous keys using a list of organisms, biochemical pathways, etc. provided by the instructor. This one really employs higher order thinking skills. The instructor must model this before expecting students to be able to do this successfully.

#### ***Virtual Scavenger Hunt***

Images projected on a screen or via a web-link provide the setting for a scavenger hunt. Can be used to introduce a concept or as a capstone or assessment activity. Images can easily be found through a google search.

#### ***Virtual Field Trip***

Virtual tours of certain facilities like breweries or

sewage treatment plants can be found on the web. Students can write a report about the field trip or answer questions prepared by the instructor.

#### ***One of these things is not like the other.....***

Fondly remembered by those of the Sesame Street generation, lists, images, or objects can be presented to students who are asked to find the commonalities.

Good for introductory lectures and homework.

#### ***Case Studies***

Case studies are great if you need to condense a lot of material in a short amount of time. After a little practice, have students create case studies as a graded assessment. Be sure you have a solid rubric for grading these and share the rubric with the students as they are writing the case studies.

#### ***Time Lines***

A lot of work for the instructor to prepare, time lines can be used in a variety of ways. Students can be asked to plug events into a timeline or to research a given time period. Cash register tape is good for creating a visual display.

#### ***“Buy and Sell” Lists***

Using an instructor-prepared list of concepts, students identify those concepts that they understand and can explain to others. They also identify concepts that they don’t understand. The students then prepare a list of those concepts they can “sell” and those concepts they need to “buy”. The student can only “buy” a concept if they “sell” one. This works well if the students have access to discussion forums on Blackboard or WebCT.

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### Symposium Student Presenters, Continued from page 4

- Timothy Kerr, University of Kansas, “Targeting Bacterial Heat Shock Proteins: A New Approach to Antimicrobial Design.”
- Sachin Mathur, University of Kansas Medical Center, “A New Web-Based Application for Annotation and Biological Pathway Analysis of Microarray Data.”
- Sherry Rhoades, Kansas State University, “Analysis of Runt Expression and Function of the Short Germ Insect, *Tribolium Castaneum*.”
- Daniel Sanford, Kansas State University, “Regulation of Insulin Signaling Pathways in Breast Cancer Cells.”
- Meryl Twarog, Pittsburg State University, “Changes in the Cell Specific Regulation of Glycogen Synthase Kinase 3-beta: A Potential Regulator of the Endocrine-Dependent Proliferative Switch from Epithelium to Stroma in the Rat Uterus.”