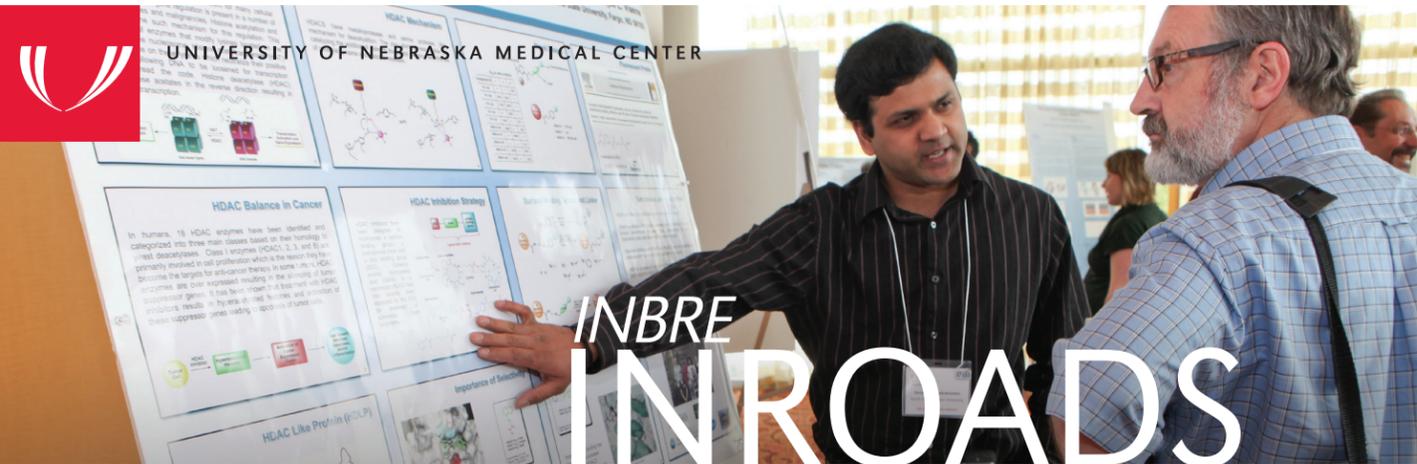


John Karanicolas, Ph.D., a researcher from The University of Kansas, kicked off the genomics, proteomics and bioinformatics symposium during the 2011 Central Region IDeA conference in May, with a talk on building biomolecular switches by chemical rescue.



IDeA conference showcases best of regional science

You believe in your programs.

You know the value of them and you know the impact.

The IDeA program is magnificent and you are the reason it works so well.

Those were the key messages Sidney McNairy Jr., Ph.D., left with attendees at the Central Region IDeA Networks of Biomedical Research Excellence conference held in Omaha in May.

"I am proud to say that in the heartland there is great science," said the director of the division of research infrastructure with the National Center for Research Resources, a division of the National Institutes of Health, which funds the IDeA program.

More than 200 people attended the three-day conference which featured 100 poster presentations, 28 oral presentations, and faculty and students representing colleges and universities in five states.

"It's great to come and see the work being done around the region," said

Narayanaganesh Balasubramanian, a graduate student from North Dakota State University.

Although he studies chemistry, Balasubramanian said seeing the work being done in the various fields reveals a lot about how interconnected science really is.

"It's good to see how the different areas of science complement each other," he said.

A highlight of the conference was a regional multi-user core facility marketplace that featured 16 different facilities in North Dakota, Nebraska and Kansas.

"I would like to personally thank you, commend you and salute you for what you've been able to do," Dr. McNairy Jr. told attendees.

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The INBRE program is funded by the National Center for Research Resources. NCRR is part of the National Institutes of Health, U.S. Department of Health and Human Services.



From the director

This is always an exciting time of the year as we welcome a new class of INBRE Scholars to our program. As usual, we have some outstanding students joining us as Scholars. I am especially pleased to welcome Melina Baeza-Villa to our program since she is the first in her family to go to college.

I am partial to first generation college students, both my wife and I were the first in our families to go to college and we both loved it so much we stayed there for the rest of our lives. It is also rewarding to welcome the new Clark-Atlanta students to our program. The Scholars program is all about opportunity and it is gratifying that we are extending opportunity to such a diverse group of students and will be able to highlight your success in future issues of INROADS.

Our Central Region IDeA Conference was a success beyond our expectations. We had initially projected around 150 attendees and

significantly exceeded that projection with 207 attendees. Our projection of 50 poster presentations mushroomed to over 100 and we met our goal of booking 75 rooms at the hotel.

More importantly, around 40 percent of our attendees were students, which bodes very well for our scientific future. Thanks to all of you for attending and providing such a warm welcome to Dr. Sidney McNary.

As most of you know, Dr. McNary has been the architect of and driving force behind the IDeA program since its inception. He had never been to Omaha before and was genuinely impressed with all that he saw in Nebraska and the Central Region.

A special thanks goes to our organizing committee and especially Penni Davis for all the work she did in putting the Conference together. We are looking forward seeing you all at to the Grand Island Conference in August. Have a productive and fun summer.

INBRE INROADS

A newsletter of Nebraska's Institutional Development Awards (IDeA) Networks of Biomedical Research Excellence (INBRE)

The Nebraska INBRE is funded through a grant from the National Center for Research Resources, a division of the National Institutes of Health.

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brin.unmc.edu

Q&A with UNK's Kim Carlson, Ph.D.

Q. What is your lab working on right now?

A. We are looking at characterization of differential gene regulation during natural aging using large populations of *Drosophila melanogaster* with my INBRE mentor, Dr. Larry Harshman, from UNL. Our interest is in the factors that may perturb gene expression during aging and contribute to the aging process as a whole. From one of our earlier studies, we hypothesized that the frass (feces) of *D. melanogaster* (fruit fly) might contain micro-organisms that can affect aging. Therefore, we set out to characterize these micro-organisms. In doing so, we uncovered a novel RNA virus, Nora Virus that is largely uncharacterized. We are working in collaboration with Dr. Dan Hultmark's lab in Sweden, who first discovered Nora Virus, to work on characterizing it.

Q. How has being a part of the INBRE program helped your research and your students?

A. It has made the research possible. Without INBRE, we would not have the space, equipment, or connections with other faculty and core facilities to carry out our research. Also, the students get to travel with INBRE faculty to national meetings and meet the scientists whose work they've only read in research papers. I doubt without INBRE we would have ever gotten to the point of finding the Nora Virus and establishing a collaboration with Dr. Hultmark.

Q. What is the best part about the INBRE program?

A. The best part of the program is the ability to incorporate undergraduate research in my teaching and have student collaborators. These high motivated students are able to work on large projects in the lab and feel a sense of ownership. The support from UNMC is phenomenal and so are the connections with UNL and Creighton. I have talked to faculty in other departments at UNK and they are surprised by the connection we have with the other campuses and the resources allotted to us.

Exploring careers in biomedical research

Kelvin Chin isn't sure what he wants to do in science, but knows that he needs more experience before he can decide on a career.

"How do you decide on a career without exploring it first?" Chin asks.

This summer the computer science major joins 30 students from throughout the state of Nebraska immersed in research labs at the University of Nebraska Medical Center, Creighton University and the University of Nebraska-Lincoln.

He is a part of the latest class of INBRE Scholars who spend 10 weeks every year exploring the world of biomedical sciences. Chin is curious to see how his talent for computer science can enhance research through the use of bioinformatics.

He will work alongside graduate students in the lab of Elena Batrakova, Ph.D., an

associate professor in the UNMC College of Pharmacy, who studies the development of polymer-based drug delivery systems for chemotherapy and disorders of the central nervous system.

"I'm excited to learn how bioinformatics is used and applied to laboratory research," Chin said.

His enthusiasm mirrors that of fellow INBRE Scholar Melina Baeza-Villa, who will spend the summer working with Joseph Vetro, Ph.D., an assistant professor in the UNMC College of Pharmacy, who studies nanomedicine.

Baeza-Villa is an undergraduate student at the College of Saint Mary and the first in her family to go to college. She was 10 years old

when her family moved to the United States from Mexico. Baeza-Villa said she struggled with English concepts but excelled in math and science and enjoyed taking extra courses in high school.

"I decided to major in biology and chemistry in college and am planning to go to medical school. I would like to be a pediatrician," she said.

Baeza-Villa hopes her experience in the INBRE program will enhance her education and laboratory skills.

"Just the experience of working in a lab and all the people I will meet in the INBRE program is going to help me later on," she said.



Clark Atlanta University students LaTayia Aaron, Hilary Kirwan, Celeste Scott and Shawna Battle.

Longtime collaboration opens door to new undergraduate opportunities

An ongoing collaboration between two cancer researchers has opened a world of opportunities for four young undergraduate students from Clark Atlanta University (CAU), a well-respected, historically black college in Georgia.

LaTayia Aaron, Hilary Kirwan, Celeste Scott and Shawna Battle, are spending the summer conducting research at the University of Nebraska Medical Center through the Nebraska Prostate Cancer Training Program.

The program, which is supported by a three-year, \$200,000 department of defense grant, also collaborates with the successful INBRE scholar program at UNMC to provide training for the Clark Atlanta students. This is the second year for the undergraduate training program. To date eight students, including those listed above, have participated.

Program director, Ming-Fong Lin, Ph.D., a prostate cancer researcher at UNMC, and Shafiq Khan, Ph.D., director of the Prostate Cancer Research Center at CAU, developed the program.

Inspiring undergraduate students to consider a career in biomedical research specifically targeting prostate cancer is the goal of the program, Dr. Lin said.

"The incidence of prostate cancer is 65 percent higher and the mortality rate is more than double in African-American men compared to Caucasians," he said.

It's also important for students to get a good foundation in laboratory research whether they plan to go into medicine or become a scientist, Aaron said.

The junior biology major is interested in pursuing a career in pediatrics, but applied to the training program for exactly that reason.

"Discovering what causes disease and the science behind it gives you valuable insight," Aaron said.