

986395 Nebraska Medical Center  
Omaha, NE 68198-6395  
Address Service Requested

INBRE in Connect

An article and photo celebrating the 10th anniversary of the INBRE program is featured in the winter issue of UNMC Connect and can be found at:

[www.unmc.edu/connect](http://www.unmc.edu/connect)



UNIVERSITY OF NEBRASKA MEDICAL CENTER

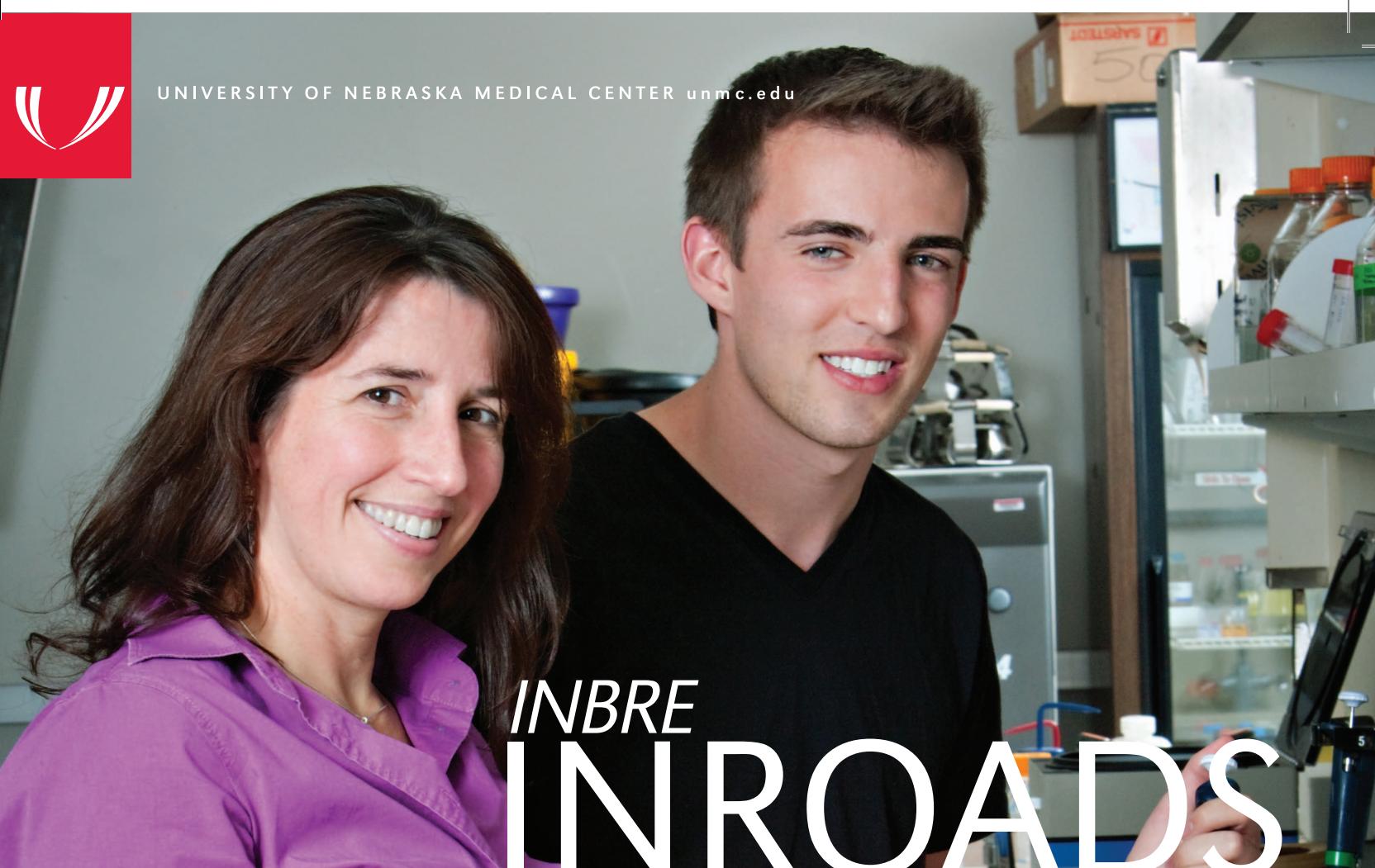
# INBRE INROADS

in this  
issue

- INBRE scholar's enthusiasm for science earns national prize
- INBRE program director helps program shine
- Pursuing their dreams

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.

Volume 10, Issue 1 | March 2012



UNIVERSITY OF NEBRASKA MEDICAL CENTER [unmc.edu](http://unmc.edu)



learned important lab techniques both in her lab and through the weekly journal club meetings the department hosts for INBRE scholars.

There, the students spend time discussing journal articles focused on a specific topic in science, such as immunology or neurobiology. They learn what to look for in the articles, how to relate it to their own research and what techniques are applied.

The students also are coached on how to apply and prepare for their graduate school interviews and what it takes to be in grad school.

"The weekly journal club meetings have been extremely helpful," said Hubbard, who has applied to 10 graduate schools, as well as for a National Science Foundation fellowship.

A senior majoring in biology, Hubbard hopes to one day run his own research lab and study micro immunology in humans.

Dr. van Dijk is certain he will reach his goals.

"Troy spends almost every waking moment in my lab," she said beaming. "He knows what it takes to be a scientist."

Volume 10, Issue 1 | March 2012

## INBRE scholar's enthusiasm for science earns national prize

Troy Hubbard has a hunger for science.

It's evident to everyone around him at Creighton University. So much so, that when a spot opened in Karin van Dijk's biochemistry lab at Creighton, another student suggested she consider Hubbard.

"Right away, from my very first interaction with Troy, I saw this insatiable interest in science," said Karin van Dijk, Ph.D., an assistant professor in biology at Creighton. "Troy doesn't just do what he needs to do to pass but delves deeper and really explores the research."

In November, Hubbard shared that enthusiasm with like-minded peers and scientists at the University of Texas Southwestern Department of Biochemistry's annual retreat in New Braunfels, Texas, where he was one of five finalists chosen to present his work. Hubbard competed for the Sara and Frank McKnight Prize in Undergraduate Biochemistry with his poster presentation on the *pseudomonas syringae* pathogen and its effect on plants.

The INBRE scholar finished first out of five finalists and received \$2,000. He was one of 100 students to apply for the prize.

"Troy stood out nationally and is doing the best undergraduate research of his peers," said Steven McKnight, Ph.D., professor of biochemistry at UT Southwestern and founder of the award.

"It was an honor just to be accepted to present," Hubbard said. "I never expected to win first place."

Hubbard's appetite for science started in high school, blossomed at Creighton and is nourished by the biology major's involvement in the INBRE program.

"INBRE has opened many doors for me," he said. "The kind of student support you get in the program is amazing. I was able to spend my summers actually doing something I love."

Through Dr. van Dijk, Hubbard developed internal focus, critical thinking skills and

## From the director

My favorite time of year is here—spring time. Not only do I enjoy the change of seasons, I especially enjoy my spring visits to our undergraduate campuses and meeting with our new class of INBRE Scholars. My congratulations to all the new Scholars as well as to the undergraduate faculty who have recruited and selected this class. I think we are in for a great summer and I look forward to working with all of you as we begin our 11th year with the INBRE Scholars Program.

We are now officially part of the National Institute of General Medical Sciences (NIGMS). Within that institute we are in the Division of Training and Workforce Development. This is a new division which incorporated the IDEA program with other training programs in NIGMS. Based on the

focus of our INBRE, this strikes me as an appropriate home for our efforts. So far the transition has gone smoothly and all of my contacts with our new colleagues at NIH have been positive and constructive.

I very much am looking forward to meeting our new program officer in person and having the opportunity to explain the unique nature of the NE-INBRE, as well as share with them our success stories. Almost all of our graduating seniors are headed to advanced degrees in either graduate or professional schools. Congratulations to all of you and best wishes as you move forward with the next stage of your careers.



### 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.

#### Director

Jim Turpen, Ph.D.  
[jturpen@unmc.edu](mailto:jturpen@unmc.edu)

**Program coordinator**  
William Chaney, Ph.D.  
[wchaney@unmc.edu](mailto:wchaney@unmc.edu)

**Grant coordinator**  
Penni Davis  
[pkdavis@unmc.edu](mailto:pkdavis@unmc.edu)  
402.559.3316

**Editor**  
Lisa Spellman  
UNMC Public Relations  
402.559.4693

#### INROADS participating institutions 2011

Creighton University College of Arts and Science; College of Saint Mary's, Doane College; Little Priest Tribal College; Nebraska Wesleyan University; the University of Nebraska at Kearney; the University of Nebraska at Omaha; the University of Nebraska-Lincoln; Wayne State College; Chadron State College; Western Nebraska Community College.

[brin.unmc.edu](http://brin.unmc.edu)

## INBRE program director helps program shine

When most people think of carbohydrates they think of bread, sugar and those items we are warned to eat in moderation.

When Bill Chaney, Ph.D., a professor of biochemistry and molecular biology at UNMC, thinks of carbohydrates, he is thinking of the type that covers the surface of every living cell and the unique role it plays in modifying proteins that can contribute to cancer tumor growth.

"These carbohydrates change when they are on the surface of tumor cells, which makes them potential biomarkers and targets for cancer therapy," Dr. Chaney said.

Dr. Chaney has studied such changes in breast cancer and is now exploring this role in pancreatic cancer in collaboration with Surinder Batra, Ph.D., professor and chairman of the department of biochemistry and molecular biology at UNMC.

Along with his research, Dr. Chaney is a champion of the INBRE program and has served as coordinator since its inception in 2001.

"From day one the INBRE program has focused on the vital importance of developing undergraduate students," he said. "Faculty mentors know that when they take a student into their lab they are investing in that student and in the future of biomedical research, whether that student comes back to their lab or not."

As program coordinator, Dr. Chaney organizes the orientation symposium for all incoming INBRE scholars, organizes the Monday seminar series held throughout the summer, arranges field trips to biotech companies in the state and coordinates the labs and mentors which new scholars work with.



## Pursuing their dreams

Watching the doctors at National Jewish Health, a hospital in Denver, Punt marveled at how easily they moved between the laboratories she worked in and the clinics they practiced in.

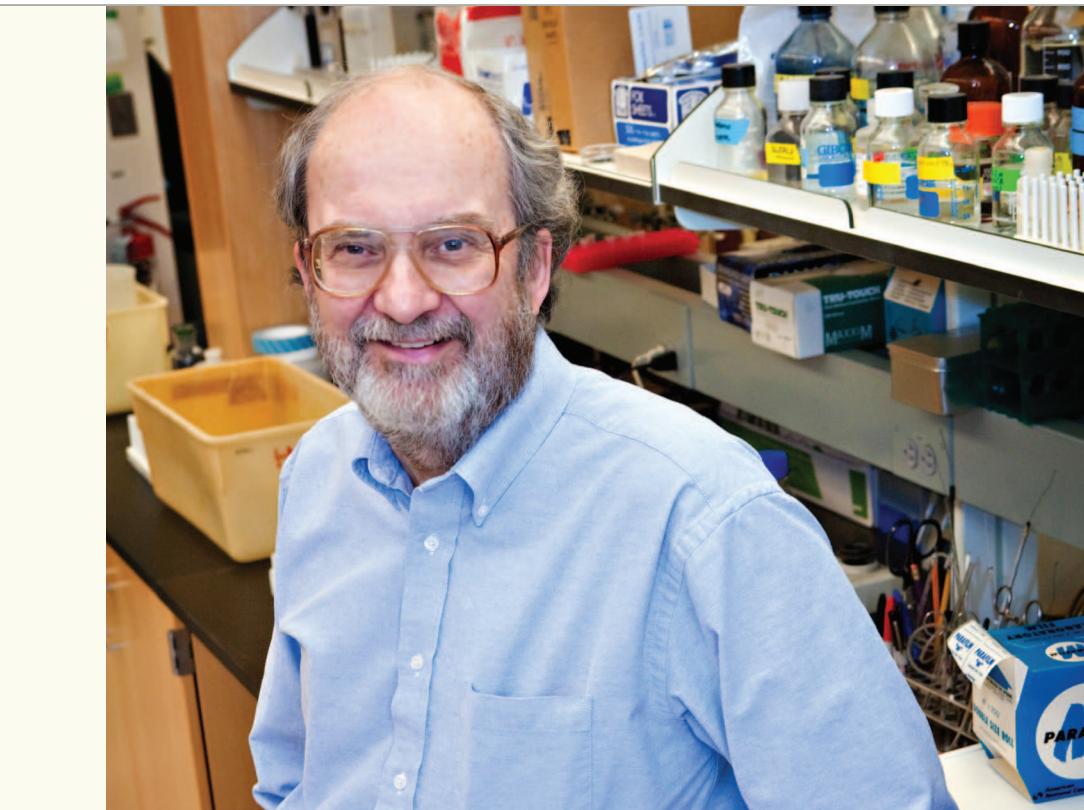
"The more the patient knows, the more compliant they will be in following through on treatment," she said.

Dr. Hanzel, a 2005 INBRE scholar, agrees.

"I have a stronger appreciation for medicine because of the INBRE research I did," said Dr. Hanzel, an anesthesiologist. "It raised my awareness of the development of medications and other therapies that bring better treatment to patients."

While neither Punt nor Dr. Hanzel went into biomedical research, both credit the INBRE program for giving them the critical thinking and problem-solving skills they use every day.

"These abilities are not only essential for success in the research laboratory, but vital for the care of patients," Dr. Hanzel said.



He also has mentored six undergraduate students in his lab.

"That's been the best part, working with the students," Dr. Chaney said.

Three years ago, Dr. Chaney joined Ming-Fong Lin, Ph.D., a prostate cancer researcher at UNMC to develop the Nebraska Prostate Cancer Training Program.

The program mirrors the INBRE in every way, as well as being focused on inspiring undergraduate students to consider a career in biomedical research specifically targeting prostate cancer.

"It was the success of the INBRE program that enabled us to get the U.S. Department of Defense grant that funds this training program and bring these students to UNMC," Dr. Chaney said.

The Nebraska INBRE program, he said, is held by the National Institutes of Health as a model in how to successfully recruit, retain and develop undergraduate students in the field of biomedical research, he said.

*William Chaney, Ph.D., says mentoring undergraduate students is the best part of the INBRE program.*