

GRANT *continued from pg 2*

C. burnetii grows within a membrane bound vacuole within a cell, and to cause disease a functional type IVB secretion system is required. I am investigating how proteins associated with this secretion system interact with the host cell membrane to release other proteins that further manipulate the cell and allow for evasion of the immune system. The goal is to develop a vaccine or therapeutic treatment that disrupts the secretion system.

How did you become interested in science?

I have always been interested in science, understanding our environment and, in particular, infectious diseases. I also had an excellent science teacher in high school who sparked my interest even more.

I wasn't sure what I wanted to do in college and was split between earning a major in business or biology. Biology proved more challenging and I ended up with a minor in marketing and management and a major in biology.

As an undergraduate, I had the opportunity to conduct research with Dr. Julie Shaffer. From this experience, I found that I really enjoyed the scientific process and working on a research project.

What are three things people may not know about you?

- I enjoy home brewing beer and making wine.
- I am a fifth generation Nebraskan. My great-great-grandfather was one of the first settlers in the Valley-Custer county area.



- My wife and I were married by our undergraduate molecular biology professor, Dr. Brad Ericson, who forced us to be lab partners during class.

INBRE INROADS



INBRE annual conference welcomes back former scholars

It's not like Derek Moormeier or Emily Harrison hadn't ever presented at an INBRE conference before.

They certainly knew what it was like to stand before a group of peers and researchers to present their findings from their summer research projects.

But this time was different.

Now Derek Moormeier, Ph.D., a fellow with Rocky Mountain Laboratories in Hamilton, Mont., and Emily Harrison, Ph.D., with the University of North Carolina in Chapel Hill, were returning as postdoctoral researchers with quite a bit more experience under their belts.

The expectations were just a little bit higher among the scholars and faculty eager to hear what these two former INBRE scholars (Dr. Harrison in 2009 and Dr. Moormeier in 2008) had to say.

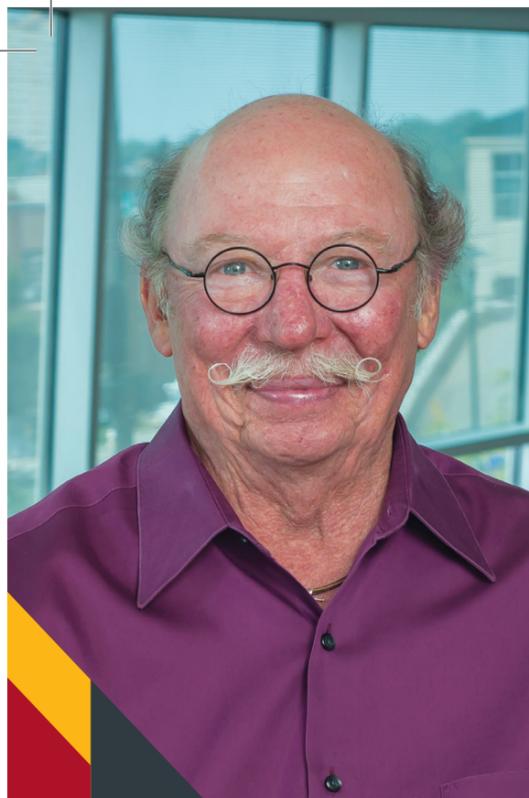
"I was a little nervous to be back in front of my previous mentors who taught me so many different aspects of science, but mostly I was ecstatic to show them that I am becoming successful and the INBRE program is a tremendous reason why," Dr. Moormeier said.

Having two former scholars attend gave current scholars the opportunity to ask questions, seek advice and see what the future holds.

"When I mentor students in the lab, I remember what it was like to be in their shoes and try to show them the same kindness and enthusiasm that was shown to me," Dr. Harrison said.

Several scholars did seek advice on applying to graduate school and what life is like as a postdoctoral researcher.

"I tried to provide insight into several aspects that maybe they didn't know much about, like choosing the best graduate school and advisor," Dr. Moormeier said.



From the director: Jim Turpen, Ph.D.

WOW, how time flies.

It seems like it was just yesterday when we had our annual meeting at the Lied Lodge in Nebraska City. This was a fantastic new venue and the feedback from all attendees was very positive, which is good because we will be there again this fall.

Congratulations to the winners of the Richard Holland Future Scientist Award, which recognizes another group of outstanding INBRE Scholars. Mr. Holland passed away in 2016 and it has been an honor for INBRE to be associated with this champion of science.

At the annual conference, we were fortunate to have two former scholars, now doctoral fellows, return and present their work. Dr. Derek Moormeier and Dr. Emily Harrison serve as wonderful role models for our new and continuing classes of scholars.

We also are pleased to welcome one of our new DRPP recipients, Dr. Brandon Leudtke, an assistant professor at the University of Nebraska at Kearney. Brandon got his interest piqued in biology while doing undergraduate research at UNK with one of our original INBRE faculty, Dr. Julie Shaffer. Dr. Shaffer joined the program as an assistant professor and is now the chair of the department and we are proud of her accomplishments and her continuing support of INBRE.

Congratulations also to Dr. Julie Soukup for being honored with the Maiben Lecture from the Nebraska Academy of Sciences. INBRE faculty and students have been participating in this annual meeting since our first cohort of INBRE Scholars presented their research in this venue and it is wonderful to see Julie get such a great honor.

We are now in the period where we are recruiting our 2017 class of Scholars and I am truly looking forward to meeting each of them as we move forward with all the activities scheduled this year. Thanks to all of you for your hard work in making this program such a resounding success.

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INBRE awards DRPP grant

A major goal of the Nebraska INBRE program is to expose students to serious biomedical research. To do so, the program provides Development Research Program Project grants to faculty at participating undergraduate institutions to support their research. Those faculty then invite students into their labs to take part in their research projects. Meet Brandon Leudtke, Ph.D., an assistant professor of biology at the University of Nebraska-Kearney.

Describe your research.

My research is focused on the bacterial pathogen *Coxiella burnetii*, which is found globally in domesticated livestock, such as goats, sheep and cattle. This makes agricultural areas prone to epidemics of the human disease Q-fever, which is similar to a flu-like illness, and the animal disease coxiellosis, which can result in anorexia and/or spontaneous abortions.

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2016 INBRE Honors and Awards

Katie Langenfeld, Ph.D., a 2007 INBRE scholar and postdoc student in the lab of Jason Bartz, Ph.D., a professor in the department of medical microbiology and immunology at Creighton University School of Medicine, received the Maurine Hamilton Outstanding Graduate Woman Award for excellence in academics, leadership and service.

Julie Soukup, Ph.D., a professor of chemistry and director of the Center for Undergraduate Research and Scholarship at Creighton University, was chosen to give the 2016 Nebraska Academy of Sciences Maiben lecture, named for Rachel and Benjamin Maiben of Palmyra, Neb., who were life members of the academy. Dr. Soukup is a prominent advocate for women in science.

Jim Turpen, Ph.D., principal investigator of the Nebraska INBRE grant and associate vice chancellor for academic affairs and a professor in the UNMC Department of Genetics, Cell Biology and Anatomy, received the Friend of Science Award from the Nebraska

Academy of Sciences for strengthening the biomedical research infrastructure in the state, and for the significant, lasting statewide impact of the NE-INBRE Scholars Program.

Lynne Dieckman, Ph.D., assistant professor of biochemistry at Creighton University, and Brandon Luedtke, Ph.D., assistant professor in the department of biology at the University of Nebraska at Kearney, were awarded Development Research Program Project grants from INBRE. These competitive, peer-reviewed grants allow the faculty NIH funded release time, supply and travel funds so they can pursue their research.

Ann Cavanaugh, Ph.D., a 2006 INBRE scholar and postdoc student at the Stowers Institute for Medical Research in Kansas City, received the 2015 outstanding paper award from the Elsevier journal, *Developmental Biology*.

2016 Richard Holland Future Scientist award winners

Oral Presentation Winners:

1st – Emily Belak, Doane University

2nd – Mackenzie Strehle, University of Nebraska-Lincoln

3rd – Nathan Hatch, Wayne State College

Honorable mention – Alec McCarthy, University of Nebraska-Lincoln

Honorable mention – Mirtha Gutierrez, College of Saint Mary

Poster Presentation Winners:

1st – Nicholas Johnson, Nebraska Wesleyan University

2nd – Kari Heck, University of Nebraska-Lincoln

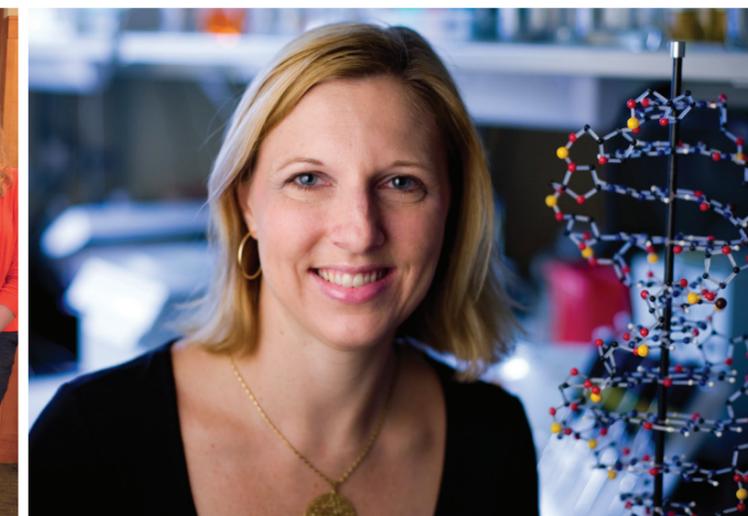
3rd – Rachel Lukowicz, Doane University

Honorable mention – Austin Sanford, University of Nebraska at Omaha

Honorable mention – Rachel Pham, Creighton University



Richard Holland Future Scientist award winners



Julie Soukup, Ph.D.