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INBRE INROADS



Climbing the ladder of success

Not quite 30, Christine Cutucache, Ph.D., has achieved what many in her position attain only after decades of climbing the career ladder.

This former INBRE scholar, turned biology instructor, turned tenure-track professor, turned George Haddix Community Chair in Science at the University of Nebraska at Omaha, is still taking it all in.

"I started very young and went through school pretty quickly so it's really humbling to be appointed to a named chair," Dr. Cutucache said.

As the first Haddix Community Chair in Science, Dr. Cutucache said she is able to work across departments and colleges within UNO and reach out to community organizations outside of

the university to create projects that promote the national STEM (science, technology, engineering and math) initiative.

One such initiative Dr. Cutucache spearheaded is NE STEM 4U, a student-run organization at UNO committed to bringing quality, after-school STEM activities to socioeconomically disadvantaged elementary and middle school students within the Omaha Public School district.

Through NE STEM 4U, Dr. Cutucache brings together the expertise of science and education faculty and UNO students to provide programming for the OPS students with hopes of improving science scores among the young participants.

The community chair in science is one of four established at UNO with donations by George Haddix, Ph.D., a former mathematics professor, retired businessman and philanthropist from Ralston, Neb.



Former INBRE student receives scholarship

She is co-author on two journal articles.

She has four years of research experience.

She just graduated with a biotechnology degree from the University of Nebraska at Omaha.

And now, Maggie Bartlett, a 2013 INBRE Scholar, has received the 2016 Chancellor's Outstanding Incoming Ph.D. Student Scholarship from the University of Nebraska Medical Center.

"Maggie was selected based on her previous research accomplishments as an undergraduate student, including GRE score, publications, presentations regionally and nationally at scientific conferences and her research experience," said Jim Turpen, Ph.D., associate vice chancellor of academic affairs, executive

associate dean for graduate studies and principal investigator on the Nebraska INBRE project.

The scholarship provides a \$4,000 stipend for two years. As a former INBRE scholar attending a Ph.D. granting institution in the state of Nebraska, Bartlett also will receive a \$25,000 INBRE stipend for the first year of her doctoral studies.

With those financial packages in tow, Bartlett is poised to begin her doctoral studies in infectious diseases on a high note.

Bartlett, in fact, will spend the summer working in the lab of Mariano Sanchez-Lockhart, Ph.D., an assistant professor in the Center for Genome Sciences located at USAMRIID (U.S. Army

"INBRE reaffirmed that this is the path I want to take and introduced me to some incredible mentors."

Medical Research Institute of Infectious Disease), a lead Department of Defense laboratory for biodefense research in Fort Detrick, Md.

"I'm absolutely thrilled to have this unique opportunity to work with Dr. Sanchez-Lockhart," Bartlett said. "This is a great opportunity and rare experience to dive deep into the cutting edge infectious disease and immunology work happening there. I still can't believe it!"



From the director: Jim Turpen, Ph.D.

This is certainly an exciting time for the NE-INBRE. On May 31 we welcomed our 2016 Class of INBRE Scholars, who are all, by now, settled into their assigned research laboratories for the summer. And, in what will seem like no time at all, they will present their work at the annual INBRE Conference which will be in Nebraska City this year.

This issue highlights the accomplishments of one of our former Scholars, Christine Cutucache, who is now a faculty member at the University of Nebraska at Omaha. In this regard, you can check out a documentary produced by our external evaluators, DMD. DMD have been with us for 14+ years and have been instrumental in evaluating our program and documenting our accomplishments.

The growth and success of the Nebraska INBRE program is told through the eyes of nine former INBRE Scholars in "Becoming a Scientist: Stories from Nebraska." To hear their stories and others go to: <https://vimeo.com/169197651>

It is so gratifying to follow the path taken by these former Scholars through their undergraduate years, through graduate school, and then into their careers as science professionals, including one administrative position as a dean!

These accomplishments only reinforce what the INBRE program is all about. I encourage all of our readers to watch the video and take the time to get to know these former Scholars.

We also celebrate the accomplishments of former INBRE Scholar, Maggie Bartlett, who received the 2016 Chancellor's Outstanding Incoming Ph.D. Student Scholarship to attend graduate school at UNMC.

What an outstanding team we have in the NE-INBRE. None of us could have accomplished these things alone and we should all take pride in the successes of our program.

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New 2016 INBRE Scholars

On May 31, the Nebraska INBRE program welcomed 27 undergraduate students from across Nebraska as they embarked on their summer research experience at Creighton University, the University of Nebraska-Lincoln and the University of Nebraska Medical Center.

These 27 INBRE Scholars represent:

- Nine colleges and universities;
- Four states, including Iowa, Minnesota, California and Colorado;
- Three foreign countries, including India, Japan and Vietnam;
- 16 girls; and
- 11 boys

Joining the INBRE Scholars, once again are Jaqwonna Sawyer, Latiffa Liburd, Tionie Graham and Vanessa McBride, four students from Clark Atlanta University who are working with investigators in the Nebraska Prostate Cancer Training Program.

INBRE Scholars eager to learn, well-prepared

Truc Doan already knows a lot about biofilm infections and how to grow a biofilm.

It's a skill the 2016 INBRE Scholar learned over the past few months as an undergraduate student at Doane University under the guidance of various faculty members of the newly formed Center for Undergraduate Research in Biofilms (CURB).

And it's one he will put to good use this summer as a scholar in the lab of Ken Bayles, Ph.D., associate vice chancellor for basic science research at UNMC and a member of the Nebraska INBRE Senior Executive Committee.

Truc is typical of the type of student who enters the Nebraska INBRE Scholars program – eager to learn, well-prepared and well-versed in scientific methods and techniques.

"The candidates I see coming into the program year after year are strong, motivated and enthusiastic," Dr. Bayles said.

Over the past 11 years, Dr. Bayles has mentored eight INBRE Scholars and three graduate students. He has seen students gain a variety of skills, through their involvement with the program and from their undergraduate mentors, all INBRE faculty associates at partner institutions.

"This is what it's all about," Dr. Bayles said. "Creating strong undergraduate mentors whose research inspires and propels undergraduate students forward on their own scientific journey."

Dr. Holmes, an associate professor in the department of chemistry at Doane University and the principal investigator of the NIH-INBRE sub-award that funds CURB, who also has been a part of the INBRE program for 10 years, would agree.

"The INBRE program is life-changing for students and faculty, especially junior faculty who are just getting started in establishing a competitive and rigorous research program with undergraduates," Dr. Holmes said.

"Since I have become an INBRE faculty associate, I have worked with many fantastic scholars. My very first INBRE scholar, Katie Wilcox, just graduated with her M.D./Ph.D. degree from UNMC. It makes me proud that the scholars are pursuing their research training after they graduate from the INBRE program," she said.

"The candidates I see coming into the program year after year are strong, motivated and enthusiastic."

And, it's exactly what the Nebraska INBRE program is designed to do – expose undergraduate students to cutting-edge research and prepare them for success when they enter graduate school, as well as create collaborations with researchers at partner institutions and Ph.D. granting institutions.

