2014-15 was another fun, exciting year for CSIT. We participated in many outstanding activities, welcomed new people to campus, and had visits from alumni and friends.

We started the year with many new students and a new Office Associate, Dianne McDole. Dianne joined us after many years at John Deere in Moline, IL. Dianne’s position was 1/2 time in CSIT and 1/2 time in Biology. When the other Biology Office Associate retired this summer, Dianne decided to take the full-time position with that department. So, we start off the 2015-16 year with another new Office Associate, Shannon Decker. Shannon is coming to us after working with CHI for the past 5 years and her office experience will be a great asset to the department. We also have a new faculty member starting this fall, Dr. Matt Miller. Matt graduated from UNK in 2003 with a degree in Computer Science. Please see the article on Dr. Miller and his family later in this newsletter.

CSIT students again amazed me with their creativity and hard work. They were members on the UNK cyber-defense team that won the North Central Regional Collegiate Cyber Defense Competition. CSIT students also received third place at the 2015 Midwest Instructional Computing Symposium (MICS) robotics competition. (The image above shows CSIT students and faculty at MICS.) Many CSIT students created outstanding class projects each semester. I am excited to share with you several articles regarding the accomplishments of CSIT students.

CSIT participated in many outreach events throughout the year. In October, CSIT faculty and students assisted the AIM Institute with the youth track of the Broadband Connecting Nebraska Conference. High school students received hands-on experience with new technologies such as the Oculus Rift Virtual Reality headset and Google Glass glasses, and they learned basics of creating computer games. CSIT faculty and students helped with First Lego League and VEX robotics competitions, and held an App Inventor night for Girl Scouts. CSIT also established a Dual Credit program for Grand Island Public School students.

We were honored with guest presentations this year, including presentations by CSIT alums Dr. Jay Powell and Dr. Matt Miller. CSIT business partner First National Bank also presented to students, while the Buckle held an open house for students, and Xpanxion held gaming events. Numerous business partners attended the UNK Career Fairs and IT Breakfast in search of CSIT students for future employment.

Finally, in July, CSIT alumni held their first ever meet-and-greet in Omaha, with over twenty alumni and friends getting together to reminisce and network. Fun was had by all!

I hope you enjoy reading about the 2014-15 CSIT events and happenings.

Sherri Harms, CSIT Chair
Congratulations to the UNK CSIT robotics team of Keathan Fertig and Ian Lim for placing third in the regional Midwest Instructional Computing Symposium (MICS) robotics competition in Grand Forks, ND on April 10th, 2015. University students from the seven-state area (Nebraska, South Dakota, North Dakota, Minnesota, Iowa, Wisconsin, Illinois) competed at this event. Ian and Keathan received $200 for their third place finish.

In the competition, student teams designed, built, and programmed robots to autonomously shoot three point baskets. In the implementation of their autonomous robots, student teams used advanced programming techniques and designed their robots to respond to various sensors. Students had to create the interplay between the physical design of their robot and the mental capacity they programmed into the robot in solving a problem.

The 13th annual local UNK robotics competition was held on March 16. The local winning team consisted of Michael Odell, Gerardo Quintero, Ben Bomberger, and Abi Pofahl. The local second place team was Quinn Feikert, Adam Zheng, and Natalie Hanisch. Other teams competing at the local UNK robotics competition included: Ben Wagner, Sean Stahly, Brice Newton, and Sam Middleton; Jon Kauk, Samantha Sorge, and Josh Wilson; Jake Korth, Jake McCann, and Dan Harshbarger; and Ian Lim and Keathan Fertig. The robotics teams shown below also competed at MICS.

UNK students also competed in the MICS programming competition, including the teams of: Abi Pofahl, Michael Odell, and Gerardo Quintero; Sean Stahly, Sam Sorge, and Josh Wilson; and Natalie Hanisch, Adam Zheng, and Quinn Feikert.
Congratulations to the UNK team that won the Collegiate Cyber Defense Competition (CCDC), for the North Center region ia.dsu.edu/ccdc/, held at Dakota State University in March 2015. UNK placed first in the technical category and scored second in business injects to win first place overall.

The competition consisted of 50 percent business injects – where business tasks were assigned to the team – and 50 percent technical, where students defended their network against hackers. UNK also competed at the national CCDC competition in April.

“It was like a scene out of an old, cliché movie,” said CSIT student Devin McIntyre. “We continually faced adversity with calm, collected action and stuck to our game plan. (To win) felt amazing.”

“We were excited because this was our first year entering the competition, and we had no expectations,” said coach Dr. Angela Hollman. “The students maintained a calm, collected demeanor throughout the competition and had excellent collaboration and communication skills,” Hollman added.

After winning the regional CCDC, the U.S. Department of Defense contacted Dr. Hollman and told her that they want to recruit the University of Nebraska at Kearney students. All of them.

CSIT Advisory Council News

The 2014-2015 Advisory Council members were: Jim Allen, Berkley Technology Services; Jeff Blackmon, Strategic Continuity Solutions; Pete Evans, Douglas-Omaha Technology Commission; Steve Goddard, Computer Science and Engineering, University of Nebraska-Lincoln; Rob Harbols, Buckle, Inc.; and Scott Weitzel, Sheridan Ross. Student members were Devin McIntyre (IT) and Daniel Russell (CS).

The Council held phone conferences in September 2014 and February 2015 and met on March 6, 2015 for its annual meeting.

The Council met with Dustin Newton, UNK Admission Director, to discuss recruiting and UNK Chairs to discuss cross-campus collaboration. They also met with CSIT students to discuss marketing ideas and ways to improve the curriculum. Students also described their class projects. The council was glad to see CSIT enrollment increase for the sixth straight year.
CSIT senior seminar students presented their projects on Wednesday, December 17th, 2014.

Josh Howard, Brian Norman and Samantha Sorge created UNK Underground, a web application that creates an online community for UNK students. It includes a market place where students can buy or sell items, sublease or find roommates, and provided information on student promotions and

Austin Edeal created an augmented reality android application for weather forecasts.

Jacob Korth created Hermes, a small, easy to use encryption library for Android.

Jacob Royal investigated and implemented the open source software, Sensu, as a system monitoring solution.

Ezan Kacou implemented a small network with a DHCP and DNS server and tested the network for packet injection.

Daniel Russell created a web app called THREEADAY to store online and home-made recipes. The aggregated recipes can then be placed on a personal meal calendar for smart meal planning and for automated grocery lists.

Mason Foxvog created an Android application that uses third party API to access and display information about the user's online gaming accounts.

Devin McIntyre implemented a Virtual Desktop Infrastructure using Microsoft's Windows Server 2012.

Neil Emeigh and Taylor Fleeman created a robotic drink mixer that combined a Raspberry Pi and an Arduino to control a motor and solenoid valves. It interfaced through a webpage to a database. This robot can take an order from a mobile phone, store a queue of all drinks to be made, and finally make the drinks one at a time. (See Neil and Taylor's photo on page 5).
Software Engineering students presented their final projects on May 4th, 2015. Student projects demonstrated understanding of software development concepts and individual creativity. The list of projects is shown below.

<table>
<thead>
<tr>
<th>Student</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taylor Fleeman</td>
<td>Robotic drink mixer that takes online orders, makes drinks using multiple values and bills customers for the order</td>
</tr>
<tr>
<td>Neil Emeigh</td>
<td></td>
</tr>
<tr>
<td>Sean Stahly</td>
<td>Arduino-based autonomous drone quadcopter security (funded by EPSCOR)</td>
</tr>
<tr>
<td>Matt Lueck</td>
<td>Laser Tag game created with the Unity game engine</td>
</tr>
<tr>
<td>Jonathan Kauk</td>
<td>Business management app that uses JavaFX/FXML, MySQL, and an MVC architecture</td>
</tr>
<tr>
<td>Abi Pofahl</td>
<td>Drink recommender app for a local micro-brewery</td>
</tr>
<tr>
<td>Adam Zheng</td>
<td>Computer troubleshooting chatbot that performs server maintenance</td>
</tr>
</tbody>
</table>

The Artificial Intelligence (AI) students demonstrated their independent projects on May 6th, 2015. Each student creatively designed their own project to demonstrate their understanding of AI algorithms, such as search algorithms, constraint satisfaction algorithms, machine learning algorithms, robotics, and genetic algorithms. They were required to blog about their project throughout the semester. A sampling of project titles and blog sites is shown below.

- Robots Vs Humans virtual reality first person shooter game: robotsvshumansposts.tumblr.com
- Super Mario Brothers AI agent: cs.unk.edu/~kaukl
- Tron game: quinndf.tumblr.com
- 2048 game: fastevac.tumblr.com
- Snake game: cs.unk.edu/~bombergerbc
- Elevator Saga: othello-ai.tumblr.com
- Pokemon game: seanstahly.blogspot.com
- Fantasy strategy game: cs.unk.edu/~quinteroheg2
The CSIT Department selected Daniel Russell as the Spring 2015 outstanding graduate. Daniel graduated cum laude with a Computer Science Comprehensive degree. Daniel completed several impressive class projects, including a website/app (named ThreeADay) for storing recipes and meal planning, and a virtual reality snowboarding simulation using Oculus Rift virtual reality display along with the Wii Balance Board.

In the summer of 2013, Daniel completed a computer vision research project entitled Utilizing Computer Vision to Control the Spread of Horn Flies for the USDA under the direction of Dr. John Hastings, which he presented at the National Conference on Undergraduate Research in 2014.

Daniel provided a good deal of service to UNK as a student. He has assisted with the UNK International Food Festival and international student orientation. Daniel was a tutor for CSIT and Math. Daniel served as a student representative on the CSIT Advisory Council. He also demonstrated his snowboarding simulator at the Nebraska Broadband Conference and at the First Lego League Robotics Competition in Kearney.

He completed two internships with C2FO, a company that provides an online marketplace for businesses to buy and sell to each other. In Spring 2015, Daniel completing an internship with Control Yours, a web development company based in Kearney, NE. He also studied in China in 2012 and Korea in 2013.
The Buckle Excellence Scholarship fund added two new scholarships in 2014. Besides the two-year scholarship worth $3000 per year, two CSIT students will each receive an annual $3,000 scholarship. The scholarship recipients are provided unique opportunities to build relationships with Buckle IT professionals through activities such as job shadowing and tours of the Buckle facilities. Buckle also has an internship program for students, and provides classroom presentations and student project reviews.

Justin Joyce of Giltner, NE was named the 2015 award recipient of the $6000 Buckle Excellence Scholarship. He is the son of Todd and Angie Joyce. In high school, Justin was active in football, basketball, track, quiz bowl, pep band, and was the school IT coordinator’s tech aide. Joyce has always been interested in technology and enjoys learning on the go.

Jonathon Marvin and Jonah Peterson were selected as the $3000 Buckle Excellence Scholarship recipients.

In high school, Jonathon was active with student council, band, football, wrestling and track. He also built his own computer and wrote an IOS app for his school. He taught himself app development using online sources. His career goal is to develop software to help and entertain people. Jonathon is the son of Mike and Kathy Marvin, of O’Neill, NE.

Jonah was involved with wrestling, cross country, track, and show choir in high school. His research project placed in the top 5 projects at the Nebraska Junior Academy of Sciences competition and qualified for the national competition in Washington DC to be held in February 2016. Jonah is the son of Deb Thayer and Kelly Peterson, from Central City, NE.

Ben Wagner is the recipient of the 2015 Northwestern Energy Community Works Scholarship. Ben is a junior Computer Science Honors student with a GIS minor. Ben is the son of Jerome and Terri Wagner from Columbus, NE. He is completing an internship at Buckle.

The CSIT friends and alumni scholarship needs help reaching $25,000 so it can be annually awarded to a CSIT student. The University of Nebraska Foundation has several options for giving to this fund, including outright and recurring gifts. Many employers provide matching gifts as well. If CSIT alumni & friends will contribute to this fund, it will provide scholarships to needy CSIT students. To make a tax deductible contribution, please go to the University of Nebraska Foundation page at nufoundation.org and search for “CSIS”.
ACM ACTIVITIES

On April 18th, ACM hosted their second Disinfection Day. ACM members were given a chance to give back to the community with their own special set of skills as well as building upon their own skill sets by working with other ACM members towards a common goal of cleaning virus-filled computers. They accepted faculty, staff, and student computers, which were brought in and cleaned of malware, viruses, and other computer infections. They accepted free-will donations for this service.

ACM also worked on building a touch-screen from scratch as a fun side project.

ACM officers for 2014-15 were Adam Zheng, president; Devin McIntyre, vice president; Gerardo Quintero, treasurer; and Zayne Kinkade, secretary.

RMC WiC 2014 CONFERENCE

Dr. Harms, Professor Anderson and two CSIT students attended the Rocky Mountain Celebration of Women in Computing (RMCWiC) in October. As part of the RMCWiC conference, they also toured the NCAR-Wyoming Supercomputing Center. The goal of RMCWiC is to provide female role models and encourage women to pursue computing careers.

CSIT STUDENT RESEARCH, INDEPENDENT PROJECTS AND INTERNSHIPS

- Matthew Brei, Fall 2014, Association Rule Mining and Medical Research independent project, Dr. Harms
- Taylor Fleeman, Fall 2014, Xpanxion, Kearney, NE
- Daniel Russell, Fall 2014, C2FO, Kansas City, MO
- Devin McIntyre, Spring 2015, ESU-10, Kearney, NE
- Brian Norman, Spring 2015, Buckle, Kearney, NE
- Jacob Royal, Spring 2015, Buckle, Kearney, NE

- Travis Anderson, Fall 2014, Weather Trivia, a web-based mobile app independent project, Dr. Hastings
- Daniel Russell, Spring 2015, Control Yours, Kearney, NE
- Douglas Perez, Spring 2015, Cabelas, Kearney, NE
- Zachery Widger, Spring 2015, Buckle, Kearney, NE
- Adam Zheng, Spring 2015, Buckle, Kearney, NE
- Neil Emeigh, Summer 2015, BanditIM LLC, Kearney, NE
- Keathan Fertig, Summer 2015, Chief Industries, Grand Island, NE
- Bryce Newton, Summer 2015, Textron Aviation, Wichita, KS

Buckle Inc. hosted an open house with pizza for CSIT faculty and students at their IT headquarters, where several Buckle employees, such as Jacob Royal shown above, described their responsibilities and discussed their software development architecture.

Buckle Open House

Madison Mickey and Samantha Sorge at the NCAR-Wyoming Supercomputing Center

Jacob Royal, CSIT student and Buckle Intern presenting on system administration at Buckle
On November 24, 2014, Dr. Jay Powell, a 2004 UNK CSIT graduate, who works for PerkinElmer in Boston, MA presented “Multi-armed Liquid Handling Robots”. PerkinElmer is a company focused on improving human and environmental health. Currently Dr. Powell’s R&D team is building an IDE that allows biologists and chemists to program the robot. Dr. Powell discussed the R&D process and how a software group fits into a multi-disciplinary team.

Dr. Matt Miller, Assistant Professor at Dakota State University, and 2003 UNK CSIT alumni, presented “How Virtual Functions are Implemented Via Reverse Engineering” on February 27, 2015. He discussed how variables, functions and inheritance work at the machine level, and discussed what a compiler does to source code.

Dr. Jamella Al-Jaroodi presented “Middleware, Service-Oriented Architecture and the Cloud” to CSIT faculty and students on March 9, 2015. She discussed how middleware and SOA support cloud-based applications and autonomous communication and coordination in collaborative unmanned aerial vehicle applications.

On April 10, 2015, Pat Kostal, Steve Helms, and Doug Lopp, Application Development team members from First National Bank of Omaha (FNBO) presented “The technology stack at FNBO and use of service oriented architectures.” They also discussed internships opportunities.

Marla Trampe was awarded the fall 2014 CSIT Friend of the Year for the CSIT Department. Marla was the CSIT Office Associate from 2012-2014. She was extremely efficient and completed her tasks with a conscious effort to detail and quality work. Marla did an excellent job maintaining the department budget and making the CSIT office run efficiently. Marla designed the departmental logo and took responsibility for several marketing aspects of the department. Marla completed her B.S. in Business Administration and is now employed at the Kearney Regional Medical Center in the Human Resources Department.

Best of luck to Marla!
Below is the list of graduates for 2014-2015, along with their major program of study and where they are currently employed, if known. The CSIT faculty and staff wish our new alums much success in their future endeavors!

**2014-2015 CSIT GRADUATES**

Below is the list of graduates for 2014-2015, along with their major program of study and where they are currently employed, if known. The CSIT faculty and staff wish our new alums much success in their future endeavors!

**ALUMNI NEWS**

**Nathan Blazek** (2007) is an IT Project Manager at Crete Carrier Corp, in Lincoln NE.

**Shawn Frazier** (1987) is the Director of Healthcare Sales at Covisint in Denver, CO.

**Neil Hans** (1992) is an Electronic Medical Record Analyst for Deloitte Consulting in Omaha, NE.

**Kipp Jones** (1988) is a SVP of Product & Engineering at Skyhook Wireless, in Greater-Boston, MA.

**Jim Nissen** (1991) is an Area Technical Engineer for Oracle in Omaha, NE.

**Corey Reil** (1997) is a Sr Java Software Architect for American Century Investments in Kansas City, MO.

**Jason Rothfuss** (1995) is a Vice President at Labpoint, LLC, in Omaha, NE.

**Basant (Bobby) Upadhyaya** (2002) is a Business Analyst at InfoGroup in Omaha, NE.

**Kyle Williams** (2009) is a Web Developer at Indaba Group LLC in Denver, CO.

**Jill Wood** (2006) is a Network Engineer at Nebraska Orthopedic Hospital in Omaha, NE.

**Matthew Brei**
IT System Admin/History, Cabela’s, Kearney, NE

**Stephen Carlson**
IT Web Development/Telecom, TSL Companies, Omaha, NE

**Mason Foxvog**
IT Web Development/Business, Xpanxion, Kearney, NE

**Andrew Poinsette**
Biology/CS

**Full Body Image:**
Sherri Harms, Gabriel Dumont de Lima, Matt Brei, Andrew Poinsette, John Hastings at the Fall 2014 Graduation Reception

**Front row:** Sherri Harms, Adam Zheng, Taylor Fleeman.

**Middle row:** Shahram Alavi, Natalie Hanisch, Devin McIntyre.

**Back row:** Austin Edeal, Jacob Royal, Daniel Russell

**FALL 2014**

<table>
<thead>
<tr>
<th>Name</th>
<th>Major Program of Study</th>
<th>Employer and Location</th>
</tr>
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<tbody>
<tr>
<td>Matthew Brei</td>
<td>IT System Admin/History, Cabela’s, Kearney, NE</td>
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</tr>
<tr>
<td>Stephen Carlson</td>
<td>IT Web Development/Telecom, TSL Companies, Omaha, NE</td>
<td></td>
</tr>
<tr>
<td>Mason Foxvog</td>
<td>IT Web Development/Business, Xpanxion, Kearney, NE</td>
<td></td>
</tr>
<tr>
<td>Andrew Poinsette</td>
<td>Biology/CS</td>
<td></td>
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</tbody>
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**SPRING 2015**

<table>
<thead>
<tr>
<th>Name</th>
<th>Major Program of Study</th>
<th>Employer and Location</th>
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</thead>
<tbody>
<tr>
<td>Taylor Fleeman</td>
<td>Applied CS, Math, Xpanxion, Kearney, NE</td>
<td></td>
</tr>
<tr>
<td>Jackeline Galdamez Zacarias</td>
<td>CIS, French, Psych, Dawson County Sheriff's Office</td>
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<tr>
<td>Kevin Hall</td>
<td>MIS/IT, CSG International, Omaha, NE</td>
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</tr>
<tr>
<td>Natalie Hanisch</td>
<td>Math/CS, UNL CS Graduate Program, Lincoln, NE</td>
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<tr>
<td>Joshua Howard</td>
<td>CS/Music, Xpanxion, Kearney, NE</td>
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</tr>
<tr>
<td>Ezan Kacou</td>
<td>CIS, Goodwill Industries, Grand Island, NE</td>
<td></td>
</tr>
<tr>
<td>Devin McIntyre</td>
<td>IT/Telecom, Diode Communications, Odell, NE</td>
<td></td>
</tr>
<tr>
<td>Brian Norman</td>
<td>IT/Bus Admin/Health Sci, Buckle, Inc., Kearney, NE</td>
<td></td>
</tr>
<tr>
<td>Jacob Royal</td>
<td>IT/CJ, Buckle, Inc., Kearney, NE</td>
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<tr>
<td>Daniel Russell</td>
<td>CS Comprehensive, C2FO, Kansas City, MO</td>
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<tr>
<td>Adam Zheng</td>
<td>CS/IT/Math, Buckle, Inc., Kearney, NE</td>
<td></td>
</tr>
<tr>
<td>Dustin Broeder</td>
<td>Math Ed/ CS minor, Aurora High School, Aurora, NE</td>
<td></td>
</tr>
<tr>
<td>Austin Edeal</td>
<td>CS Comprehensive, NE National Guard, Grand Island, NE</td>
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</tr>
</tbody>
</table>
11 CHS alums Angela Hollman and Mary Vaughn with Dr. Harms as they received UNK Distinguished Alumni Awards in September

CSIT student Ben Bomberger assisting at the Girl Scout App Inventor night in April

CSIT Faculty and students attending MICS in April

Assistant Professor Alavi judging the High School Vex Robotics Competition in January

Daniel Russell explaining his snowboarding virtual reality system at the middle school First Lego League competition in January

CSIT alums Angela Hollman and Mary Vaughn with Dr. Harms as they received UNK Distinguished Alumni Awards in September

Bowen Zhang judging at the middle school First Lego League robotics competition in January

Tim Roessler discussing career opportunities with CSIT senior Neil Emeigh at the annual IT Networking Breakfast in February
Students Learn How to Effectively Use Social Media in CSIT Capstone Course. A new CSIT capstone course introduces social media as a useful tool for business and self marketing and concludes with a social media marketing campaign. Local businesses took part in the project, including Mosaic, the Red Cross Fort Kearney Chapter, Kearney Children’s Museum, and others.

CSIT Partners with Grand Island Public High School. A new partnership between CSIT and the Grand Island Career Pathways Institute (CPI) is aimed at tackling the IT workforce deficit in Central Nebraska by establishing a dual enrollment opportunity for CPI students to receive credit for the CSIT 130 Intro to CS course.

Tech Conference Lets Students Learn Hands On CSIT faculty and students assisted the AIM Institute with the youth track of the Broadband Connecting Nebraska Conference.

My Semester Abroad, a student travel blog by Rachel Feddersen

CSIT ALUMNI GATHERING

On July 16, 2015, CSIT alumni held their first meet-and-greet in Omaha, with over twenty alumni and friends getting together to reminisce and network. They plan to continue meeting 2-3 times per year.

WAYS TO SUPPORT CSIT

- Provide scholarships through the CSIT Alumni & Friends Scholarship
- Enable CSIT research projects through the CSIT Fund
- See the University of Nebraska Foundation website for more information: nufoundation.org

WAYS TO STAY IN TOUCH WITH CSIT

- Join the exclusive “UNK CSIT Alumni” LinkedIn Group: Post discussions and job announcements. Connect with other CSIT alums. All members are verified CSIT alums.
- Give a presentation on-campus: Students need to hear from successful alumni. Sharing your story can make a difference.
- Hire CSIT interns or new employees: Inform Dr. Harms of your hiring needs and she will post it on the CSIT job website and send an announcement to current students.
- Attend the Fall and/or Spring Career Fairs to meet students: Sign up to represent your company at the career fair: www.unk.edu/offices/acs/career_fair.php
- Share your success story in a video clip: Inform Dr. Harms if you are willing to be featured in this video of CSITS alums.
- Like the “UNK CSIT” Facebook group
- Check out the CSIT website cs.unk.edu
- Complete the alumni survey: unk.qualtrics.com/SE/?SID=SV_bNilrXela9EjAJn with a password of “golopers”. We are interested in hearing about the events in your life and any change of address.

This newsletter is produced and distributed by the Department of Computer Science and Information Technology at the University of Nebraska at Kearney. Please report any errors to the department. Dr. Sherri Harms wrote and Shannon Decker edited the newsletter using Microsoft Publisher 2013. CSIT faculty and students at MICS 2015 are shown on the front cover. CSIT student Jacob McCann is shown on the back page.