iEXCEL Vision
Improving Human Performance and Effectiveness in Health Care.
iEXCEL Executive Summary

This year witnessed the rapid evolution of the iEXCEL program as well as exciting enhancements to the design of the Davis Global Center.

The evolution of iEXCEL and the design of its future headquarters, the Davis Global Center, has evolved significantly over the last year (July 1, 2017 – June 30, 2018). One special addition, thanks to a generous philanthropic donation, was the gift of the Zahner Wall that was added to the South Entrance creating an iconic exterior facade.

The iEXCEL Advisory Board, Executive Committee, Strategic Advisory Group and several work groups continued to provide guidance and support helping propel iEXCEL forward. These engaged oversight groups, generous philanthropy, and industry and community collaborators with our staff all pulled together to bring the iEXCEL vision “Global Leadership in Improving Human Performance and Effectiveness” to another level of maturity.

This year saw the first statewide connection using 2D interactive digital walls (iWalls) and collaborative software, thus fulfilling the desire for iEXCEL to expand UNMC distance and remote learning opportunities. iEXCEL also launched the EON Virtual Reality Innovation Academy, contributing to Nebraska’s workforce development efforts in growing science, medicine and technology fields. The iEXCEL Visualization Team grew in their abilities to produce medical visualization and added a computer programmer and project manager. They continue to work with subject matter experts to help enhance the way we teach, train and research.

The enthusiasm for iEXCEL resonates among a wide array of disciplines and industries, allowing for the creation of robust private-public and community partnerships. Motivated to improve education and patient outcomes, iEXCEL’s potential lies in the limitless ideas of our faculty, students and Nebraska Medicine staff who are motivated by the thought of using the iEXCEL resources to transform health professions education.

With sincere appreciation to all who have collaborated and worked so hard to bring the iEXCEL vision to reality.

Pam Boyers

Pamela Boyers, PhD
Associate Vice Chancellor,
Clinical Simulation, iEXCEL

iEXCEL Annual Report | 1
iEXCEL Team

Leadership
Pamela Boyers, PhD
Associate Vice Chancellor, Clinical Simulation, iEXCEL
Benjamin Stobbe, MBA, RN
Assistant Vice Chancellor, Clinical Simulation, iEXCEL

Administrative
Michael Hollins, MA
Director, Community & Business Engagement
Asit Misra, MD
Simulation Research Scientist
Alex Erlandson, MS
Event & Tour Coordinator
Shaunna Briles, BS
Program Associate
Jennifer Tworek, BS
Administrative Associate II
Beverly Luma, BMS
Administrative Program Associate, iEXCEL/IPE

SIM-NE
Douglas Dekker, BS, NRP
Program Manager, SIM-NE
Meg Davis, BS
Assistant Manager – Administration, SIM-NE

Visualization
Bill Glass, MS
Director, Visualization & Technology
Christine Allmon, BS
Program Manager, AR/VR Modeling & Simulation
Paul Dye, BFA
Graphic Arts Visualization Specialist
Brian Curtis, BA
3D Animation Visualization Specialist
Jeremiah Wilt
Computer Programming Specialist
Zach Bentom-Slocum
Instructional Designer

TJ Nuckolls, BS
3D Generalist I
Dheeraj Varandani, BFA
3D Generalist I
Anthony Lanza, BS
3D Generalist I
Duc Le, BS
Web Developer
Wesley Fisher
3D Generalist - Basic

Simulation
Brian Monaghan, MPA, NRP
Manager, Advanced Simulation Operations
Jenni Bouckhuyt, AAS, CST
Advanced Surgical Simulation Specialist II
Samantha Rogers, MSA, CHSOS
Advanced Simulation Specialist II
Jonathan Sample
Advanced Simulation Specialist

Sarah Kriss, BS
Advanced Simulation Program Supervisor
Austin Brake, EMS-1, NRP
Advanced Simulation Specialist
Amber Mekush-Harter, BS
Advanced Simulation Program Associate
Megan Kluver, AAS, ST
Advanced Simulation Specialist
Stephanie Purcell
Student Intern
The iEXCEL Advisory Board, Executive Committee and Strategic Advisory Group were the driving forces behind the program’s success this past year. The members provide the visionary leadership necessary to bring this transformative project to life.

**Advisory Board** meets quarterly; provides oversight and guidance of iEXCEL and the Davis Global Center with a focus on fundraising, sustainability, business development and community relations.

**BOARD MEMBERS**

Mogens Bay  
Executive Chairman, Valmont Industries, Inc.

Jeffrey P. Gold, MD  
Chancellor, University of Nebraska Medical Center & University of Nebraska at Omaha

Paul Hogan  
Co-Founder & Chairman, Home Instead  
Senior Care

James Linder, MD  
Chief Executive Officer, Nebraska Medicine

Susan Morris  
President, Heritage Services

Walter Scott  
Chairman Emeritus, Peter Kiewit Sons’, Inc.

Michael Yanney  
Chairman Emeritus, The Burlington Capital Group, LLC

**Executive Committee** meets biweekly; provides oversight of the design and construction for the Davis Global Center, including project schedule, budget, philanthropic contributions and technology selection. The committee ensures that iEXCEL progresses in the creation of educational and business applications for simulation and visualization.

**COMMITTEE MEMBERS**

Michael Ash, MD  
Vice Chancellor, ITS, UNMC  
EVP/Chief Transformation Officer, Nebraska Medicine

Andy Balus  
Director, Project Management, Facilities, UNMC

Jennifer Bartholomew  
Director, Facilities Planning and Construction, UNMC

Pamela Boyers, PhD  
Associate Vice Chancellor, Clinical Simulation, iEXCEL, UNMC

Doug Ewald  
Vice Chancellor, Business & Finance, UNMC

Jeffrey P. Gold, MD  
Chancellor, University of Nebraska Medical Center & University of Nebraska at Omaha

Ken Hansen  
Associate Vice Chancellor & Director, Campus Facilities, UNMC

Amy Jenson  
Executive Director, Healing Arts Program, Business & Finance, UNMC

Christopher Kratochvil, MD  
Associate Vice Chancellor, Clinical Research, UNMC

Bill Lawlor  
Assistant Vice Chancellor, Business and Finance Services, UNMC

Bill O’Neill  
Director, Public Relations, UNMC

Cindy Smith  
Smith, Bourne & Associates

Benjamin Stobbe, MBA, RN  
Assistant Vice Chancellor, Clinical Simulation, iEXCEL, UNMC

Amy Volk  
Senior Vice President, University of Nebraska Foundation

Michael Yanney  
Chairman Emeritus, The Burlington Capital Group, LLC
Strategic Advisory Group meets monthly; engages UNMC vice chancellors, deans and leaders, including representation from the University of Nebraska Foundation and Nebraska Medicine. This group provides insight and strategic direction to ensure iEXCEL serves as a meaningful, interprofessional and experiential resource for faculty, staff and students.

**GROUP MEMBERS**

**Christine Arcari, PhD**  
Associate Dean, Academic and Student Affairs, College of Public Health, UNMC

**Brian Boerner, MD**  
Assistant Professor, Internal Medicine, College of Medicine  
Director, Interprofessional Academy of Educators, UNMC

**Pamela Boyers, PhD**  
Associate Vice Chancellor, Clinical Simulation, iEXCEL, UNMC

**Bradley Britigan, MD**  
Dean, College of Medicine, UNMC

**Karen Burbach**  
Senior Associate Director, Public Relations, UNMC

**H. Dele Davies, MD**  
Senior Vice Chancellor, Academic Affairs, UNMC

**Marc Ferguson**  
Executive Director, IT Operations, UNMC/Nebraska Medicine

**Janet Guthmiller, DDS**  
Dean, College of Dentistry, UNMC

**Ken Hansen**  
Associate Vice Chancellor & Director, Campus Facilities, UNMC

**Meg Johnson**  
Assistant Vice President of Development, University of Nebraska Foundation

**Jennifer Larsen, PhD**  
Vice Chancellor, Research, UNMC

**Rod Markin, MD, PhD**  
Associate Vice Chancellor, Business Development & Chief Tech Officer, UNMC

**Kyle Meyer, PhD**  
Dean, College of Allied Health Professions, UNMC

**Dan Moser, PhD**  
Director, Academic Technologies, ITS, UNMC

**Keith Olsen, PharmD**  
Dean, College of Pharmacy, UNMC

**Juliann Sebastian, PhD**  
Dean, College of Nursing, UNMC

**Benjamin Stobbe, MBA, RN**  
Assistant Vice Chancellor, Clinical Simulation, iEXCEL, UNMC
Davis Global Center

The Dr. Edwin G. & Dorothy Balbach Davis Global Center (Davis Global Center) will serve as the headquarters for iEXCEL and the Global Center for Health Security.

Highlighted Features:

- **LEVEL 3**
  - Surgical suite with 20 operating room bays

- **LEVEL 2**
  - Realistic simulated hospital units, including acute and critical care units
  - Featuring holographic theater and the iEXCEL Laser CAVE-5

- **LEVEL 1**
  - Six-bed biocontainment clinical training and simulation unit

- **GROUND**
  - Global Center for Health Security

- **LOWER**
  - Simulated community care
  - Home care unit for emergency response training

Beginning simulation sessions on March 1, 2020, the Davis Global Center will transform learning, teaching, training and research by providing a truly interprofessional venue featuring cutting-edge technology and advanced simulation support. The center will encourage teamwork and innovation and is purposefully designed to make sure that learning is experiential.

Proximal to the UNMC colleges and Nebraska Medicine, the facility serves as the catalyst for an integrated statewide, national and global simulation initiative. All five levels work together as one collaborative unit to create safe, innovative and experiential training environments as well as a venue for research and business development.
Global Center for Health Security

Global leadership on biopreparedness training, research and care

The Global Center for Health Security at the University of Nebraska Medical Center is home to the National Training, Simulation and Quarantine Center, which features the nation’s only federal quarantine unit and simulated biocontainment units for advanced experiential training.

The Global Center for Health Security builds on UNMC’s tradition of biopreparedness training, research and patient care. People all over the world know of the internationally-acclaimed Nebraska Biocontainment Unit team, which set the global gold standard for safely treating special pathogens during the 2014 Ebola outbreak. With Emory University and New York’s Bellevue Hospital, we created NETEC to ready the nation’s health systems for the next pandemic.

The Global Center for Health Security is a global leader in isolation, personal protective equipment, emerging infections and biopreparedness.
I think getting to see it firsthand appreciates what they do as well as we’re actually going to do a simulation as the ER.

– Shaila Coffey, MD, chief resident at UNMC
### Sorrell Simulation Lab Year-End | July 1, 2018 – June 30, 2019

<table>
<thead>
<tr>
<th>Categories</th>
<th>Events</th>
<th>Learners*</th>
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</thead>
<tbody>
<tr>
<td><strong>Medicine</strong></td>
<td>312</td>
<td>8,443</td>
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<tr>
<td>M1, M2, M3 and M4 Students</td>
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<td></td>
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<tr>
<td><strong>Allied Health</strong></td>
<td>187</td>
<td>2,614</td>
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<tr>
<td>Physician Assistants, Physical Therapy, Diagnostic Medicine and Genetic Counseling</td>
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<td></td>
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<tr>
<td><strong>Other Colleges</strong></td>
<td>40</td>
<td>1,084</td>
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<tr>
<td>Colleges of Nursing, Pharmacy, Public Health and Academic Affairs</td>
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<td></td>
</tr>
<tr>
<td><strong>Nebraska Medicine</strong></td>
<td>84</td>
<td>903</td>
</tr>
<tr>
<td>MDs, Nurses and Respiratory Therapists</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GME</strong></td>
<td>152</td>
<td>1,715</td>
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<tr>
<td>Residents and Fellows</td>
<td></td>
<td></td>
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<tr>
<td><strong>External</strong></td>
<td>156</td>
<td>1,139</td>
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<tr>
<td>Global Center for Health Security, ATLS, ACTN, Creighton Nursing, CareeRockit, FLS/FES Testing</td>
<td></td>
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</tr>
</tbody>
</table>

**Events:** 957

**Learners:** 18,229
Surgical & Interventional Skills Work Group
Formed in May 2018, this group meets monthly and involves a small group of UNMC faculty and Nebraska Medicine leadership to engage in some of the technology selection and programmatic aspects related to the Surgical & Interventional Skills floor (3rd floor) in the Davis Global Center. This involves developing protocols and procedures, including scheduling priorities and the procurement of fresh tissue.

GROUP MEMBERSHIP

Chandra Are, MD, MBA, FRCS, FACS
Professor, Surgical Oncology, College of Medicine, UNMC

Jenni Bouckhuyt
Advanced Simulation Specialist II, iEXCEL, UNMC

Jesse Boyd
Funeral Director/Anatomy Education Specialist, Genetics, Cell Biology & Anatomy, College of Medicine, UNMC

Pamela Boyers, PhD
Associate Vice Chancellor, Clinical Simulation, iEXCEL, UNMC

Jerald Cutright, MD
Assistant Professor, Emergency Medicine, College of Medicine, UNMC

Abbie Fingeret, MD
Assistant Professor, Surgical Oncology, College of Medicine, UNMC

David Holt
Adjunct Assistant Professor, Clinical Perfusion Education, College of Allied Health Professions, UNMC

Jason Langenfeld, MD
Assistant Professor, Emergency Medicine, College of Medicine, UNMC

Kimberly Latcha, PhD
Assistant Professor & Vice Chair for Medical Education, Genetics, Cell Biology & Anatomy, College of Medicine, UNMC

Travis McCumber, PhD
Assistant Professor & Director of Gross Anatomy Laboratory, Genetics, Cell Biology & Anatomy, College of Medicine, UNMC

Brian Monaghan
Manager, Advanced Simulation Operations, iEXCEL, UNMC

Rhonda Prewitt
Minimally Invasive Surgery Program Associate, General Surgery, College of Medicine, UNMC

Benjamin Stobbe, MBA, RN
Assistant Vice Chancellor, Clinical Simulation, iEXCEL, UNMC

The Sorrell Clinical Simulation Lab provided a variety of training opportunities from working with task trainers to simulating surgical procedures in realistic environments.
Team Expansion

The iEXCEL Visualization Team balanced high demands for content creation by hosting local, national and international guests who visited the iEXCEL Visualization Hub.

The team welcomed Dheeraj Varandani, Anthony Lanza, Duc Le, and TJ Nuckolls. Dheeraj specializes in light and rendering that brings our models to the next level of realism. Anthony’s background is in high-end graphic creation, including texturing and modeling. Duc has extensive experience in database administration and web development. TJ, a graduate of the inaugural VRIA cohort, has past experience in broadcasting and will be an asset to the holographic theater production team. The talented visualization content development team has been collaborating with subject matter experts to produce a wide array of projects, including cardiac catheter visualization, pelvic floor models and innovative educational experiences.
Project Prioritization Work Group
Discussion with UNMC’s Educational Council and Interprofessional Academy of Educators (IAE), led to the formation of an interdisciplinary group to evaluate and prioritize a large number of project requests. The Project Prioritization Work Group (established in 2017) ensures the workflow for the Visualization Team is efficient and timely, and that the projects selected meet the iEXCEL criteria:

- Improves human performance & effectiveness
- Interprofessional
- Experiential/interactive
- Improves patient safety and quality outcomes
- Curriculum enhancement
- Competency-based with measurable objectives
- Commercialization potential

GROUP MEMBERSHIP

Christine Allmon
Program Manager, AR/VR Modeling & Simulation, iEXCEL, UNMC

Zach Benton-Slocum
Instructional Design, iEXCEL, UNMC

Pamela Boyers, PhD
Associate Vice Chancellor, Clinical Simulation, iEXCEL, UNMC

Pamela Carmines, PhD
Professor, Cellular/Integrative Physiology, College of Medicine, UNMC

Beth Culross, PhD
Asst Professor, College of Nursing-Omaha Division, Director, College of Nursing-Learning Resource Center, UNMC

Bill Glass
Director Visualization & Technology, iEXCEL, UNMC

Emily McElroy, MLIS
Director, McGoogan Library of Medicine

Peggy Moore
Director, E-Learning, UNMC

Keith Ozanne
UNMC Student Representative

Frank Pietrantoni
Director, OHPE, Nebraska Medicine

Benjamin Stobbe, MBA, RN
Assistant Vice Chancellor, Clinical Simulation, iEXCEL, UNMC

Geoff Talmon, MD
Associate Professor, Pathology/Microbiology, College of Medicine
Director, Interprofessional Academy of Educators, UNMC

Janice Tompkins, MPH, MT (ASCP)
Assistant Professor, College of Allied Health Professions, UNMC
MEDTRAY APPLICATION
Working with Gary Cochran, PharmD, and Dean Collier, PharmD, with the College of Pharmacy, the iEXCEL team created a virtual medication tray application geared towards the transplant patient education initiative. Transplant patients receive medication education before they are dismissed from the hospital to ensure that the orders are understood and can be executed in the home environment. Currently, the pharmacist uses a physical model with “mock” medications to emulate the home environment. The patient must demonstrate that they can comprehend the dosage and the frequency of administration. The pharmacist watches the patient physically fill the med tray, and then correct the med tray when changes in medication are needed due to blood levels. The application will replace the “mock” set up, and will test for comprehension, accuracy, and the ability to make corrections and/or account for self-corrections. Assessment will test for accuracy and comprehension.
PELVIC FLOOR APPLICATION
These modules involve an interactive dissector for the iBench and 3D CADWall based on anonymized de-identified patient data. This module currently includes normal pelvic anatomy as well as prolapsed anatomy using animation, and demonstrates the intricacies of the pelvic floor and the ramifications of a weak pelvic floor in a 3D and interactive manner. This application will be used in the nurse practitioner curriculum as well as patient education.

CARDIOVASCULAR SIMULATION
Working with Yiannis Chatzizsis, MD, PhD, along with his Cardiovascular Biology and Biomechanics Laboratory, the Visualization Team created VR/AR applications that demonstrate the complex human coronary artery geometry and emphasizes the dynamic placement and deployment of stents in coronary arteries using different stent designs and stenting techniques. This application was designed to meet the clinical need for enhanced physician training and planning of coronary interventions.
## Visualization Hub Year-End | July 1, 2018 – June 30, 2019

### Visitors/Tours

<table>
<thead>
<tr>
<th></th>
<th>FY18/19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tours in FY18/19</td>
<td>189</td>
</tr>
<tr>
<td>Total Tours (FY16 – present)</td>
<td>609</td>
</tr>
<tr>
<td>Visitors FY18/19</td>
<td>1,464</td>
</tr>
<tr>
<td>Total Visitors (FY16 – present)</td>
<td>6,123</td>
</tr>
</tbody>
</table>

### Highlighted Activities & Tours

<table>
<thead>
<tr>
<th>Activity</th>
<th>FY18/19 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Activities</td>
<td>70</td>
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<tr>
<td>Government</td>
<td>33</td>
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<tr>
<td>International</td>
<td>19</td>
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<tr>
<td>Military</td>
<td>7</td>
</tr>
<tr>
<td>Recruitment</td>
<td>13</td>
</tr>
<tr>
<td>Training</td>
<td>11</td>
</tr>
</tbody>
</table>

Other tours included philanthropic visitors, industry, internal faculty and staff, and alumni.

### Notable Visitors to the iExcel Visualization Hub

- Judicial Pandemic Conference
- VRIA Graduation
- Dr. Ronnie Green, UNL Chancellor
- Nebraska Hospital Association (NHA) Leadership
- History of Nebraska Board
- Women of 10
- Rotary Club of Omaha
The EON Reality Virtual Reality Innovation Academy (VRIA) launched in June 2018. Housed on the UNMC campus in Omaha, the VRIA offers theoretical and practical training and a project-based learning experience.
Upon successful completion, students receive an EON Reality AR/VR Developer Certification. The inaugural class graduated 14 students on May 20, 2019.

Dee Baird, senior vice president of economic development at the Omaha Chamber of Commerce, said iEXCEL creates a new vertical industry, or customer niche, in Omaha. “You are pioneers in creating this new vertical industry in health care and will take this to other industries and help them to transform, or start your own companies based on the skills you’ve learned,” Baird told graduates at the May ceremony.

**PROJECT PHASE**

During the project phase of the VRIA, students worked together to create a fully integrated, simulated operating room in which the learner selects the proper instrumentation for a given procedure. The class partnered with subject matter experts in the field of surgical technology to insure each of the tools were technically accurate and methods and best practices were applied.

**2020 COHORT**

Recruitment is underway for the second cohort, with a start date of January 13, 2020. This cohort will be the first cohort housed in the Davis Global Center.

Targeted partnerships with Do Space, AIM and the Omaha Chamber of Commerce are ongoing and will provide a robust and engaged STEM Ecosystem in the Greater-Omaha area.

“*The potential and the promise of AR/VR is giant. Students develop transferable skills, including modeling skills, basic coding skills, an understanding of display technology and key building blocks of AR/VR. We’re passing out of the frontier into applied skills and can put people in high risk environments without being in high risk environments.*”

— Jamie Justice, Director of Education, U.S. and Global Innovation, EON Reality
iEXCEL Statewide Outreach

UNMC iEXCEL iWall KEY
- College of Nursing
- College of Allied Health Professions
- College of Dentistry
- Omaha Campus - iEXCEL/VRIA

SIM-NE KEY
- Home Base: Scottsbluff, Kearney, Norfolk, Lincoln
- Service Area: Western, Central, Northeastern, Southeastern
The UNMC College of Dentistry in Lincoln, Nebr. debuts interactive classroom to connect campuses.

The UNMC College of Dentistry on the Lincoln, NE campus has unveiled the COD iWall Room, which is a newly retrofitted interactive classroom space. Previously a traditional lecture hall, this renovation makes the space an interactive classroom to foster experiential education. Renovations include a nine-panel iWall, six computers with touch-screen monitors and flexible furniture. With the iWall and other interactive technology, dental and dental hygiene instructors at UNMC are reconceptualizing how they present information. It also allows users to connect with iWalls on other campuses, particularly with other dental colleagues in Omaha and Scottsbluff.

In addition to connecting students throughout the state, the iWall technology will enhance group-work and discussions. Steven Haas, DMD, JD, associate dean for clinical affairs, noted that “this will enhance our ability to train dental students in evidence-based decision making.” They can review case studies with research literature being only a click away and use annotation features right on the actual patient images.

It has been especially gratifying to see the students adopt this technology and make it their own. They are constantly teaching us new ways to use the technology that we hadn’t even dreamed of.

– Janet Guthmiller, DDS, PhD
Dean of the College of Dentistry
SIM-NE is a partnership of educational institutions, academic departments representing a number of disciplines, charitable organizations, and public agencies that are dedicated to improving the health and wellbeing of Nebraskans.

**MISSION**
SIM-NE seeks to enhance the quality and accessibility of emergency medical education to rural/frontier areas by delivering high-quality, technologically advanced simulation training to the Emergency Medical Care Providers in Critical Access Hospitals and ambulance services across the entire state.
SIM-NE was initially funded with a grant from The Leona M. and Harry B. Helmsley Charitable Trust. The funding supported initial start-up costs and allowed for training to be provided at no cost for EMS providers and critical access hospital staff. Now in year four, SIM-NE is working on sustainability plan to keep the project funded and continue to provide critical training at low or no cost to attendees. Part of the sustainability plan is to offer fee for service training to organizations that fall outside the main mission of SIM-NE.

In fiscal year 2018-2019, the SIM-NE program underwent organizational changes. Primary oversight of the program shifted from family medicine to iEXCEL. The move allowed for SIM-NE to assist iEXCEL with its rural outreach. Additionally, SIM-NE leveraged the knowledge and resources of iEXCEL to enhance educational offerings.

With an eye to the future, SIM-NE developed several collaborative partnerships which allowed for new training events. Some of the events included neonatal resuscitation and difficult delivery training with critical access hospitals, pre-licensure training events for EMS, nursing, and medical advanced practitioner students, stroke recognition/education training as part of Mission Lifeline Stroke: Nebraska grant, trauma training events with both NE Air and Army National Guard units, and participation in the Omaha Airport authority triennial full-scale emergency exercise.
Business and Community Engagement

Connecting with the community and area businesses is an important, ongoing effort to share the vision and impact of iEXCEL with local stakeholders.

SOME EXAMPLES OF IEXCEL’S PARTICIPATION IN SPEAKING OPPORTUNITIES AND COMMUNITY EVENTS INCLUDE:

Do Space – Make Omaha  Tech-driven makers, inventors, families and businesses gathered for Make Omaha on April 13 at Do Space. iEXCEL showcased visualization platforms, including augmented reality and modules such as the 3D anatomy suite, to demonstrate how health care education and training is evolving alongside the latest cutting-edge technologies.

iCAN Women’s Conference  This year’s theme explored emerging technology in the digital age among more than 3,000 participants representing 38 states. iEXCEL showcased how the program is improving patient outcomes through visualization, simulation and interactive learning opportunities. iEXCEL also collaborated with conference organizers to incorporate holographic displays and immersive welcome signage at both entrances of the event hall.

Nebraska SciFest 2019  The seventh annual Nebraska Science Festival (April 5-28), involved a statewide celebration of scientific curiosity and innovation. The 2019 NE SciFest was the largest yet, with the multi-venue and multi-day festival involving dozens of events. Among these, Family Day and the Student Science Expo at the Durham Museum featured iEXCEL and SIM-NE respectively. Thousands of visitors of all ages attended these events and interacted with iEXCEL and SIM-NE staff and technology to explore the future of health care training.

Omaha SmartBiz Conference  iEXCEL was invited to showcase how technology is revolutionizing education by offering attendees of the SmartBiz Conference hands-on experiences with the latest health care training technologies. At the conference, coordinated by the Greater Omaha Chamber, the Startup Initiative and Cox Business, Governor Pete Ricketts proclaimed the day (May 1) as SmartBiz Omaha Day in Nebraska. This special day was created to recognize the hard work accomplished in creating an unparalleled, business-friendly climate in Omaha and across the state.

Omaha STEM Ecosystem  iEXCEL serves as a part of the Omaha STEM Ecosystem - a citywide partnership to maximize science, technology, engineering and mathematics learning initiatives encompassing the Greater Omaha area. iEXCEL sees firsthand the need for a vibrant STEM skilled workforce and participates in Omaha STEM Ecotystem events such as early learning educator conferences, active learning workshops, graduate courses on project-based learning, networking events, and panel discussions on emerging technology.

Governor’s Visit  Governor Pete Ricketts and Senator Mark Kolterman visited UNMC on January 4, 2019. Accompanied by Chancellor Jeffrey P. Gold, MD, Ricketts and Kolterman visited the iEXCEL Visualization Hub, where he received a demonstration of various technologies to learn about the future of health care education at UNMC and beyond. Among the highlights for Governor Rickets was the iEXCEL Virtual Reality Innovation Academy that trains learners to create content for digital 3D worlds. Ricketts sees VRIA as an important element of iEXCEL’s economic impact moving forward, noting that he was “impressed by the level of thought that went into that [VRIA].”
The National Modeling & Simulation Coalition (NMSC) is the capstone organization to promote and leverage Modeling and Simulation (M&S) to better the human condition and to strengthen the national well-being.

The mission of the NM&SC is to create a unified national community of individuals and organizations around the M&S discipline and professional practice and to be the principal advocate for M&S.

**National Modeling & Simulation Coalition**

iEXCEL and the National Strategic Research Institute (NSRI) co-hosted the National Modeling & Simulation Coalition 2018 National Meeting at UNMC on September 25 & 26.

The conference attracted a national audience to engage with keynote speakers and expert panelists on “Improving Human Performance and Effectiveness.”

“[We] believe the 21st century is the ‘Simulation Century.’ There is a confluence of interest in learning and transformational technologies that is moving very fast. The science of learning is coming to a new age, and people are really looking to digitize their life and take advantage of all these new trends and fantastic capabilities. MS&V is key to people’s worlds and will have a great effect on people’s lives in the future,” RADM James A. Robb, USN president, National Training and Simulation Association (NTSA).

**NMSC IS A CROSS-DISCIPLINARY ORGANIZATION OF STAKEHOLDERS IN THE MODELING AND SIMULATION INDUSTRY.**
ARTICLES WRITTEN BY PAMELA BOYERS, PHD

• “The Center for Advanced Surgical Technology (CAST) at the University of Nebraska Medical Center” Defense Global, August 2018 Co-written with Chancellor Jeffrey P. Gold, MD
• “Nebraska Applied Research Institute (NARI)” Defense Global, November 2018, Authored by W. Owen. Redwood, PhD (Chief Research Officer, NARI), edited by Pamela Boyers, PhD
• “iEXCEL – A Call to Action: Improving Human Performance and Effectiveness in Health Care” Defense Global, May 2019 Co-written with Chancellor Jeffrey Gold, MD

HIGHLIGHTS OF LOCAL & NATIONAL MEDIA FEATURING iEXCEL

• “How Holograms are Helping Medical Training” Wall Street Journal, July 5, 2018
• “Fact or Fiction” The Reader, July 9, 2018
• “UNMC Opens EON Reality VR Innovation Academy” Nebraska Educational Television, July 25, 2018
• “UNMC Holds Grand Opening. For New Virtual Augmented Reality Academy” KPTM Fox 42, July 25, 2018
• “New Augmented, VR Academy at UNMC on Cutting Edge of Advancing Careers” KETV Channel 7, July 25, 2018
• “UNMC Boldly Goes Where no Generation has Gone Before in Health Care Education” Omaha World-Herald, August 20, 2018
• “Gretna Fire Department, UNMC Students Train at Crash Scene Trauma Simulation” KETV Channel 7, August 23, 2018
• “Simulated Car Accident for UNMC Students, and Gretna Fire and Rescue” KLKN Channel 8, August 23, 2018
• “UNMC Students View Trauma Simulation” WOWT Channel 6, August 23, 2018
• “Health Care Goes Virtual” Health Care Goes Virtual Today, September 11, 2018
• “National Modeling & Simulation Coalition 2018 Meeting Opens up at UNMC iEXCEL” Healthy Simulation, September 25, 2018
• “UNMC Shows off New Technology in Medical Field” KPTM Fox 42, September 26, 2018
• “Health Care Simulation Technology Innovations at UNMC iEXCEL: Preparing for the Davis Global Center” Healthy Simulation, October 10, 2018
• “Surgical Training Startup Fundamental VR inks deal with Mayo Clinic, Raises Additional $1.4M” Mobi Health News, October 30, 2018
• “How the American Nurses Association Gamified Training for its 4M Members” HR Dive, October 30, 2018
• “Simulation Fields Seek Technology Synergies” National Defense Magazine, December 14, 2018
• “New Care Models, Research Tools and Treatments are Accelerating on the Health Care Landscape” Omaha World Herald, February 3, 2019
• “Access, Workforce Readiness at Heart of Multi-faceted Priorities, Investments” Midlands Business Journal, March 1, 2019
• “Workforce Development: The University of Nebraska Continues To Shape The State’s Future Workforce, As Demonstrated at these Two Omaha Campuses” American Airlines Magazine, March 1, 2019
• “Embracing and Exhibiting the Newest Technologies at the Digital Zone at iCAN” Midlands Business Journal, March 15, 2019
• “UNMC Uses VR as Human Trafficking Awareness Tool” KMTV Channel 3, April 22, 2019
• “‘Smart’ Tech of the Future Available now for Cities, Utilities and Businesses” Omaha World Herald, May 1, 2019
• “SmartBiz Omaha, Powered by Cox, Showcases Business Technology of the Future” Yahoo Finance, May 1, 2019
• “Cox Business is Using Advanced Technology to Turn Programs in Omaha into “Smart Programs”” KMTV Channel 3, May 2, 2019
• “SmartBiz Omaha Showcases Cutting-Edge Community Tech” Silicon Prairie News, May 3, 2019
• “What If…: Innovator Insights Pam Boyers,” Nebraska Educational Television, May 13, 2019
• “iEXCEL Revolutionizes Health Care Education Through Immersive Technology” Silicon Prairie News, May 17, 2019
• “Graduates of Virtual Reality Class at UNMC Show off Skills” KETV Channel 7, May 21, 2019
• “Virtual, Augmented Reality Reshapes Industries from Health to Hospitality” Midlands Business Journal, June 21, 2019
• “After Omaha Visit, Winnecke Feels Evansville on Right Track” Courier & Press, June 25, 2019

PRESENTATIONS & CONFERENCES

• “Setting the Stage MS&V in Health Care and Education” National Modeling and Simulation Coalition, Omaha, Neb., September 25, 2018
• “Launched Human Performance & Effectiveness” National Modeling and Simulation Coalition, Omaha, Neb., September 26, 2018
• “Mobile Simulation Enhances Training for School Nurses” Human Patient Simulation Network, Orlando, Fla., February 26, 2019
• “Escape the Classroom: Clue to Delivering an Innovative Experiential Learning Activity” Human Patient Simulation Network, Orlando, Fla., February 26, 2019
• “Taking Class Outside: Benefits and Challenges of an Outdoor Multi-Agency Simulation” Human Patient Simulation Network, Orlando, Fla., February 26, 2019
• “Visualizing the Future: Enhancing Education Opportunities by Incorporating AR, VR and other Visualization Technologies” Human Patient Simulation Network, Orlando, Fla., February 28, 2019
• “iEXCEL: Revolutionizing Health Professions Education” EON Immersive Innovation Forum, Irvine, Calif., May 19, 2019

WEB & SOCIAL MEDIA PRESENCE

• Continued to engage on Twitter with followers » 96 tweets by iEXCEL, mentioned in 129 tweets » 145 new followers for a grand total of 300
• Top tweet was announcing the deadline for applications to be part of the inaugural class for the EON Reality VRIA