UNIVERSITY OF NORTH DAKOTA
ONE UND STRATEGIC PLAN UPDATE

May 2018

UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION

GOAL 1
LIBERAL ARTS FOUNDATION

Accomplishments to Date

- Began AAC&U VALUE Institute effort to measure effectiveness in teaching critical thinking, intercultural skills, quantitative reasoning and written communication
- Expanded High Impact Practice (HIP) offerings with new and enhanced student internship programs in partnership with City of Grand Forks, Center for Innovation, EERC and others to make area more attractive to young professionals
- Increased courses that leverage technology to improve learning:
  - MALL Math Lab: self-paced, computer-aided course for math proficiency
  - DigiComm Lab: virtual reality enhanced classroom for teaching communication skills
  - SCALE-UP Classrooms: active learning, collaborative classrooms

Next Steps

- Complete documenting of current HIPs
- Identify three HIPs for every degree
- Develop pathways for diverse double majors and major/minor/certificate combinations that achieve breadth without extending degree completion time

UND UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION

GOAL 2
GRADUATION RATES

Accomplishments to Date

- Improved Starfish usage rates (Spring 2017 to Spring 2018)
  - Early Alert Notifications: up to 67% from 54%
  - Midterm Reporting: up to 73% from 51%
  - Kudos: up to 10,346 from 5,530
- Selected a degree planner software with NDSU and began installation. Student persistence likely to increase from 81% to 83.5% (basic users) or 88.3% (frequent users), as they can:
  - See classes, time and money required to complete degree
  - Compare UND degree plans side-by-side
  - Track courses completed and see which ones are needed to graduate
  - Understand the time and cost involved with switching majors
- Busted 11 barriers to graduating or to enrolling as a transfer or returning student
  - 65% of programs currently have adjusted to 120 credit hour standard

Next Steps

- Define best practices for advisors and develop a plan to rollout
- Pilot campaign for students to use Degree Planner
- Reduce the number of actions that cause holds for registration

UND UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION

GOAL 3
MORE OPPORTUNITY

Accomplishments to Date

- Launched UND brand with Leaders in Action tagline
- Began digital marketing with metrics that have already increased recruitment productivity
- Received approval for new data analytics and cyber security programs for Fall 2018
- Launched scholarship review to impact Fall 2018
- Reached agreement with Pearson in support of new online master's in cyber security and accounting
- Defined "Finish in 4" degree pathways with area 2-year colleges
- Enhanced campus appeal by:
  - Removing unsightly, unoccupied buildings with $70 million in deferred maintenance
  - Working to replace/relocate steam plant through a $75 million public-private partnership (reduces CO_2 impact equivalent to 8,600 passenger cars)
- Launched new mobile friendly website

Next Steps

- Complete launch of new online cyber security degree
- Select and begin implementation of Customer Relationship Management (CMS) software with NDSU
- Complete review of enrollment management and scholarship awarding processes
- Rollout new campus banners with *Leaders in Action* brand

UND
UNIVERSITY OF
NORTH DAKOTA
LEADERS IN ACTION

GOAL 4
RESEARCH

Accomplishments to Date

- Created five Grand Challenge research teams and provided $3.5 million in additional university funding to support seed grants and post-doctoral researchers for each Grand Challenge

- Modernized approach for internal reporting to better reflect UND research investments. Along with an increase in externally funded research, this resulted in UND reporting $100+ million in research expenditures and being closer to Carnegie R1 goal

- Created the Research Institute for Autonomous Systems (RIAS) to advance research related to UAS Grand Challenge

Next Steps

- Define research expectations for Colleges of Arts & Sciences, Aerospace, Nursing and Education (Business, Engineering and Medicine are complete)

- Continue implementation of Novelution software to increase research proposal submissions, ease grant management and better understand the impact of internal investments

- Finalize new Digital Measures implementation/ training to significantly increase the use of research productivity data in annual faculty evaluations

UND UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION

GOAL 5
DIVERSITY & INCLUSION

Accomplishments to Date

- Met with all tribal colleges to establish 2+2 programs (Finish in 4) for priority degrees, beginning with Cankdeska Cikana Community College for general studies, social work and marketing degrees
- Began new internship in Africa for American Indian engineering students
- Completed a campus climate survey with a 26% participation rate for all degree-seeking students to allow UND to better target efforts
- Brought Community Violence Intervention Center (CVIC) to campus
- Formed Department of Student Diversity & Inclusion to enhance student support

Next Steps

- Define actions steps responding to climate survey
- Leverage university marketing and define benchmarks for attendance at signature cross-cultural events
- Improve fall-to-fall retention rate for half or more of the race/ethnic/1st generation segments reported in IPEDS

UND UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION

GOAL 6
MILITARY FRIENDLY

Accomplishments to Date
- Identified programs in high demand by military
- Had first three degrees accepted by Air University, allowing UND to serve air force personnel around the world
- Facilitated military credit transfer through the American Council on Education (ACE)

Next Steps
- Add additional degrees to Air University partnership
- Become a partner with Army University
- Become a partner with Service Members Opportunities

UND UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION

GOAL 7
ALUMNI SUPPORT

Accomplishments to Date
- Established fundraising goals by college/unit
- Began testing and refining crowdfunding
- Completed engagement, fundraising and staffing assessment

Next Steps
- Expand and enhance engagement activities in key strategic markets including Fargo, Bismarck, Western North Dakota, Minneapolis and Denver
- Exceed prior year donor numbers
- Assemble a fundraising toolkit for endowed faculty positions and the College of Business & Public Administration building
- Define fundraising volunteer structure

UNIVERSITY OF
NORTH DAKOTA
LEADERS IN ACTION

ENERGY & ENVIRONMENTAL SUSTAINABILITY

Promote energy security and environmental sustainability

UND's Capabilities

- Energy & Environmental Research Center (EERC), Institute for Energy Studies (IES) and disciplines across UND conduct scientific and engineering research in a broad range of energy topics: clean coal, enhanced oil recovery from Bakken Shale, carbon capture and sequestration, renewables (wind, solar, biofuels)

- One of the largest and most robust energy research enterprises in the U.S. with extensive state-of-the-art research capabilities, deep connections with the oil, gas and coal industries, and a national reputation for high quality research and development (>$32 million per year in research expenditures)
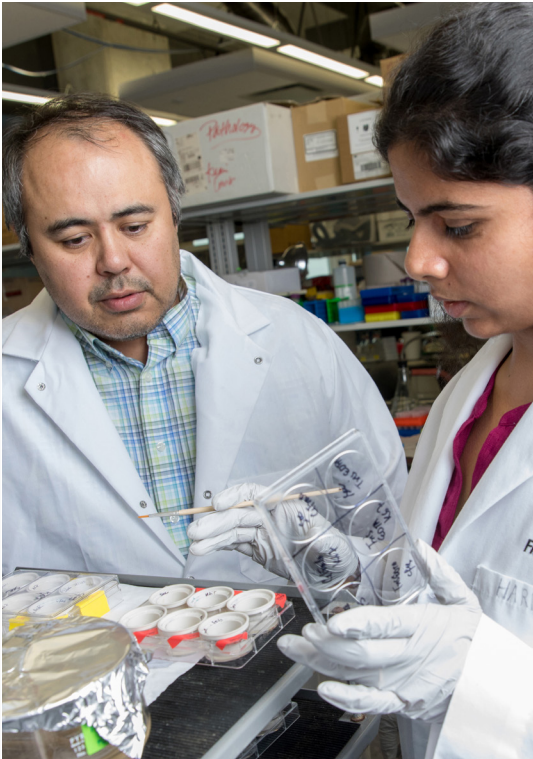
Benefits to North Dakota

- UND's energy research is crucial to the success of the energy industry in North Dakota and beyond

- Workforce development

- Accessibility and affordability of energy in North Dakota while environmentally responsible at the same time

Current Projects

- **Creating a Multidisciplinary Team:** Including the sciences, engineering, social sciences, business, economics, political science, law and other disciplines in order to expand opportunities to enhance funding and impact of energy research at UND

- **Enhancing Oil Recovery:** Every 1% increase in recovery means $3 billion in new revenues and hundreds of millions in tax revenue for North Dakota

- **Increasing Value of Coal:** Recovering rare earth elements from coal deposits (scarce commodities used in electronics applications)

- **Advancing Carbon Management Technologies:** Capture and sequestration

UND | UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION

GRAND CHALLENGE
HUMAN HEALTH

Address health challenges through basic, clinical and translational discovery

UND's Capabilities

- School of Medicine & Health Sciences (SMHS) has robust research capabilities in a variety of diseases prevalent in North Dakota: cancer, stroke, Parkinson's, Alzheimer's, MS, addiction, aging

- SMHS has a strong clinical/patient treatment presence across North Dakota and connections with provider networks

- UND's allied health disciplines (nursing, social work, occupational therapy, physical therapy, physician assistant, public health, kinesiology) provide valuable training for the North Dakota healthcare community (e.g., the majority of North Dakota's nurses are UND graduates) and carry out research

Benefits to North Dakota

- UND's SMHS and allied health disciplines are major providers of the state's healthcare workforce

- UND's research in human health generates $15 million in federal funding annually, creating high value job opportunities

Current Projects

- **UND's National Institute of Health (NIH) Centers of Biomedical Research Excellence (COBRE):** Continuous funding for 15+ years and has provided $50+ million in federal funding during that span

- **Neurosciences, Infectious Disease and Epigenetics:** COBRE funding has created nationally competitive research programs (e.g., studies of how environmental factors can lead to diseases such as cancers)

- **UND's SMHS has All-Time Highest Level of Research Funding:** 10 investigators hold the highest NIH award available

- *Clinical and Translational Research:* A partnership from across UND, the state and beyond is actively pursuing a $30 million program to support research

UND UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION

GRAND CHALLENGE
RURAL HEALTH & COMMUNITIES

Help rural communities solve their unique health and social problems

UND's Capabilities

- Robust research and outreach to rural and tribal communities from the Center for Rural Health, Nursing, Social Work, Psychology and Northern Plains Center for Behavioral Health
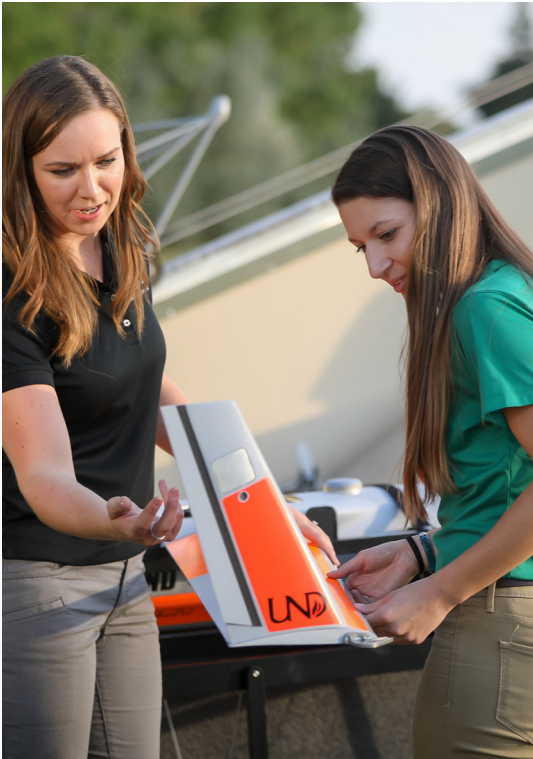- Recognized leader in addressing addiction prevention, treatment and recovery

Benefits to North Dakota

- UND's rural health research and outreach address such social and health issues as addiction (opioid/opiate, methamphetamine, alcohol), domestic violence and trauma
- Significant positive impacts on individual and community health as well as workforce productivity

Current Projects

- **Mountain Plains Addiction Technology Transfer Center (ATTC):** UND's $3.7 million federally funded ATTC is the regional focal point of a nationwide effort to combat drug abuse effects, particularly related to the opioid overdose epidemic (with Colorado, Montana, N. and S. Dakota, Utah, Wyoming)
- **National Institute of Justice:** Studies domestic violence in tribal communities
- **Building Health Profession Expertise in Tribal Communities:** The goal of long-term, federally funded programs including RAIN (Recruit American Indians into Nursing) to support tribal communities
- **IDeA Network of Biomedical Research Excellence (ND INBRE):** UND's National Institute of Health funded program builds biomedical research capabilities at primarily undergraduate institutions and tribal colleges in North Dakota

UND UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION

GRAND CHALLENGE
UNMANNED AIRCRAFT SYSTEMS

Drive the world-changing developments of UAS and do so in a way that reflects UND's values

UND's Capabilities

- Best in the nation UAS ecosystem: academic research, training and education; FAA-authorized UAS Test Site; multiple start-ups involved in UAS flight, data acquisition and analysis; major defense contractors Northrop Grumman and General Atomics; Grand Sky UAS Business Park
- UND's innovative approach to UAS has produced a string of firsts in the nation
- Seed funding provided to recruit post-doctoral researchers and promote multidisciplinary research

Benefits to North Dakota

- UND's UAS research supports the growing private sector ecosystem responsible for economic development and job creation with both technological and workforce development
- Combines with Big Data research to extract maximum value from UAS derived data (e.g., imagery, sensor data)

Current Projects

- **RIAS^{SM}, UND's Research Institute for Autonomous Systems:** Creates a cohesive team of UAS researchers across: autonomous platforms; applications in agriculture and energy; data analytics; cyber security; UAS and autonomous policy. Pursuing major federal funding opportunities, some in partnership with industry.
- **Integration of UAS into National Airspace:** Major funding for research in "Detect and Avoid" with FAA
- **HubNet:** Working closely with Test Site and Harris Corporation on HubNet (UAS Beyond Visual Line of Sight corridor from Grand Forks to Fargo)
- **Xcel Energy:** Working on variety of projects including "one-to-many" (e.g., one pilot controls multiple UAS each with a different mission; this is not SWARM technology)
- **New Small UAS Technologies:** "Perching" and wireless power recharging

UNIVERSITY OF
NORTH DAKOTA
LEADERS IN ACTION

BIG DATA

Effectively, efficiently and ethically produce, manage and securely use information in the age of big data

UND's Capabilities

- Improved infrastructure following $900,000 investment in storage and computational cores over the past year
- Seed funding provided to recruit post-doctoral researchers leading to higher proposal production
- A small, highly active core of data analytics researchers focused in cybersecurity, machine learning and algorithm development related to UAS

Benefits to North Dakota

- UND's Big Data research aims to provide a robust data supply chain for North Dakota industry (agriculture, energy, transportation, utilities) with a focus on conversion of data to actionable information
- Data analytics, including but not limited to UAS image analysis, drives company attraction and job creation, while enhancing UND's externally-funded research enterprise

Current Projects

- **Xcel Energy:** Image analysis for storm damage assessment
- **Minnkota Power Cooperative:** Prediction and detection of power line and connector failures
- **National Science Foundation (NSF) Midwest Big Data Hub:** UND is co-lead of project to determine industry and academic computational needs in the Midwest (with U of Illinois, U of Michigan, U of Nebraska, Iowa State)
- **NSF Big Data Digital Agriculture Grant:** UND is lead in project to network ag producer institutions with big data expertise (with U of Nebraska, Iowa State, Kansas State)

UND UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION

NORTH DAKOTA'S
OPPORTUNITY ENGINE

As the state's primary center for professional education and training, continued progress on the One UND Strategic Plan benefits our students and our state.

Increases Access to Educational Opportunities

Provides Better Prepared Graduates

Encourages More Graduates to Stay in North Dakota

Meets Workforce and Industry Needs

Improves the Quality of Life

Serves Those Who Serve the State and the Nation

Enhances Connections to North Dakota

UND UNIVERSITY OF NORTH DAKOTA
LEADERS IN ACTION