University Update Topics

1. 2018 Legislative Session
2. Tuition
3. WorkCyte, Workday, and Improved Service Delivery
4. Sexual Misconduct: Start By Believing
5. Searches
6. Fundraising
7. Faces of Iowa State
8. Data Symposium
Advancing the Research Mission at ISU

Sarah Nusser
Office of the Vice President for Research

President’s Council
January 31, 2018
Changes in Research Landscape (3 yrs ago)

- Nature of sponsored funding
- Innovation cycle as a framework
- “Big data” as a transformative research paradigm
- More meaningful engagement with the broader context of research and scholarship
FY08 – FY17 External Research Funding

FY17, 5 year trends
- Research funding $244M, up 20%
- Over 2300 proposals, up 10%
- Over 460 PIs w/ awards, up 6%
- Over 700 investigators, up 3%
Federal (70%): Expand ISU Engagement with Specific Agencies

**FY13-FY17**

Federal Funding up 25%

- DOD up 47%
- NIH up 24%
- DOE up 53%
  - AL 33%
  - ISU 76%
Nonfederal (30%): Diversify Funding

FY13-FY17

Non-federal funding up 15%

- Industry: up 14%
- Commodities: level
- State research: up 32%
- Nonprofits: up 118%
- Individuals: large increase in FY17
Research Landscape in 2018

• Emphasis on grand challenge research themes
  • Today: national security, economy, immigration
• Convergence of disparate disciplines to address complex problems
• Deepening expectations in translating research for the public good
• Expanded range of required scholarly products
Grand Challenge Research Themes

- Enabling healthy lives (plants, animals, people, communities)
- Building sustainable human and natural ecosystems
- Creating next generation materials and manufacturing technologies
- Enabling data driven discovery and cybersecurity
- Developing global citizens and vibrant societies
Interdisciplinary Research Initiatives

Healthy lives
- Vaccine and immunotherapeutics
- Antimicrobial resistance
- Brain initiative
- Translational health network (U-Turn)

Sustainability
- Biobased chemicals
- Precision and digital agriculture
- Sustainable communities decision making

Materials & Manufacturing
- Digital design and manufacturing
- Novel materials and qualified manufacturing
- Ames Laboratory research thrusts

Data Science and Cybersecurity
- Dependable data science
- Cyber-physical systems

Global Citizens, Vibrant Societies
- Iowa Bioscience platforms (economic development)
- K-12 engagement, plant phenomics
- Community engagement

Office of the Vice President for Research
Bioscience Platforms: Connecting Research to Entrepreneurship and Economic Development

• Biobased chemicals
  ... are value-added use of agricultural products that creates wealth across the state. Biobased chemicals can lead to products with new performance properties while being renewable.

• Precision and digital agriculture
  ... enables farmers to optimize management inputs to maximize yield with minimum input cost to increase yield stability, and generates significant investment opportunities with start-ups and existing Ag-related companies.

• Vaccines and immunotherapeutics
  ... can reduce use of antibiotics in food animals, improve efficiency of production agriculture, and generate efficacious and easy-to-administer vaccines for livestock.
Proposed Platform Partnership System

**Iowa State University (ISU)**
- Platform Director
- Related Centers and Programs
  - College, VPR, EDIR, President’s Office

**Iowa Biodevelopment Center (IBC)**
- Platform Manager / CTO
  - (located at host University)

**Bioscience Platform Advisory Committee (BPAC)**
- Industry, Venture/Angel Capital,
- National Labs, Regional Partners,
- IEDA / IIC, ISU
The vision of U-TuRN is build sustainable community systems that enable healthy lifestyles by empowering communities to take action informed by science.
Addressing Complexities of Team-based Research

- Workshops by experts on team-based scholarship (AY16)
- Guidelines for working in teams (AY17)
- VPR workshop series on working in teams (AY18)
- Research team leadership academy (AY19)
- Ongoing facilitation and mentoring for emerging teams via VPR-College partnerships and Grants Hub
Investing in High Risk, High Reward Ideas

Internal Funding Programs to Support Faculty Career Arc

New Faculty Start-Ups
Getting started quickly

Presidential Interdisciplinary Research Seed Funding
Changing directions with a high-risk, high reward idea

President Interdisciplinary Research Initiative Funding
translational research with societal impacts

Presidential Cost Share for Research instrumentation Fund (COSRIF)

Experimental seed programs
• Bridging the Divide
• ISU-UI collaborations

Specialty seed programs
• Bailey, McGee Wagner, ...

Publication Subvention (including Open Access publication cost share)
Lunch & Learn: Bridging the Divide

Scholars interested in building new teams that integrate Arts, Humanities, Social Science, Design & STEM disciplines

Tuesday, Jan 23, Noon – 1 pm, 368A Heady Hall
2 lightning talks: Michael Chris Low, History; Linda Shenk, English

Friday, Feb 2, noon – 1 pm, 130 Design
2 lightning talks: Annette O’Connor, Veterinary Diagnostic and Production Animal Med; Clark Wolf, Philosophy & Religious Studies
2018 ISU Research Day

DISCOVER ● CREATE ● TOGETHER

Tuesday, March 27  11 am – 4 pm
Memorial Union Sun Room and Oak Room

Prof. Gregory Petsko, Brandeis U, Natl Academy of Sciences member

Science and the Arts/Humanities: A Marriage Made in Heaven

Lightning talks, posters, exhibits and other creative expressions
The art of research communication through story telling
Resource tables for the researchers
Going Forward

• **Iowa State's Mission:**
  Create, share, and apply knowledge to make Iowa and the world a better place

• **ISU Strategic Plan Goal 2:**
  Enhance the university’s research profile by conducting high impact research that addresses the grand challenges of the 21st century