Office of the Vice President for Research
2016 Town Hall Meeting

Alan S. Rudolph, Vice President for Research

November 30, 2016
CARNEGIE Research 1 Institution

SECOND RANKED
Nationally in Federal research funding for universities without a medical school

1 OF 6 UNIVERSITIES IN THE COUNTRY
Designated as an Innovation & Economic Prosperity University

TOP 10%
In the country for R&D according to the National Science Foundation
301 Research Stories in Source since Jan. 2015
Tech Transfer Highlights

- 46 License Agreements
- Launched 5 start ups
- 622 Active Patents & Applications
- Filed 105 Inventions
Expenditures in FY16

- Overall Awards: $282 million (5.1% increase)
- Federal Awards: $214 million (3.6% increase)
- Other Non-Federal Awards: $49 million (18.3% increase)
- Industry Awards: $14 million (12.9% decrease)
VPR Quarterly Funding by Category FY15-16

TOTAL INVESTMENTS: $1,036,429

- Equipment/ Infrastructure $185,656 (18%)
- Construction/Alteration/Renovation $217,485 (21%)
- Mandatory Cost Share $262,532 (25%)
- Other $55,179 (5%)
- Center/Program/ Research Support $173,533 (17%)
- Conference/Workshop/ Colloquium $142,044 (14%)
## FY16 OVPR Budget Summary

<table>
<thead>
<tr>
<th>Operations</th>
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<tbody>
<tr>
<td>Operations</td>
<td>$6,308,793</td>
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<tr>
<td>Laboratory Animal Resources</td>
<td>787,256</td>
</tr>
<tr>
<td>Research Integrity &amp; Compliance Review Office</td>
<td>938,938</td>
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<tr>
<td>Research Services</td>
<td>690,957</td>
</tr>
<tr>
<td>Sponsored Programs</td>
<td>1,885,163</td>
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<tr>
<td>Office of the VP for Research</td>
<td>2,006,479</td>
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<tr>
<td>Strategic Research Investments/ Institutes</td>
<td>$3,096,596</td>
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<tr>
<td>Flint Animal Cancer Center</td>
<td>235,929</td>
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<tr>
<td>Energy Institute</td>
<td>764,979</td>
</tr>
<tr>
<td>Infectious Disease Research Center</td>
<td>1,655,916</td>
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<tr>
<td>One Health</td>
<td>439,772</td>
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<tr>
<td>Infrastructure</td>
<td>Amount</td>
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<td>----------------------------------------------------</td>
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<tr>
<td>Core &amp; Specialized Facilities</td>
<td>$650,000</td>
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<tr>
<td>Kuali Research (formerly Kuali Coeus)</td>
<td>$504,460</td>
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<tr>
<td>Research Building Revolving Fund</td>
<td>$310,000</td>
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<tr>
<td><strong>New Faculty Recruitment</strong></td>
<td><strong>$2,982,437</strong></td>
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<tr>
<td>88 Faculty Hired</td>
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<tr>
<td><strong>RA/RSP Investments</strong></td>
<td><strong>$1,363,592</strong></td>
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<tr>
<td>Seasonal Requests for OVPR Funding (Quarterly, cost share, other)</td>
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## Programmatic Initiatives

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Catalyst Programs</td>
<td>671,194</td>
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<tr>
<td>Governmental Relations</td>
<td>86,000</td>
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<tr>
<td>Graduate/Undergraduate Research</td>
<td>15,000</td>
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<tr>
<td>International Programs</td>
<td>30,036</td>
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<tr>
<td>Invitational Travel</td>
<td>16,000</td>
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<tr>
<td>Miscellaneous</td>
<td>50,285</td>
</tr>
<tr>
<td>Programs of Research &amp; Scholarly Excellence</td>
<td>455,400</td>
</tr>
<tr>
<td>Recognition/Awards/Fellowships</td>
<td>165,000</td>
</tr>
<tr>
<td>Technology Transfer</td>
<td>348,847</td>
</tr>
<tr>
<td>Virtual Reality Initiative</td>
<td>100,000</td>
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<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>$17,153,640</strong></td>
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Behind the Numbers:

Infrastructural Support

Facilities

Strategic Investments

CSU Discoveries
Programs of Research and Scholarly Excellence

NEWLY APPOINTED PROGRAMS:
- Center for Literary Publishing
- Center for Advanced Magnetics
- The Public Lands History Center (PLHC)
- Institute for the Built Environment
- Cancer Biology and Comparative Oncology (CBCO)
- Infectious Disease Research & Response Network (IDR2N)

RENEWED PROGRAMS:
- Occupational Therapy
- Atmospheric Science/CIRA
- Musculoskeletal Research Program
- Center for Extreme UV Science & Technology
- Animal Reproduction and Biotechnology Lab
- Molecular Cellular and Integrative Neuroscience (MCIN)
- Human Performance Clinical/Research Lab (HPCRL)
- Wheat Research, Outreach & Education
- Water Science & Engineering for Global Solutions
- High Energy Physics & Particle Astrophysics (HEPPA)
- Graduate Degree Program in Ecology
- Chemical & Molecular Sciences
- Natural Resource Ecology Lab (NREL)
- Biochemistry & Molecular Biology Graduate & Research
- Center for Interdisciplinary Mathematics & Statistics
“This [PRSE funding] is going to provide us the staff support we need to expand our capacity to involve students in projects for clients and bring their results to the larger community through public programming and publication.”

Jared Orsi, History Professor and chair of Public Lands History Center Faculty Council
VPR Fellowship

• Chosen from Graduate Student Showcase
• Invited to participate in 3 minutes VPR Fellowship Challenge Competition to explain their research/scholarship
• 12 students chosen for inaugural VPR Fellowship Program cohort
• Fellows receive scholarship and travel support
• Professional development workshops, mentorship, and engagement opportunities
“Networking with other researchers and being a part of the VPR Fellows has made a lot of conferences available to me that I would not have been able to attend.”

Stacy Endriss, PhD student in Bioagricultural Sciences and Pest Management and VPR Fellow
Catalyst for Innovative Partnerships

CIP supports 7 interdisciplinary teams tackling grand societal and scientific challenges
- Coalition for Development and Implementation of Sensor Systems (CDISS)
- Compatible Polymers Network (CPN)
- Fort Collins EcoDistricts
- Innovation Center for Sustainable Agriculture (ICSA)
- Institute for Genomic Architecture and Function (IGAF)
- Partnership for Air Quality, Climate, and Health (PACH)
- Smart Village Microgrids (SVM)
“The combination of the cluster hire and CIP has allowed us to form a team of physical scientists, social scientists, and engineers to work together. This has enabled us to make big bets.”

A.R. Ravishankara, Professor of Chemistry and Atmospheric Science
Rapid Outbreak Response & Resilience Funded Projects:

Rebekah Kading,
Assistant Professor
Microbiology, Immunology & Pathology
Arthropod-borne & Infectious Diseases Lab

Christie Mayo,
Assistant Professor
Microbiology, Immunology & Pathology
Vet Diagnostic Lab

IDR2N,
Infectious Disease Research & Response Network
Virtual Reality

**CSU Created Experiences**
- Day in the life at CSU narrated by Tony Frank
- Museum showcasing student-created art

**Virtual Reality Symposium**
- Industry, academia and government
- Discussed scientific, technologic, creative and sociologic opportunities for VR

**48 Hour Hackathon**
- Hackathon participants were required to include a teaching, research or outreach component of CSU’s land grant mission.

Undergrad student participating in the 2016 VR Hackathon
Types of Research Core Facilities:

**Foundational Core Research Facilities** provide access to resources and/or services considered to be essential to the research enterprise.

**Emerging Innovations Facilities** provide access to resources and/or services in new or emerging area of research and technology.

**Institutional Core Research Facilities** represent critical physical infrastructure that supports the strategic goals of the CSU research mission.

**Specialized Research Service Facilities** provide access to resources and/or services within a unit or research community.

**Research Recharge Centers** facilitate resource sharing within a defined user community.
What to expect for CORES in FY17:

- iLabs Solutions Core Management Software Implementation
- New CORES website with resources for all research recharge centers.
- RFP for Emerging Innovations Core Facilities (renewals/new).
Research and Scholarship Success Initiative (RSSI)
What is included in RSSI?

Phase I: Restoring the Foundation
- Accelerate Facilities Renovations
- Improve Research Administration (IT, Processes, Staffing, Specialized Training)
- Increase Investments in Existing Core Facilities
- Invest in Early Career Investigator Initiatives
- Invest in Student Initiatives for Undergraduate and Graduate Research
- Implement Safety Initiative

Phase II: Building a Framework for Success
- Establish New Core Facilities
- Engage in Teaming Activities
- Increase Faculty Start-Up for Research
- Invest in Existing Faculty Success
- Increase Research Development Activities
- Increase Workshop Offering
- Invest in Professional Development

Phase III: Sustainable Growth
- Establish More Centers and Institutes
- Secure Investments in New Team Science Buildings
- Complete Foothills Master Planning
- Launch New Cluster Hiring Initiatives
- Prioritize Key Faculty Hiring
- Promote Translational Research
- Explore International Opportunities
## Proposed Investment

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<tr>
<th>Proposed Investment</th>
<th>Outcomes</th>
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<tr>
<td>Accelerate Facilities Renovations</td>
<td>• RFP for major research facilities renovations and instrumentation</td>
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<td>• Lab Animal Resources (Painter)</td>
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<td>• Arthropod-borne and Infectious Diseases Laboratory</td>
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<td>• Aggie Labs</td>
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<tr>
<td>Improve Research Administration (IT, Processes, Staffing, Specialized Training)</td>
<td>• Office of Sponsored Programs and campus Research Administration staffing</td>
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<td>• Research Integrity Compliance Review Office/Lab Animal Resources support staff</td>
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<td></td>
<td>• Research Administration campus training and process improvements</td>
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<td>• Kuali Research and other IT infrastructure</td>
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<td>Increased Investments in Existing Core Facilities</td>
<td>• Invest in One Health, Center for Healthy Aging, School of Advanced Materials, Partnership for Air, Climate and Health, Microbiome, Virtual Reality</td>
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<td>• Increase Cores investment fund</td>
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<td>• Establish new Cores to leverage existing investments (e.g. informatics, medical imaging, ecosystem engineering)</td>
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<td>• Invest in Library collections</td>
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<tr>
<td>Proposed Investment</td>
<td>Outcomes</td>
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| Invest in Early Career Investigator Initiatives | • Increase targeted workshop and colloquium opportunities  
• Establish new Discovery and Innovation Fund  
• Close start up faculty funding gap |
| Invest in Initiatives for Undergraduate/Grad. student Research | • Enhance VPR Fellows Program  
• Establish new undergraduate and graduate student research programs in partnership with colleges and Graduate School |
| Implement Safety Initiatives | • Establish pilot group of labs to partner with program professionals in the development and implementation of the initiative  
• Develop and share best practices, tools, guidelines and training resources for lab safety  
• Develop online enhanced portal to provide easy access to safety survey, assessment tools and resources  
• Communication campaign |
Questions?