Office of the Vice President for Research 2017 Town Hall Meeting

Alan S. Rudolph, Vice President for Research
What was the Astronomical Event of the Year?

Las Campanas Observatory, Carnegie Institution for Science

Discovery Image
August 17, 2017

4 Days Later
August 21, 2017

© 1M2H Collaboration/UC Santa Cruz/Carnegie Observatories
$338M
Expenditures in FY17

Overall Awards: $314 million (11% increase)
Federal Awards: $247 million (16% increase)
Other Non-Federal Awards: $37 million (2.5% increase)
Industry Awards: $29.2 million (-9% decrease)
Research and Scholarly Products in 2017

- 44 License Agreements
- Launched 6 start ups
- 203 Active Patents & Applications
- Filed 101 Inventions/66 Patents Issued
Behind the Numbers:

Infrastructural Support

People

Strategic Investments

CSU Discoveries
Outstanding Faculty, Internationally Recognized: FY17 Awards

• Tim Stasevich, J. Lucas Argueso and Tai Montgomery recipients of National Institutes of Health MIRA grants.
• Jasmine Donkoh receives National Institutes of Health post-baccalaureate fellowship
• Dr. Lappin, Professor, Department of Clinical Sciences
• Sudeep Pasricha, associate professor, Department of Electrical and Computer Engineering and a Monfort Professor, Rockwell-Anderson Professorship.
• Erin Osborne Nishimura and Kelly S. Santangelo 2017 Boettcher Investigators
• Kate Ross, assistant professor, physics named a Canadian Institute for Advanced Research (CIFAR) Azrieli Global Scholar.
• CSU weather radar expert, Chandra knighted by government of Finland
Highlights from 2017

Research and Scholarly Success Initiative
Prioritizing Investments and Focusing Outcomes
VPR Quarterly Funding by Category FY15-17
Total Investments: $1,600,409

- Conference/Workshop/Colloquium: $184,164 (12%)
- Construction/Alteration/Renovation: $222,512 (14%)
- Center/Program/Research Support: $493,322 (31%)
- Equipment/Infrastructure: $541,197 (34%)
- Mandatory Cost Share: $71,535 (4%)
- Other: $87,679 (5%)
## OVPR FY18 Financial Summary

<table>
<thead>
<tr>
<th>Operations</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>$ 7,558,140</td>
</tr>
<tr>
<td>Laboratory Animal Resources</td>
<td>846,747</td>
</tr>
<tr>
<td>Proteomics &amp; Metabolomics Facility</td>
<td>138,389</td>
</tr>
<tr>
<td>Research Integrity &amp; Compliance Review Office</td>
<td>978,475</td>
</tr>
<tr>
<td>Research Services</td>
<td>767,772</td>
</tr>
<tr>
<td>Sponsored Programs</td>
<td>1,860,148</td>
</tr>
<tr>
<td>Office of the Vice President for Research</td>
<td>2,633,165</td>
</tr>
<tr>
<td>Biosafety</td>
<td>333,444</td>
</tr>
<tr>
<td>Kuali Research Administration</td>
<td>320,837</td>
</tr>
<tr>
<td>New Faculty Recruitment *</td>
<td>2,982,437</td>
</tr>
<tr>
<td>Centers/Institutes</td>
<td>3,624,832</td>
</tr>
<tr>
<td>Energy Institute</td>
<td>1,480,605</td>
</tr>
<tr>
<td>Infectious Disease Research Center</td>
<td>1,711,621</td>
</tr>
<tr>
<td>One Health Institute</td>
<td>432,606</td>
</tr>
<tr>
<td>Core &amp; Specialized Facilities</td>
<td>786,725</td>
</tr>
<tr>
<td>Programs of Research &amp; Scholarly Excellence</td>
<td>882,501</td>
</tr>
<tr>
<td>Research Building Revolving Fund</td>
<td>1,786,000</td>
</tr>
<tr>
<td>Seasonal Requests for OVPR Funding</td>
<td>1,263,204</td>
</tr>
<tr>
<td>Research &amp; Scholarship Success Initiative</td>
<td>384,943</td>
</tr>
<tr>
<td>FY18 New Base Funding (OSP/RICRO)</td>
<td>1,030,000</td>
</tr>
<tr>
<td>One-Time Return of F&amp;A for RSSI</td>
<td>1,030,000</td>
</tr>
</tbody>
</table>

* - Initial base allocation of funding to support new faculty recruitment.
<table>
<thead>
<tr>
<th>Other Strategic Initiatives**</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalyst for Innovative Partnerships</td>
<td>250,000</td>
</tr>
<tr>
<td>University/Industry Collaboration</td>
<td>150,000</td>
</tr>
<tr>
<td>Multidisciplinary Research Awards</td>
<td>25,000</td>
</tr>
<tr>
<td>Governmental Relations</td>
<td>65,000</td>
</tr>
<tr>
<td>Graduate/Undergraduate Research</td>
<td>15,000</td>
</tr>
<tr>
<td>VPR Fellows</td>
<td>60,000</td>
</tr>
<tr>
<td>International Programs</td>
<td>10,000</td>
</tr>
<tr>
<td>Technology/Communications</td>
<td>115,516</td>
</tr>
<tr>
<td>Virtual Reality</td>
<td>58,700</td>
</tr>
<tr>
<td>Infrastructure/Renovation</td>
<td>770,000</td>
</tr>
<tr>
<td>Reg. Compliance/Animal Care/AAALAC</td>
<td>18,950</td>
</tr>
<tr>
<td>Institutional Memberships</td>
<td>65,067</td>
</tr>
<tr>
<td>**RA/RSP Reserve ***</td>
<td>161,446</td>
</tr>
</tbody>
</table>

**GRAND TOTAL** $22,410,316

** - OVPR Investments in research outside of the RSSI funding

*** - Funds held in reserve for the 100% RA/RSP distribution. Not available for VPR use.
What is the Name of the New Satellite Used to Image Harvey and Irma?
RSSI

Research and Scholarly Success Initiative
RSSI Phase 1: Base Investments FY18

- Investments in infrastructure needs for research administration
  - Shoring up activities that affect researchers across campus
- Year 1: Primarily Sponsored Programs Needs

<table>
<thead>
<tr>
<th>Unit</th>
<th>Control Theme</th>
<th>Request Item Detail</th>
<th>OVPR</th>
<th>RSSI FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP</td>
<td>Effort Cert</td>
<td>Assistant Director, Post Award Services - 5 months in FY17 (OVPR 1X)</td>
<td>$62,350</td>
<td>$153,720</td>
</tr>
<tr>
<td>OSP</td>
<td>Effort Cert./ Compliance</td>
<td>Cost Accountant</td>
<td>$65,790</td>
<td>$</td>
</tr>
<tr>
<td>OSP</td>
<td>Effort Cert</td>
<td>ECRT Software Implementation</td>
<td>$145,000</td>
<td>$</td>
</tr>
<tr>
<td>OSP</td>
<td>Billing/Deposits</td>
<td>Accounting Technician II</td>
<td>$</td>
<td>$67,735</td>
</tr>
<tr>
<td>OSP</td>
<td>Audit Assistance</td>
<td>Paul Coleman - Audit Consultant</td>
<td>$35,000</td>
<td>$</td>
</tr>
<tr>
<td>OSP</td>
<td>Internal Controls</td>
<td>Campus Training: Senior Training Officer</td>
<td>$</td>
<td>$105,610</td>
</tr>
<tr>
<td>OSP</td>
<td>Cross-cutting</td>
<td>Systems Support: Electronic Research Administration (eRA)</td>
<td>$21,823</td>
<td>$89,670</td>
</tr>
<tr>
<td>RICO</td>
<td>Internal Controls</td>
<td>Compliance coordinator</td>
<td>$</td>
<td>$83,265</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Grand Total</strong></td>
<td><strong>$329,963</strong></td>
<td><strong>$500,000</strong></td>
</tr>
</tbody>
</table>
RSSI Phase 1: One Time Funds Opportunity

- Investments in various strategic initiatives – FY18
  - Created “buckets” for expenditures
- Guiding principles in creating buckets and populating w/$
  - Emphasis on infrastructure (restoring foundation)
  - Broad(est) impact
  - Supplementing investments in fledging initiatives in development
- For FY18: expediency became driving function
  - Spending plan required by BFS/VPUO/Provost
- Guiding principles for proceeding
  - Conservative in our expenditures – monitoring every quarter
  - Formula stands, whether under or over estimated amounts on returns
FY19-20: **One-Time** Funds Plan/Process

- **Phase 1:** “Restoring the Foundation”
  - Guiding Principles remain the same
  - Emphasize infrastructure needs
  - Broad impact – raising all boats
  - Protecting previous investments
- **Process:** CRAD Input
  - Examples:
    - Student programs
    - Safety Initiative
    - Core Facilities
    - Bridge to base for personnel
    - Team Science and consultants for research development
    - Other: opportunity for input
- **OVPR** has final decision on expenditures budget
Good Science Requires State of the Art Research Facilities: FY17 Investments

- Plant Growth Lighting Enhancement
- Colorado State University C-band polarimetric (CSU-CPOL) Radar Facility
- Thermal cooling in Computer Sciences
- Engineering Research Center (ERC) Water Pipe Repair
- Center for Literary Publishing and Public Lands History Center Renovation
- Deer Facilities Mechanical Systems and Wastewater Systems for Animal Safety
- The Functional Foods for Health Clinical Research Facility
- Central Instrument Facility (CIF) Laboratory
- Applied Isotope Research for Industry and the Environment (AIRIE)
Strategic Programs; Facilitating Team Science to Enhance Capacity and Impact

- Collaborative, multidisciplinary team science
  - Catalyst for Innovative Partnerships Program
  - School of Global Environmental Sustainability
  - Cluster Hires (Microbiome, Aging, Air Quality and Health)
- Facilities needs: shared, open, collaborative spaces
  - Meetings, cross-fertilization of faculty
  - Shared Core Research Instrumentation
  - Communication & collaboration technology
- Identified Team Science Spaces
  - Johnson Hall
  - Anatomy/Zoology Building
  - Scott bioengineering building
  - Design building (2019)
Catalyst for Innovative Partnership Team
Partnership for Air Quality, Climate and Health

“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 & Atmospheric Science, National Academy Member

1st CIP Class Results:

- 174 Faculty & Researchers
- 8 Colleges
- 57 Departments & Centers
- 47 External Partners
- $174M in Proposals Submitted
- $16.9M in Awards Received
- 118 New Pubs
New Catalyst for Innovative Partnership Teams

- TerraForma: Simulating Reality in Artificial Ecosystems
  Agriculture, Vet Medicine, Engineering
- Enriched Environments for the Healthy, Aging Brain
  Natural Sciences, Health and Human Sciences, Liberal Arts
- Securing Life Science Infrastructures
  Business, Liberal Arts, Natural Sciences, Vet Medicine, Engineering
- TagTeam: New Molecular Tags for In Vivo Imaging and Editing
  Natural Sciences, Vet Medicine, Engineering
- Rural Wealth Creation: Exploring food systems-led development strategies
  Agriculture, Health and Human Sciences, Liberal Arts, Vet Medicine, Engineering, Natural Resources
## FY 18 One Time Investments in RSSI

<table>
<thead>
<tr>
<th>OVPR Initiatives</th>
<th>Revised/Spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalyst for Innovative Partnerships</td>
<td>$300K</td>
</tr>
<tr>
<td>One Health Institute</td>
<td>$200K</td>
</tr>
<tr>
<td>Bioinformatics</td>
<td>$50K*</td>
</tr>
<tr>
<td>Center for Healthy Aging</td>
<td>$100K</td>
</tr>
<tr>
<td>Cores/PRSE ‡</td>
<td>$115K‡</td>
</tr>
<tr>
<td>Cost Share</td>
<td>$300K</td>
</tr>
</tbody>
</table>

*Investment in HPC institutional core activities.
‡Additional investments in emerging core proposals/instrumentation
What is the BioMolecular Complex Below and How Could it Be Used to Feed The Future?
Sustaining our Faculty Research Excellence: Annual Investments in Our Greatest Resource

Faculty Resource Packages

Fiscal Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Start up</th>
<th>Retentions</th>
<th>Total Package Commitments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>40</td>
<td>4</td>
<td>44</td>
</tr>
<tr>
<td>2014</td>
<td>45</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>2015</td>
<td>40</td>
<td>5</td>
<td>45</td>
</tr>
<tr>
<td>2016</td>
<td>45</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>2017</td>
<td>50</td>
<td>5</td>
<td>55</td>
</tr>
</tbody>
</table>
Projected Needs to Recruit Research Faculty Over 3 years

- Anticipated use of funds needed to supplement existing resources in support for:
  - 4 Presidential Chairs in Engineering
  - Staffing in 2-3 Strategic Research Areas
    - Translational Medicine (7-10)
    - Cluster Hires in Aging
  - Enhanced Research Equipment, Facilities and Administrative Support
Research Administration Update

- Audit activity increased with enhanced risk from complex operations
  - Federal Effort Reporting
  - Military Land Management
- Significant investments in meeting new compliance mandates
- Electronic research administration system improvements
- New Research Acceleration Office with focus on complex and large proposals is making impacts

"The RamAround meetings have been an opportunity for all Research Administrators to come together to help implement much needed policies and consistencies across campus."

Shannon Irey, Research Project Manager, Dept. of Atmospheric Sciences
At what event was this picture taken?

Hint: it’s not all real
Looking Ahead

- Federal funding uncertainty
- Gene editing tools
- Ag Innovation & National Western Center alignment
- Food, energy, water
- Research and Scholarly Success Initiative
- Foothills master planning
Questions?