3-2014

Discussion on State of FIU Research

Office of Research and Economic Development, Florida International University

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THE OUTLOOK FOR FEDERAL RESEARCH FUNDING

- Period of flat or declining federal funding for university research
- U.S. funding of research going through fundamental changes
- Future of science is innovation, change, team science, and partnerships
- We need a comprehensive strategy to sustain research growth in the context of this new reality
- Moments of challenge are moments of opportunities
WHAT CAN FIU DO?

- Build on our strengths – remarkable growth in past 20 years - $15M annual in 1992-93 to $102M 2012-13; $400M in past four years, with no earmarks
- Dedicate faculty lines to research growth and startup resources to those research lines
- Be more focused on the areas in which we invest our resources
- Strengthen ties to industry
- Intensify efforts to secure funds from private foundations
- Expand the role of centers, institutes and interdisciplinary research
- Anticipate funding trends and position FIU to be more responsive (need to provide more internal resources for such efforts)
10-Year History of Research Expenditures

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>$72.72</td>
</tr>
<tr>
<td>2004-05</td>
<td>$87.72</td>
</tr>
<tr>
<td>2005-06</td>
<td>$84.70</td>
</tr>
<tr>
<td>2006-07</td>
<td>$108.01</td>
</tr>
<tr>
<td>2007-08</td>
<td>$107.02</td>
</tr>
<tr>
<td>2008-09</td>
<td>$101.30</td>
</tr>
<tr>
<td>2009-10</td>
<td>$110.30</td>
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<tr>
<td>2010-11</td>
<td>$110.01</td>
</tr>
<tr>
<td>2011-12</td>
<td>$118.06</td>
</tr>
<tr>
<td>2012-13</td>
<td>$128.07</td>
</tr>
</tbody>
</table>
FY 2012-2013
Research Awards by Sponsor Type

Federal $78.6
77%

Private / Other
$14.7, 14%

State & Local
$8.7, 9%
FY 2012-2013 Research Awards by Unit (in millions)

- CAS: $60.94 (58%)
- CEC: $16.08 (15%)
- AA: $6.24 (6%)
- CoE: $4.12 (4%)
- Other: $5.21 (5%)
- SJMC: $0.47 (0%)
- CBA: $1.31 (1%)
- RSCPHSW: $3.92 (4%)
- HWCOM: $3.46 (3%)
- NWCNHS: $3.95
- CARTA: $0.26
- CSHTM: $0.01
- CoL: $0.05

SERC = $10M
CCF = $7M
TRENDS IN PROPORTION OF FACULTY WITH EXTERNAL FUNDING

FY 2007-08  FY 2008-09  FY 2009-10  FY 2010-11  FY 2011-12

Tenure-Track Funded Professors:
- FY 2007-08: 42.34%
- FY 2008-09: 43.93%
- FY 2009-10: 45.74%
- FY 2010-11: 46.05%
- FY 2011-12: 43.00%

Tenure-Track Funded Assist Prof:
- FY 2007-08: 15.76%
- FY 2008-09: 18.50%
- FY 2009-10: 22.34%
- FY 2010-11: 22.79%
- FY 2011-12: 21.00%

All FIU Faculty:
- FY 2007-08: 36.00%
- FY 2008-09: 38.00%
- FY 2009-10: 41.00%
- FY 2010-11: 43.00%
NUMBER OF PRINCIPAL INVESTIGATORS ON EXTERNALLY FUNDED GRANTS

FY 2009-10: 300
FY 2010-11: 306
FY 2011-12: 392
NUMBER OF PERSONNEL ON EXTERNALLY FUNDED GRANTS

<table>
<thead>
<tr>
<th></th>
<th>FY 2009-10</th>
<th>FY 2010-11</th>
<th>FY 2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBERS</td>
<td>650</td>
<td>666</td>
<td>1,445</td>
</tr>
</tbody>
</table>

March 2014
Proportion of Faculty by Department with Grant Awards for Past Two Fiscal Years Combined.

<table>
<thead>
<tr>
<th>Year</th>
<th>Proportion</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
<td>60.00%</td>
</tr>
<tr>
<td>4</td>
<td>50.00%</td>
</tr>
<tr>
<td>5</td>
<td>50.00%</td>
</tr>
<tr>
<td>6</td>
<td>50.00%</td>
</tr>
<tr>
<td>7</td>
<td>40.00%</td>
</tr>
<tr>
<td>8</td>
<td>40.00%</td>
</tr>
<tr>
<td>9</td>
<td>40.00%</td>
</tr>
<tr>
<td>10</td>
<td>30.00%</td>
</tr>
<tr>
<td>11</td>
<td>30.00%</td>
</tr>
<tr>
<td>12</td>
<td>30.00%</td>
</tr>
<tr>
<td>13</td>
<td>30.00%</td>
</tr>
<tr>
<td>14</td>
<td>30.00%</td>
</tr>
<tr>
<td>15</td>
<td>30.00%</td>
</tr>
</tbody>
</table>
AVERAGE # OF GRANTS PER FACULTY BY DEPARTMENT FOR PAST TWO FISCAL YEARS COMBINED
Key Recommendations from iReal Research Working Group

- FIU has lowest number of graduate assistantships compared to SUS counterparts
- To increase research productivity, we need to focus faculty resources in areas of high productivity
- Need increased investment in “right mix” of graduate students, research faculty and instructors
- Centers’ performance indicates potential for increased investments in centers to drive research growth
- Increase private-sector funding
- Incentivize colleges, departments and faculty to participate in multidisciplinary research
1. Develop Strategic Plan to support FIU’s research growth goals
2. Continue to improve services with the goal of reducing faculty research administrative burdens—adopt and adapt practices proven effective in other universities
3. Dedicate resources to strategic research areas
4. Foster greater interdisciplinary research and collaboration across research centers and institutes
5. Expand research development resources (mentoring, seeding ideas, “sandbox” initiatives, internal and external grant proposal reviews)
6. Increase startup funding and provide faculty lines budget in strategic areas
7. Work closely with UGS to foster growth and quality Ph.D. programs
8. Foster a more integrated post-doctoral fellows climate at FIU
9. Increase technology transfer efforts through faculty recruitment, fund raising, industry partnerships and the creation of an incubator
10. Establish team-level incentives for research growth (college, department, center)
11. Establish VPR RAC* to serve as a conduit for sharing information between research faculty and the VPR, and to stimulate collaborative problem solving—Dr. Ranu Jung has agreed to chair the Committee, and invitations to a broadly representative membership will be going out
12. Create greater interactions among centers and institutes by establishing a Center Collaborative Council (CCC) and getting major centers to lead DOR’s internal research development programs
13. Initiate Translational Research Initiative

* Research Advisory Committee
<table>
<thead>
<tr>
<th>CAS</th>
<th>CEC</th>
<th>HWCOM</th>
<th>RSCPHSW</th>
<th>NWCNHS</th>
<th>CoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomolecular Sciences</td>
<td>Energy &amp; Environment -biotechnology,</td>
<td><strong>Interdisciplinary Institute on Aging:</strong></td>
<td>HIV/AIDS &amp; Substance Abuse</td>
<td>Aging/Geriatrics</td>
<td>Student Achievement in Urban Schools</td>
</tr>
<tr>
<td></td>
<td>alternative energy, sustainability</td>
<td>➢ Neurosciences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Musculoskeletal diseases</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>➢ Cancer</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>➢ Cardiovascular</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>➢ Diabetes/Obesity/ Metabolomics</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>➢ Community Participatory &amp; Applied Research</td>
<td></td>
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</tr>
<tr>
<td>Behavioral Sciences –</td>
<td>Health-Related Technologies – bio-nano-</td>
<td></td>
<td>Tobacco</td>
<td>Chronic Diseases &amp; Chronic</td>
<td>Early Childhood Education</td>
</tr>
<tr>
<td>child mental health</td>
<td>medical, bio-informatics</td>
<td></td>
<td></td>
<td>Disease Prevention</td>
<td></td>
</tr>
<tr>
<td>Cognitive Neuroscience</td>
<td>Community Infrastructure – hurricanes,</td>
<td></td>
<td>Aging</td>
<td>Simulation &amp; Simulation</td>
<td>STEM</td>
</tr>
<tr>
<td></td>
<td>transportation</td>
<td></td>
<td></td>
<td>Based Learning</td>
<td></td>
</tr>
<tr>
<td>Forensic Science</td>
<td></td>
<td></td>
<td>Obesity/Diabetes</td>
<td>Health Outcome Metrics</td>
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<tr>
<td>Freshwater Ecosystems</td>
<td></td>
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<tr>
<td>Coastal Ecosystems/</td>
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<td></td>
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<tr>
<td>Ecotoxicology</td>
<td></td>
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<td></td>
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<tr>
<td>Tropical Botany</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Environmental Science &amp; Toxicology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIV/AIDS/Infectious Diseases</td>
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</tr>
</tbody>
</table>
ANNUAL CUSTOMER SURVEY RESULTS SUMMARY
The Division of Research (DOR) conducts annual customer service surveys.

Surveys were conducted for fiscal years 2007-08, 2008-09/2009-10, 2010-11 and 2011-12. Fiscal year 2012-13 represents the 5th annual survey.

The surveys are sent to all faculty who either submitted a grant proposal or had current grants during the year.

The annual survey contains separate sections regarding Pre-Award, Post-Award, Technology Transfer and other general issues.

Both close-ended and open-ended questions are included.
Annual Customer Survey Response Rates

- Fiscal Year 2007-2008: 54.4% (111 out of 204)
- Fiscal Year 2008-09/09-10: 64.2% (194 out of 302)
- Fiscal Year 2010-2011: 48.4% (152 out of 314)
- Fiscal Year 2011-2012: 55.4% (194 out of 350)
- Fiscal Year 2012-2013: 48.2% (172 out of 357)
EXPERIENCES WITH PRE-AWARD STAFF*

* Scoring: Scale 1 to 5; 5 indicates highest level of satisfaction or agreement
EXPERIENCES WITH POST-AWARD STAFF*

* Scoring: Scale 1 to 5; 5 indicates highest level of satisfaction or agreement
EXPERIENCES WITH TECH TRANSFER STAFF*

* Scoring: Scale 1 to 5; 5 indicates highest level of satisfaction or agreement.
There is Prompt Notification of New Awards

- Strongly Agree
- Strongly Agree or Agree

Yearly Percentages:
- 2008-09/2009-10
- 2010-11
- 2011-12
- 2012-13
LENGTH OF TIME FOR DOR TO RETURN PHONE CALLS

- 24 hours
- 2-3 days
- 0-3 days
- 4-5 days
- 6+ days

Years:
- 2007-08
- 2008-09/09-10
- 2010-11
- 2011-12
- 2012-13
LEVEL OF IMPORTANCE FOR PRE-AWARD AREAS OF SUPPORT FOR PI
(\% "VERY IMPORTANT" & "IMPORTANT")
Areas with declining satisfaction:
- Purchasing items on grants
- Personnel hiring on grants
- College assistance with grants and contract management

Areas with improving satisfaction:
- Understanding budgets
- General Counsel assistance
- IRB and IACUC support
DOR areas needing improvement, as identified by faculty:

- Three areas in which the responses from this year’s survey indicate increases in the need to make improvements:
  1) budget and account set-up for new grants
  2) financial reports for existing grants
  3) hiring of personnel for grants and contracts

Areas with continued trend of faculty reporting lesser needs for DOR to make improvements:

- Assistance with budget reports and PantherSoft
- Assistance with IRB/IACUC/IBC
Planned Actions to Address Four Key Areas of Persistent Challenges

EPRAF, Personnel Hiring and Purchasing

1. **Problem**: Difficulties with ePRAF
   1.1 **Actions**:
   • Increase Pre-Award embedding in colleges and have DOR staff assist with ePRAF

2. **Problem**: Difficulties in hiring personnel and purchasing
   2.1 **Actions**:
   • Create on-line DOR Hotline to detect, track and solve difficulties early
2.1.1 The Hotline will be first launched with the College of Engineering and Computing to test the following approach:
- Hotline checked twice a day by one DOR staff member
- Within 24 hours, faculty member sending the message will receive acknowledgement that message was received
- Internal DOR team will review Hotline inquiry and determine whether DOR alone can solve the problem (e.g., assist the faculty member directly) or whether there is a need to work with HR, Purchasing or the College toward a solution

2.1.2 DOR will work with HR and/or Purchasing to problem-solve identified difficulties as needed

2.1.3 VPR will have one weekly meeting to be informed about situations that have not been resolved during the week
3. **Problem**: Difficulties with budget reports in PantherSoft

3.1 **Actions**: (sample report in next slide)
- DOR will provide new monthly reports for PIs
- Reports tested this month with college administrators
- Launch reports to PIs next month

4. **Problem**: Lower rating of Technology Transfer

4.1 **Actions**:
- Create standard templates for prompt IP agreements
- Work with Research Foundation Board to establish commercialization fund and better IP vetting process
# Planned Actions to Address Four Key Areas of Persistent Challenges

**PantherSoft**

<table>
<thead>
<tr>
<th>Account</th>
<th>Budget Obligated to Date</th>
<th>Expenditures Previous Month</th>
<th>Expenditures to Date</th>
<th>PreEncumbrances/Encumbrances</th>
<th>Available Balance</th>
<th>Available Percentage</th>
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</thead>
<tbody>
<tr>
<td>Temporary Employment</td>
<td>$111,272.40</td>
<td>$</td>
<td>$100,278.21</td>
<td>$</td>
<td>$10,994.19</td>
<td>9.88%</td>
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<tr>
<td>Fringe</td>
<td>$155,861.90</td>
<td>$1,223.96</td>
<td>$146,099.80</td>
<td>$</td>
<td>$9,762.10</td>
<td>6.26%</td>
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<tr>
<td>Total Salary &amp; Wages, Temporary Employment, Fringe</td>
<td>$796,302.86</td>
<td>$5,405.60</td>
<td>$722,567.64</td>
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<td>$73,735.22</td>
<td>9.26%</td>
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<td>Travel</td>
<td>$500.00</td>
<td>$</td>
<td>$524.00</td>
<td>$</td>
<td>$24.00</td>
<td>N/A</td>
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<tr>
<td>Scholarships, Stipends and Tuition</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
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<td>N/A</td>
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<td>Subcontracts</td>
<td>$201,415.00</td>
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<td>$155,448.31</td>
<td>$45,966.69</td>
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<td>Professional Fees</td>
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<td>$</td>
<td>$700.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>Other Operating Expenses and Materials &amp; Supplies</td>
<td>$132,857.01</td>
<td>$</td>
<td>$77,915.79</td>
<td>$11,830.95</td>
<td>$43,110.27</td>
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<tr>
<td>Restricted Expenses</td>
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<td>$</td>
<td>$</td>
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<td>N/A</td>
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<tr>
<td>Equipment and Other Capital Outlay</td>
<td>$269,573.00</td>
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<td>$202,821.85</td>
<td>$25,058.75</td>
<td>$41,692.40</td>
<td>15.47%</td>
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<tr>
<td>Total Operating Expenses</td>
<td>$605,045.01</td>
<td>$</td>
<td>$437,409.95</td>
<td>$82,856.39</td>
<td>$84,778.67</td>
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<td>Total Direct Costs</td>
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<td>$5,405.60</td>
<td>$1,159,977.59</td>
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<td>$158,513.89</td>
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<td>Total Facilities &amp; Administrative Costs</td>
<td>$385,492.26</td>
<td>$2,432.52</td>
<td>$367,361.19</td>
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<td>$18,131.07</td>
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<td>Total</td>
<td>$1,786,840.13</td>
<td>$7,838.12</td>
<td>$1,527,338.78</td>
<td>$82,856.39</td>
<td>$176,644.96</td>
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