Preparing for Change

Challenges and Pathways to Improve Research at CEAS

Admin Council Retreat
August 6-7, 2012
Preliminary Numbers for FY 2012

- Total Award: > $73M
- 26 Awards > $500K
- 15% of total award due to grants > $1M
Preliminary Numbers for FY 2012

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- 26 Awards > $500K
- 15% of total award due to grants > $1M
... and seems to get even better

In July 2012 CEAS PIs were notified by NSF

- 1 SRN Award (~$12M)
- 2 SEP Awards (~$2M each)
- 1 EFRI Award (~$2M)
- .... and many more < $1M
Research Climate Change

“Research Universities and the Future of America”, NRC, 2012

“The current health and future well-being of the American research university”, 2012
New (old) Challenges

External:

• Lack of public understanding of value of university-based research
  – ~10-15% cuts in federal funding
  – Further reduction of state support (.... in other states)
  – Erosion of endowments ( ... on average in the US)
• Greater political accountability
• Weak industry-university partnerships
• Significantly increasing compliance and reporting requirements
• Funding does not cover cost of research
• Global competition (industry research, students & faculty)
• Demographic shifts in the U.S. population
New (old) Challenges

Internal:

• Research has become more international and interdisciplinary collaborative
• Underinvestment in campus infrastructure
• Doctoral and postdoctoral preparation is stagnant
• Antiquated internal policies and practices
• Poorly organized and inadequately staffed research administrative
• Lack of assessment of institutional functionality and efficiency
• Lack of adequate data of research
Needs / Recommendations

- Re-examine priorities at Department, College/School, and institutional levels
- Efficiently manage and effectively identify opportunities upon which to focus declining institutional resources.
- Invest in infrastructure that will support competitive opportunities.
- Strengthen the business role in the research partnership

- Shift and place greater emphasis on (discipline specific) quality rather than quantity.
- Implement systems to recognize, evaluate, and proactively develop faculty research capacity.
- Develop standardized performance metrics that reliably reflect the complexity and societal expectations of today’s research.
Needs / Recommendations

• Provide faculty research support systems to provide faculty more time to expand research
• Provide adequate research administrative and program support staff to reliably enable the efficient and effective conduct of research
• Provide support for proposal development and project management, in particular for interdisciplinary research and large center-sized multi-institutional proposals
• Improve management of intellectual property to improve technology transfer.
• Reform graduate education to attract talented students by addressing issues such as attrition rates, time-to-degree, funding, and alignment with both student career opportunities and national interests.
Blue-Ribbon Committee on Large Proposal Development

- Provide resources to incubate “big” ideas
- Provide incentives to lead/join a large proposal development effort
- Build team of faculty with balanced, high-quality technical expertise (e.g. ERC: fundamental and applied)
- Have “critical mass” (faculty, key facilities) in college / campus
- Align proposal with “institutional vision” backed by tangible commitments
- Demonstrate sustainability of project beyond project life
- Show impact of research on workforce development through partnerships with community colleges, industry, etc.
Common features:

• Significant resources (old & new money)
• Short fuse for proposal development
• Requires/benefits significant matching
• Relying on existing infrastructure
• Industry and workforce development
Recurring Themes

- Pro-active
- Strategic
- Impact
- Research support
- Focus
- Collaboration
- Graduate Education
- Efficiency
- Research infrastructure
- Accountability
- Multi-Disciplinary
- Investment
Moving Research @ CEAS Forward

WANTED

Top 5 ideas to

• develop strategic focus areas
• build “critical mass” in these focus areas
• incubate and foster NEW & BIG ideas
• provide efficient and creative proposal development support
• enable multi-disciplinary research across departments
• facilitate more efficient research support at department, college, and campus level
• enhance partnership with industry
• improve graduate education (attract talent and diversity)