



Embarking on Grand Challenge Research

University of Alabama at Birmingham
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A Challenge and an Opportunity

The Many Pressures on the Research Enterprise



Growing Competition for
Federal Research Funding



Increasingly Burdensome
Compliance Requirements



Cuts to State Funding for
Public Higher Education



Concerns about
College Affordability



Political Polarization about
the Value of Higher Education



Politicization of the Role of
Science in Public Policy



Funders Seeking Transformative Impact

Affinity to Issues, Not Institutions

How Next Generation Donors Consider Philanthropic Investments¹

- 1 Setting Goals**
First decide philanthropic goals, then search for potential recipients
- 2 Evaluating Organizations**
Conduct research and due diligence before deciding what to support
- 3 Solving Problems**
Fund efforts that address root causes and attempt systematic solutions
- 4 Analyzing Results**
Prefer information on proven effectiveness or measureable impact

Donors Are Impact-Centric

62%

Want information on how the organization plans to use the gift

75%

Want information on results achieved with their gift

64%

Want stories about people who were helped

1) Survey participants were individuals aged 21 to 40 years-old who were "currently or potentially active in their families' significant philanthropic processes and/or who are wealth creators themselves and currently or potentially active in their own philanthropy."
Source: Burk P, "The Burk Donor Survey: Where Philanthropy Is Headed in 2013," Cygnus Applied Research, Inc., Sept. 2013; Johnson J, "Including the Young and the Rich," *New York Times*, Apr. 18, 2014, www.nytimes.com/2014/04/20/fashion/white-househosts-next-generation-young-and-rich.html?_r=2; Johnson Center for Philanthropy, 21/64, "#NextGenDonors: Respecting Legacy, Revolutionizing Philanthropy," 2013, www.nextgendonors.org/wp-nextgendonors/wp-content/uploads/next-gen-donor-reportupdated.pdf; Fulfilling the Donor Investor Mandate, Philanthropy Leadership Council, The Advisory Board Company 2014, 11; EAB interviews and analysis.

Competing for Outcomes-Focused Funding



Universities Require New Capabilities to Be Successful



New Types of Problems

- Large in scope
- Complex causes
- Require new technologies, treatments or policies
- Local community impact
- Global relevance



New Funding Approaches

- Small number of deep-pocketed funders
- Placing a small number of 'big bets'
- Assessing proposals on potential impact rather than disciplinary standards



New Institutional Capabilities

- Large teams
- Specialists from multiple disciplines
- Cross sectoral collaboration
- Translation of research to outcomes
- Community outreach



New Competitive Dynamics

- Larger institutional investment
- Bigger partnership networks
- Proactive outreach/marketing
- Evidence of implementation capabilities

Defining Big Ideas



Ensuring Success By Clarifying What is Expected



A Big Idea Should:

- Transform the University and the world
- Make the University unique in the marketplace
- Focus on where the University is good but could become better
- Include areas where the University is emerging as a leader

A Big Idea Should Not:

- Be defined *solely* by a capital project
- Bundle together smaller ideas
- Solely feature a naming opportunity
- Lead to slow, incremental improvement

The Impetus for Trying Something New

\$1B in Research Expenditures, But Impact Could Be Greater



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UCLA

▶ **Missed Opportunities**

Funding opportunities where UCLA seemed well positioned but no one applied

▶ **Research Lifecycle Mismatch**

Different researchers focused on different points in the evolution and application of an idea (e.g., water technology in engineering and water policy in public policy)

▶ **Demonstrating Value**

Legislature and public questioning the value of investment in university research and education

▶ **Diversifying Funding**

Traditional sources (NIH and NSF) becoming increasingly competitive. Grow the pie by attracting new funding sources (industry, foundations, and individual donors)

▶ **Public Recognition**

World-class researchers in many areas (e.g. neuroscience) but not necessarily recognized as an institution with such expertise

“There were people who had the potential to give us more money, but we weren’t presenting them with the right vision. We realized that we have so many priorities, there are no priorities.”

Michelle Popowitz, Assistant Vice Chancellor for Research & Executive Director for UCLA Grand Challenges

Big Hairy Audacious Goals



UCLA Sets Out SMART+ Grand Challenges

UCLA

Specific

Measurable

Attainable

Relevant

Time Bound

+

“something special”

Sustainable Los Angeles Grand Challenge

(Announced Nov 2013)

Goals:

- Create the roadmap to transition Los Angeles County by 2050 to 100% renewable energy, 100% locally sourced water, and enhanced ecosystem health and human health
- Work plan has been developed and research is underway

Depression Grand Challenge

(Announced Oct 2015)

Goals:

- Cut the burden of depression in half by 2050 and eliminate it by the end of the century
- Four components: 100k subject study, discovery neuroscience, treating depression, understanding and eliminating the stigma associated with depression

Sustainable LA Grand Challenge



Connecting Multidisciplinary Talent to Regional Challenges

UCLA

Why UCLA?

- Expertise across relevant areas:
 - climate change mitigation and adaptation
 - renewable energy, energy efficiency
 - water quality and supply
 - transportation, urban planning, architecture, urban design
 - environmental health and conservation, law and policy
 - social and ecosystem sciences
- Diverse and talented students: undergraduate, graduate, and postdoctoral scholars
- Demonstrated history of delivering technology breakthroughs, policy innovations, and comprehensive strategies
- Ability to use the UCLA campus as a test bed



Funding Goal: **\$150M**

Collaborators: **150+** faculty staff from **30** centers and **30+** departments

Depression Grand Challenge



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Leveraging World Class Neuroscience to Make a Difference

UCLA

Why UCLA?

- Leaders in:
 - Neuroscience, behavioral science, genetics
 - Economics, public health
 - Engineering, business, medicine, public policy
 - Humanities, storytelling, and the arts
- All of the experts are within 10-minute walk of each other on our single campus site
- Diverse patient population served by the UCLA Health System facilitates the recruitment of a representative research cohort of unprecedented size



Funding Goal: **\$525M** over first 10 years

Workforce: **100+** researchers from **25+** departments

Anatomy of a Winning Proposal

The Precision Health Initiative at Indiana University

- | | |
|--|--|
| 1 Addresses a compelling problem or challenge whose resolution will significantly benefit the people of Indiana and beyond | “Understanding and optimizing the prevention, onset, treatment, progression and health outcomes of human diseases” |
| 2 Has defined, achievable goals that deliver tangible benefits to the people of Indiana and beyond | The initiative “will seek to cure at least one cancer and one childhood disease, as well as find ways to prevent one chronic illness and one neurodegenerative disease.” |
| 3 Can attract the external competitive, philanthropic, corporate, and/or government funding necessary to sustain the work to successful completion | Partners include Eli Lilly and Co., Roche Diagnostics, Cook Regentec, Deloitte, Regenstrief Institute, and IU Health |
| 4 Requires a multidisciplinary team that reaches across departments, schools , and in most cases, campuses | IU School of Medicine, IU Bloomington, and IUPUI all involved |
| 5 Strategically leverages IU strengths and existing resources | Incorporates five research clusters |

Additional Considerations

Experienced team leader: Anantha Shekhar, Associate Vice President for Clinical Affairs at IU and Executive Associate Dean for Research at the IU School of Medicine– had already led two CTSA

Administrative support infrastructure: School of Medicine already has administrative infrastructure in place to run large collaborative research projects



INDIANA UNIVERSITY

“We are trying to demonstrate that IU is focused on doing research that has a felt impact. We want people to be able to say, ‘This is the reason I am glad that Indiana has this research university.’ And when we get there we will make a point of telling people about it.”

Faith Hawkins, Associate Vice President for Research, and Lead Administrator of Grand Challenges Program

Six Imperatives for Embarking on Grand Challenges

- Select**
 - 1** Choose a grand challenge that connects departmental research with a large community problem
 - 2** Focus on a problem your institution is uniquely qualified to address
- Equip**
 - 3** Reinforce an expert team with internal and external collaborators
 - 4** Remove institutional barriers to collaboration
- Launch**
 - 5** Position the challenge at the heart of strategic leadership and communication efforts
 - 6** Create a road map of incremental goalposts for measuring success