PREPARING THE OFFICE OF RESEARCH FOR THE NEXT TEN YEARS

December 6, 2012 Presentation
To the Council of Deans

Dr. Taylor Eighmy
Vice Chancellor for Research & Engagement
Overview

- Delighted to have this opportunity to visit with you
- I look forward to continuous engagement with all of you as the OR is reinvented for the future
- Update you on my thinking, get your input, keep you apprised
- Share some background
- Look to the future
- Share seven formative areas of focus
- Share some hopes as we move ahead
The First Two Months Have Been Informative

- Met with Cabinet, UT System, UTRF, ORNL, ORAU, and Y-12 senior leadership
- Met with all of you & your senior staff
- Met with all the center directors and institutes reporting to the VCR
- Held two listening sessions relative to an OR strategic action plan:
  - October 23, 2012 with many internal and external constituencies (121 invited, 84 attended)
  - November 30, 2012 with deans, directors and department heads (144 invited, 67 attended)
- Third listening session will be January 14, 2013 with faculty (about 200 will be invited)
Just a Few UTK Matters I Have Enjoyed Learning About

- Living Light on the Mall in D.C.
- Dr. Carol Tenopir, one of seven new AAAS Fellows
- Dr. Dan Simberloff wins the 2012 Ramon Margalef Prize for Ecology
- Undergraduate Research FB Page
- Dr. Stefan Spanier and the CMS pixel tracker
- Dr. Tom Burman, Our newest NEH Fellowship recipient
Reiterate My Value System and Expectations for OR

- OR is a client- or partner-service organization
- OR is highly solution-oriented
- OR values ethics, diversity, inclusivity
- OR is proactive & collaborative
- OR staff have the highest level of acumen and training
- If it is needs improvement, OR will work with you to fix it
- OR shares your ambitions and aspirations
- OR will especially delight in your success!
Some of My New Responsibilities

- UTK Research Planning & Implementation Committee (Chair)
- UT System Research Implementation Strategic Planning Committee
- Risk Management Committee (Chair)
- Academic Outreach and Engagement Council
- UTK-ORNL Science Advisory Committee (SAC) for hiring GCs
- UT-Battelle Liaison Committee (with core universities)
- UTK Councilor (representative) to ORAU
- Coordination with Y-12
- Executive Committee of APLU’s Council on Research Policy and Graduate Education (CRPGE)
- National Academies Government/University/Industry Roundtable (GUIRR) [in planning]
### UTK Research Action Plan Dashboard
(12 initiatives, 45 specific action items)

#### Research - Status Report
10/2/2012

<table>
<thead>
<tr>
<th>INITIATIVE</th>
<th>OBJECTIVE(S)</th>
<th>LEAD</th>
<th>ACTION PLAN STEPS</th>
<th>TARGET DATE</th>
<th>STATUS AT A GLANCE</th>
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| R1. Research Services | Modify existing University support services to explicitly support increasing research. Provide additional support to faculty for proposal success. Provide compliance support commensurate with future growth in expenditures. | Greg Need | (a) Formalize funding for hiring opportunities search engine.  
(b) Prepare more faculty with advanced proposal writing skills.  
(c) Formalize funding for Director of Foundation and Corporate Engagement position.  
(d) Establish and publish performance metrics. | Spring 2012 | V.C. offices, services, who is being served, survey quality of services. |
| R2. Communications | Develop a more effective external communications strategy to increase UTK research awareness. Develop a more effective internal communications strategy to get more faculty involved in funded research. | Greg Reed, Margie Nichols | (a) Analyze effectiveness of current research communications.  
(b) Identify key external audiences and target messages.  
(c) Advertise in targeted publications.  
(d) Increase support for professional design and content creation for research-related web sites. | Spring 2012 | Completed planning with VC Communications, and set out plans that are in the action plan document. Branding campaign was released. |
| R3. Government Relations | Develop practices to connect researchers with UT’s government relations firm. Develop practices to improve researcher knowledge of government relations. Strengthen relationships between faculty and agency program offices. | Wes Hines, Paul Montgomery | (a) Develop a procedure to connect researchers with UT’s government relations firm.  
(b) Arrange visits to Washington DC for discussions with agency program officials, with appointments to agency advisory boards.  
(c) Develop a procedure to optimize UTK relations with the Tennessee Congressional delegation and improve researcher knowledge of government relations. | Spring 2012 | Initial draft of policy under review by UT System. Expanding VIP program for agency visits. |
| R4. IP & Innovation | To increase the conversion of intellectual property generated through research into patents, economic growth, institutional revenues, and business startups. | David Washburn, Alena Miller | (a) Form a task force of the UT System, UT Research Foundation, and the campus to evaluate alternatives and accept a model for efficient transfer of intellectual property.  
(b) Build those ties among the Office of Research, the UT Research Foundation, the Anderson Center for Entrepreneurship and Innovation, and other appropriate institutes.  
(c) Identify and adopt best practices for patent application and business incubation.  
(d) Identify processes to track and report related data, through certification in the Science and Technology for America's Renewal (STAR) METRICS program. | Fall 2012 | Task force delayed as new VP NDO goes acclimated. Completed hiring of two new licensing managers. Research on best practices is funded, in part, by the system, to inform work and identify the model the UT should adopt; team just finished field research; written findings will be completed in May. |

**Explanation:**
- **Objective:** Specifies the goal or target of the initiative.
- **Action Plan Steps:** Details the steps or actions to be taken to achieve the objective.
- **Target Date:** Indicates the planned date for completing the action plan step.
- **Status at a Glance:** Provides an overview of the status or progress of the initiative at the time of the report.
Background: The Evolving National Dialogue on the Value of New Knowledge, Discovery, and R&D

- National Academies 2007 Report
- National Academies 2010 Report
- White House OSTP/PCAST 2012 report
Background: What is a Great Public Research University?

“But what has made our universities the greatest in the world is not the quality of our undergraduate education--- as important as that is---but our ability to fulfill one of the other central missions of the leading universities: the production of new knowledge through the discoveries that change our lives and the world.”

Background: Why A New Public Research University for the 21st Century is Needed!

- Association of American Universities (AAU)
- Association of Public And Land Grant Universities (APLU)
- National Research Council (NRC) of the National Academies,
  - National Science Board (NSB) of the NSF
Looking to the Future: A New Public Research University for the 21st Century

*Agora: “market,” commercial district, place for debating and voting*

*Acropolis: “(high) city on the extremity,” sacred to Athena (Goddess of Wisdom), close to Aristotle’s Lyceum*

*Clark Kerr (1988) “Mostly it (higher education) lived in tension, at one in the same time at the bottom of the hill, at the top of the hill, and on many pathways in between.” Perhaps things do come full circle...
Looking to the Future: The New Public Research University for the 21st Century

- Place-based mission
- Mission-based discovery
- Basic and applied discovery research
- Experiential learning
- Life-long learning
- Knowledge hubs
- More than just Land- and Sun-Grant... we are a “City-Grant” institution
- This right critical mass* of opportunity
- Diverse learning environment
- Culture and knowledge economies
- Social and global engagement

*Critical mass: prospective students, alumni, employers, K-12 school systems, community colleges, neighborhoods, communities, fine art space, non-profits, NGOs, culture, venture capital, corporations, foundations, hospitals, federal R&D, corporate R&D, transit systems, IT infrastructure
UTK Top 25 Strategic Plan
UTK Top 25 Strategic Plan

Research
Current Position

- UTK demonstrated strong year-over-year growth in research expenditures and has made progress towards closing gaps to Top 25 Target peers. Growth can be attributed in part to winning major federal research grants, development of new centers and joint institutes, and expanded proposal support for faculty.

- Top 25 research expenditure metrics are not normalized, but many of the Top 25 Target peers are larger than UTK, and some have medical schools, which can account for a large portion of research expenditures. When compared to peers with no medical schools and normalized by tenure-line instructional faculty, UTK is ahead of three (Purdue, Clemson, and the University of Georgia).

- To close the gap in federal expenditures, UTK will need additional faculty. Top 25 Target peers with no medical schools have, on average, 40% more tenure-line faculty than UTK.

- Similar to graduate education, progress in research will require a long-term, multi-year commitment and new resources. While there are productivity gains to be made with current resources, maintaining growth in the long run will require additional investments. The amount and quality of research space is an emerging constraint, as well as the number of faculty.
UTK Top 25 Strategic Plan

Research

Federal Research Expenditures; UTK vs. Top 25 Peers with No Medical School; 2004 - 2009

Source: NSF Survey of Science and Engineering Expenditures, 2009; UTK NSF Survey Submission
Note: UTK Data Include: Agricultural Experiment Station, College of Veterinary Medicine, Extension, Knoxville, Space Institute

Year
2004 2005 2006 2007 2008 2009

Total Federal Science & Engineering R&D Expenditures (Millions)

$0 $20 $40 $60 $80 $100 $120 $140 $160 $180

Top 25 Target Peers, No Med School
UTK
Wedge Concept

Baseline Metric Must be “Advancing Scholarly Excellence”

(e.g., Fulbright Fellowships, Guggenheims, other Faculty Annual Awards, National Academy members, faculty FTEs, Federal Research Expenditures, Total Research Expenditures, strategic partnerships, etc.)

We will need to grow many wedges simultaneously...

Increase

Decrease

Time
Top 25 Strategic Plan

Dramatic Increase

Plateau?

Type of Title

FY08 | FY09 | FY10 | FY11 | FY12
---|---|---|---|---
Prop | Award | Exp

0 | 100000000 | 200000000 | 300000000 | 400000000 | 500000000 | 600000000 | 700000000 | 800000000
## Some Peer Analyses

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What Has Shaped My Thinking To Date

- Top 25 Strategic Plan
- My listening to you and the community
- My assigned obligations
- My prior work at TTU about the long march to AAU equivalency
- My evolving sense of what is needed now and in ten years
- My sense about the current and future challenges facing research universities
- The need for at least seven formative areas of focus
- Rate of development of these areas will be somewhat resource dependent
Evolving Areas of Focus:
1. Faculty Professional Development
   - Embracing “Excellence in Scholarship” across all disciplines
   - Clear desire for support and mentoring
   - Clear desire for opportunities in the creative arts, humanities and social sciences
   - Focus on faculty annual awards opportunities
   - Focus on distinguished awards nominations (with an eye also to National Academy nominations)
   - New system to integrate faculty into federal agency roles (including strategic planning)
   - New system to get more faculty engaged in DC (agencies) and with foundations
Evolving Areas of Focus: 2. Federal Agency Focus

- Focus on NSF (top 25 to Top 50), DOE (Top 5), NIH (big opportunity for us with GSM, UTIA, UTHSC), DOD (big increase), DHS (ORNL and Y-12 focus)
- Focus on “big ideas”
- Proposal Development Team refocus to become proactive
- Early knowledge is key (e.g. Kraken re-compete)
- Leveraging ORNL and Y-12 roles and partnership
- Coordination with VC Hall about diversity opportunity aspects (e.g., LSAMP, AGEP)
- Likely will eventual hire an AVCR for Federal Relations
Evolving Areas of Focus:

3. Corporations and Foundations

- Expanding corporate & foundation R&D
- Strategic engagement (e.g. the HP model)
- Developing “Big Idea” large strategic initiatives
- Focusing on transdisciplinary scholarship
- Expanding strategic partnerships
- Close coordination with VC Rabenold’s staff and the colleges, UTRF, UT System
Evolving Areas of Focus: 4. Compliance

- We have to proactively manage risk
- The nexus around IRB, IACUC, biosafety, radiation safety, lab safety, research misconduct, financial conflict of interest, and lab safety is very high risk
- Expected focus on “responsible conduct of research” = “excellence in scholarship” and “ethics”
- Close coordination with the Provost’s Office and VC Cimino
- Likely hiring an AVCR in Responsible Conduct of Research in the near term
Evolving Areas of Focus:
5. Engaged Outreach

- Focus on Carnegie Classification (unsuccessful in 2010)
- Integrate with the Academic Outreach and Engagement Council
- Close coordination with UTIA (Cooperative Extension), Institute for Public Service, UT System
- Close coordination with VC Nichols
Evolving Areas of Focus: 6. Undergraduate Research

- There is a lot of activity here already
  - Sponsored activity, UReCA, *Pursuit*
  - Growing undergraduate research as a primary form of experiential learning
- Rely on the 1999 Boyer Commission report principles
- Close coordination with the Undergraduate Research Association
- Continued close coordination with the Provost’s Office and VC Rogers
- Reinvigorate Sigma Xi
Evolving Areas of Focus: 7. Expanded and New Partnerships

- Paying close attention to ORNL & ORAU
- Expanding collaborations with Y-12 (e.g., R&D, education)
- Expanding corporate & foundation strategic partnerships (e.g., Eastman, P&G, Gates Foundation)
- Developing “Big Idea” large strategic initiatives (e.g., focus through NORDP, regional partners, SEC, ORNL core universities)
- Focusing on transdisciplinary scholarship (e.g., mentoring, faculty academy, communities of knowledge)
Sharing Some Hopes as We Move Ahead

- Continuous engagement with you, your department heads and directors, and your faculty
- Close coordination with you all and the Provost’s Office as the Top 25 Strategic Plan Evolves
- Specifically working with all of you on the research planning and implementation components of the strategic plan
- Increased focus on faculty professional development, mentoring and support
Thank You for Your Support, Your Willingness to Share Ideas, & Your Interest in Collaborating!

If you have questions, then please contact me:

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