PREPARING THE OFFICE OF RESEARCH FOR THE NEXT TEN YEARS

December 13, 2012 Presentation To the Office of Research Staff

Dr. Taylor Eighmy
Vice Chancellor for Research & Engagement
The First Two Months Have Been Informative

- Met with many of you (ongoing)
- Met with Cabinet, UT System, UTRF, ORNL, ORAU, and Y-12 senior leadership
- Met with all of the deans individually and at the Council of Deans
- 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 professional acumen, advancement opportunities and training
- If it needs improvement, OR will work with our constituencies to fix it
- OR shares the ambitions and aspirations of the institution and its leadership, faculty and staff
- OR will always delight in 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 Scientific 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]
- Special projects
The University of Tennessee, Knoxville

UTK Research Action Plan Dashboard
(12 initiatives, 45 specific action items)

<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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<tbody>
<tr>
<td>R1. Research Services</td>
<td>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.</td>
<td>Greg Reed</td>
<td>(a) Formalize funding for funding 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.</td>
<td>Ongoing</td>
<td>Metrics, services, who is being served, survey quality of services.</td>
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<td>R2. Communications</td>
<td>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.</td>
<td>Greg Reed Margie Nichols</td>
<td>(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 websites. (e) Enhance UTK's image at high profile conferences through branding. (f) Build on the power of social media and continue to develop relationships with traditional media to reach the general public. (g) Implement a “Research Success Awareness” campaign designed to celebrate excellence and motivate others to get involved. Use Quest, Tennessee Today and Chancellor’s email to reinforce importance of engaging in funded research.</td>
<td>Spring 2012</td>
<td>Completed planning with VC Communications, and set out plans that are in the action plan document. Branding campaign was released. As for the design and content for research web sites, our committee met and developed an ingredients list for the web sites which has been vetted by the committee. A template structure was agreed upon and communications is finishing up the template.</td>
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<td>R3. Government Relations</td>
<td>Develop practices to connect researchers with UTK's government relations firm. Develop practices to improve researcher knowledge of government relations. Strengthen relationships between faculty and agency program officers.</td>
<td>Wes Hines Paul Montgomery</td>
<td>(a) Develop policy to connect researchers with UTK’s government relations firm. (b) Arrange visits to Washington DC for discussions with agency program officers. Assist 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.</td>
<td>Spring 2012</td>
<td>Initial draft of policy under review by UT System. Expanding VIP program for agency visits. Hank Dye and Kurt Schleifer are developing a program for faculty (Government 101). Office of Research added SARIF program to provide travel funds for faculty to work with federal program leaders.</td>
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<td>R4. IP and Innovation</td>
<td>To increase the conversion of intellectual property generated through research into patents, economic growth, institutional revenues, and business startups.</td>
<td>David Washburn Alex Miller</td>
<td>(a) Form a task force of the UT System, UT Research Foundation, the Anderson Center for Entrepreneurship and Innovation, and other appropriate institutes. (b) Build close 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 participation in the Science and Technology for America’s Renewal (STAR) METRICS program. (e) Identify potential partnerships with local companies and IP firms.</td>
<td>Fall 2012</td>
<td>Task force delayed as new VP MOO gets 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 UT should adopt; team just finished field research; written findings will be completed in May. Anderson Center developed “The Buzz,” an informal networking group, to evaluate opportunities to partner across the campus. UT and UT-Battelle have funded a two-year research project designed identify and implement best practices in tech-based economic development (TBED). With the laws governing patent application having changed dramatically last year, it is not clear what best practices will be.</td>
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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
Top 25 Strategic Plan

Dramatic Increase

Plateau?
Some Peer Analyses Around Important Metrics

<table>
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<tr>
<th></th>
<th>UTK</th>
<th>UG</th>
<th>Clem</th>
<th>Pur</th>
<th>UMin</th>
<th>Rut</th>
<th>UIn</th>
<th>MSU</th>
<th>TAM</th>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>1908</td>
<td>No</td>
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<td>No</td>
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<td>TRE ('09 $M)</td>
<td>277.5</td>
<td>349.7</td>
<td>186.3</td>
<td>453.8</td>
<td>740.9</td>
<td>351.5</td>
<td>440.8</td>
<td>373.1</td>
<td>630.6</td>
<td>258.0</td>
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<tr>
<td>FRE ('09, $M)</td>
<td>156.0</td>
<td>106.9</td>
<td>55.1</td>
<td>175.3</td>
<td>390.6</td>
<td>161.8</td>
<td>197.5</td>
<td>164.1</td>
<td>261.4</td>
<td>107.3</td>
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<td>10</td>
<td>8</td>
<td>6</td>
<td>3</td>
<td>23</td>
<td>2</td>
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<td>14</td>
<td>18</td>
<td>15</td>
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<tr>
<td>National Acad. ('09)</td>
<td>1</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>39</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>22</td>
<td>11</td>
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Wedge Growth Concept

Baseline Metric Must be “Advancing Scholarly Excellence”
(e.g., Faculty Annual Awards, National Academy members, faculty FTEs, Federal Research Expenditures (FREs), Total Research Expenditures (TREs), GRAs, strategic partnerships, etc.)

We will need to grow many wedges simultaneously...

Some of our essential focus:

- Research expenditures
- Strategic partnerships
- Big ideas
- Faculty professional development
- Faculty nominations
- Faculty annual awards
- Faculty recruitment (support)
- Joint Institutes

Increase

Decrease

Time
What Has Shaped My Thinking To Date

- Top 25 Strategic Plan
- My listening to you and the entire community--- an ongoing process
- My specific conversations with the compliance team and the proposal development team
- The initial outcomes of the strategic action planning effort; this is evolving
- 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 likely need for at least eight formative areas of focus; these are evolving
- 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 transdisciplinary scholarship
- 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 nationally 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”
- Focus on transdisciplinary scholarship
- Proposal Development Team refocus to become proactive
- Early knowledge is key (e.g. Kraken re-compete)
- Leveraging ORNL, ORAU and Y-12 roles and partnership
- Coordination with VC Hall about diversity opportunity aspects (e.g., LSAMP, AGEP)
- Likely **will eventually hire** an AVCR for Federal Relations at a later date, with strong connectivity to DOD R&D
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 in response to corporate and foundation needs
- Significant expansion of strategic partnerships
- Close coordination with VC Rabenold’s staff and the colleges, UTRF, UT System
- University-Industry Demonstration Project (UIDP)
- GUIRR
Evolving Areas of Focus: 
4. Compliance

- We have to proactively manage risk
- The nexus for risk around IRB, IACUC, biosafety, radiation safety, research misconduct, financial conflict of interest, and lab safety is very high risk
- Training is essential, but RCR is a cultural matter
- Expected focus on “responsible conduct of research” = “excellence in scholarship” and “ethics”
- Close coordination with the Provost’s Office and VC Cimino around lab safety
- 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)--- an evolutionary, continuous process
- Close integration 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) using the HP model
- 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)
Evolving Areas of Focus:
8. Collaborations Within the UT System

- Increased focus with UTIA, UT Medical Center, UTHSC
- Explore opportunities with UTC & UTM
- Greatly increase focus with UTRF (e.g., corporate engagement) and with UT VPR office (e.g., TN SCORE)
- Opportunities in plant science, bioengineering, HPC, biomedical, big data, data informatics, etc.
Some Initial Thoughts About Organizational Focus

**AVCR (Greg)**
- Communications
- Core Facilities (*new*)
- Sponsored Programs
- Research Information
- Faculty Professional Development

**VCR (Taylor)**
- Finance & Administration
- Federal Relations
- Centers & Institutes
- Engagement & Outreach
- Corporate & Foundation Relations
- Research Development Team (BIG IDEAS)
- Undergraduate Research

**AVCR (new)**
- RCR & Compliance (*new*)

**Within OR**

**External to OR**
- Research Council
- Top 25 Research Committee
- Compliance Committees
- Associate Deans for Research
- Academic Outreach & Engagement Council
- Graduate Council
- Strategic Partners Council (*new*)
Some Thoughts on Annual Reviews

- Transition year
- I will work closely with Greg
- In addition to HR form, we will use a more informative letter approach/meeting this year
  - Summary of accomplishments from the last CY
  - Expectations for the coming CY
  - Focus & expected accomplishments for the coming CY
- Eventually tied, where appropriate, to the Strategic Action Plan for Research
- Eventually periodically informed by 360° reviews
Thank You for Your Excellent Efforts, Thoughtful Ideas & Passion

If you have questions, then please contact me:

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My office phone is 4-8701
My cell is (806)252-6444 (text me)