Key Outcomes FY 2018

1. Increased total research expenditures 11 percent, for an all-time high of $203M.
2. Grew federal research expenditures 7 percent to $117M.
3. Grew the total number of faculty with external funding or writing proposals for external funding to an all-time high of 54 percent.
4. Increased undergraduate participation in research by more than 50 percent to 3,906.
5. Transitioned many of the offices to electronic platforms to increase efficiencies and decrease faculty burden.
6. Improved safety oversight of teaching laboratories.
Research Growth Since 2010

Record $228 million* in externally funded research expenditures

*Final total to be announced February 2019.
Undergraduate Research

The number of undergraduates participating in research grew more than 75% over last year and is 9 times higher than it was five years ago.

<table>
<thead>
<tr>
<th>ACADEMIC YEAR</th>
<th>PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>3,906</td>
</tr>
<tr>
<td>2017</td>
<td>2,205</td>
</tr>
<tr>
<td>2016</td>
<td>1,468</td>
</tr>
<tr>
<td>2015</td>
<td>722</td>
</tr>
<tr>
<td>2014</td>
<td>401</td>
</tr>
</tbody>
</table>
National Endowment for the Humanities Fellowships

UTK ranks eleventh in the number of highly prestigious NEH faculty fellowships received since ORE started an advising program in 2005.

<table>
<thead>
<tr>
<th>University</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Notre Dame</td>
<td>41</td>
</tr>
<tr>
<td>Ohio State University</td>
<td>25</td>
</tr>
<tr>
<td>University of Michigan, Ann Arbor</td>
<td>25</td>
</tr>
<tr>
<td>Princeton University</td>
<td>21</td>
</tr>
<tr>
<td>University of Chicago</td>
<td>21</td>
</tr>
<tr>
<td>Washington University in St. Louis</td>
<td>21</td>
</tr>
<tr>
<td>University of Texas, Austin</td>
<td>20</td>
</tr>
<tr>
<td>University of Illinois, Urbana-Champaign</td>
<td>19</td>
</tr>
<tr>
<td>University of North Carolina, Chapel Hill</td>
<td>18</td>
</tr>
<tr>
<td>University of California, Berkeley</td>
<td>17</td>
</tr>
<tr>
<td>Harvard University</td>
<td>16</td>
</tr>
<tr>
<td><strong>University of Tennessee, Knoxville</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>
Vol Vision 2020

• Priority 3: Research, Scholarship, Creative Activity, and Engagement
  • Recognize contributions beyond sponsored research
  • Improve competitiveness for sponsored research through proposal support and new strategic partnerships
  • Increase student research opportunities to improve academic quality
  • Invest in research and information infrastructure
ORE 2019-2020 Action Plan

1. Define and Track Indicators of Excellence
2. Recognize Excellence and Celebrate Success
3. Support Transdisciplinary Research
4. Promote Government, Industry, University, and Foundation Partnerships
5. Support Entrepreneurs and Commercialization
ORE 2019-2020 Action Plan

6. Improve Proposal Competitiveness
7. Develop Strategic Internal Partnerships
8. Expand State and Federal Sponsorship
9. Support Excellence in Engagement
10. Increase Student Research Experiences
11. Improve Research Infrastructure
12. Enrich a Culture of Research Integrity and Compliance
ORE Base Operating & Investment Funds

- **ORE base budget** - $4.5M salary and operating budget
- **Additional Mission Support** – $400K for undergraduate research and compliance
- **Strategic and Transformative Investments in Research (STIR)** - $1.75M
- **Scholarly and Research Incentive Funds (SARIF)** - $904K
  - Support equipment, humanities, exhibits, performances, publishing, foreign travel, conferences, faculty scholarly research, faculty fellowships, open publishing.
- **Joint Institutes** - $1.3M annual allocation to support JIAM, JIBS, JICS, and JINS
- **Start-up** – Annual allocation of $5.6M.
  - $9.5 M obligated in FY19 to provide 50% support of start-up packages provided to new and continuing faculty.
- **Bridge funding** - $330K available in funding for bridge support
- **Cost share** – $1.5M annual allocation in support of external funding
- **Science Alliance**- $5.4M annual allocation & ORNL matching in FY 19.
  - Program currently supports Distinguished Scientists, Joint Directed Research & Development, Graduate Research Assistants, Economic Development and Equipment
STIR Funding Including Pending as of 12/31/2018

- Organized Research Units: 36%
- Seed Grant Funding: 24%
- Collaborations/Events/Proposals: 11%
- Prior Commitments (Recruitment): 13%
- CORE Facilities: 8%
- Undergraduate Research: 7%
SARIF Funding Including Pending as of 12/31/2018

- Equipment & Infrastructure: 29%
- Opportunities (Includes prior seeds): 22%
- Travel (Including Foreign): 13%
- Prof. & Scholarly Dev. Awards: 10%
- Summer GRA: 9%
- Exhibit, Performance & Publishing: 7%
- Conference Support: 5%
- Faculty Fellowship Support: 5%
Proposal Amount Comparison
FY18 versus FY17

SOURCE: Cayuse SP
Increasing Proposals FY18

Our Faculty

- 483 (46%) faculty submitted a proposal
- 1,726 proposals (n = 605 TKE; 520 A&S; 290 S&I)

Seed Program

- **Community Engaged Research Seed** – Support research that will positively impact our local, state, regional, and global communities
- **Mission Agency Research Seed** – Diversify our research portfolio and increase the number of mission agency research projects
- **Interdisciplinary Research Seed** – Grow the number and success rate of large multidisciplinary funding grants
- **Biomedical Research Seed** – Foster more successful proposals to life sciences programs
Internal Research Seeds

Goals

• Increase the number and quality of grant submissions
• Diversify our research portfolio
• Initiate new intellectual directions for our faculty
• Foster new interdisciplinary faculty relationships across colleges, departments or centers and external partners

2018 Awards

• 23 Awards (4 Community, 6 Interdisciplinary, 6 Mission, 7 Biomedical)
• Project start dates – variable ~ June 2018
• 4 Different Colleges
• 14 Different Departments

Early result – initiated a new faculty collaboration that went on to win a MINERVA grant
Obligated Award Amount Comparison
FY18 versus FY17

SOURCE: Cayuse SP
Total Research Expenditures Comparison
FY18 versus FY17

SOURCE: Estimate NSF HERD Survey

SOURCE: Cayuse SP
Research Activity for UT Knoxville
FY13-FY17 (Dollars in Millions)

- All Sponsored Program Expenditures ($m)
  - FY 2013: $181
  - FY 2014: $166
  - FY 2015: $160
  - FY 2016: $166
  - FY 2017: $166

- TREs ($m)
  - FY 2013: $193
  - FY 2014: $179
  - FY 2015: $174
  - FY 2016: $183
  - FY 2017: $204

- FREs ($m)
  - FY 2013: $118
  - FY 2014: $112
  - FY 2015: $105
  - FY 2016: $110
  - FY 2017: $117

- Award Dollars ($m)
  - FY 2013: $163
  - FY 2014: $139
  - FY 2015: $148
  - FY 2016: $153
  - FY 2017: $166
ORE Staffing as of 12/31/2018

- Sponsored Programs: 20
- Compliance: 20
- Research Development: 8
- Finance & Administration: 7
- Undergraduate Research & Community Engagement: 6
- Strategic Research Initiatives: 4
- Pending Hires - New: 3
- Pending Hires - Replacement: 2

65 staff members with 6 pending hires
ORE Pending Hires

• Pending Hires – Replacement
  • Administrative Assistant - Sponsored Programs
  • IRB Assistant Compliance Officer
  • Research Development - Faculty Development

• Pending Hires – New
  • Program Coordinator – Pre-College STEM Programs
  • Administrative Assistant – Pre-College STEM Programs
  • Portfolio Director - Dept. of Energy (Strategic Research Initiatives)
The NISER team of evaluation experts provides a range of quality research and evaluation services tailored to support evidence-based decision-making of the value, utility, and impacts of STEM-related initiatives in research and education.

**PLANNING AND DEVELOPMENT**
- Proposal development
- Formative & summative evaluation design/implementation
- Strategic planning
- Project mapping

**DATA COLLECTION**
- Survey design/admin
- Interview/focus group facilitation
- Intervention observation
- Document review

**ANALYSES**
- Descriptive and inferential stats
- Bibliometrics
- Network analyses
- Quantitative and qualitative analyses

**REPORTING**
- Utilization-focused data visualization
- Formal reports
- Data dashboards
- Presentations
- Publications
Research Challenges

• Increasing TRE’s and FRE’s in a highly competitive environment for funding
• Diversifying funding sources
• Attracting investments in research and development – Corporations, Foundations and Philanthropic sources
• Fostering a culture of investigation and innovation
• Resourcing student research opportunities
• Fostering a culture of compliance and responsible conduct of research
Additional Points of Discussion

• Summary of UT research proposals, grants funded, and expenditures for the past 5 years
• Updates on the funding landscape
• Effectiveness of ORE support for researchers?
• ORE view of Opportunities for UT Research and Creative Achievement?
• Impact of alternative budget model (e.g. hybrid RCM model)?
• How can faculty have greater input to ORE priorities and planning?