2022-2023 Research Report
to UKRF Board of Directors

Lisa A Cassis, PhD
Professor, Department of Pharmacology and Nutritional Sciences
Vice President for Research
The UKRF Budget

• Facilities and administrative (F&A) costs from external grants and contracts support the UKRF budget.

• These are costs that the university has incurred because of the research within a given grant or contract which took place at UK.

• We follow federal guidelines to negotiate these costs every 3 years with the federal government. We have submitted (February 2023) our request for the next F&A rate for UK.

• Our current F&A rate is 53%, meaning for each $1 that comes to the institution for specific research within a grant the institution receives an additional $0.53. Not all expenditures on grants and contracts accrue F&A, our actual rate last year was approximately $0.19/$1 in direct costs.
Update on Research Progress Across UK

These are the accomplishments of our leaders (Provost, Deans, Associate Deans for Research, Chairs) and the Faculty, Staff and Students Doing and Supporting Research
Awarded Grants and Contracts

FY22/23
Continued Research Growth in Grant and Contract Awards

Source: University of Kentucky, Office of Sponsored Projects Administration Database

UK Awarded Grants and Contracts

 FY 15     FY 16     FY 17     FY 18     FY 19     FY 20     FY 21     FY 22
$285.1 M  $316.5 M  $331.3 M  $333.8 M  $417.1 M  $429.2 M  $486.0 M  $452.9 M
+10%      +11%      +4.7%     +0.8%     +25%      +2.9%      +9%      -3.2%

59% Growth FY 15 – FY 22

Compound Annual Growth Rate = +8.6%
Awarded Grants and Contracts: Impact of NIH HEALing Communities Study
(as of June 30 of each year)

Without KY CAN HEAL Project

Federal Funding
-2.5%

Large One-Time Federal Awards in FY21

NIH HEALing Communities Study
NIH C06 Grant – HKRB Fit-out
Large NSF EPSCoR Track 1
NextGen MatPro Tech
Alzheimer’s Disease Core Center
Various Federal Projects that ended

Source: University of Kentucky, Office of Sponsored Projects Administration Database
Research Growth in Grant and Contract Awards: Impact of NIH HEALing Communities Study

UK Awarded Grants and Contracts

Without HEALing Communities Study

<table>
<thead>
<tr>
<th>FY 15</th>
<th>FY 16</th>
<th>FY 17</th>
<th>FY 18</th>
<th>FY 19*</th>
<th>FY 20*</th>
<th>FY 21*</th>
<th>FY 22*</th>
</tr>
</thead>
<tbody>
<tr>
<td>$285.1 M</td>
<td>$316.5 M</td>
<td>$331.3 M</td>
<td>$333.8 M</td>
<td>$396.7 M</td>
<td>$404.0 M</td>
<td>$440.5 M</td>
<td>$444.3 M</td>
</tr>
</tbody>
</table>

Compound Annual Growth Rate = +6.5%

*Excludes awarded dollars for the NIH Kentucky Can Heal Community study.

Source: University of Kentucky, Office of Sponsored Projects Administration Database
Awarded Grants and Contracts by Source

Source: University of Kentucky, Office of Sponsored Projects Administration Database
UK R&D Expenditures

FY22/23
Continued Research Growth in R&D Expenditures

Excludes CARES Act COVID-19 Relief Funding

Source: University of Kentucky OSPA database, 06/30/2022

74% Growth
FY 15 – FY 22
UK Researchers Compete for Federal Peer-Reviewed Funding
R&D Expenditures by Source of Funds

Source: University of Kentucky, OSPA database.
National Institutes of Health (NIH) is the largest source of federal R&D expenditures by UK researchers (FY22)

Source: University of Kentucky, OSPA database.
Grant Award Progress
Year-to-Date
FY22/23
Grant Awards thus far in FY23
July 1 – April 30 of Each Year

Source: University of Kentucky, OSPA database.
Grant Awards thus far in FY 23

SPONSORED AWARD DOLLARS BY TYPE

Compared to the same time last year

Federal Awards -0.1%
State Awards +16.0%
Industry Awards +21.7%
Other Award Sponsors +12.6%

Source: University of Kentucky, OSPA Database, 4/30/2023
Grant Award Project Numbers Exceed Growth in Number of PIs, Sponsor Diversity Increases

Source: University of Kentucky, OSPA Database
UK PURPOSE, Research and the UKRF Budget

Following our Strategic Plan
Putting Students First: Graduate Student Support ($6.1M)
Office of Undergraduate Research ($577K)
• Research Assistant’s (RAs) are an important part of our research workforce, and the future of research within our disciplines. Most RAs are supported from external grants and contracts with the Principal Investigators or co-investigators as their mentors.

• The university’s policy is that grants that support a RA must cover the Universal Tuition Rate, which is the in-state tuition. The out-of-state tuition is covered by a Tuition Scholarship.

• In FY23, OVPR created an account in UKRF to which the Graduate School would charge the out-of-state tuition costs for RAs.

• This fiscal year, the UKRF budget for the out-of-state Tuition Scholarships of ~$6M was based on the last five years of RA non-resident tuition paid by the university and is re-evaluated annually.

• In addition, UKRF provides funding to colleges in support of graduate students and training grants: $538,400

• UKRF also supports a diversity postdoctoral program: $300,000

• UKRF provides TA support: $451,000

• The FY23/24 UKRF budget request for graduate school-related activities is $6.8M, plus an additional $538,400 for training grant support, totaling $7.3M, which is 10.5% of the proposed $70M budget

### RA Tuition Differentials by College

<table>
<thead>
<tr>
<th>Student’s College</th>
<th>FY 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ag, Food and Environment</td>
<td>$1,388,778</td>
</tr>
<tr>
<td>Arts and Sciences</td>
<td>$836,436</td>
</tr>
<tr>
<td>Business &amp; Economics</td>
<td>$16,485</td>
</tr>
<tr>
<td>Communication and Information</td>
<td>$53,041</td>
</tr>
<tr>
<td>Education</td>
<td>$264,090</td>
</tr>
<tr>
<td>Engineering</td>
<td>$1,453,063</td>
</tr>
<tr>
<td>Graduate School</td>
<td>$208,781</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>$46,277</td>
</tr>
<tr>
<td>Medicine</td>
<td>$1,266,341</td>
</tr>
<tr>
<td>Nursing</td>
<td>$65,455</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>$218,974</td>
</tr>
<tr>
<td>Public Health</td>
<td>$113,980</td>
</tr>
<tr>
<td>Social Work</td>
<td>$40,626</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$5,972,326</strong></td>
</tr>
</tbody>
</table>

**UK PURPOSE: Support of graduate student training**
UK PURPOSE: Support of Undergraduate Research
Office of Undergraduate Research (OUR): Chad Risko, Faculty Director

This last year, OUR:
- Supported 311 in 2022-23 academic year undergraduate fellowships for research and travel support
  - 65 First-generation students awarded
  - 118 Honors students awarded
  - 19 Parker Scholars awarded
  - 172 Faculty participated
  - 16 Colleges participated
- Held 7 information sessions, 10 workshops, 30 tabling events, 13 drop-in peer advising, 19 student org presentations
- Managed the annual Undergrad Research Showcase: 335 presentations by 500 students
- Organized 59 presentations by undergrad researchers at national undergrad research conferences
- Led 18 Undergraduate Student Ambassadors who gave 869 service hours, 101 outreach events
- Managed Fellowships: 2 Beckman Scholars, 20 Commonwealth Undergrad Research Experience (CURE) Fellows, 5 UK Sustainability Fellows
- Launched ForagerOne Software system for students to seek out mentors
UK PURPOSE, Research and the UKRF Budget

Following our Strategic Plan
Taking Care of our People: New programs and updates
Project GATeWAY ($848K)
Research Leadership Academy ($1M)
Project GATeWAY

Grants Administration Transformation as the WAY forward
The Case for Change: A Grant Life Cycle

The current structure and processes require seamless and constant coordination across offices and campus.

COORDINATION ACROSS CAMPUS

The UK sponsored programs lifecycle spans both pre- and post-award processes and includes research administration support from central [Office of Sponsored Projects Administration (OSPA) and Research Financial Services (RFS)], and College Grant Officers (CGOs).

Throughout the life cycle of a grant, the process must be efficient, effective, compliant and seamless.
The Case for Change: Growth in Grants and Contracts

Over the last decade, UK has nearly doubled its sponsored research which continues to grow; however, staff growth has not kept pace with growth in grants and contracts.

UNEVEN GROWTH

As the institution continues to grow its research portfolio, so must the number of staff who touch every part of a grant lifecycle.
Phase 1: Assessment Scope and Background

Given recent growth in sponsored research over the last decade, UK asked Deloitte to conduct a comprehensive assessment of its research administration functions to improve operations and service to faculty.

Deloitte’s assessment included the following in-scope areas for research administration operations and functions at UK:

- **Organizational Structure**: Systematic assessment of the University’s research administration / sponsored projects organizational structure.
- **Positions & Responsibilities**: Training, roles, responsibilities and governance enabling accountability, workforce effectiveness and change management.
- **Business Processes**: Business Process Review of 20 sponsored project processes, policies and practices across pre- and post-award functions.
- **Electronic Data Management**: Assessment of current electronic system used to track proposal & award information to facilitate management of grants & contracts and integrations with other systems.

The goal of this assessment is to provide recommendations that enable to UK to:

1. Drive efficiencies and return on investment
2. Improve administrative operations
3. Improve overall service delivery
4. Foster trust and relationships with faculty
Phase 2: UK Project GATeWAY: Grants Administration Transformation as the Way Forward

Continued success in growing sponsored research at UK requires investment in three priority areas and will enable alignment with UK’s overall strategic objectives.

**UK PROJECT GATeWAY OPPORTUNITIES**

**Opportunity 1: Structure**
Develop an organizational structure with new job architectures, business processes, appropriate staffing and compensation levels which support growth while providing pathways for career advancement.

**Opportunity 2: Services**
Create a collaborative shared service model for local grants administration, using successful grants administration structures developed in large colleges as a road map. Includes development of a funding strategy for Collaboratives.

**Opportunity 3: Technology**
Prepare and implement a research technology and systems roadmap for research administration. Explore Robotic Process Automation (RPA) Opportunities.

**UNIVERSITY OF KENTUCKY’S STRATEGIC OBJECTIVES**

- **Putting Students First**
- **Taking Care of our People**
- **Inspiring Ingenuity**
- **Ensuring Greater Trust, Transparency and Accountability**
- **Bringing Together Many People; One Community**
The three opportunities – Structure, Services, and Technology – are interconnected and will be worked on simultaneously. A broad group of stakeholders will support making key decisions required to move activities forward.

**Project Cohesion**

The Project Sponsors and Steering Committee are tasked with identifying and championing the key changes to enable the connections between Structure, Services and Technology.

**STRUCTURE AND SERVICES**

**Organizational Design**
Identify roles, responsibilities and staffing levels for both central offices and the new Collaboratives organization

**Governance Framework**
Develop new governance structures, processes, and tool to guide the new support organization, including Collaboratives

**STRUCTURE AND TECHNOLOGY**

**Technology Blueprint**
Identify core technology capabilities of new structure, including fit / gap analysis and specifications

**Robotic Process Automation**
Highlight opportunities to use intelligent automation in future state processes

**SERVICES AND TECHNOLOGY**

**Collaboratives Technology Blueprint**
Identify core technology requirements for Collaboratives, including workload and service level agreement tracking mechanisms
Establishment of strong project governance is critical to drive toward a future state that aligns with the research culture and mission of UK.
Governance Structure

Information and requests for decision-making escalate based on defined roles at each governance level, with the majority of decisions being made within project teams.

**Role & Information**

1. **Executive Sponsors**
   - Informed and make decisions on program impact issues and changes to scope, budget and policy decisions
   - Recommend a weekly meeting cadence, and as needed

2. **Steering Committee**
   - Advise on decisions on process, risks and issues
   - Recommend a monthly meeting cadence, and as needed
   - Summary-level reports and communication

3. **PMO**
   - Inform decisions on process, risks and issues
   - Monitor scope and budget
   - Manage escalation of decisions to leadership
   - And status reports

4. **Working Group Champions**
   - Escalation on process, policy, risks and issues
   - Variety of meetings; recommend minimum of weekly meeting cadence
   - Detailed level information

5. **Working Groups**
   - Business process updates
   - Daily / weekly meetings, as required
   - Detailed level information
Design Phase 2 Overview | High-Level Timeline

<table>
<thead>
<tr>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>% Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collaboratives</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared Services Site Visits</td>
<td>Discuss Funding Model Options</td>
<td>Collaboratives Visioning Sessions</td>
<td>Develop Organizational Structure for Collaboratives</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>65%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Business Process Redesign – Current State Sessions</td>
<td>Develop &amp; Review Collaboratives Model Options</td>
<td>Develop Unit Profiles &amp; Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
</tr>
<tr>
<td><strong>Structure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Process Redesign – Future State Design</td>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology Working Group Meetings</td>
<td>Technology Blueprint Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Started</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40%</td>
</tr>
</tbody>
</table>
UK Project GATEWAY Updates

• Over the past several months, UK Project GATEWAY has made significant progress across all three opportunities.

**Current Project Updates**

**STRUCTURE**

• Facilitated 19 group current state business process redesign sessions
• Distributed survey to broader research community for input on business processes
• Validating process maps throughout May with Working Group Champions

**COLLABORATIVES**

• Facilitated three Collaboratives Visioning sessions
• Established Guiding Principles with the Working Group
• Discussed pros and cons of two operating models
• Discussing where positions and roles should be housed

**TECHNOLOGY**

• Developed full technology inventory and identified integrations
• Began determining technological needs with new organizational structure
• Considering technology enhancements
Walking Project GATeWAY Next Steps

- Over the next several months, UK Project GATeWAY will begin to make key decisions that will inform the future state of UK Research.

### Upcoming Project Activities

#### STRUCTURE
- Finalize current state process maps
- Design future state process maps that address pain points and technology gaps

#### COLLABORATIVES
- Align on services moving into the Collaboratives
- Finalize groupings of regional hubs within the operating model
- Discuss unit profiles with ADRs to inform a portability matrix
- Develop a service catalog of all the activities in the Collaboratives at each level of shared

#### TECHNOLOGY
- Gather feedback from the Technology working group on the current inventory of technologies and pain points identified
- Begin the develop the future state technology blueprint
Communications Strategy

The Project GATeWAY communication approach will focus on transparency and timely communication.

We want feedback on the effectiveness of our communication methods, content and channels.

FEEDBACK CONSIDERATIONS

How can Project GATeWAY:

1. More effectively communicate to the broader UK community?
2. Foster an environment that encourages two-way communication?
3. Ensure the right messaging is delivered at the right time to the right audience?

Communication Channels for Project GATeWAY

- Emails to stakeholders
- VPR Newsletter- Impact Kentucky

- Project GATeWAY Website

- VPR Standing Meetings
- Provost’s Chairs Council
- Dean’s Council
- Faculty Senate Meetings
- Administrators
- Office Hours

Website: https://www.research.uky.edu/resources/project-gateway
Research Leadership Academy

Updates
UK Research Leadership Academy: Why/What?

Taking Care of our People: Programs intended to further facilitate the advancement of our research culture by providing opportunities for our people.

- Align the research infrastructure with each college’s research missions
- Develop and train future research leaders
- Provide strategic and focused support for complex programmatic grant proposals
- Support emerging themes in research
<table>
<thead>
<tr>
<th>Proposal</th>
<th>Project Title</th>
<th>College</th>
<th>Department</th>
<th>Training Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Bauer</td>
<td>Strategic Planning for Research in Pediatrics and Perinatal Medicine</td>
<td>Medicine</td>
<td>Pediatrics</td>
<td>Intends to develop a nationally recognized Center of Perinatal and Pediatric Medicine</td>
</tr>
<tr>
<td>Molly Blasing</td>
<td>Transdisciplinary Research Initiatives for World Languages and STEM Fields</td>
<td>Arts and Sciences</td>
<td>Modern and Classical Languages, Literatures, and Cultures</td>
<td>Received pilot funding from the Energy RPA – Energy Across the Curriculum Influence of Climate, Energy and Sustainability Topics in World Language Curriculum</td>
</tr>
<tr>
<td>Ken Campbell</td>
<td>Improve infrastructure for and utilization of biobanks at the University of Kentucky</td>
<td>Medicine</td>
<td>Physiology</td>
<td>Intends to bring UK biobanks under one organizational infrastructure for greater efficiency and effectiveness</td>
</tr>
<tr>
<td>Rajeev Darolia</td>
<td>Expanding Research of Policy Consequence / State Policy Research &amp; Data Showcase</td>
<td>Graduate School</td>
<td>Martin School of Public Administration</td>
<td>Appointed ADR for the Graduate School Appointed Senior Advisor for the US Department of Education</td>
</tr>
<tr>
<td>Lindsey Fay</td>
<td>A Three-Dimensional Approach for Developing a Research-based Culture for the College of Design</td>
<td>Design</td>
<td>Interiors</td>
<td>Appointed ADR for College of Design</td>
</tr>
<tr>
<td>Alison Gustafson</td>
<td>Food as Health Alliance to improve Food Security and Diet-Sensitive Health Outcomes</td>
<td>Agriculture, Food and Environment</td>
<td>Dietetics and Human Nutrition</td>
<td>Established new Food as Health Alliance within CAFÉ with support from several RPAs and Instacart White House endorsement of Alliance and Instacart partnership</td>
</tr>
<tr>
<td>Lovoria Williams</td>
<td>C-H-E-C-K Community Health Worker Institute</td>
<td>Nursing</td>
<td>N/A</td>
<td>Established CHECK – CCTS sponsored 2 CHWs</td>
</tr>
<tr>
<td>Xiaohua Zhang</td>
<td>Center for Big Data &amp; Analysis (CBDA)</td>
<td>Public Health</td>
<td>Biostatistics</td>
<td>Established a Data Analysis and Research Core (DARD) for the Barnstable Brown Diabetes Center and Diabetes and Obesity RPA</td>
</tr>
<tr>
<td>PI/Program Lead</td>
<td>College(s)</td>
<td>Program or Project Title</td>
<td>Total $ Amount Requested</td>
<td>Extramural Grant Program Name</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Seth Himelhoch</td>
<td>Medicine, Nursing, Public Health</td>
<td>Appalachian Tobacco Regulatory Science Team (AppalTRuST)</td>
<td>$19,973,288</td>
<td>Tobacco Center of Regulatory Science (TCORS, U54)</td>
</tr>
<tr>
<td>Darwin Conwell, Lisa Cassis, Nancy Schoenberg, Stephanie White</td>
<td>Medicine</td>
<td>UKFIRST ReSPecT: An Innovative Approach to Build and Sustain Transformative Institutional Cultural Change</td>
<td>$13,728,300</td>
<td>Faculty Institutional Recruitment for Sustainable Transformation (U54)</td>
</tr>
<tr>
<td>Maria Cahill</td>
<td>Communication and Information</td>
<td>NSF Convergence Accelerator Track H: Enhancing Opportunities for Persons with Disabilities, Phase I</td>
<td>$0</td>
<td>NSF Convergence Accelerator Program</td>
</tr>
<tr>
<td>Greg Erhardt</td>
<td>Engineering</td>
<td>T-SCORE: Transit-Sustainable, Competitive, Responsive and Equitable</td>
<td>$2,000,000</td>
<td>University Transportation Centers</td>
</tr>
<tr>
<td>Ian McClure</td>
<td>UK Innovate</td>
<td>From a Carbon Centric to Circular Economy: Generating Advanced Manufacturing Excellence for Change (GAME Change) for the Southeastern Commerce Corridor, Phase I</td>
<td>$1,000,000</td>
<td>Regional Innovation Engines</td>
</tr>
<tr>
<td>William Stoops</td>
<td>Medicine</td>
<td>Center for Research on Existing and Alternative Treatment Outcomes (CREATE)</td>
<td>~$15,300,000</td>
<td>Research Center of Excellence Grant Program (P50)</td>
</tr>
<tr>
<td>Danelle Stevens-Watkins</td>
<td>Education, Public Health, Medicine</td>
<td>The University of Kentucky Racial Equity Initiative Coordinating Center</td>
<td>$3,618,348</td>
<td>NIDA Research Equity Initiative: Coordination Center to Support Racial Equity and Substance Use Disparities Research (U24)</td>
</tr>
<tr>
<td>Stephen Rankin</td>
<td>Engineering; Arts and Sciences; Agriculture, Food and Environment</td>
<td>Center for Lingnin Engineering, Analysis, and Research for Sustainable Technology (CLEAReST)</td>
<td>~$26,000,000</td>
<td>Engineering Research Center</td>
</tr>
<tr>
<td>Yu Ming Zhang</td>
<td>Engineering</td>
<td>Center for Collaborative Interfaces (CI, Enabling and Augmenting the Underemployed in Future Manufacturing Ecosystems (CI-ERC)</td>
<td>~$3,500,000</td>
<td>Engineering Research Center subaward</td>
</tr>
<tr>
<td>Scott Berry</td>
<td>Engineering</td>
<td>Advancing Environmental Surveillance for Pandemic Prediction in Remote and Resource Poor Settings</td>
<td>~$15,000,000 to 25,000,000</td>
<td>Predictive Intelligence for Pandemic Prevention (PIPP), Phase II</td>
</tr>
<tr>
<td>Todd Hastings</td>
<td>Engineering, Arts and Sciences</td>
<td>Light-Matter Interactions in Artificial Spin Lattices</td>
<td>$2,999,998</td>
<td>DOE EPSCoR Implementation Grant</td>
</tr>
</tbody>
</table>
UK PURPOSE and Research

Following our Strategic Plan

Inspiring Ingenuity: Updates on Research Priority Area (RPA) Program and new Materials Science RPA ($5.4M)
Timeline: Development of the Research Priority Areas (RPA) Initiative

- **2014**: BOT retreat focused on research: CR1
- **2014**: Development of Strategic Plan for Research
- **2014**: President Capilouto requests state support for new facility
- **2014**: Focus on thematic research that includes health disparities within new building
- **2014**: Established criteria for designating “Research Priority Areas”
- **2014**: Developed data set behind each criteria for research priority areas
- **2014**: Called together groups of investigators within each priority area; provided some initial support for thematic activities
- **2015**: Presented concept to senior leadership and Deans
- **2016**: Established leadership for 6 Research Priority Areas
- **2017**: Established financial support mechanism to support the program
- **2018**: Developed a common template related to structure/governance within each priority area
- **2018**: Research Priority Initiative up and running
- **2020**: Added 7th RPA focused on racial equity
- **2023**: Creation of Materials Science RPA

Health disparities focus for new research building

Focus on thematic research that includes health disparities within new building

Developed data set behind each criteria for research priority areas

Presented concept to senior leadership and Deans

Established leadership for 6 Research Priority Areas

Established financial support mechanism to support the program

Added 7th RPA focused on racial equity

2014 2018 2020 2023
Research Priority Areas (RPA)

Criteria for becoming a RPA:

• **Local relevance** of the research, global impact

• **Existing faculty strength** and research leadership

• Disciplinary **research diversity**

• Potential interconnections of research with **educational opportunities**

• **Impact** of research on UK and the Commonwealth

• **Sustainability** of research
University of Kentucky
Awarded Grants and Contracts by Research Priority Area
Fiscal Year 2015 through 2022

Cancer $49M, CAGR = 4.5%
Cardiovascular $32M, CAGR = -5.2%
Diabetes & Obesity $48M, CAGR = 1.5%
Diversity & Inclusion $52M, CAGR = 10.6%
Energy $74M, CAGR = -2.2%
Neuroscience $60M, CAGR = 14.2%
Substance Use Disorder $75M, CAGR = 13.8%

Note: Awarded projects for each thematic area are not mutually exclusive. Projects may be represented in one or more areas. Additionally, projects are based on keyword searches and may not include all related projects and may contain some projects that aren’t specific to that area of research. CAGR = Compound annual growth rate. Source: UK OSPA Database, June 30, 2022.
RPA Engagement & Impact

RPA Program Impact*

*Estimates based on submitted FY 2022 Annual RPA Reports

Fiscal Year 2022

• 27 Pilot/Seed projects ($845K)
• 18 Start-up packages ($1.3M)
• 18 Equipment purchases ($1.4M)
• 4 Post-doc Support ($180K)
• 33 Student Research Support ($123K)
• Other support** ($584K)

**Research Days, renovation of space, program support funds, retention, etc.
Justification to Establish a Materials Science RPA

• Materials research is highly interdisciplinary and facilitates advancements in science & technology

• Relation to the Commonwealth:
  • The Kentucky economy has a heavy focus on manufacturing sectors (automotive, aerospace) that rely on steel, aluminum, plastics
  • Research performed by students helps develop KY workforce

• UK has broad strengths in materials research (Engineering, Arts and Sciences, CAER, CAFÉ, Medicine, Dentistry) and has world leaders in key areas: recovery of rare earth elements; organic electronics; carbon materials

• Materials science is poised for further growth in federal funding (CHIPS and Science Act) and has significant potential for new sponsored research

• The development and application of new materials underpin vast segments of scientific & technological progress, significantly impacting the US economy and national competitiveness
Research Activity and Growth in External Grant Awards for Materials Science

Research Awards for Materials Science

Materials Science Activity:
>100 researchers from Engineering, Arts and Sciences, CAER, CAFÉ, Medicine, Dentistry

43 current materials projects, total award value of $24.3M (183 projects since 2017)

71 awards in FY22 = 4% of total awards to UK (sponsored grants and projects)

979 authors
>15,000 citations
13.0 citations per publication

Compound Annual Growth Rate (Funding) = +18.9%
Materials Science RPA Leadership Team

Leadership Team (internal advisory board):
Includes a director and three to five researchers representing breadth of UK materials science
Team will meet regularly to review progress toward goals, manage funding mechanisms, plan UK-wide research days and meetings with RPA members

Director:
John Balk, PhD, PE
Professor, Materials Science and Engineering
Director, Electron Microscopy Center
Associate Dean for Research and Graduate Studies (Engineering)

Matthew Weisenberger (CAER)
Associate Director, Carbon Materials group; carbon fibers and composite materials

Beth Guiton (Chemistry)
Nanoscale materials chemistry; in situ materials characterization (electron microscopy)

Gregory Frolenkov (Physiology)
Mechanosensitivity in sensory cells of mammalian inner ear (hair cells); electron microscopy
Primary Goals of the Materials Science RPA for 23-24

• Provide leadership and support for materials research activity across UK
• Serve as the hub for fundamental and applied materials research

• Research Day
  • Host materials research symposium with invited oral presentations and posters
  • Include targeted outreach to relevant industry (work with Kentucky companies and develop opportunities for sponsored research)

• Funding mechanisms to support materials research
  • Seed/pilot projects
  • Contribution(s) to faculty startup
  • Small equipment program
  • Student support (e.g., partner with Office of Undergraduate Research)

• NSF MRSEC (Materials Research Science and Engineering Center) plans
Inspiring Ingenuity: Other Research Program Offerings

• **UK Innovate**: 4 built platforms, microcertification training, new GAME Change NSF Type-1 Engines grant, NIH KYNETIC/REACH grant program, renewal of NIGMS Innovation Hub

• **Igniting Research Collaborations**: cross-college transdisciplinary pilot seed support program, networking, grant write-up follow through

• **CURATE Committee**: innovative programs to support social science, fine arts, business/economics, education, design, communication research

• **Lunch and Learn Series**: sharing of information to promote research collaboration

• **Emerging Themes for Research**: networking and vetting of new research ideas, pulling institutional data and seeking funding opportunities, seed support partnership between VPR, Provost and EVPHA domains
UK PURPOSE, Research and the UKRF Budget

Following our Strategic Plan
Trust, transparency and accountability
Trust, transparency and accountability in Research

• Project GATeWAY
• Monthly meetings of the Research Advisory Group, Associate Deans for Research, OVPR leadership team
• Regular meetings of Research Staff Directors, Center and Institute Directors, Research Priority Area leaders
• Regular reporting within these meetings on staff unit productivity
• Responsible Conduct of Research Training (regular reports to all units on researchers completing training activities)
• Electronic Laboratory Data Notebook
• New site license to iThenticate anti-plagiarism software
• Launching of Scholars@UK inward and outward facing faculty and unit research profiles
UK PURPOSE, Research and the UKRF Budget

Following our Strategic Plan
Many People, One Community
Many People, One Community of Research

• UNITE program offerings that span from undergrads, graduate students, postdocs, faculty to the community

• Research Scholars Program

• Individual Postdoctoral Enrichment Program

• Research Leadership Career Development Program

• UKinSPIRE: new international research pilot/seed support

• Each RPA must have positive impact on the Commonwealth

• Support of large, programmatic grants that have broad impact = NIH CTSA, NCI designated cancer center, NIH HEALing Communities Study, NIH Alzheimer’s Disease Center, NIH UK-CARES for environmental impact across the Commonwealth, NIH KYNETIC, NIGMS Innovator Hub
UKRF Budget

• For FY22/23, we budgeted $68M of anticipated F&A income, representing a 14% increase from the previous year because of growth in extramural grants and contracts.

• FY23/24 Proposed Budget: $70M (a 3% increase, based on growth in realized F&A within the previous year).
Budget Summary

- Total Revenue:
  $157,569,900, representing a decrease of $12,475,000 (from reductions in capital project investments, faculty research program spending, direct costs from CARES funding end)

- Transfers and Expenditures:
  - Transfers of $29,265,200 to the institution
  - Expenditures of $128,304,700
  - For a total Transfers and Expenditures of $157,569,900
Tab 5B, Budget Page 2 within packet
II. Transfers to General Fund (major changes)

• A.2. Service assessment, +$132,700
• A.7. Research Financial Services, +$211,900, Project GATeWAY
• A.8. VP External Affairs, +$48,000, new shared position in Research Communications
• A.8. Research Communications, +$77,800, new position and position upgrades (Website management, support for grant public relations)
• B.1. Research Administration Personnel and Support, +$590,200, Project GATeWAY new positions, position upgrades, annual salary increases
• B.2. Collaborative Grant Services, +$261,900, new Exec. Director for Shared Service Collaboratives, new staff to supervise this activity, annual salary increases
• B.3. Office of Technology Commercialization, +$27,000, annual salary increases
• D. Debt Service, +$140,000, 7% of UKRF budget, reduction to BBSRB debt service and increase to HKRB internal loan
II. Expenditures, A. Operating expenses

• A. Operating Expenses, Research Administration
  • A.2.b. Research Administration Software: +$29,700, increased software license costs
  • A.7. Discretionary Accounts: +6,400, shared services staff allocation
  • A.2.11. Research Buildings Facilities Management: -$85,900, transition building maintenance expenses to colleges
  • A.2.13, Proposal Development Office: +$5,500, software cost increase
  • A.2.15, Research Financial Services: -$286,900, completed F&A rate calculations with external consultants
  • A.17. Collaborative Shared Services, +$95,000, operating costs for Shared Services Collaboratives for grants administration
II. Expenditures, B. Other activity

• II.B.1. Contingency reserve: +$200,000, 10% of estimated budget
• II.B.2. Private gifts/endowments: +$180,800, increase in anticipated gift/endowment expenditures
• II.B.4. Intellectual property royalty sharing program: +$408,848, fund balance and new funds
• II.B.5. UK Innovate: -$974,248, last year funding for new UK innovate platforms that have since been developed
• II.B.6. Clinical Support Office Fees, +$80,000, fees generated by the CRSO which has relocated to OVPR
II. Expenditures, C. Research Programs

1a. Formulaic start-up: +$400,000 (20% of UKRF budget)

1b. Other Start-up commitments: -$66,100, end of commitment to Dean of Education

2a-c. Formulaic incentive return programs to colleges/centers: +$2,419,500 (~45% of overall budget)

3a. Faculty Research Support: -$120,000, ending of previous commitments

3b. Research Leadership Academy: +$400,000, support for Emerging Themes Seed Program, other offerings

5. Shared Use Facilities: -$25,000, transfer of one staff to college where services are provided

6. University Wide Initiatives, +$573,200, movement of CRSO to OVPR

7a-c. Strategic Investment Fund: +$627,000 (7% of overall budget), RPA programs and new RPA

8a. Fund Balance Carryforward Estimate: -$7,000,000 (fund balance across departments, colleges, centers)

9a-c. Capital Project Investments: -$10,750,000, completion of previous commitments
Tab 5B, Budget Page 3 within packet, II.D, Student/Training Support

- D.3. Graduate School Program Support: -$78,700, graduate school projected Research Assistant Tuition differential between in and out of state tuition