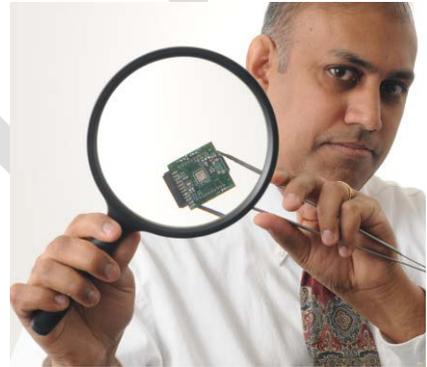


**OFFICE OF SPONSORED
PROGRAMS**

2020 STRATEGIC PLAN

February 6, 2014



INTRODUCTION

This Strategic Plan describes the overall objectives, actions to be taken by and performance measures for the Office of Sponsored Programs (OSP), which includes the Office of Vice Provost for Research (OVPR), and research centers and the Office of the Technology Transfer and Economic Development (OTTED) that reside under the VPR (“affiliated research centers”). The actions are linked to the campus Strategic Plan and they describe how OSP will advance the research mission of the campus and help achieve the bold vision in the new customer focused strategic plan. This Strategic Plan reflects the direct impact OSP will have on research investors. However, it should be noted that OSP will also impact the other five customer groups (undergraduate students, research-based graduate students, distance and on-line students, employers and donors) at varying levels.

MISSION

OSP will foster innovation, promote scholarship, creative works, technology transfer and economic development, provide access to specialized equipment, and promote education and training of students to conduct cutting-edge interdisciplinary research. OSP will also enhance and facilitate research and external funding by providing support services, in a timely and professional manner, to faculty, staff, students and research investors involved with sponsored program activities.

VISION

OSP will create a culture of excellence that accelerates discovery, creativity and innovation.

VALUES (same as campus)

Lifelong Success

We add exceptional value. The rewards of the Missouri S&T experience extend far beyond a college education, valued degree or gratifying career. The S&T experience prepares you for a fulfilling life defined by the confidence to succeed, a desire to excel and a love of learning that never stops.

Creativity

We are innovators. Building a better world demands a creative spark, innovative and entrepreneurial approaches, and curiosity to discover and explore new solutions to the world’s great challenges.

Integrity

We hold ourselves accountable for our actions. We strive to uphold the highest ethical standards, to conduct ourselves with trustworthiness and respect for all of humanity, and to instill in our campus community these same principles.

Sustainability

We live by example. As stewards of the public goodwill, the financial resources entrusted to us, and the environment, we emphasize resilient and sustainable practices in all our endeavors.

Partnerships

We are great partners. We focus on adding value and creating mutually beneficial partnerships. The solutions to today’s great challenges require agile collaboration, teamwork and engagement with our stakeholders, both on campus and in the greater business, civic, national and international communities.

Inclusion

We are an inclusive, welcoming community. We seek to build a creative learning environment marked by openness, understanding and valuing all people and perspectives.

STRATEGY STATEMENT

Achieve externally supported annual research expenditures of \$40M by FY2020 focusing on current and new sponsors who seek timely and innovative solutions through renowned experts and students.

GOVERNANCE AND LEADERSHIP OF STRATEGIC PLAN

Figure 1 shows the organizational chart of OSP, which includes the OVPR and affiliated research centers. The Strategic Plan will be led by the VPR, and it will be administered and monitored by the VPR in collaboration with affiliated research center directors, Fort Leonard Wood (FLW) Liaison and OVPR Compliance Officer. An annual retreat will be held during the fall semester to:

- Review results of actions taken during the previous calendar year;
- Review progress made to accomplish 2020 best-in-class and strategy targets;
- Review OSP's strategic plan, actions and performance measures and make necessary revisions; and
- Finalize action plans for the next calendar year.

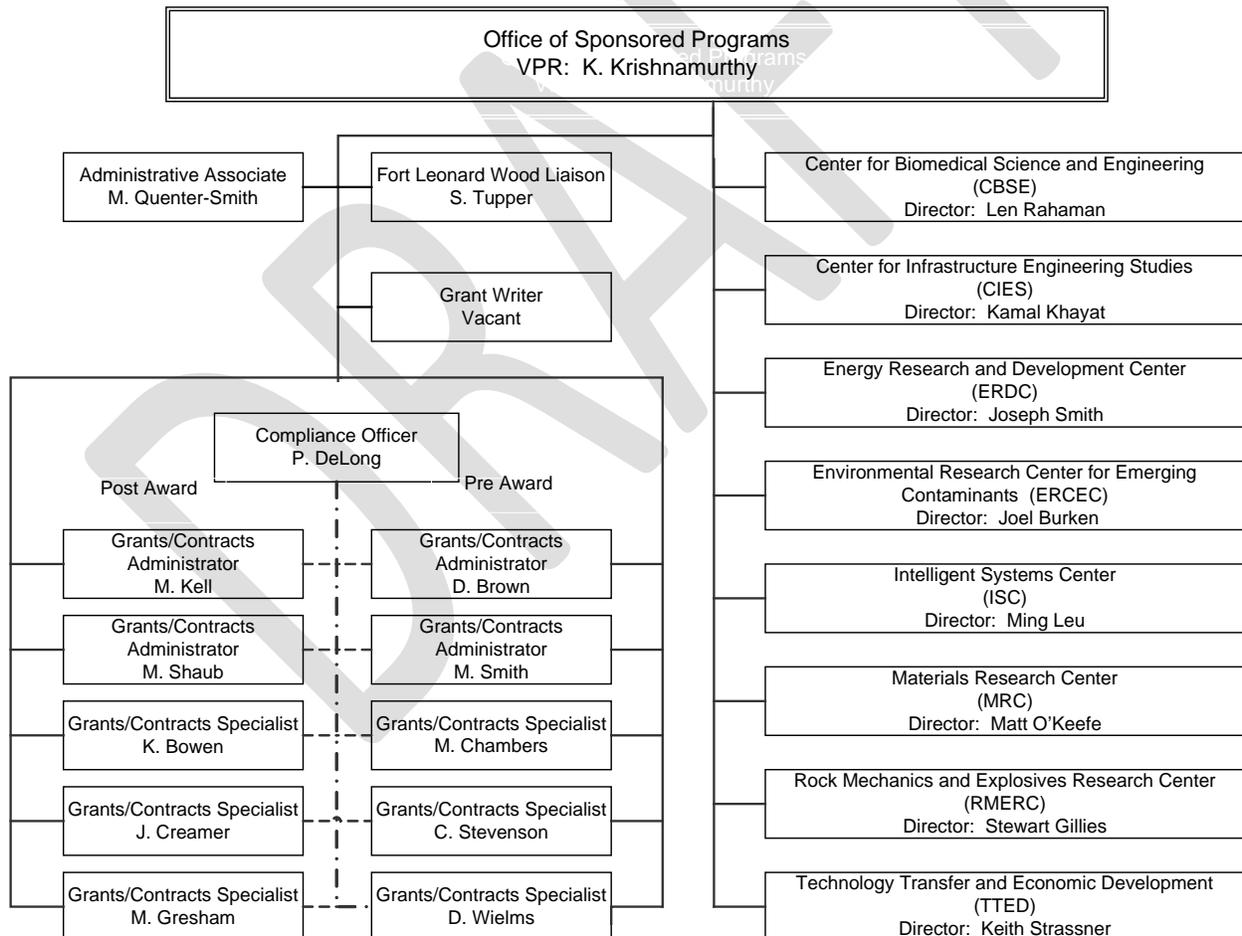


Figure 1. OSP Organizational Chart

THEMES

To accomplish the overall objectives in OSP's Strategic Plan, the following five themes have been identified.

- A. Enhance external reputation and raise visibility
- B. Advance campus research mission
- C. Engage academic departments
- D. Meet internal customer (faculty, staff and students) needs
- E. Promote professional development and create an environment that acknowledges and rewards staff contribution and performance

The following section describes how these themes are linked to the campus Strategic Plan and the actions to be taken together with performance measures to evaluate the success of the actions.

PLAN – ACTIONS AND PERFORMANCE MEASURES

Theme A: Enhance External Reputation and Raise Visibility

This theme is the same as Theme 2 in the campus Strategic Plan. The actions planned under this theme are linked to the following actions in the campus Strategic Plan.

- *Lever 2.1 - Employ transformative and focused faculty hiring and retention, including cluster hires in select areas of expertise to support best in class (BIC) achievements*
- *Action 2.3.3 - Be selected to lead a National Science Foundation (NSF) Engineering Research Center (ERC)-type center*
- *Action 2.3.4 - Establish two new sustainable industry funded research consortia*
- *Action 2.4.10a - Examine best-in-class institutions' practices and incorporate into Missouri S&T marketing planning as applicable.*
- *Action 2.4.11 - Centralize all communications and marketing operations*
- *Action 3.2.1 - Create a corporate relations office and determine the role it should play in assisting the various interests within the S&T community in establishing appropriate relationships with external constituents*
- *Action 3.2.6 - Broadly identify needs of external constituents that could be met by S&T*

Actions to be taken under this theme together with the individuals with primary responsibility and the timeframe during which the actions will be initiated and targeted to be completed are as follows:

- Action Item A.1: Identify strategic opportunities and personnel to champion the endeavor to establish an NSF ERC-type center and industry funded consortia (VPR, Timeframe: CY2014-CY2015)
- Action Item A.2: Develop strategic collaborations and partnerships with other UM campuses, regional, national and international universities (VPR and Center Directors, Timeframe: CY2015-CY2017)
- Action Item A.3: Develop agency and industry contributors for strategic opportunities identified in A.1 (FLW Liaison, Timeframe: Ongoing)
- Action Item A.4: Conduct SWOT analysis of strategic opportunities identified in A.1 (VPR, Timeframe: Ongoing)
- Action Item A.5: Assist departments to inspire, track, manage and train faculty on matters related to research and scholarly activities that result in national and international recognition (VPR and Center Directors, Timeframe: Ongoing)

- Action Item A.6: Promote recruitment of national academy stature researchers (VPR and Center Directors, Timeframe: CY2014-CY2017)
- Action Item A.7: Promote internal candidates for national academy membership (VPR and Center Directors, Timeframe: CY2014-CY2017)
- Action Item A.8: Secure funding for NSF ERC-type proposal concept development (VPR, Timeframe: CY2014-CY2015)
- Action Item A.9: Work with the Communications Department on marketing plan (FLW Liaison, Timeframe: Ongoing)

Performance measures for Theme A are the number of new externally sponsored research centers and sustainable industry-funded consortia that are established after July 1, 2013.

Performance Measure	Baseline 2013	Target 2020
NSF ERC-Type Center	0	1
Sustainable Industry-funded Research Consortia	5	2

Theme B: Advance Campus Research Mission

The actions planned under this theme are linked to the following actions and metrics in the campus Strategic Plan.

- *Best-in-Class metric - NSF grant expenditures per tenured, tenure-track faculty*
- *Strategy metric - Number of invention disclosures per \$10M R&D expenditures*
- *Action 1.2.8 - Identify ways in which graduate students research can be transformed into entrepreneurial application*
- *Action 2.3.3 - Be selected to lead a NSF ERC-type center*
- *Action 2.3.4 - Establish two new sustainable industry funded research consortia*

Actions to be taken under this theme together with the individuals with primary responsibility and the timeframe during which the actions will be initiated and targeted to be completed are as follows:

- Action Item B.1: Proactively identify strategic needs of agencies and industry (Center Directors, Timeframe: Ongoing)
- Action Item B.2: Nominate faculty to serve on federal advisory and planning boards. (Center Directors, Timeframe: Ongoing)
- Action Item B.3: Encourage faculty to serve as a program manager/director on interagency personnel act (IPA) and summer fellowships (VPR, Timeframe: Ongoing)
- Action Item B.4: Develop and implement a “Solicitation Matching” software platform to notify faculty of funding opportunities (TTED Director, Timeframe: CY2014)
- Action Item B.5: Explore the University System Mid-West Research Collaborative (FLW Liaison, Timeframe: CY2014)
- Action Item B.6: Identify external champions to assist faculty to pursue new research opportunities (VPR, Timeframe: CY2014-CY2016)
- Action Item B.7: Secure support from State of Missouri to establish new and strengthen existing university-industry collaborative research (VPR, Timeframe: CY2014-CY2015)
- Action Item B.8: Implement a plan to recognize research and economic development and technology transfer successes (TTED Director, Timeframe: CY2014)
- Action Item B.9: Develop a seminar series to promote graduate student entrepreneurship. (TTED Director, Timeframe: CY2014)

Action Item B.10: Review and recommend appropriate changes to the policy on distribution of indirect cost funds recovered from grant and contract expenditures to Provost and Chancellor (VPR, Timeframe: CY2015)

Performance measures for Theme B are:

Performance Measure	Baseline 2011	Target 2020
Research expenditures	\$31,697,453	\$40,000,000
Research expenditures per T/TT Faculty	\$113,600	\$125,000
NSF grant expenditures per T/TT faculty	\$18,893	\$40,000
Number of invention disclosures per \$10M R&D expenditures	8.9	10

Theme C: Engage Academic Departments

The actions planned under this theme are linked to the following actions and metrics in the campus Strategic Plan.

- *Best-in-Class metric - NSF grant expenditures per tenured, tenure-track faculty*
- *Strategy metric - Number of invention disclosures per \$10M R&D expenditures*
- *Action 2.3.3 - Be selected to lead a NSF ERC-type center*
- *Action 2.3.4 - Establish two new sustainable industry funded research consortia*
- *Action 2.3.5: Establish programs and facilities to host visiting world-class faculty*
- *Action 2.3.10 - Develop and implement a new program to instill a culture of excellence in research, scholarship and creative works in early career faculty*
- *Action 2.3.11 - Develop and implement a new program to instill a culture of excellence in research, scholarship and creative works in doctoral students*

Actions to be taken under this theme together with the individuals with primary responsibility and the timeframe during which the actions will be initiated and targeted to be completed are as follows:

- Action Item C.1: Develop a consistent set of roles and responsibilities for faculty appointments at various ranks in research centers (Center Directors, Timeframe: Ongoing)
- Action Item C.2: Raise awareness of research centers on campus (Center Directors, Timeframe: Ongoing)
- C.2.1: Promulgate the ROI of research centers
- C.2.2: Provide visibility of research equipment for shared use
- C.2.3: Publish a single quarterly newsletter covering all affiliated research centers
- C.2.4: Promulgate common marketing materials and standards for research center web pages
- Action Item C.3: Develop a mentor program for new faculty to complement departmental efforts (Center Directors, Timeframe: Ongoing)
- Action Item C.4: Conduct workshops to educate faculty, especially early career faculty, on grants and contracts administrative processes (OVPR Compliance Officer, Timeframe: Ongoing)

Performance measures for Theme C are:

Center	Performance Measure							
	Baseline 2011				Target 2020			
	#1	#2	#3	#4	#1	#2	#3	#4
CBSE	3.0	35	not available		3.5	40	75%	7
CIES	11.3	81			18.0	115		
ERDC	21.5	not applicable			25.0	not applicable		
ERCEC	5.8	108			10.0	120		
MRC	11.0	134			10.0	175		
ISC	11.5	not applicable			14.0	not applicable		
RMERC	2.4	not applicable			5.0	not applicable		

#1 – ROI of research centers

#2 – Number of unique faculty and students using center resources

#3 – Percentage of externally sponsored research projects with multiple center investigators.

#4 – Number of products (as defined by NSF) per center investigator. In 2009-10, the number of publications per T/TT faculty campus-wide was 5.9 (Source: Academic Analytics).

Theme D: Meet Internal Customer (Faculty, Staff and Students) Needs

The actions planned under this theme are linked to the following actions and metrics in the campus Strategic Plan.

- *Best-in-Class metric - National Science Foundation grant expenditures per tenured, tenure-track faculty*
- *Strategy metric - Number of invention disclosures per \$10M R&D expenditures*
- *Action 2.2.3 - Increase the number of tenure/tenure-track (non-tenure-track) faculty members by 67 (33) to achieve an overall student-to-faculty ratio of 16-1*
- *Action 2.2.5 - Increase the number of technical/ specialized staff members by 30 to support faculty and program activities.*
- *Action 2.3.8 - Expand research and entrepreneurial opportunities for undergraduate students, including OURE.*

Actions to be taken under this theme together with the individuals with primary responsibility and the timeframe during which the actions will be initiated and targeted to be completed are as follows:

- Action Item D.1: Conduct bi-annually a survey of and select interviews with faculty, department chairs and research center directors to identify high priority needs and current level of satisfaction (FLW Liaison, Timeframe: CY2014, CY2016 and CY2018)
- Action Item D.2: Develop a plan and identify resources to execute actions in the plan to meet the identified needs (VPR, Timeframe: CY2014, CY2016 and CY2018)
- Action Item D.3: Recruit staff to assist with proposal preparation and writing (VPR, Timeframe: CY2014-CY2015)
- Action Item D.4: Create proposal development and grantsmanship training and seminar opportunities (VPR, Timeframe: CY2014-CY2018)

Performance measures for Theme D are:

Performance Measure	Baseline 2013	Target 2020
Number of organized activities that support faculty in their pursuit of research and scholarship	not applicable	TBD based on survey results
Number of staff hired to assist with proposal preparation and writing	0	2
Number of proposal development and grantsmanship training activities conducted annually	1	3

Theme E: Promote Professional Development and Create an Environment that Acknowledges and Rewards Staff Contribution and Performance

The actions planned under this theme are linked to the following actions in the campus Strategic Plan.

- *Action 1.2.10 - Identify, develop and implement professional development plans to enhance leadership, creativity, and innovation for the staff in each department or unit*
- *Action 3.4.9 - Review, revise and create policies that support work-life balance*

Actions to be taken under this theme together with the individuals with primary responsibility and the timeframe during which the actions will be initiated and targeted to be completed are as follows:

- Action Item E.1: Conduct bi-annually a survey of and select interviews with staff and directors to assess professional development needs (TBD ad hoc Committee, Timeframe: CY2014, CY2016 and CY2018)
- Action Item E.2: Develop a plan and identify resources to execute actions in the plan to meet the identified needs (VPR, Timeframe: CY2014, CY2016 and CY2018)
- Action Item E.3: Develop a mechanism to acknowledge and reward staff contribution and performance (VPR and Center Directors, CY2014)
- Action Item E.4: Institute a process to allow entrepreneurial staff to increase their earnings beyond their current salary (VPR and Center Directors, Timeframe: CY 2015-2016)

Performance measures for Theme E are:

Performance Measure	Baseline 2013	Target 2020
Number of professional development activities completed by every staff member annually	1	4
Number of events/activities held annually to recognize staff performance and contributions	1	2
Number of mechanisms to allow staff to increase their general revenue allocation earnings	0	2

BEST-IN-CLASS AND STRATEGY TARGETS

The best-in-class, comparator universities and strategy targets chosen are the same as those included in the campus Strategic Plan for research investors.

Best-in-Class	Baseline 2011	Target 2020
NSF grant expenditures per T/TT faculty	\$18,893	\$40,000

Comparator universities: Colorado School of Mines, Iowa State University, Michigan Technological University, New Jersey Institute of Technology, University of Alabama in Huntsville

Strategy Metrics	Baseline 2011	Target 2020
Number of invention disclosures per \$10M R&D expenditures	8.9	10
ROI of centers	9.8	9.8
Industrial sponsored research expenditures	\$3.23M	\$4M

ASSUMPTIONS

A detailed study of the assumptions that must be true for the proposed actions to succeed has not been made. However, as the proposed actions support the campus Strategic Plan, it is presumed that success will critically depend on the assumptions made during the development of the campus Strategic Plan being true. Further, targets for some of the OSP's performance measures have been set without information on targets established by individual academic departments. Therefore, targets for OSP's performance measures need to be reviewed and revised appropriately once information on departmental performance measures are available.

APPENDIX – DEFINITIONS

- NSF ERC-type center – S&T led center involving multiple universities and industry, selected through nationwide competition and funding awarded for multiple years.
- Number of externally sponsored interdisciplinary research projects – this number will be determined as the number of externally sponsored research projects in which center research investigators from two or more departments are involved.
- Number of faculty and students using center resources – this number will be determined by identifying the number of unique users of specialized equipment/facilities in research centers.
- Number of invention disclosures per \$10M R&D expenditures - the number of invention disclosures will be normalized by \$10M R&D expenditures from all sources (external and internal). R&D expenditures from all sources will be used instead of only external sources because it appears that is how other universities are reporting this performance measure.
- Products - per NSF Policies and Procedures Guide 14-001, "Acceptable products must be citable and accessible including but not limited to publications, data sets, software, patents, and copyrights. Unacceptable products are unpublished documents not yet submitted for publication, invited lectures, and additional lists of products.

Each product must include full citation information including (where applicable and practicable) names of all authors, date of publication or release, title, title of enclosing work such as journal or book, volume, issue, pages, website and Uniform Resource Locator (URL) or other Persistent Identifier."

- Research expenditures – this includes externally funded grant and contract expenditures for research and covers basic research, applied research and development. Expenditures for instruction and public service, including federally funded student aid are excluded in this total.
- ROI of research centers – ROI is calculated as total expenditures of center research investigators divided by the total general revenue allocation to research centers.