

# ANNUAL REPORT OF GRANTS AND CONTRACTS

Missouri S&T Office of Sponsored Programs

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2017-2018 REPORT

OFFICE OF  
SPONSORED  
PROGRAMS

MISSOURI  
S&T

FY 2017



# EXTERNALLY SPONSORED GRANTS & CONTRACTS

## Sponsored Research & Development

Sponsored research at Missouri University of Science and Technology (Missouri S&T) is on a path of growth. While Federal funding only received an increase of 2% in FY2017 over the previous year, funding from foundations is up by more than 23% and our state funding for sponsored research is up by more than 300%.

In FY2017, Missouri S&T experienced a small increase in overall expenditures at 4% and a jump of 12% in the amount of facilities and administration costs recovered. These recovered dollars are reinvested in the research mission at Missouri S&T.

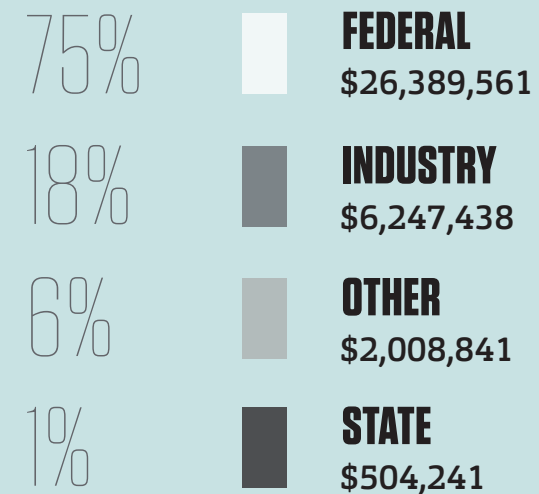
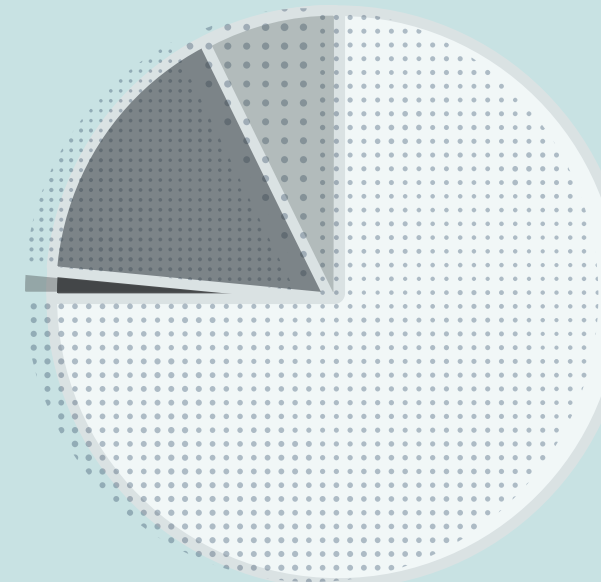
As in years past, awards received and expenditures from federal sources account for the majority of sponsored activity on

Missouri S&T's campus. Federal awards make up 75% of the total awards received by our researchers at more than \$26M and they expended more than \$23M in awards from U. S. Department of Transportation, Department of Defense awards, National Aeronautics and Space Administration, Nuclear Regulatory Commission, Department of Agriculture and National Science Foundation.

Our work with industry and solving issues for consumers continues to advance as shown with growth of 6% in new industry awards and 23% of the overall research expenditures of the University. Mechanical and Aerospace Engineering and Electrical and Computer Engineering again this year led with more than \$5M in research expenditures.

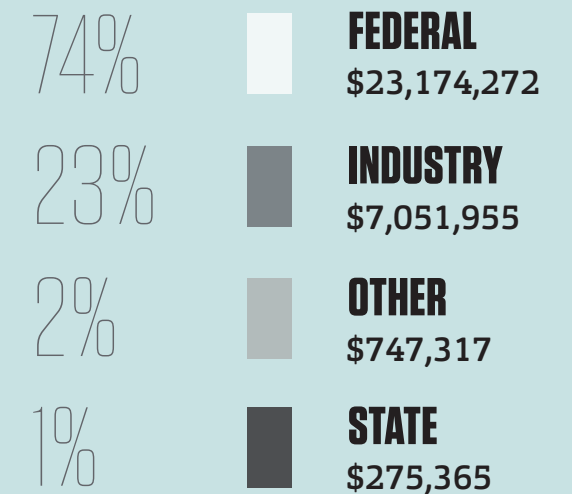
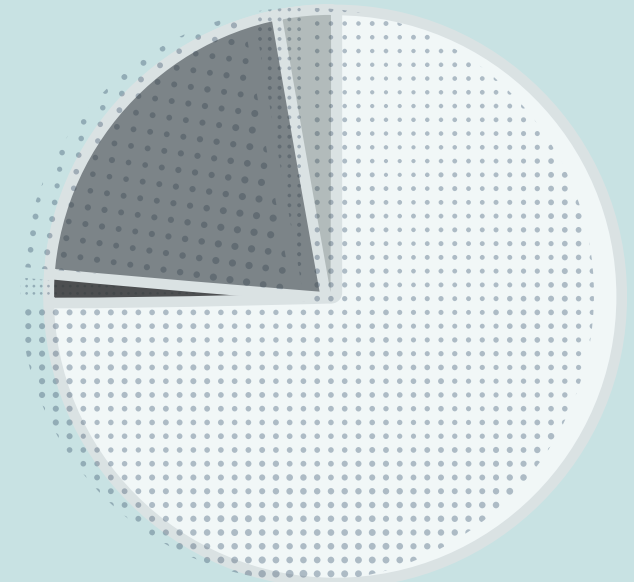
## Awards by Sponsor\*

\$35,150,121



## Expenditures by Sponsor\*

\$31,248,910



\*Does not include Pell grants

# TECHNOLOGY MANAGEMENT & ECONOMIC DEVELOPMENT

## Technology Transfer Office at Glance

**\$4.6 M**

Cumulative royalty income since opening

**\$540 K**

Record high income year for S&T: 2017

**47**

Invention disclosures, to date, for 2018

## S&T Technology Transfer Office

Since opening the campus Technology Transfer Office cumulative royalty income has now topped \$4.6 Million. Disclosure per million dollars of research is twice the average for US research universities. In addition, royalty income per million dollars of research is top among our peer institutions.

Three Missouri University of Science and Technology faculty received Spring 2018 Technology Acceleration Grants (TAG), offered by the Office of Technology Transfer and Economic Development (OTTED). "The grants were awarded based on feasibility of the technology to address defined market needs," says Keith Strassner, Assistant Vice Provost for Business and Technology Development.

"Each of these projects has real potential to be developed into a viable product, leading to a license deal or start-up and ultimately additional revenue for our university." The three grants awarded were:

- Dr. Sutapa Barua—\$25,000 for LASWUN: a low-cost assisted sustainable water using nanotechnology.
- Dr. Mohammad Tayeb Ghasr—\$25,000 for design and prototyping of a hand-held 1D microwave imaging system for the inspection of nonmetallic pipes.
- Dr. V. Prakash Reddy—\$25,000 for cell-cycle inhibitor compounds for neurodegenerative diseases.

## The Past Five Years in Review

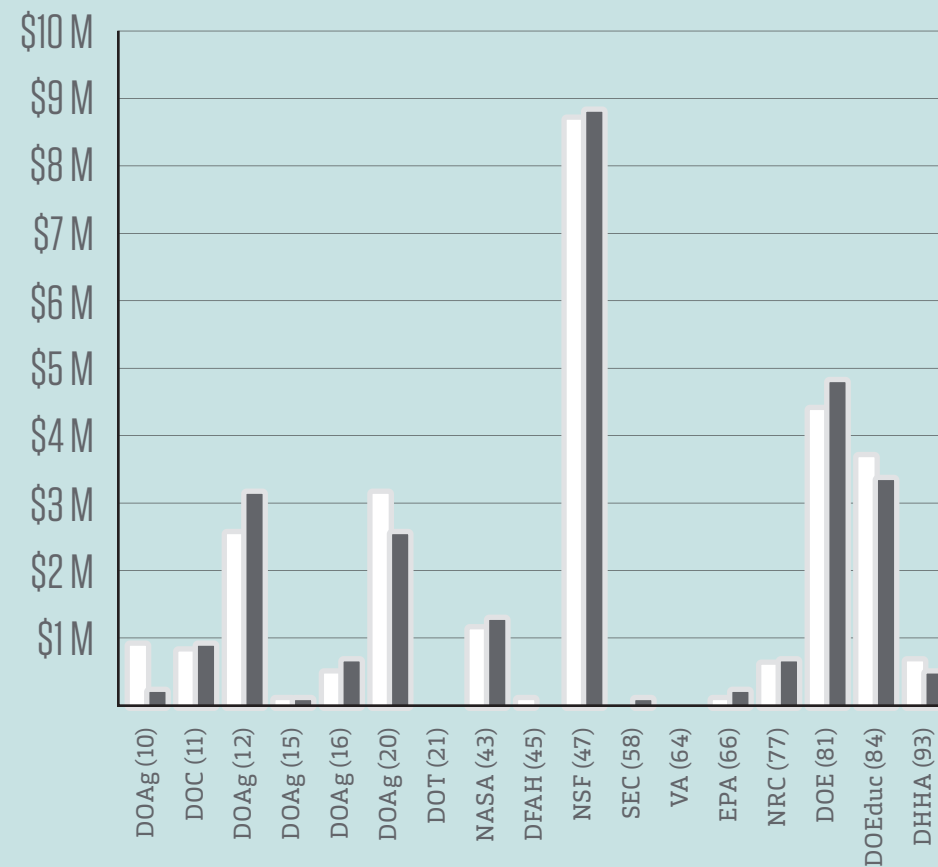
	2018 YTD	2017	2016	2015	2014
LICENSE INCOME	\$520K	\$540K	\$468K	\$483K	\$368K
LICENSE OPTIONS SIGNED	20	9	9	38	22
INVENTION DISCLOSURES	47	47	45	44	45
PATENT/COPYRIGHTS FILED	34	31	22	31	29
PATENT/COPYRIGHTS SIGNED	7	15	11	9	15

Last year, Missouri S&T set a new record for the most money generated from patent royalties on commercialized inventions and products, bringing in \$540,396 in royalty income.

Only projects in which the university holds an issued patent or in which a patent application was filed by the university were eligible. Technologies already licensed or in licensing negotiations with commercial partners were not eligible.

# FEDERAL SOURCE COMPARISONS

█ 2017 FISCAL YEAR  
█ 2016 FISCAL YEAR



## Federal Source Comparisons by Sponsor

	<u>2017</u>	<u>2016</u>
DOAg (10)	\$902,179	\$82,450
DOC (11)	\$842,166	\$876,537
DOD (12)	\$2,484,162	\$3,058,449
DOI (15)	\$76,000	\$89,996
DOJ (16)	\$485,444	\$746,505
US DOT (21)	\$3,120,365	\$2,384,381
NASA (43)	\$1,135,285	\$1,252,894
DFAH (45)	\$101,084	\$0
NSF (47)	\$8,766,369	\$8,880,007
SEC (58)	\$0	\$128,340
VA (64)	\$0	\$0
EPA (66)	\$41,417	\$177,946
NRC (77)	\$600,000	\$650,000
DOE (81)	\$4,484,335	\$4,697,278
DOEduc (84)	\$2,601,350	\$2,405,600
DHHA (93)	\$749,405	\$415,500

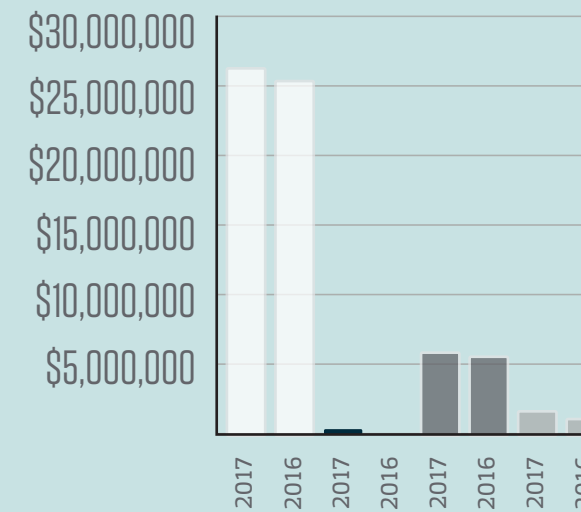
# RESEARCH FUNDING BY SPONSOR

## Sources of Our Funding

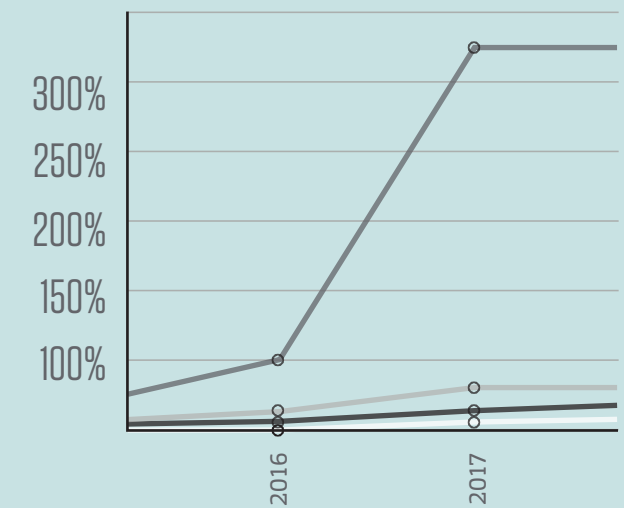
Along with high numbers of awards received from U. S. Department of Transportation, Department of Defense, National Aeronautics and Space Administration, Department of Energy, Nuclear Regulatory Commission and the National Science Foundation, in FY2017 Missouri S&T saw a return of high funding from Department of Agriculture. Additional State funding in FY2017, helped us achieve an increase of more than 300%.

## Funding by Sponsor

	<u>% INCREASE</u>	<u>2017</u>	<u>2016</u>
<b>FEDERAL</b>	2%	\$26,389,561	\$25,845,883
<b>INDUSTRY</b>	338%	\$504,281	\$115,255
<b>STATE</b>	6%	\$6,247,438	\$5,919,967
<b>OTHER</b>	23%	\$2,008,841	\$1,638,616



## Percent Increase: 2016 to 2017



# DEPARTMENT EXPENDITURES FOR 2016–2017

## Sponsored Research & Development

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## Department Expenditures FY 2016–2017

	2017	2016
ARTS, LANGUAGES & PHILOSOPHY	\$15,935	—
BIOLOGICAL SCIENCES	\$183,989	\$99,665
BUSINESS & INFORMATION TECHNOLOGY	\$63,658	\$20,781
CHEMISTRY	\$1,760,025	\$2,227,052
ECONOMICS	\$207,503	\$67,191
ENGLISH & TECHNICAL COMMUNICATIONS	\$28,965	\$6,393
HISTORY & POLITICAL SCIENCE	\$12,415	—
MATHEMATICS & STATISTICS	\$298,384	\$394,288
PHYSICS	\$896,443	\$1,176,740
PSYCHOLOGICAL SCIENCE	\$31,403	\$6,393
<b>TOTAL CASB</b>	<b>\$3,498,720</b>	<b>\$3,998,504</b>
CHEMICAL & BIOCHEMICAL ENGINEERING	\$717,913	\$500,792
CIVIL, ARCHITECTURAL & ENVIRONMENTAL ENGINEERING	\$2,683,151	\$2,427,406
COMPUTER SCIENCE	\$2,078,197	\$1,934,306
ELECTRICAL & COMPUTER ENGINEERING	\$5,109,330	\$4,375,694
ENGINEERING MANAGEMENT & SYSTEMS ENGINEERING	\$466,843	\$564,907
GEOSCIENCES & GEOLOGICAL & PETROLEUM ENGINEERING	\$1,842,540	\$2,356,047
MATERIALS SCIENCE & ENGINEERING	\$4,003,109	\$3,449,397
MECHANICAL & AEROSPACE ENGINEERING	\$5,824,032	\$4,832,525
MINING & NUCLEAR ENGINEERING	\$1,811,050	\$2,108,884
<b>TOTAL COEC</b>	<b>\$24,536,167</b>	<b>\$22,549,959</b>
OTHER	\$3,214,023	\$3,473,278
<b>NET GRANT &amp; CONTRACT EXPENDITURES</b>	<b>\$31,248,910</b>	<b>\$30,022,303</b>
STUDENT FINANCIAL ASSISTANCE	\$7,407,137	\$7,296,624
<b>TOTAL EXTERNALLY SPONSORED EXPENDITURES</b>	<b>\$38,656,047</b>	<b>\$37,318,927</b>

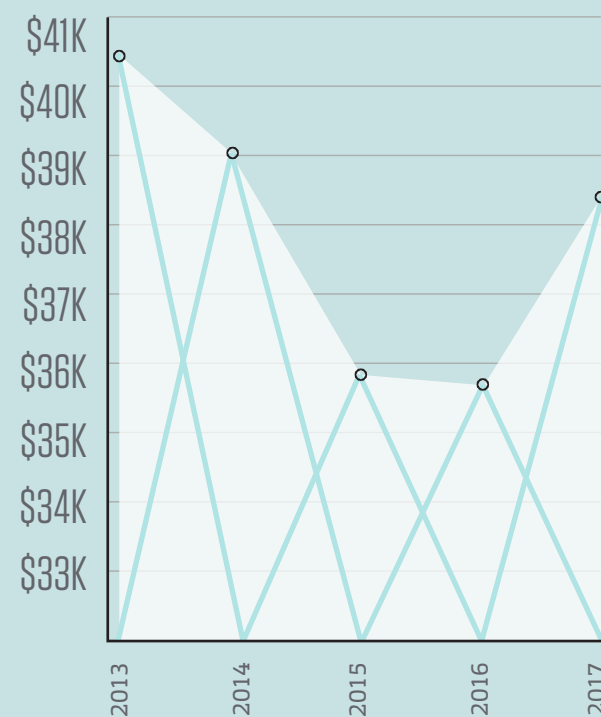
# YEAR OVER YEAR COMPARISONS

## NSF Report : Research & Development

MISSOURI S&T IS COMING OUT OF THE DECLINE THAT BEGAN IN FY2014. BASED UPON THE RECORD NUMBER OF SUBMISSIONS AND NEW AWARDS FOR FY2018, PROJECTED GROWTH IS EXPECTED IN THE COMING YEARS.

\*Dollars in Thousands

Expenditures FY 2013-2014\*



## Comparisons Over Fiscal Years

	2017	2016
NEW AWARDS	\$35,150,120	\$33,519,622
TOTAL EXPENDITURES MANAGED BY OSP	\$38,656,047	\$37,318,935
F/A RECOVERED	\$5,966,121	\$5,349,172

