

University of Tennessee  
Office of Research & Engagement

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# Quarterly Research Activity Report Q1 FY20

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Cumulative for July 1, 2019 – September 30, 2019



UT's metallurgical engineering program is the top program in the US and sixth in the world for the second year in a row, according to the Academic Ranking of World Universities. The program is within the Department of Materials Science and Engineering in the Tickle College of Engineering.

## Data Summary

UT researchers submitted 414 proposals in the first quarter of fiscal year 2020 requesting \$115 million, representing 9% and 3% decreases respectively when compared to the first quarter of fiscal year 2019. The decrease in proposal submissions was recorded for most of the colleges with the exception of Haslam College of Business, which displayed a 71% increase in the number of proposals submitted when compared to the first quarter of the FY19.

While the proposal submissions were down from last year's performance in the first quarter, the total award amount received was up 44% when compared to the first quarter of the FY19. The total amount received in the first quarter of FY20 was \$69 million, which represents almost half—or 49%—of the total award amount received during FY19 (\$140 million). The College of Arts and Sciences, College of Communication and Information, College of Education, Health, and Human Sciences, College of Social Work, and the UT Space Institute all recorded substantial increases in the award amount received when compared to the first quarter of FY19.

Looking at the sources of funds obligated during the first quarter of FY20, the increase in the dollar value received stemmed from a combination of increases in funding from federal agencies, institutions of Higher Ed, private profit organizations, and Tennessee government. Substantial increases in federal funding were due to increased funding from the Department of Energy, National Science Foundation, Department of Health, and National Aeronautics and Space Administration.

Also encouraging is the first quarter 3% increase in the total research expenditures. The total dollar amount expended on research activities in the first quarter of FY20 was \$52 million.

**PROPOSALS, AWARDS, & R&D EXPENDITURES: FY20 Q1 vs FY19 Q1 (Table 1)**

| College/Center/Institute                       | Proposals Submitted |                        |                      |                       | Awards Received  |                        |                     |                       | Estimated Total R&D Expenditures (HERD <sup>1</sup> ) |                       |
|------------------------------------------------|---------------------|------------------------|----------------------|-----------------------|------------------|------------------------|---------------------|-----------------------|-------------------------------------------------------|-----------------------|
|                                                | No.                 | % No. Incr. Over FY 19 | Amount Requested     | % \$ Incr. Over FY 19 | No. <sup>3</sup> | % No. Incr. Over FY 19 | Amount Received     | % \$ Incr. Over FY 19 | Amount Expended                                       | % \$ Incr. Over FY 19 |
| College of Architecture & Design               | 2                   | 0%                     | \$72,391             | -1%                   | 3                | N/C*                   | \$63,392            | N/C*                  | \$188,291                                             | -42%                  |
| College of Arts & Sciences                     | 97                  | -5%                    | \$28,764,163         | 78%                   | 107              | 3%                     | \$12,911,592        | 32%                   | \$14,647,240                                          | -6%                   |
| Haslam College of Business                     | 12                  | 71%                    | \$1,992,694          | 118%                  | 7                | -22%                   | \$1,011,271         | -34%                  | \$2,743,974                                           | 12%                   |
| College of Communication & Information         | 10                  | 0%                     | \$1,137,253          | -83%                  | 7                | 17%                    | \$1,439,972         | 113%                  | \$965,711                                             | 3%                    |
| College of Education, Health, & Human Sciences | 26                  | -4%                    | \$6,898,812          | -48%                  | 18               | 64%                    | \$5,701,587         | 131%                  | \$1,925,943                                           | 0%                    |
| Tickle College of Engineering                  | 186                 | -2%                    | \$62,998,034         | 8%                    | 171              | 1%                     | \$33,228,649        | 65%                   | \$20,913,363                                          | 8%                    |
| College of Law                                 | 1                   | 0%                     | \$12,802             | 0%                    | 1                | N/C*                   | \$100,000           | N/C*                  | \$586,119                                             | 50%                   |
| College of Nursing                             | 4                   | -43%                   | \$1,189,416          | -56%                  | 3                | -50%                   | \$1,415,817         | 7%                    | \$454,292                                             | 14%                   |
| College of Social Work                         | 8                   | -33%                   | \$746,794            | -90%                  | 10               | 43%                    | \$2,676,488         | -26%                  | \$498,951                                             | 33%                   |
| Research Centers & Institutes                  | 59                  | -29%                   | \$9,224,255          | -17%                  | 73               | -22%                   | \$4,790,088         | -16%                  | \$6,629,902                                           | 7%                    |
| UT Space Institute                             | 2                   | -75%                   | \$454,198            | -49%                  | 12               | 100%                   | \$3,019,412         | 1415%                 | \$1,193,246                                           | 7%                    |
| Other <sup>2</sup>                             | 7                   | 40%                    | \$1,725,599          | 86%                   | 12               | 0%                     | \$3,091,306         | 20%                   | \$976,016                                             | -21%                  |
| <b>Total</b>                                   | <b>414</b>          | <b>-9%</b>             | <b>\$115,216,411</b> | <b>-3%</b>            | <b>424</b>       | <b>-0.2%</b>           | <b>\$69,449,573</b> | <b>44%</b>            | <b>\$51,723,048</b>                                   | <b>3%</b>             |

**Notes**

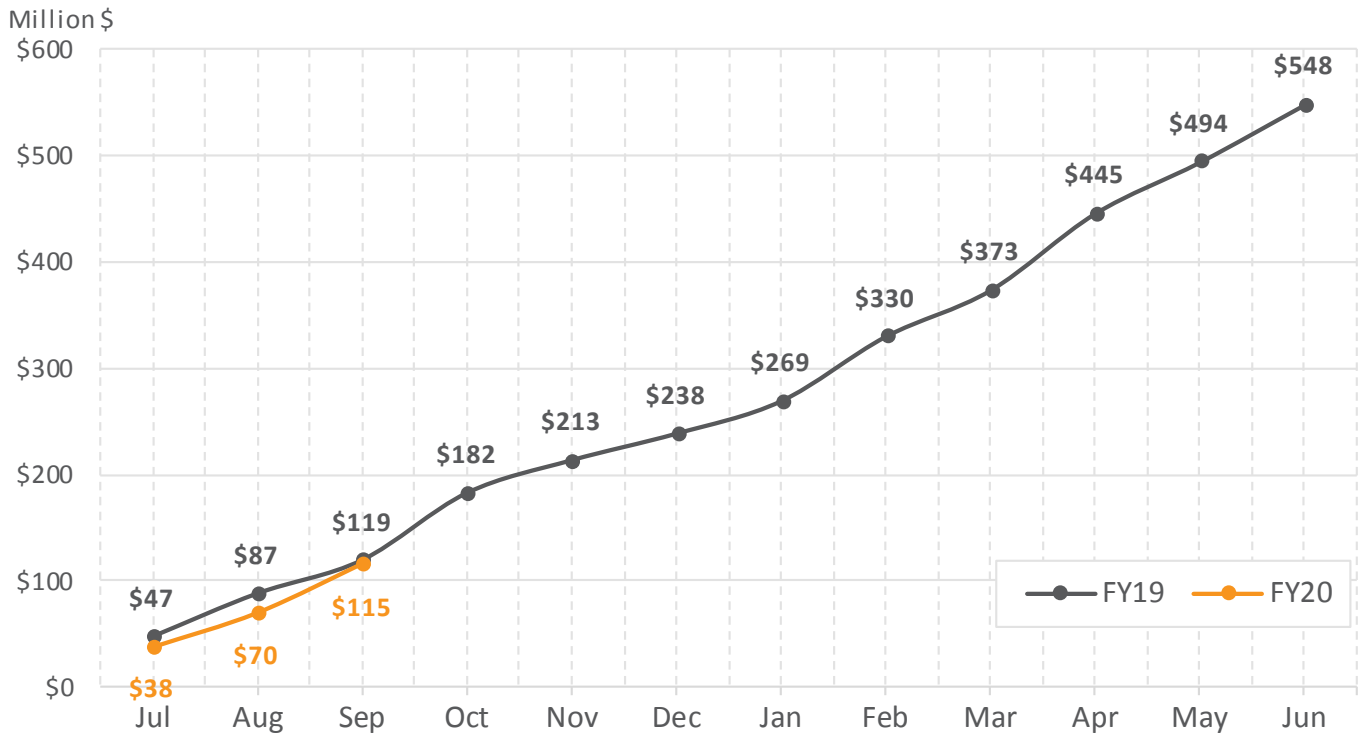
1. HERD - The Higher Education Research and Development Survey, successor to the Survey of Research and Development Expenditures at Universities and Colleges, is the primary source of information on R&D expenditures at U.S. colleges and universities.
2. R&D expenditure data is collected from the "NSF Research Survey Estimate" report provided by UT IRIS Data Warehouse. The "NSF Research Survey Estimate" report provides an estimate of the R&D expenditures for UT colleges and research centers and institutes. This report does not contain expenditure data from the UT Research Foundation, which is included in the official NSF HERD survey during the submission of the survey. The expenditures data provided in the Office of Research & Engagement quarterly research activity report should be treated as an estimate reflecting trends for UT colleges and research centers and institutes only.
3. Other - This field captures any research proposals, awards, and expenditures not included in the categories above.
4. The Number of Awards Received represents the cumulative number of funding award increments. One project may receive multiple funding awards.

\* N/C - Not Calculable

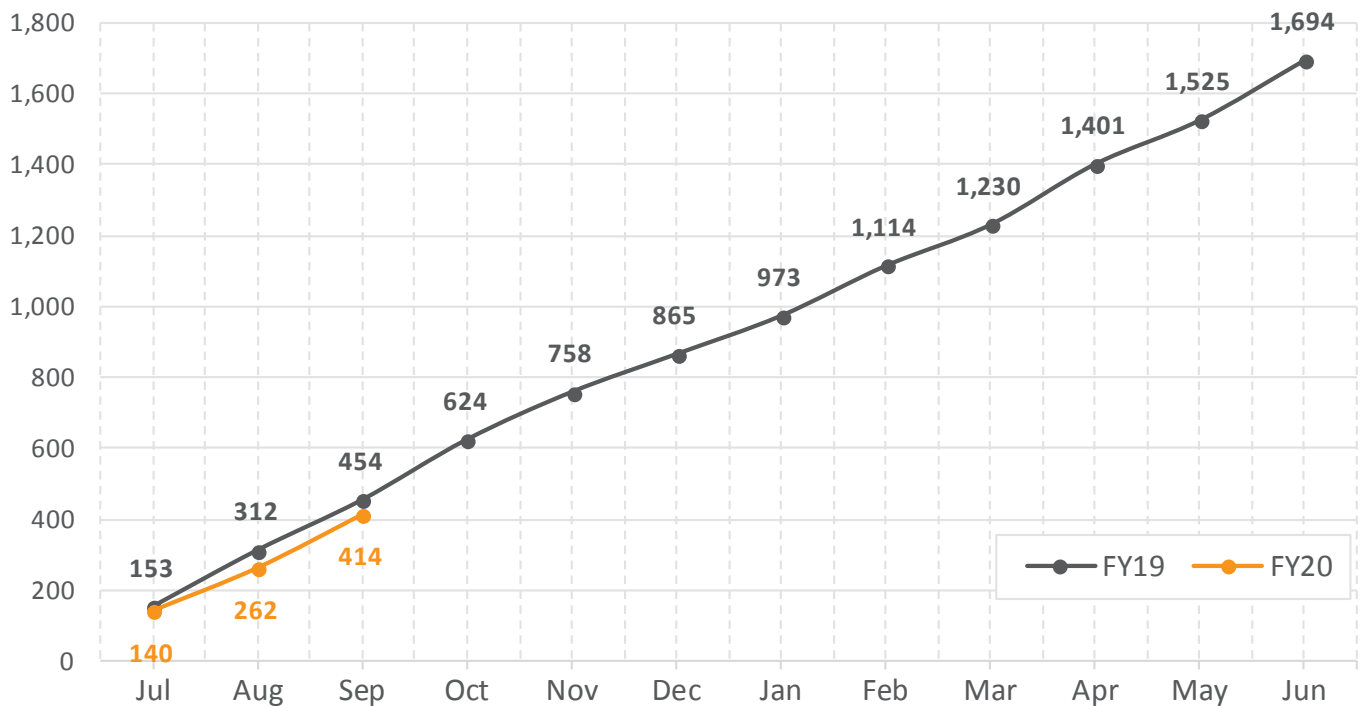
**TOP 10 NEW PROJECTS: FY20 Q1** (Table 2)  
*(by total anticipated dollar value)*

| Investigators (Primary PI First)                                          | Award Admin Dept               | PI Home Department                              | Project Title                                                                                                              | Anticipated Amount | Sponsor                                                                                                  | Activity Type    | Project Period       |
|---------------------------------------------------------------------------|--------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------------------------------------------------------|------------------|----------------------|
| Mason, Michael; Lieberthal, Robert                                        | Ctr for Behavioral Health Rsch | Social Work; Education, Health, Human Sci Admin | Treating Young Adult Cannabis Use Disorder with Text Message-Delivered Peer Network Counseling                             | \$3,226,143        | Dept. of Health - National Institute on Drug Abuse                                                       | Basic Research   | 8/1/2019 - 5/31/2024 |
| Schmisser, John; Balas, Mark; Moeller, Trevor; Kreth, Phillip; Bond, Ryan | UTSI MABE Program              | UTSI MABE Program                               | Aerostructural Analysis Supporting the Development of Hypersonic Vehicle Flight Test Structures                            | \$2,097,511        | University of Dayton Research Institute / Dept. of Defense - Air Force Research Laboratory               | Basic Research   | 12/1/2018-8/24/2022  |
| Bosilca, George Martian; Herault, Thomas                                  | Innovative Computing Lab       | Innovative Computing Lab                        | Collaborative Research: Frameworks: Production quality Ecosystem for Programming & Executing eXtreme-scale Applications    | \$1,995,685        | National Science Foundation                                                                              | Basic Research   | 11/1/2019-10/31/2024 |
| Zawodzinski, Thomas; Goenaga Jimenez, Gabriel; Foister, Shane             | Chemical & Biomolecular Engr   | Chemical & Biomolecular Engr                    | Reversible Fuel Cells for Long Duration Energy Storage                                                                     | \$1,499,149        | Dept. of Energy                                                                                          | Applied Research | 6/6/2019-6/5/2021    |
| Stuart, Gregory                                                           | Psychology                     | Psychology                                      | Alcohol, minority stress, & intimate partner violence: Temporal & prospective associations in sexual minority young adults | \$1,362,669        | University of Wisconsin - Milwaukee / Dept. of Health - National Institute on Alcohol Abuse & Alcoholism | Basic Research   | 6/1/2019-6/30/2024   |
| Wilhelm, Steven; Reynolds, Todd; Sparer, Tim                              | Microbiology                   | Microbiology                                    | EDGE CT: Genetic tools to study giant viruses                                                                              | \$1,009,308        | National Science Foundation                                                                              | Basic Research   | 10/1/2019-9/30/2022  |
| Liu, Yilu; You, Shutang                                                   | CURRENT                        | Electrical Engr & Computer Science              | MRI: Development of Pulsar-based Power Grid Timing Instrumentation and Technology                                          | \$1,000,002        | National Science Foundation                                                                              | Basic Research   | 9/1/2019-8/31/2024   |
| Hines, Wes; Chvala, Ondrej; Wood, Richard                                 | Nuclear Engr                   | Nuclear Engr                                    | Magnetically Suspended Canned Rotor Pumps for the Integral Molten Salt Reactor                                             | \$918,009          | Dept. of Energy                                                                                          | Basic Research   | 7/29/2019-1/28/2022  |
| Grzywacz, Robert; Heilbronn, Lawrence; Grwacz-Jones, Katherine            | Physics                        | Physics; Nuclear Engr                           | MRI: Development of a high resolution neutron detector for decay & reaction studies with exotic nuclei                     | \$910,501          | National Science Foundation                                                                              | Basic Research   | 8/15/2019-9/30/2022  |
| Bishop, Bradley; Tenopir, Carol; Allard, Suzie; Fernandez, Peter          | Ctr for Info Studies           | Information Sciences; Libraries                 | Collaborative Analysis Liaison Librarians (CALL)                                                                           | \$883,034          | Institute of Museum & Library                                                                            | Instruction      | 7/1/2019-6/30/2022   |

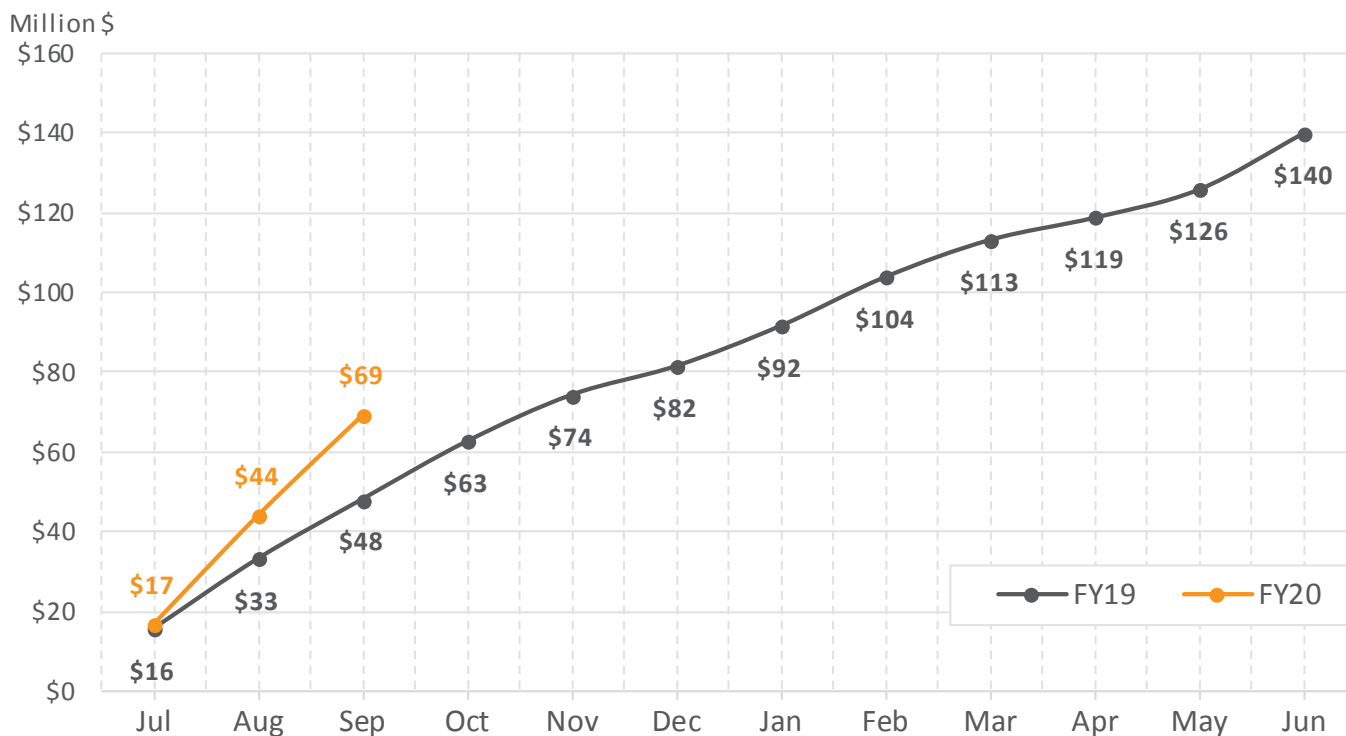
**CUMULATIVE PROPOSAL AMOUNT: FY20 vs. FY19 (Figure 1)**



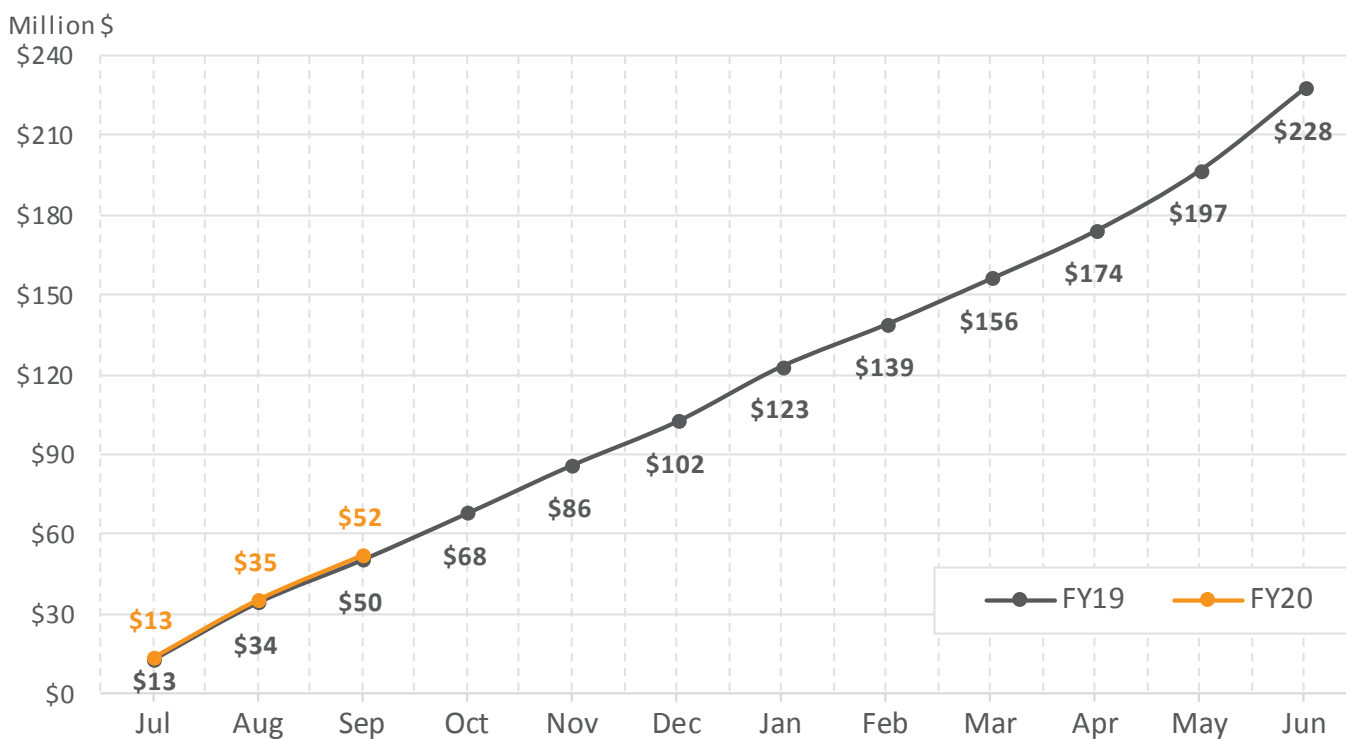
**CUMULATIVE PROPOSAL COUNT: FY20 vs. FY19 (Figure 2)**



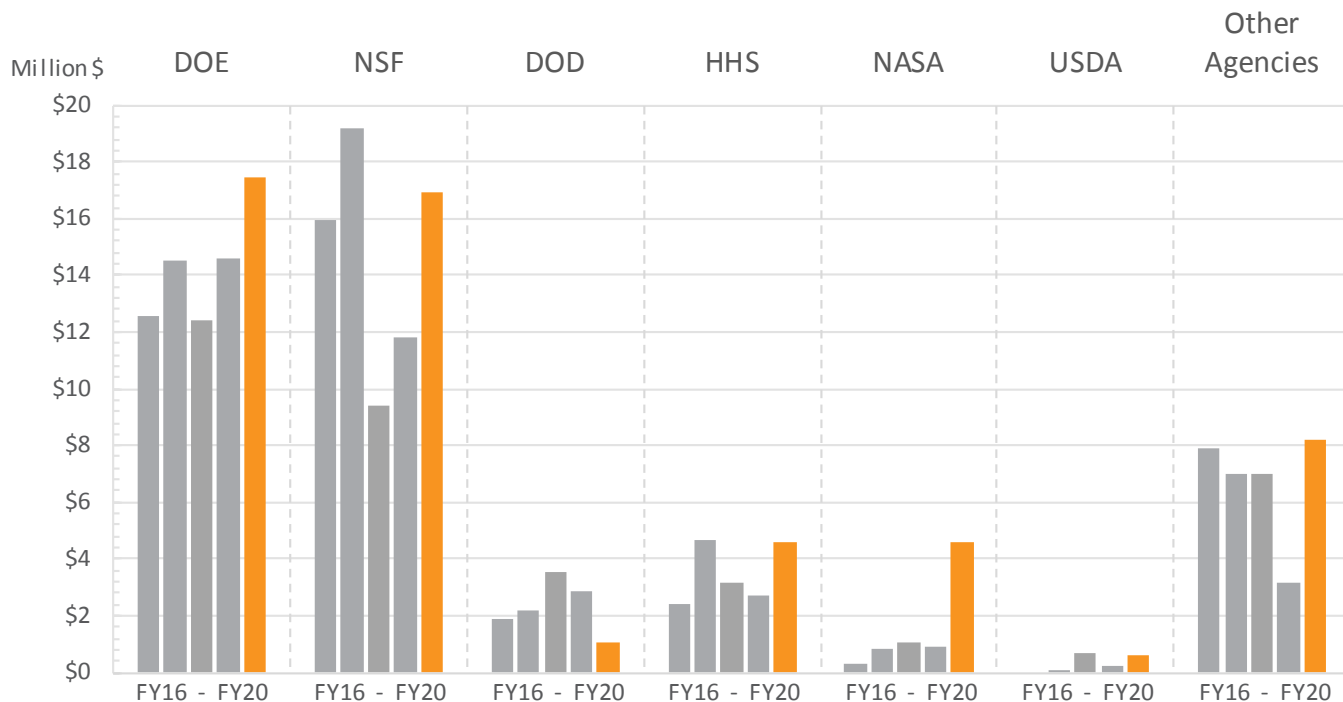
**CUMULATIVE AWARD AMOUNT: FY20 vs. FY19** (Figure 3)



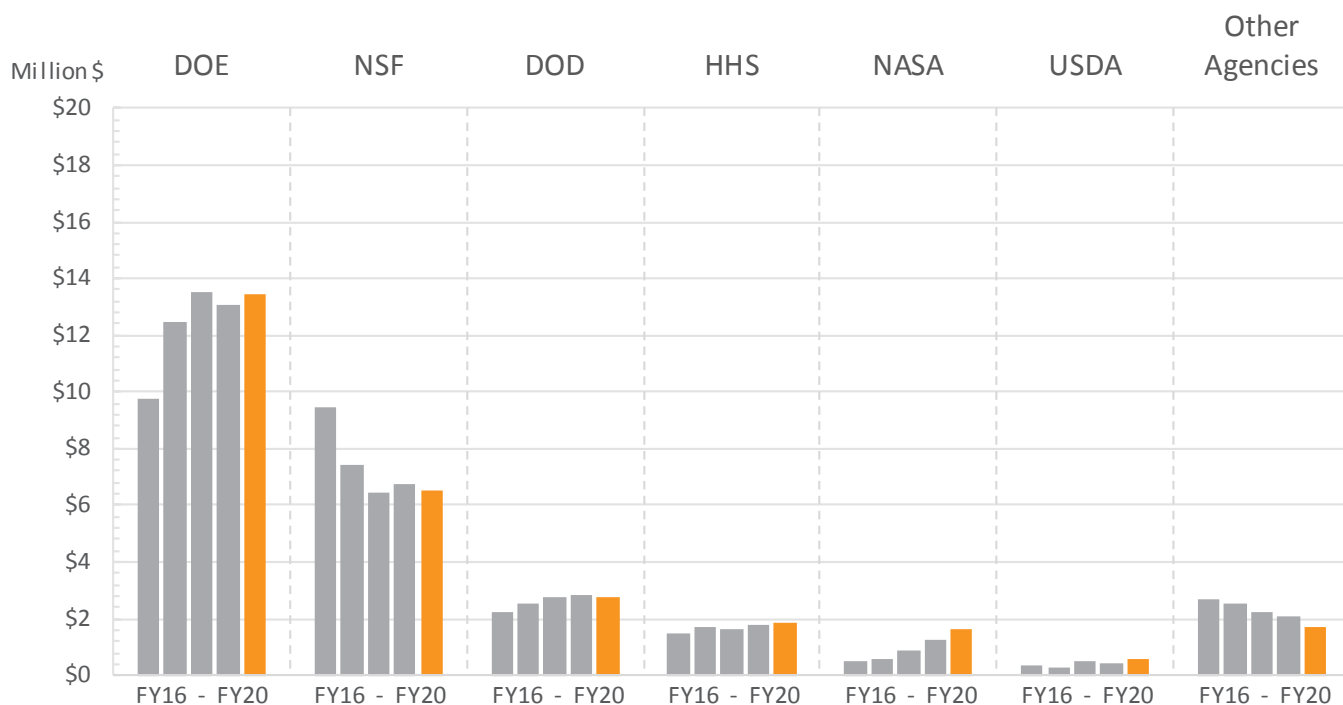
**CUMULATIVE AMOUNT EXPENDED ON R&D: FY20 vs. FY19** (Figure 4)



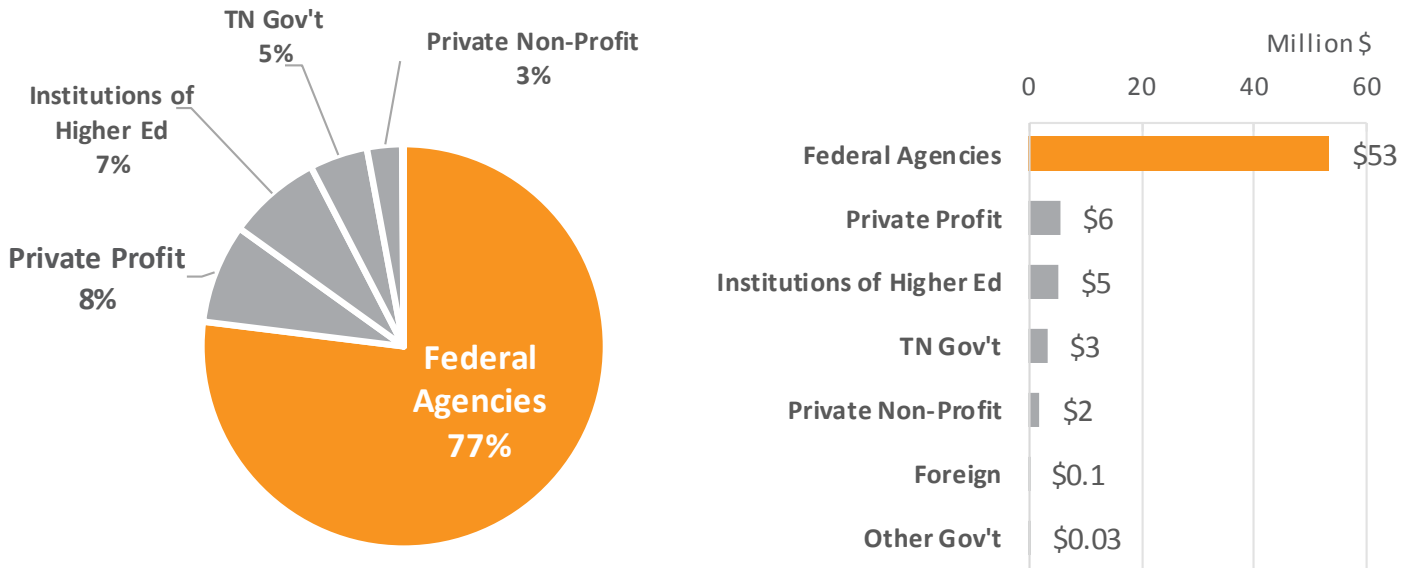
**AWARDED DOLLARS BY FEDERAL AGENCY: FY16-FY20 Q1** (Figure 5)



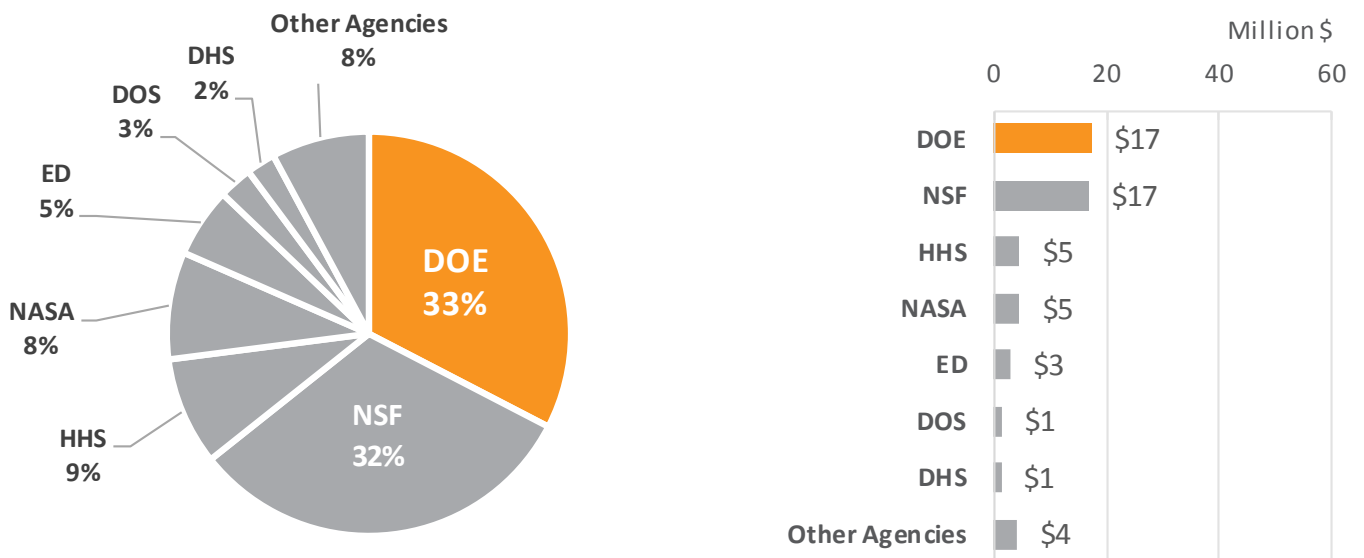
**R&D EXPENDITURES BY FEDERAL AGENCY: FY16-FY20 Q1** (Figure 6)



**AWARDED DOLLARS BY SOURCE: FY20 Q1** (Figure 7)

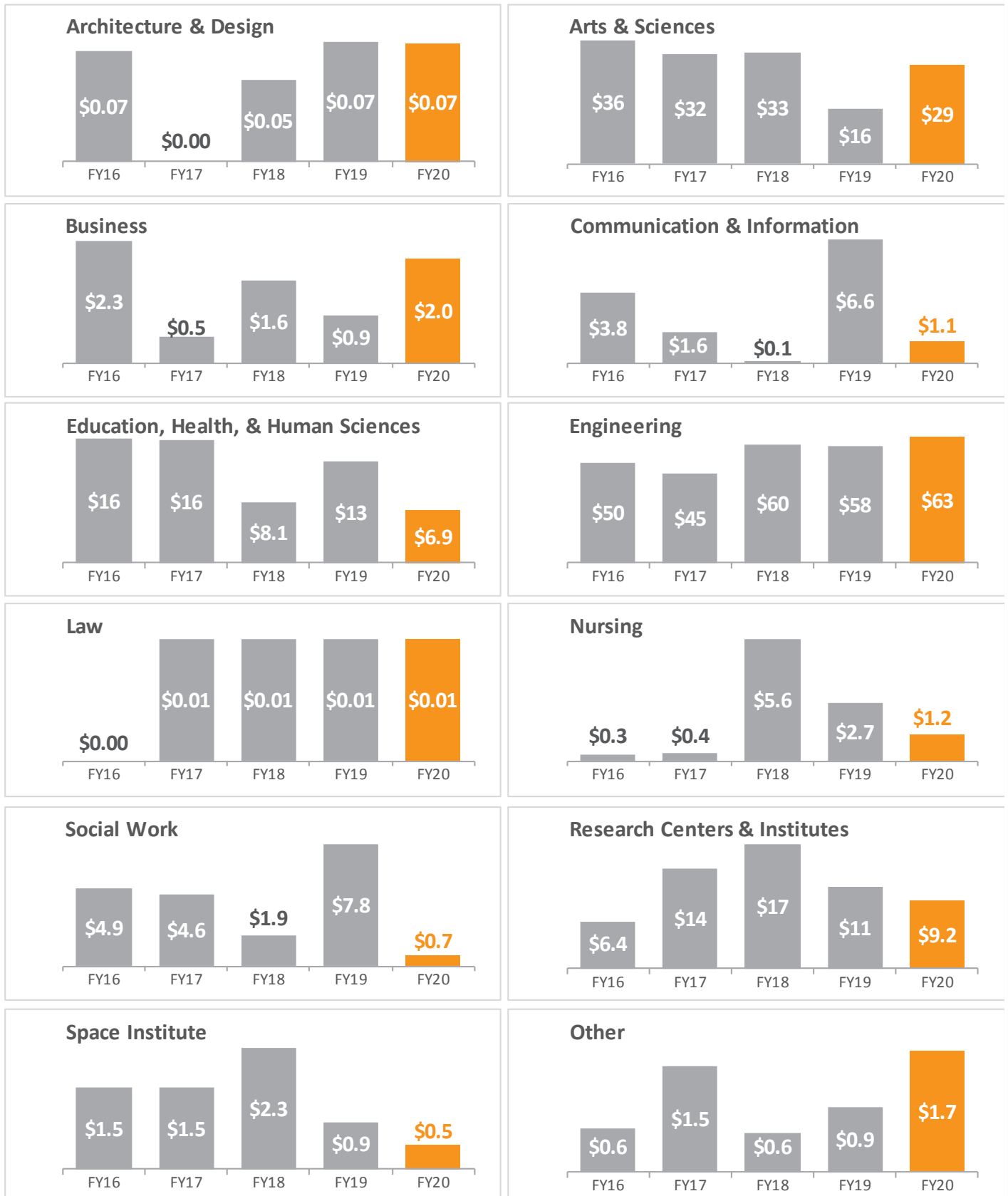


**FEDERAL AWARDED DOLLARS BY AGENCY: FY20 Q1** (Figure 8)

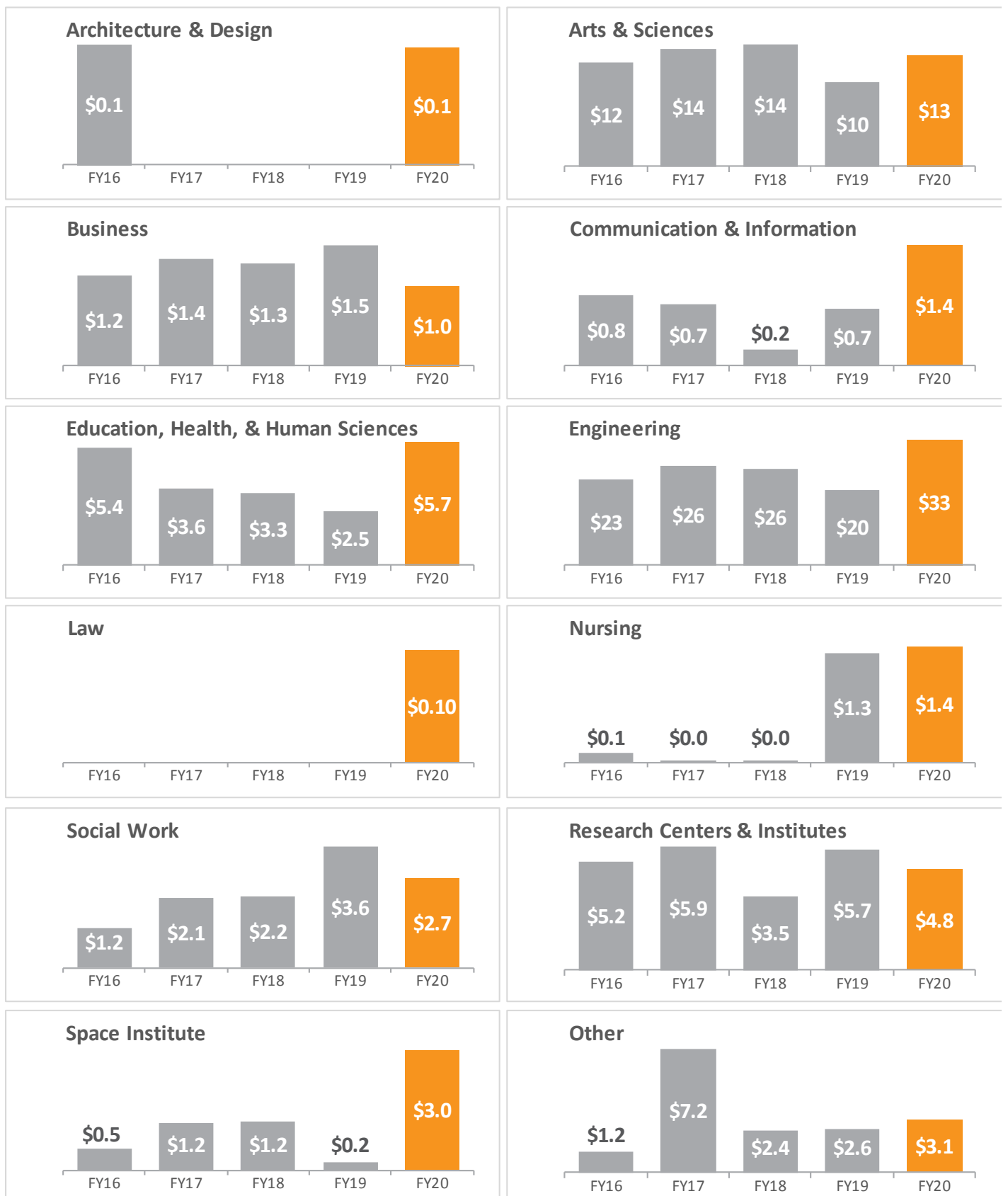




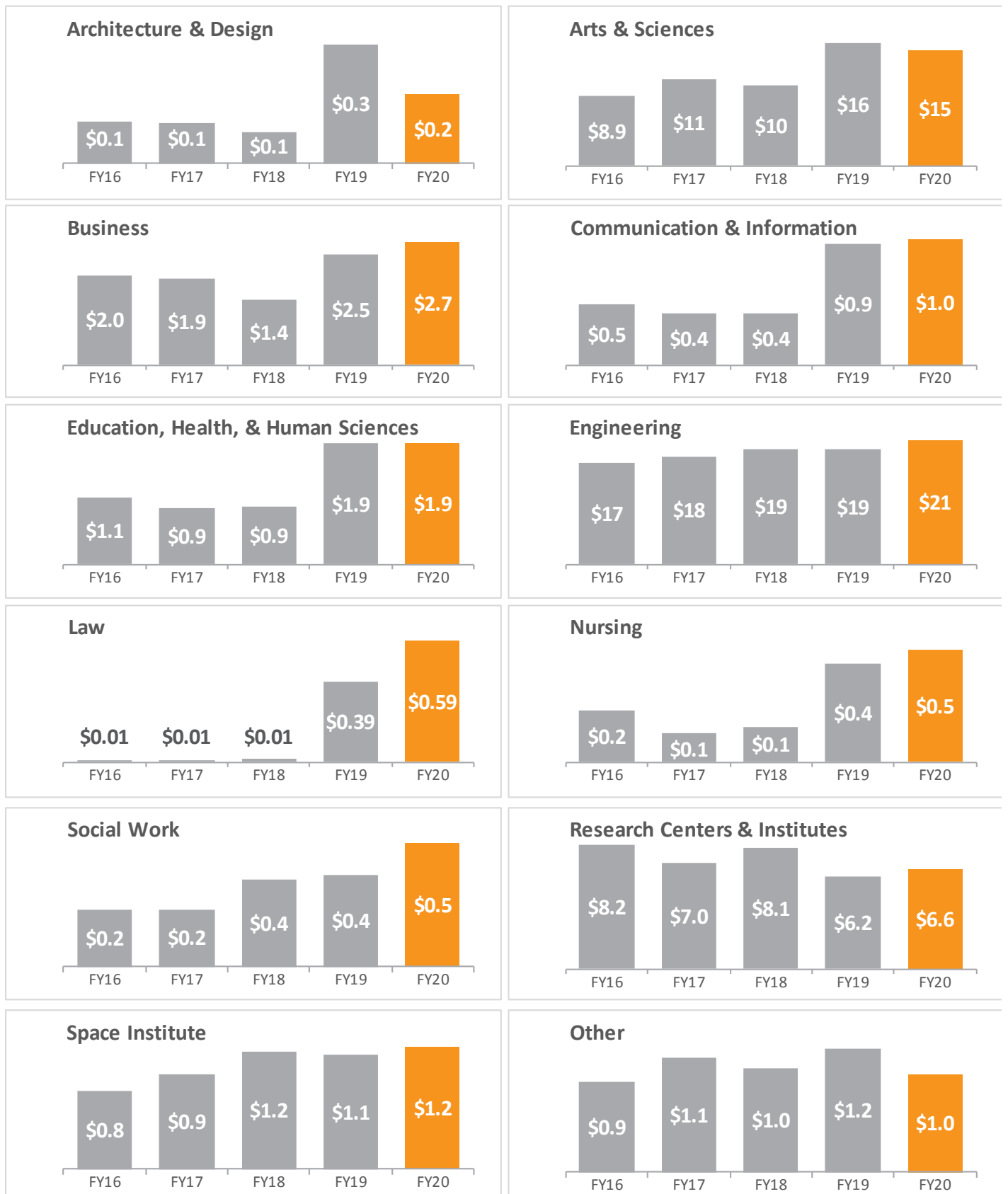
**PROPOSED AMOUNT BY COLLEGE: FY16-FY20 Q1** (Figure 9)  
 (Dollars in Millions. Each chart has its own scale)



**AWARDED AMOUNT BY COLLEGE: FY16-FY20 Q1** (Figure 10)  
 (Dollars in Millions. Each chart has its own scale)



**AMOUNT EXPENDED ON R&D BY COLLEGE: FY16-FY20 Q1** (Figure 11)  
 (Dollars in Millions, Each chart has its own scale)



## Data Notes

Each Quarterly Research Report is a cumulative fiscal year-to-date summary. Award, proposal, and expenditure data include UT Knoxville, UT Space Institute, and University Wide Administration. Data depicting colleges and research centers and institutes is presented to show trends within each unit.

Award and proposal data is collected from Cayuse SP (electronic system for routing of sponsored projects) and includes projects sponsored for Basic, Applied and Developmental research activities as well as for Public Service, Training, Instruction, Scholarship, and Fellowship activities.

To ensure consistency of the Office of Research and Engagement reports, all quarterly and annual report award selection is based on the UT Report Date (award effective date). The proposal selection is based on the Proposal Approval Date.

R&D expenditure data is collected from the “NSF Research Survey Estimate” report provided by UT IRIS Data Warehouse. The data for the “NSF Research Survey Estimate” report is collected and reported according to the NSF HERD Survey and covers three R&D activities - basic research, applied research, and development. These R&D activities can have the following sources of funds: U.S. federal government, state and local government, business, nonprofit organizations, institutional funds, and other sources such as funds from foreign entities and gifts designated by the donors for research. Please visit the following link to learn more about the survey and R&D definitions: <https://www.nsf.gov/statistics/srvyherd/>.

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There are occasionally variations in the numbers reported for each quarter as information is updated into Cayuse SP and IRIS on a daily basis. The data for this report were collected on November 25th, 2019. The annual report will represent the final amounts for that fiscal year.