



WPI

WORCESTER POLYTECHNIC INSTITUTE

REPORT OF SPONSORED PROGRAM ACTIVITY

for the period

July 1, 2014 to June 30, 2015

Prepared by the

Office of Sponsored Programs

(For WPI Use Only)

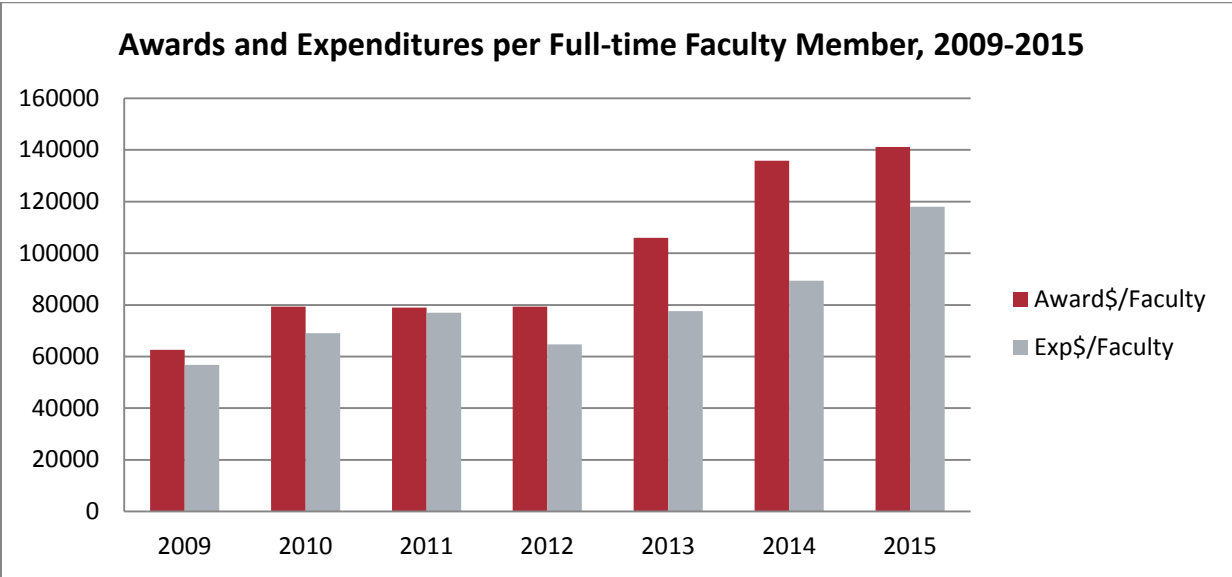
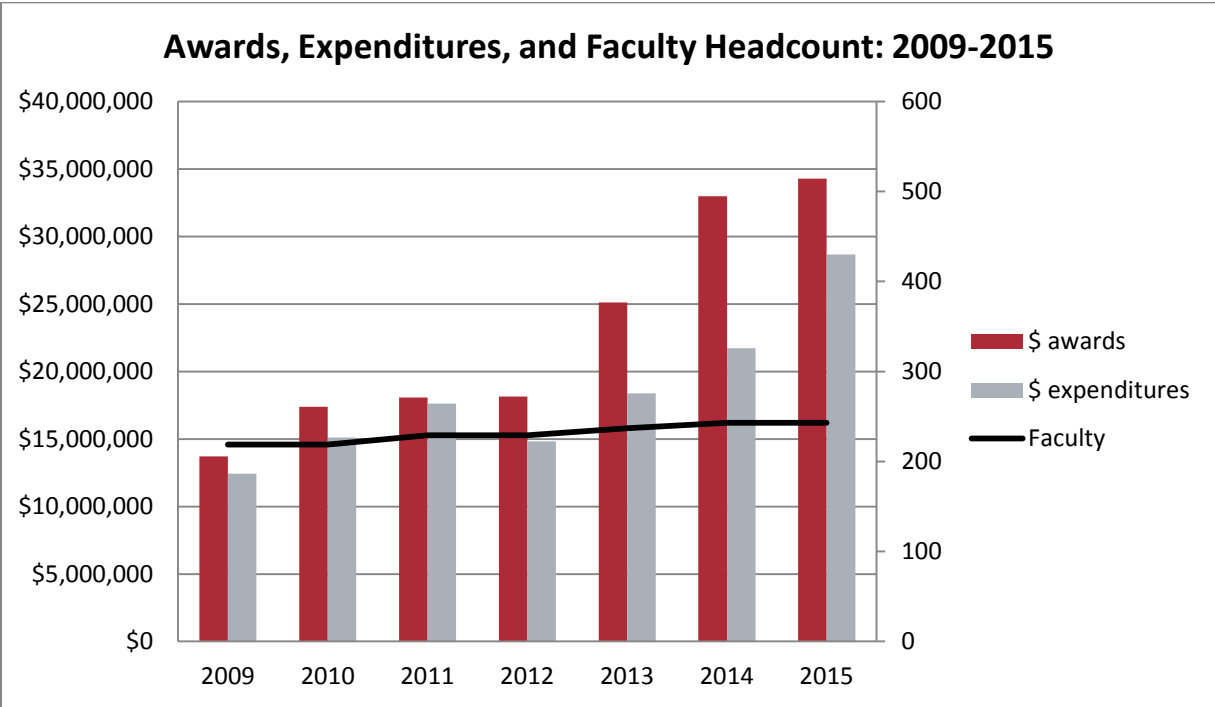
Introduction

This report, published annually by the Office of Sponsored programs, aims to provide a summary of key data related to WPI's extramural funding activities, including proposals submitted, awards received, and funds expended.

As with prior years, this report includes only those proposals and awards administered by OSP. Proposals and awards that are exclusively the purview of the University Institutional Advancement Office, the Projects Program, or other University offices, are not included here. Every effort has been made to ensure the accuracy of data presented, but should any errors be noted, please let us know so that we may make corrections to the report.

We welcome your feedback on this report. Comments and suggestions can be submitted via e-mail to Gabe Johnson, Associate Director, Post-Award & Compliance (gjohnson@wpi.edu).

1. Selected Historical Data



2. Summary of Sponsored Programs Activity

2.1: Awards, Proposals and Expenditures by Dean/Department

Worcester Polytechnic Institute
Comparative Summary of Sponsored Program Activity by Department
July 1, 2015 - June 30, 2015 and July 1, 2013 - June 30, 2014

| Department | Award Actions Received | | | | Proposals Submitted | | | | Expenditures | |
|---|------------------------|----------------------|------------|----------------------|---------------------|-----------------------|------------|-----------------------|----------------------|----------------------|
| | FY 2015 | | FY 2014 | | FY 2015 | | FY 2014 | | FY 2015 | FY 2014 |
| | No. | Amount | No. | Amount | No. | Amount | No. | Amount | Amount | Amount |
| Arts & Sciences | | | | | | | | | | |
| Biology & Biotechnology | 22 | \$ 750,431 | 11 | \$ 730,469 | 27 | \$ 8,354,793 | 25 | \$ 24,113,032 | \$ 741,142 | \$ 318,855 |
| Chemistry & Biochemistry | 3 | \$ 952,745 | 4 | \$ 463,720 | 22 | \$ 22,931,924 | 12 | \$ 7,584,595 | \$ 546,937 | \$ 1,402,962 |
| Computer Science | 29 | \$ 5,631,371 | 21 | \$ 3,981,127 | 53 | \$ 49,143,664 | 53 | \$ 35,111,906 | \$ 4,433,050 | \$ 4,244,733 |
| Humanities & Arts | 1 | \$ 7,000 | 1 | \$ 96,698 | 6 | \$ 2,897,787 | 3 | \$ 94,200 | \$ 75,509 | \$ 81,586 |
| Mathematical Sciences | 13 | \$ 1,093,731 | 10 | \$ 1,225,498 | 38 | \$ 12,712,225 | 24 | \$ 5,690,354 | \$ 933,560 | \$ 1,446,665 |
| Physics | 6 | \$ 1,370,808 | 2 | \$ 372,576 | 7 | \$ 2,430,054 | 16 | \$ 6,445,125 | \$ 560,110 | \$ 324,484 |
| Social Science & Policy Studies | 3 | \$ 550,275 | 5 | \$ 2,469,112 | 14 | \$ 7,301,952 | 13 | \$ 5,277,196 | \$ 1,114,124 | \$ 921,186 |
| Total | 77 | \$ 10,356,361 | 54 | \$ 9,339,200 | 167 | \$ 105,772,399 | 146 | \$ 84,316,408 | \$ 8,404,432 | \$ 8,740,472 |
| Business | | | | | | | | | | |
| | 7 | \$ 731,542 | 2 | \$ 125,374 | 11 | \$ 5,471,336 | 4 | \$ 860,633 | \$ 519,254 | \$ 401,998 |
| Engineering | | | | | | | | | | |
| Biomedical Engineering | 14 | \$ 2,647,996 | 22 | \$ 6,265,220 | 33 | \$ 42,112,913 | 39 | \$ 18,756,440 | \$ 1,899,167 | \$ 2,509,221 |
| Chemical Engineering | 7 | \$ 1,122,791 | 10 | \$ 1,966,917 | 21 | \$ 12,759,470 | 23 | \$ 7,329,144 | \$ 2,372,223 | \$ 1,749,788 |
| Civil & Environmental Engineering | 8 | \$ 450,331 | 5 | \$ 597,206 | 22 | \$ 10,595,603 | 36 | \$ 5,970,020 | \$ 519,702 | \$ 324,728 |
| Electrical & Computer Engineering | 25 | \$ 1,830,807 | 23 | \$ 2,625,757 | 37 | \$ 10,903,541 | 36 | \$ 9,116,338 | \$ 2,003,196 | \$ 1,839,696 |
| Fire Protection Engineering | 6 | \$ 1,719,369 | 5 | \$ 1,103,790 | 8 | \$ 4,022,746 | 15 | \$ 3,897,146 | \$ 1,062,050 | \$ 487,769 |
| Mechanical Engineering | 36 | \$ 14,477,518 | 28 | \$ 10,161,908 | 67 | \$ 46,747,256 | 66 | \$ 33,326,803 | \$ 11,357,304 | \$ 4,559,345 |
| Total | 96 | \$ 22,248,812 | 93 | \$ 22,720,798 | 188 | \$ 127,141,529 | 215 | \$ 78,395,891 | \$ 19,213,642 | \$ 11,470,547 |
| Interdisciplinary & Global Studies | | | | | | | | | | |
| | 1 | \$ 65,948 | 1 | \$ 66,630 | 3 | \$ 425,213 | 4 | \$ 291,347 | \$ 162,353 | \$ 131,545 |
| Other | | | | | | | | | | |
| | 13 | \$ 880,649 | 9 | \$ 741,645 | 10 | \$ 2,217,911 | 7 | \$ 1,487,625 | \$ 364,233 | \$ 978,163 |
| University Total | 194 | \$ 34,283,312 | 159 | \$ 32,993,647 | 379 | \$ 241,028,388 | 376 | \$ 165,351,904 | \$ 28,663,914 | \$ 21,722,725 |

2.2: Summary of FY2015 Activity (with comparative data for FY2012)

| | <u>FY2015</u> | <u>FY2014</u> | <u>%Change</u> |
|---|----------------|----------------|----------------|
| 1. Number of Proposal Submissions | 379 | 376 | 0.8% |
| 2. \$ Composition of Proposals Submitted | | | |
| Direct Costs | \$ 187,989,143 | \$ 121,733,653 | 54.4% |
| Indirect Costs | \$ 51,838,664 | \$ 43,673,645 | 18.7% |
| Total Requested | \$ 241,028,388 | \$ 165,407,298 | 45.7% |
| Cost Sharing | \$ 6,454,293 | \$ 10,266,391 | -37.1% |
| Total Project Costs Proposed | \$ 247,482,681 | \$ 175,673,689 | 40.9% |
| 3. Number of Proposals (Net of Congressional Funding) | 379 | 376 | 0.8% |
| 4. \$ Volume of Proposals (Net of Congressional Funding) | | | |
| Direct Costs | \$ 187,989,143 | \$ 121,733,653 | 54.4% |
| Indirect Costs | \$ 51,838,664 | \$ 43,673,645 | 18.7% |
| Totals Requested | \$ 241,028,388 | \$ 165,407,298 | 45.7% |
| Cost Sharing | \$ 6,454,293 | \$ 10,266,391 | -37.1% |
| Total Project Costs Proposed | \$ 247,482,681 | \$ 175,673,689 | 40.9% |
| 5. Number of Award Actions | 194 | 159 | 22.0% |
| 6. \$ Composition of Award Actions Received | | | |
| Direct Costs | \$ 28,899,264 | \$ 25,817,821 | 11.9% |
| Indirect Costs | \$ 5,384,048 | \$ 7,175,826 | -25.0% |
| Total Award \$ Received | \$ 34,283,312 | \$ 32,993,647 | 3.9% |
| Cost Sharing | \$ 1,639,231 | \$ 1,373,482 | 19.3% |
| Total Project Costs | \$ 35,922,543 | \$ 34,367,129 | 4.5% |
| 7. Number of Award Actions (Net of Congressional Funding) | 194 | 159 | 22.0% |
| 8. \$ Composition of Awards (Net of Congressional Funding) | | | |
| Direct Costs | \$ 28,899,264 | \$ 25,817,821 | 11.9% |
| Indirect Costs | \$ 5,384,048 | \$ 7,175,826 | -25.0% |
| Total Award \$ Received | \$ 34,283,312 | \$ 32,993,647 | 3.9% |
| Cost Sharing | \$ 1,639,231 | \$ 1,373,482 | 19.3% |
| Total Project Costs (Net of Congressional Funding) | \$ 35,922,543 | \$ 34,367,129 | 4.5% |
| 9. Selected Proposal Coordination Form (PCF) "Special Considerations" Summary Data: | | | |
| a. Proposals Involving Human Participants | 65 | 56 | 16.1% |
| b. Proposals Involving Use of Animals | 15 | 18 | -16.7% |
| c. Proposals Involving Hazardous Materials | 52 | 60 | -13.3% |
| d. Proposals Requesting Support for Research Assistants | 249 | 231 | 7.8% |
| e. Proposals Requesting Support for Non-Student Personnel | 68 | 68 | 0.0% |
| f. Proposals Including Funds for Consultants/Subcontractor: | 56 | 83 | -32.5% |
| g. Proposals with Academic Year Faculty Salary Budgeted | 23 | 37 | -37.8% |
| h. Proposals Requesting Equipment Funds | 51 | 68 | -25.0% |

3. Proposal & Award Activity for Fiscal Year 2015

3.1: Awards by Dean/Department

Figure 3.1 below provides departmental data for award actions received in fiscal year 2015. It also includes summary information regarding indirect cost rates and cost sharing on awards (unaudited - for comparison purposes only) as well as a breakdown at the bottom of the report that shows total University award information and awards for STEM departments only.

“Awards” are defined as funds which have been actually obligated and released by the sponsor. Some grants are awarded in yearly increments, subject to satisfactory progress and/or availability of funds. In such cases, only those increments actually received by WPI are counted as awards.

**Worcester Polytechnic Institute
Summary of Award Actions
July 1, 2014 to June 30, 2015**

| Dean | Department | Count | Direct Costs | Indirect Costs | Total Costs | Average | | CS | | Excess IDC over CS | |
|----------------------------|------------------------------------|------------|----------------------|---------------------|----------------------|---------------------|------------------|----------------------|-----------------------------|--------------------|---------------------|
| | | | | | | Award Amount | Average IDC Rate | Average Cost Sharing | Effective Cost Sharing Rate | | |
| Arts & Sciences | | | | | | | | | | | |
| | Biology S/R | 22 | \$ 488,399 | \$ 262,032 | \$ 750,431 | \$ 34,111 | 53.7 | \$ 121,331 | 5,515 | 16.2 | \$ 140,701 |
| | Chemistry S/R | 3 | \$ 630,691 | \$ 322,054 | \$ 952,745 | \$ 317,582 | 51.1 | \$ - | - | 0 | \$ 322,054 |
| | Computer Science S/R | 29 | \$ 4,669,359 | \$ 962,012 | \$ 5,631,371 | \$ 194,185 | 20.6 | \$ 71,558 | 2,468 | 1.3 | \$ 890,454 |
| | Humanities S/R | 1 | \$ 7,000 | \$ - | \$ 7,000 | \$ 7,000 | 0 | \$ 3,900 | 3,900 | 55.7 | \$ (3,900) |
| | Math S/R | 13 | \$ 826,057 | \$ 267,674 | \$ 1,093,731 | \$ 84,133 | 32.4 | \$ 33,274 | 2,560 | 3 | \$ 234,400 |
| | Physics S/R | 6 | \$ 1,160,434 | \$ 210,374 | \$ 1,370,808 | \$ 228,468 | 18.1 | \$ 184,378 | 30,730 | 13.5 | \$ 25,996 |
| | Social Science S/R | 3 | \$ 405,716 | \$ 144,559 | \$ 550,275 | \$ 183,425 | 35.6 | \$ 8,390 | 2,797 | 1.5 | \$ 136,169 |
| | Total | 77 | \$ 8,187,656 | \$ 2,168,705 | \$ 10,356,361 | \$ 134,498.2 | 26.5 | \$ 422,831 | \$ 5,491 | 4.1 | \$ 1,745,874 |
| Engineering | | | | | | | | | | | |
| | Biomedical S/R | 14 | \$ 2,066,509 | \$ 581,487 | \$ 2,647,996 | \$ 189,143 | 28.2 | \$ 30,127 | 2,008 | 1.1 | \$ 551,360 |
| | Chem Eng S/R | 7 | \$ 1,033,293 | \$ 89,498 | \$ 1,122,791 | \$ 160,399 | 8.7 | \$ 219,649 | 31,378 | 19.6 | \$ (130,151) |
| | Civil & Environmental Eng S/R | 8 | \$ 394,095 | \$ 56,236 | \$ 450,331 | \$ 56,291 | 14.3 | \$ 51,615 | 6,452 | 11.5 | \$ 4,621 |
| | ECE S/R | 25 | \$ 1,434,970 | \$ 395,837 | \$ 1,830,807 | \$ 73,232 | 27.8 | \$ - | - | 0 | \$ 395,837 |
| | Fire Protection S/R | 6 | \$ 1,211,699 | \$ 507,670 | \$ 1,719,369 | \$ 286,562 | 41.9 | \$ 311,871 | 44,553 | 18.1 | \$ 195,799 |
| | ME S/R | 36 | \$ 13,264,504 | \$ 1,213,014 | \$ 14,477,518 | \$ 402,153 | 9.1 | \$ 566,769 | 15,744 | 3.9 | \$ 646,245 |
| | Total | 96 | \$ 19,405,070 | \$ 2,843,742 | \$ 22,248,812 | \$ 1,167,780 | 14.7 | \$ 1,180,031 | \$ 12,292 | 5.3 | \$ 1,663,711 |
| IGSD | IGSD - S/R | 1 | \$ 65,948 | \$ - | \$ 65,948 | \$ 65,948 | 0 | \$ - | - | 0 | \$ - |
| Other | | | | | | | | | | | |
| | Assistant Provost Office S/R | 1 | \$ 73,394 | \$ 6,606 | \$ 80,000 | \$ 80,000 | 9 | \$ 36,369 | 36,369 | 45.5 | \$ (29,763) |
| | Center for STEM Teaching S/R | 5 | \$ 424,014 | \$ 140,802 | \$ 564,816 | \$ 112,963 | 35.7 | \$ - | - | 0 | \$ 140,802 |
| | Corporate & Professional Education | 1 | \$ 8,000 | \$ - | \$ 8,000 | \$ 8,000 | 0 | \$ - | - | 0 | \$ - |
| | Dean of Graduate Studies S/R | 2 | \$ 71,000 | \$ - | \$ 71,000 | \$ 35,500 | 0 | \$ - | - | 0 | \$ - |
| | Student Development & Counseling | 1 | \$ 5,500 | \$ - | \$ 5,500 | \$ 5,500 | 0 | \$ - | - | 0 | \$ - |
| | Associate Provost - Other | 3 | \$ 151,333 | \$ - | \$ 151,333 | \$ 50,444 | 0 | \$ - | - | 0 | \$ - |
| | Total | 13 | \$ 733,241 | \$ 147,408 | \$ 880,649 | \$ 67,742 | 20.1 | \$ 36,369 | \$ 2,798 | 4.1 | \$ 111,039 |
| School of Business | | 7 | \$ 507,349 | \$ 224,193 | \$ 731,542 | \$ 104,506 | 44.2 | \$ - | - | 0 | \$ 224,193 |
| <hr/> | | | | | | | | | | | |
| University Total | | 194 | \$ 28,899,264 | \$ 5,384,048 | \$ 34,283,312 | \$ 176,718 | 18.6 | \$ 1,639,231 | \$ 8,450 | 4.8 | \$ 3,744,817 |
| STEM Departments | | 179 | \$ 28,093,075 | \$ 5,236,640 | \$ 33,329,715 | \$ 186,200 | 18.6 | \$ 1,598,962 | \$ 8,933 | 4.8 | \$ 3,637,678 |

3.2: Awards by Sponsor

**Worcester Polytechnic Institute
Comparative Summary of Awards by Sponsor
FY 2015 and FY 2014**

| Sponsor | FY2015 | | | | FY2014 | | | |
|---|------------|------------|----------------------|------------|------------|------------|----------------------|------------|
| | No. | % | \$ Amount | % | No. | % | \$ Amount | % |
| Federal | | | | | | | | |
| Dept of Defense | 23 | 12% | \$ 12,196,745 | 36% | 25 | 16% | \$ 10,571,928 | 32% |
| Dept of Education | 7 | 4% | \$ 1,943,878 | 6% | 5 | 3% | \$ 944,056 | 3% |
| Dept of Energy | 5 | 3% | \$ 474,750 | 1% | 2 | 1% | \$ 105,530 | 0% |
| Dept of Homeland Security | 3 | 2% | \$ 338,634 | 1% | 2 | 1% | \$ 1,028,340 | 3% |
| Dept of Interior | 3 | 2% | \$ 1,362,428 | 4% | 0 | 0% | \$ - | 0% |
| DHHS | 17 | 9% | \$ 4,542,532 | 13% | 15 | 9% | \$ 5,008,206 | 15% |
| NASA | 5 | 3% | \$ 268,975 | 1% | 2 | 1% | \$ 82,000 | 0% |
| NSF | 63 | 32% | \$ 8,592,176 | 25% | 55 | 35% | \$ 10,262,565 | 31% |
| Nuclear Regulatory Commission | 4 | 2% | \$ 1,160,726 | 3% | 0 | 0% | \$ - | 0% |
| USDA | 1 | 1% | \$ 122,401 | 0% | 0 | 0% | \$ - | 0% |
| VA | 4 | 2% | \$ 440,393 | 1% | 2 | 1% | \$ 341,978 | 1% |
| NEH | 0 | 0% | \$ - | 0% | 1 | 1% | \$ 300,000 | 1% |
| Other Federal | 3 | 2% | \$ 38,167 | 0% | 3 | 2% | \$ 140,565 | 0% |
| <i>Subtotal - Federal</i> | <i>138</i> | <i>71%</i> | <i>\$ 31,481,805</i> | <i>92%</i> | <i>112</i> | <i>70%</i> | <i>\$ 28,785,168</i> | <i>87%</i> |
| Commonwealth of Massachusetts Corporation | 3 | 2% | \$ 164,482 | 0% | 1 | 1% | \$ 40,000 | 0% |
| Foreign Organization | 28 | 14% | \$ 929,544 | 3% | 23 | 14% | \$ 1,393,067 | 4% |
| Foundation | 5 | 3% | \$ 511,664 | 1% | 5 | 3% | \$ 232,483 | 1% |
| Private Organization (univ, assoc) | 15 | 8% | \$ 954,940 | 3% | 10 | 6% | \$ 2,103,778 | 6% |
| Public Organization (local govt) | 4 | 2% | \$ 200,978 | 1% | 6 | 4% | \$ 282,921 | 1% |
| <i>Subtotal - Non-Federal</i> | <i>1</i> | <i>1%</i> | <i>\$ 39,899</i> | <i>0%</i> | <i>2</i> | <i>1%</i> | <i>\$ 156,230</i> | <i>0%</i> |
| Grand Total | 194 | | \$ 34,283,312 | | 159 | | \$ 32,993,647 | |

Figure 3.3: FY2015 Award \$ by Sponsor Type

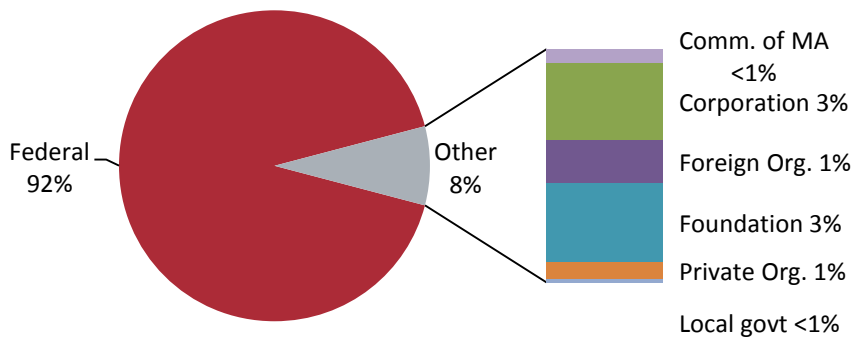
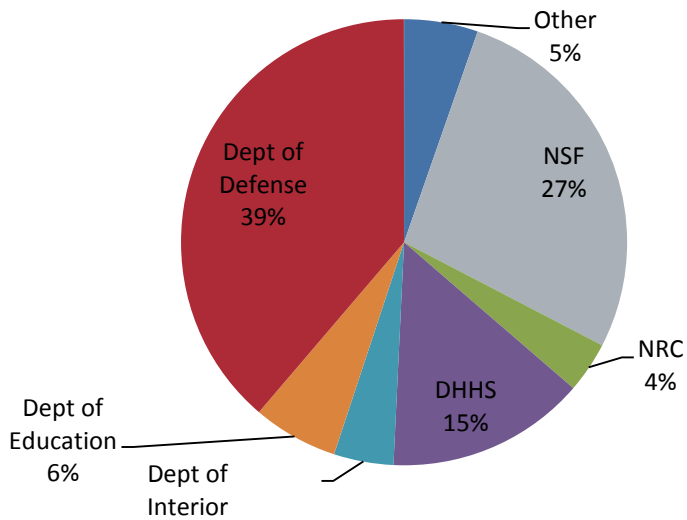


Figure 3.4: Federal Award \$ by Sponsor, FY2015



3.5 Proposals by Dean/Department

Figure 3.5 below provides a departmental summary of proposal submission statistics for fiscal year 2015. This summary includes information about requested direct and indirect costs, average proposal amounts and indirect cost rates requested, and cost sharing on proposal submissions. There are totals shown at the bottom of the schedule for both the entire University and for STEM departments only.

**Worcester Polytechnic Institute
Summary of Proposals
July 1, 2014 to June 30, 2015**

| Dean | Department | Count | Direct Costs | Indirect Costs | Total Costs | Average | Average | Average | CS | Excess IDC over CS | |
|-----------------|-------------------------------|------------|-----------------------|----------------------|-----------------------|-------------------|--------------------|---------------------|-------------------|--------------------|----------------------|
| | | | | | | Proposal Amount | Indirect Cost Rate | Cost Sharing | Effective Rate | | |
| Arts & Sciences | | | | | | | | | | | |
| | Biology S/R | 27 | \$ 6,657,975 | \$ 1,786,818 | \$ 8,354,793 | \$ 309,437 | 26.8 | \$ 241,365 | \$ 48,273 | 2.9 | \$ 1,545,453 |
| | Chemistry S/R | 22 | \$ 16,459,216 | \$ 5,972,709 | \$ 22,931,924 | \$1,042,360 | 36.3 | \$ 122,285 | \$ 40,762 | 0.5 | \$ 5,850,424 |
| | Computer Science S/R | 53 | \$ 38,563,574 | \$ 10,580,090 | \$ 49,143,664 | \$ 927,239 | 27.4 | \$ 577,077 | \$ 144,269 | 1.2 | \$ 10,003,013 |
| | Humanities S/R | 6 | \$ 2,161,656 | \$ 736,132 | \$ 2,897,787 | \$ 482,965 | 34.1 | \$ 439,263 | \$ 146,421 | 15.2 | \$ 296,869 |
| | Math S/R | 38 | \$ 9,404,092 | \$ 3,308,133 | \$ 12,712,225 | \$ 334,532 | 35.2 | \$ 231,016 | \$ 38,503 | 1.8 | \$ 3,077,117 |
| | Physics S/R | 7 | \$ 1,816,059 | \$ 613,995 | \$ 2,430,054 | \$ 347,151 | 33.8 | \$ 298,210 | \$ 99,403 | 12.3 | \$ 315,785 |
| | Social Science S/R | 14 | \$ 4,867,829 | \$ 2,434,123 | \$ 7,301,952 | \$ 521,568 | 50.0 | \$ 684 | \$ 684 | 0 | \$ 2,433,439 |
| | Total | 167 | \$ 79,930,401 | \$ 25,432,000 | \$ 105,772,399 | \$ 633,368 | 31.8 | \$ 1,909,900 | \$ 76,396 | 1.8 | \$ 23,522,100 |
| Engineering | | | | | | | | | | | |
| | Biomedical S/R | 33 | \$ 33,662,224 | \$ 8,265,689 | \$ 42,112,913 | \$1,276,149 | 24.6 | \$ 634,664 | \$ 126,933 | 1.5 | \$ 7,631,025 |
| | Chem Eng S/R | 21 | \$ 9,675,102 | \$ 3,039,367 | \$ 12,759,470 | \$ 607,594 | 31.4 | \$ 1,112,558 | \$ 222,512 | 8.7 | \$ 1,926,809 |
| | Civil & Environmental Eng S/R | 22 | \$ 8,832,519 | \$ 1,763,144 | \$ 10,595,603 | \$ 481,618 | 20.0 | \$ 1,043,550 | \$ 260,888 | 9.8 | \$ 719,594 |
| | ECE S/R | 37 | \$ 7,808,672 | \$ 3,094,868 | \$ 10,903,541 | \$ 294,690 | 39.6 | \$ 19,436 | \$ 19,436 | 0.2 | \$ 3,075,432 |
| | Fire Protection S/R | 8 | \$ 3,037,895 | \$ 984,850 | \$ 4,022,746 | \$ 502,843 | 32.4 | \$ 157,531 | \$ 39,383 | 3.9 | \$ 827,319 |
| | MES/R | 67 | \$ 38,952,336 | \$ 7,234,280 | \$ 46,747,256 | \$ 697,720 | 18.6 | \$ 1,507,187 | \$ 150,719 | 3.2 | \$ 5,727,093 |
| | Total | 188 | \$ 101,968,748 | \$ 24,382,198 | \$ 127,141,529 | \$ 676,285 | 23.9 | \$ 4,474,926 | \$ 154,308 | 3.5 | \$ 19,907,272 |
| | IGSD | 3 | \$ 297,840 | \$ 127,373 | \$ 425,213 | \$ 141,738 | 42.8 | \$ 31,388 | \$ 31,388 | 7.4 | \$ 95,985 |
| Other | | | | | | | | | | | |
| | Assistant Provost Office S/R | 2 | \$ 362,501 | \$ 17,496 | \$ 379,997 | \$ 189,999 | 4.8 | \$ 36,369 | \$ 36,369 | 9.6 | \$ (18,873) |
| | Center for STEM Teaching | 1 | \$ 4,732 | \$ - | \$ 4,732 | \$ 4,732 | | \$ - | \$ - | 0 | \$ - |
| | Center for STEM Teaching S/R | 4 | \$ 1,348,769 | \$ 411,413 | \$ 1,760,182 | \$ 440,046 | 30.5 | \$ - | \$ - | 0 | \$ 411,413 |
| | Dean of Graduate Studies S/R | 1 | \$ 5,000 | \$ - | \$ 5,000 | \$ 5,000 | | \$ - | \$ - | 0 | \$ - |
| | Fire Protection Operating | 1 | \$ 43,622 | \$ 21,378 | \$ 65,000 | \$ 65,000 | 49.0 | \$ - | \$ - | 0 | \$ 21,378 |
| | Library Operations - S/R | 1 | \$ 3,000 | \$ - | \$ 3,000 | \$ 3,000 | | \$ 1,710 | \$ 1,710 | 57 | \$ (1,710) |
| | Total | 10 | \$ 1,767,624 | \$ 450,287 | \$ 2,217,911 | \$ 221,791 | 25.5 | \$ 38,079 | \$ 19,040 | 1.7 | \$ 412,208 |
| | School of Business | 11 | \$ 4,024,530 | \$ 1,446,806 | \$ 5,471,336 | \$ 497,394 | 35.9 | \$ - | | | \$ 1,446,806 |
| <hr/> | | | | | | | | | | | |
| | University Total | 379 | \$ 187,989,143 | \$ 51,838,664 | \$ 241,028,388 | \$ 635,959 | 27.6 | \$ 6,454,293 | \$ 17,030 | 2.7 | \$ 45,384,371 |
| | <i>STEM Departments</i> | <i>349</i> | <i>\$ 179,737,493</i> | <i>\$ 49,078,066</i> | <i>\$ 230,016,141</i> | <i>\$ 659,072</i> | <i>27.3</i> | <i>\$ 5,945,563</i> | <i>\$ 17,036</i> | <i>2.6</i> | <i>\$ 43,132,503</i> |

3.6 Proposals by Sponsor

Worcester Polytechnic Institute
Comparative Summary of Proposals by Sponsor
FY2015 and FY2014

| Sponsor | FY2015 | | | | FY2014 | | | |
|------------------------------------|------------|------------|-----------------------|------------|------------|------------|-----------------------|------------|
| | No. | % | No. | % | No. | % | No. | % |
| Federal | | | | | | | | |
| Dept of Commerce | 2 | 1% | \$ 10,299,692 | 4% | 0 | 0% | \$ - | 0% |
| Dept of Defense | 24 | 6% | \$ 38,547,693 | 16% | 34 | 9% | \$ 23,199,895 | 14% |
| Dept of Education | 6 | 2% | \$ 4,412,669 | 2% | 8 | 2% | \$ 9,247,497 | 6% |
| Dept of Energy | 13 | 3% | \$ 13,587,128 | 6% | 10 | 3% | \$ 4,919,217 | 3% |
| Dept of Homeland Security | 2 | 1% | \$ 1,646,003 | 1% | 7 | 2% | \$ 2,109,099 | 1% |
| Dept of Interior | 1 | 0% | \$ 1,273,056 | 1% | 4 | 1% | \$ 1,374,845 | 1% |
| DHHS | 39 | 10% | \$ 36,575,363 | 15% | 40 | 11% | \$ 24,155,958 | 15% |
| Foreign Organization | 2 | 1% | \$ 1,187,928 | 0% | 0 | 0% | \$ - | 0% |
| Foundation | 2 | 1% | \$ 955,086 | 0% | 0 | 0% | \$ - | 0% |
| NASA | 4 | 1% | \$ 983,257 | 0% | 8 | 2% | \$ 1,244,621 | 1% |
| NEH | 2 | 1% | \$ 118,851 | 0% | 1 | 0% | \$ 6,000 | 0% |
| NSF | 195 | 51% | \$ 123,084,342 | 51% | 148 | 39% | \$ 66,864,764 | 40% |
| Nuclear Regulatory Commission | 0 | 0% | \$ - | 0% | 3 | 1% | \$ 929,533 | 1% |
| USDA | 2 | 1% | \$ 219,638 | 0% | 1 | 0% | \$ 475,560 | 0% |
| VA | 4 | 1% | \$ 440,901 | 0% | 0 | 0% | \$ - | 0% |
| Other Federal | 5 | 1% | \$ 685,851 | 0% | 14 | 4% | \$ 2,237,629 | 1% |
| <i>Subtotal - Federal</i> | <i>303</i> | <i>80%</i> | <i>\$ 234,017,458</i> | <i>97%</i> | <i>278</i> | <i>74%</i> | <i>\$ 136,764,618</i> | <i>83%</i> |
| Commonwealth of Massachusetts | 5 | 1% | \$ 754,654 | 0% | 3 | 1% | \$ 166,806 | 0% |
| Corporation | 20 | 5% | \$ 1,180,180 | 0% | 31 | 8% | \$ 5,889,524 | 4% |
| Foreign Organization | 6 | 2% | \$ 1,305,332 | 1% | 3 | 1% | \$ 3,756,742 | 2% |
| Foundation | 35 | 9% | \$ 3,208,315 | 1% | 44 | 12% | \$ 16,811,313 | 10% |
| Private Organization (univ, assoc) | 9 | 2% | \$ 567,550 | 0% | 14 | 4% | \$ 928,106 | 1% |
| Public Organization (local govt) | 1 | 0% | \$ 39,899 | 0% | 3 | 1% | \$ 1,034,795 | 1% |
| <i>Subtotal - Non-Federal</i> | <i>76</i> | <i>20%</i> | <i>\$ 7,055,930</i> | <i>3%</i> | <i>98</i> | <i>26%</i> | <i>\$ 28,587,286</i> | <i>17%</i> |
| Grand Total | 379 | | \$ 241,073,388 | | 376 | | \$ 165,351,904 | |

Figure 3.7: FY2015 Proposal \$ by Sponsor Type

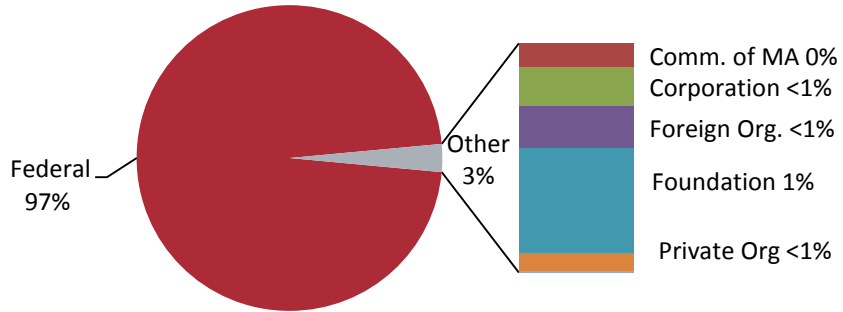
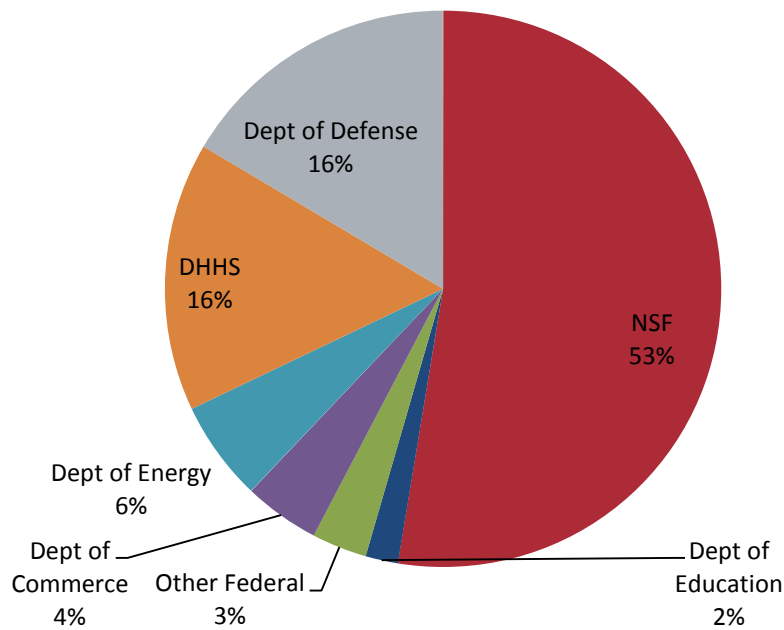


Figure 3.8: Federal Proposal \$ by Sponsor, FY2015



4. Expenditure Activity for Fiscal Year 2015

4.1: Sponsored Program Expenditures by Dean/Department

Worcester Polytechnic Institute
Summary of Expenditures by Department
July 1, 2014 to June 30, 2015

| Department | Compensation & Benefits | Equipment, Materials & Supplies | Travel | Subawards | Indirect Costs | Other Direct Costs | Cost Sharing | Totals |
|-----------------------------|----------------------------|---------------------------------------|------------|---------------|-------------------|-----------------------|-----------------|---------------|
| Arts & Sciences | | | | | | | | |
| Biology S/R | \$ 222,181 | \$ 63,543 | \$ 17,306 | \$ - | \$ 266,569 | \$ 171,544 | \$ - | \$ 741,142 |
| Chemistry S/R | \$ 316,404 | \$ 76,525 | \$ 11,426 | \$ 46,410 | \$ 159,878 | \$ (63,867) | \$ (18,373) | \$ 528,402 |
| Computer Science S/R | \$ 1,686,282 | \$ 33,979 | \$ 123,425 | \$ 1,239,480 | \$ 1,025,494 | \$ 435,615 | \$ (92,372) | \$ 4,451,903 |
| Humanities S/R | \$ 31,605 | \$ 7,951 | \$ 27,778 | \$ - | \$ 9,065 | \$ 3,100 | \$ (3,990) | \$ 75,509 |
| Math S/R | \$ 487,765 | \$ 2,926 | \$ 52,259 | \$ 2,694 | \$ 290,820 | \$ 120,193 | \$ (23,097) | \$ 933,560 |
| Physics S/R | \$ 305,643 | \$ 110,166 | \$ 4,607 | \$ - | \$ 102,337 | \$ 79,833 | \$ (42,477) | \$ 560,110 |
| Social Science S/R | \$ 566,349 | \$ 4,432 | \$ 20,732 | \$ 143,146 | \$ 335,055 | \$ 44,093 | \$ - | \$ 1,113,806 |
| <i>A&S Subtotal</i> | \$ 3,616,228 | \$ 299,523 | \$ 257,532 | \$ 1,431,729 | \$ 2,189,217 | \$ 790,511 | \$ (180,308) | \$ 8,404,432 |
| School of Business | \$ 269,815 | \$ 2,098 | \$ 16,791 | \$ 47,593 | \$ 152,902 | \$ 30,055 | \$ - | \$ 519,254 |
| Engineering | | | | | | | | |
| Biomedical S/R | \$ 699,836 | \$ 132,389 | \$ 38,665 | \$ 362,861 | \$ 552,220 | \$ 226,824 | \$ (113,627) | \$ 1,899,167 |
| Chem Eng S/R | \$ 967,482 | \$ 181,685 | \$ 32,600 | \$ 525,455 | \$ 459,490 | \$ 344,315 | \$ (138,804) | \$ 2,372,223 |
| Civil & Environmental Eng S | \$ 312,495 | \$ 16,867 | \$ 21,953 | \$ - | \$ 152,024 | \$ 63,491 | \$ (47,127) | \$ 519,702 |
| ECE S/R | \$ 1,169,445 | \$ 85,619 | \$ 94,688 | \$ 16,716 | \$ 634,022 | \$ 11,618 | \$ (8,912) | \$ 2,003,196 |
| Fire Protection S/R | \$ 547,827 | \$ 65,194 | \$ 24,735 | \$ 123,497 | \$ 355,796 | \$ 51,060 | \$ (106,059) | \$ 1,062,050 |
| ME S/R | \$ 1,786,156 | \$ 856,177 | \$ 144,308 | \$ 7,453,233 | \$ 1,039,622 | \$ 248,793 | \$ (170,987) | \$ 11,357,303 |
| <i>Engineering Subtotal</i> | \$ 5,483,240 | \$ 1,337,930 | \$ 356,948 | \$ 8,481,763 | \$ 3,193,174 | \$ 946,102 | \$ (585,515) | \$ 19,213,642 |
| IGSD | \$ 50,769 | \$ - | \$ 26,596 | \$ - | \$ 44,698 | \$ 53,399 | \$ (13,108) | \$ 162,353 |
| Other | \$ 79,709 | \$ 10,397 | \$ 36,920 | \$ 84,760 | \$ 21,147 | \$ 152,747 | \$ (21,447) | \$ 364,234 |
| University Total | | | | | | | | |
| <i>STEM Depts</i> | \$ 9,499,762 | \$ 1,649,948 | \$ 694,788 | \$ 10,045,844 | \$ 5,601,138 | \$ 1,972,813 | \$ (800,379) | \$ 28,663,914 |
| | \$ 9,067,863 | \$ 1,629,501 | \$ 586,702 | \$ 9,913,492 | \$ 5,373,326 | \$ 1,733,513 | \$ (761,833) | \$ 27,542,565 |

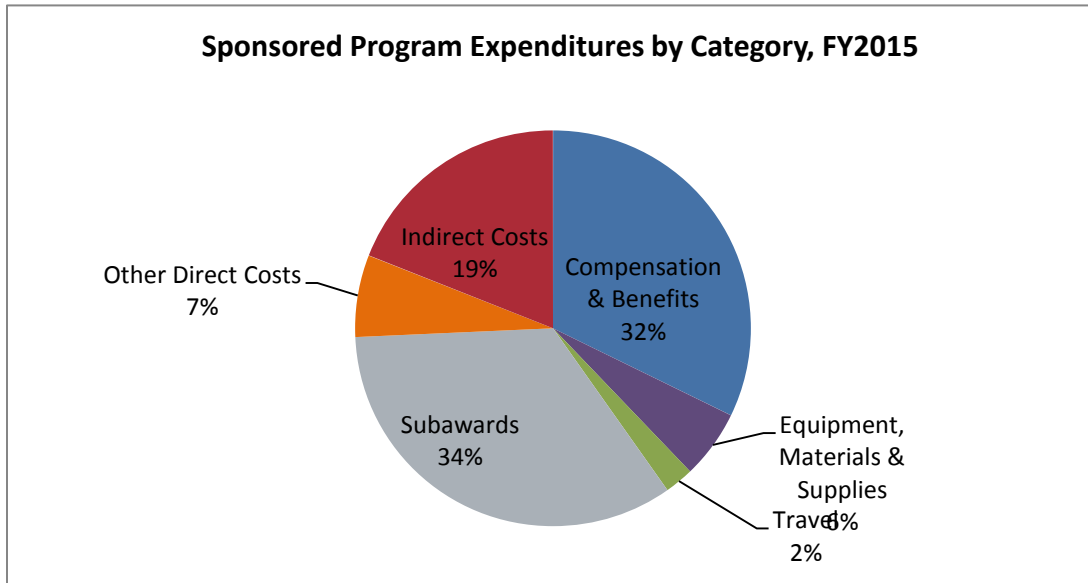
4.2 Comparison of FY2015 and FY2014

**Worcester Polytechnic Institute
Comparative Summary of Sponsored Program Expenditure Activity
FY2015 and FY2014**

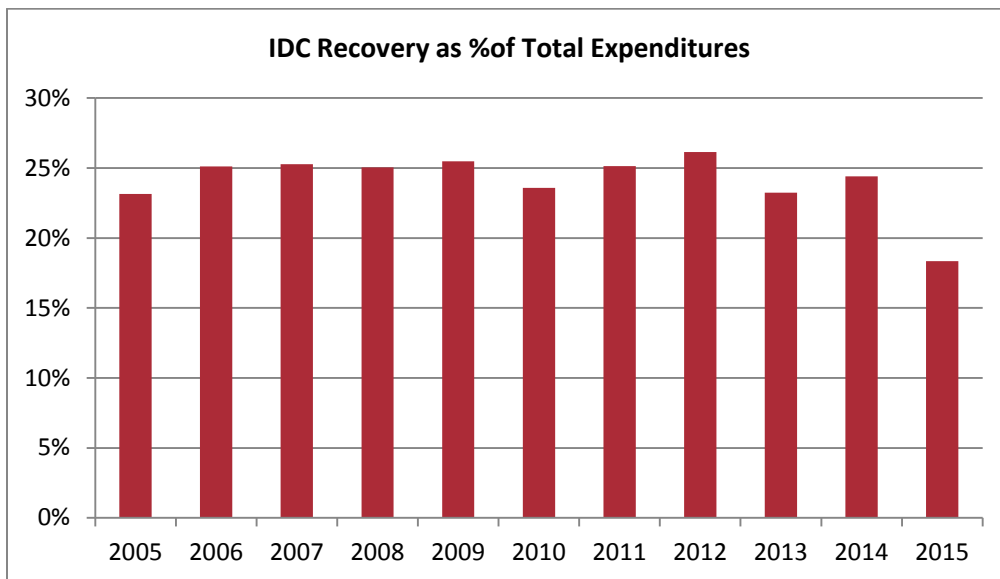
| <u>Element of Cost</u> | <u>FY2015 Expenses</u> | <u>FY2014 Expenses</u> | <u>% Change</u> |
|-------------------------------------|----------------------------|----------------------------|---------------------|
| Salaries & Wages | \$6,884,193 | \$7,037,427 | -2.2% |
| Fringe Benefits | 1,077,600 | 1,050,926 | 2.5% |
| Equipment | 971,068 | 844,423 | 15.0% |
| Other Direct Expenses | <u>14,129,915</u> | <u>7,768,087</u> | 81.9% |
| Subtotal Direct Program Costs | \$23,062,776 | \$16,700,863 | 38.1% |
| Indirect Costs | <u>5,601,138</u> | <u>5,711,525</u> | -1.9% |
| Total Program Costs | \$28,663,914 | \$22,412,388 | 27.9% |
| Less: WPI Cost Sharing ¹ | <u>800,379</u> | <u>(689,663)</u> | -216.1% |
| Net Sponsored Program Expenditures | <u><u>\$27,863,535</u></u> | <u><u>\$21,722,725</u></u> | 28.3% |

¹Due to the method used for recording expenditures, a breakdown of WPI cost sharing to net against direct sponsored program costs by category is not possible without further analysis.

4.2: Expenditures by Category



4.3: Indirect Cost Recovery (Historical)



5. Faculty Participation and Productivity

This section contains information relating to the faculty's level of productivity as it pertains to sponsored programs. Productivity, in this sense, is the rate at which faculty receive awards and/or participate in proposals, whether as a principal investigator or as a co-principal investigator.

5.1: Faculty Award Productivity by PI Department

Worcester Polytechnic Institute
Award Productivity by Department (Tenured & Tenure Track Faculty as PI Only)
Fiscal Year 2015

| Department | # of faculty | # receiving awards | % receiving awards | # of Awards | Awards Per Faculty Member | Total \$ Awarded | \$ IDC Awarded | \$ Awarded per faculty member | \$ IDC awarded per faculty member |
|----------------------------|---------------------|---------------------------|---------------------------|--------------------|----------------------------------|-------------------------|-----------------------|--------------------------------------|--|
| Arts & Sciences | | | | | | | | | |
| BBT | 15 | 2 | 13% | 3 | 0.20 | \$ 489,062 | \$ 172,041 | \$ 32,604 | \$ 11,469 |
| CBC | 10 | 3 | 30% | 3 | 0.30 | 952,745 | 322,054 | 95,275 | 32,205 |
| CS | 26 | 9 | 35% | 29 | 1.12 | 5,631,371 | 962,012 | 216,591 | 37,000 |
| H&A | 33 | 1 | 3% | 1 | 0.03 | 7,000 | - | 212 | - |
| MA | 27 | 11 | 41% | 13 | 0.48 | 1,093,731 | 267,674 | 40,509 | 9,914 |
| PH | 10 | 5 | 50% | 6 | 0.60 | 1,370,808 | 210,374 | 137,081 | 21,037 |
| SSPS | 13 | 3 | 23% | 3 | 0.23 | 550,275 | 144,559 | 42,329 | 11,120 |
| A&S Totals | 134 | 34 | 25% | 58 | 0.43 | 10,094,992 | 2,078,714 | 75,336 | 15,513 |
| Business | 23 | 3 | 13% | | 0.00 | 731,542 | 224,193 | 31,806 | 9,748 |
| Engineering | | | | | | | | | |
| BME | 9 | 5 | 56% | 13 | 1.44 | 2,259,290 | 492,852 | 251,032 | 54,761 |
| CHE | 13 | 3 | 23% | 7 | 0.54 | 1,028,371 | 89,498 | 79,105 | 6,884 |
| CEE | 14 | 6 | 43% | 8 | 0.57 | 459,751 | 27,872 | 32,839 | 1,991 |
| ECE | 19 | 8 | 42% | 23 | 1.21 | 1,640,504 | 331,606 | 86,342 | 17,453 |
| FPE | 4 | 3 | 75% | 6 | 1.50 | 1,719,369 | 507,670 | 429,842 | 126,918 |
| ME | 36 | 15 | 42% | 36 | 1.00 | 14,477,518 | 1,213,014 | 402,153 | 33,695 |
| Engineering Totals | 95 | 40 | 42% | 93 | 0.98 | 21,584,803 | 2,662,512 | 227,208 | 28,026 |
| IGSD | 1 | 1 | 100% | 1 | 1.00 | 65,948 | - | 65,948 | - |
| TOTALS | 253 | 78 | 31% | 152 | 0.60 | \$ 32,477,285 | \$ 4,965,419 | \$ 128,369 | \$ 19,626 |
| STEM Departments | 196 | 73 | 37% | 150 | 0.77 | \$ 31,672,795 | \$ 4,741,226 | \$ 161,596 | \$ 24,190 |

5.2: Faculty Proposal Participation by PI Department

Worcester Polytechnic Institute
Proposal Productivity by Department (Tenured & Tenure Track Faculty as PI Only)
Fiscal Year 2015

| Department | # of faculty | # submitting proposals | Participation rate | # of Proposals Submitted | Proposals Per Faculty Member | Proposal \$ Volume | \$ requested per faculty member | \$ Requested per submitting faculty member | Average Proposal Amount |
|----------------------------|---------------------|-------------------------------|---------------------------|---------------------------------|-------------------------------------|---------------------------|--|---|--------------------------------|
| Arts & Sciences | | | | | | | | | |
| BBT | 15 | 2 | 13% | 3 | 0.20 | \$ 489,062 | \$ 172,041 | \$ 32,604 | \$ 11,469 |
| CBC | 10 | 3 | 30% | 3 | 0.30 | 952,745 | 322,054 | 95,275 | 32,205 |
| CS | 26 | 9 | 35% | 29 | 1.12 | 5,631,371 | 962,012 | 216,591 | 37,000 |
| H&A | 33 | 1 | 3% | 1 | 0.03 | 7,000 | - | 212 | - |
| MA | 27 | 11 | 41% | 13 | 0.48 | 1,093,731 | 267,674 | 40,509 | 9,914 |
| PH | 10 | 5 | 50% | 6 | 0.60 | 1,370,808 | 210,374 | 137,081 | 21,037 |
| SSPS | 13 | 3 | 23% | 3 | 0.23 | 550,275 | 144,559 | 42,329 | 11,120 |
| A&S Totals | 134 | 34 | 25% | 58 | 0.43 | 10,094,992 | 2,078,714 | 75,336 | 15,513 |
| Business | 23 | 3 | 13% | | 0.00 | 731,542 | 224,193 | 31,806 | 9,748 |
| Engineering | | | | | | | | | |
| BME | 9 | 5 | 56% | 13 | 1.44 | 2,259,290 | 492,852 | 251,032 | 54,761 |
| CHE | 13 | 3 | 23% | 7 | 0.54 | 1,028,371 | 89,498 | 79,105 | 6,884 |
| CEE | 14 | 6 | 43% | 8 | 0.57 | 459,751 | 27,872 | 32,839 | 1,991 |
| ECE | 19 | 8 | 42% | 23 | 1.21 | 1,640,504 | 331,606 | 86,342 | 17,453 |
| FPE | 4 | 3 | 75% | 6 | 1.50 | 1,719,369 | 507,670 | 429,842 | 126,918 |
| ME | 36 | 15 | 42% | 36 | 1.00 | 14,477,518 | 1,213,014 | 402,153 | 33,695 |
| Engineering Totals | 95 | 40 | 42% | 93 | 0.98 | 21,584,803 | 2,662,512 | 227,208 | 28,026 |
| IGSD | 1 | 1 | 100% | 1 | 1.00 | 65,948 | - | 65,948 | - |
| TOTALS | 253 | 78 | 31% | 152 | 0.60 | \$ 32,477,285 | \$ 4,965,419 | \$ 128,369 | \$ 19,626 |
| STEM Departments | 196 | 73 | 37% | 150 | 0.77 | \$ 31,672,795 | \$ 4,741,226 | \$ 161,596 | \$ 24,190 |

5.3 Faculty Award Participation by Department (including co-PIs)

Worcester Polytechnic Institute
Number of Faculty Participating as PI or Co-PI on FY 2015 Awards
(Tenured & Tenure-track Faculty Only)

| Department | # of faculty | # of faculty receiving awards as PI only | # of faculty receiving awards as co-PI only | # of faculty receiving awards as PI and co-PI | Total faculty receiving awards | Overall participation rate |
|----------------------------|---------------------|---|--|--|---------------------------------------|-----------------------------------|
| Arts & Sciences | | | | | | |
| BBT | 15 | 2 | 1 | 0 | 3 | 20.0% |
| CBC | 10 | 2 | 0 | 1 | 3 | 30.0% |
| CS | 26 | 5 | 4 | 4 | 13 | 50.0% |
| H&A | 33 | 1 | 2 | 0 | 3 | 9.1% |
| MA | 27 | 9 | 1 | 2 | 12 | 44.4% |
| PH | 10 | 3 | 1 | 2 | 6 | 60.0% |
| SSPS | 13 | 2 | 3 | 1 | 6 | 46.2% |
| A&S Total | 134 | 24 | 12 | 10 | 46 | 34.3% |
| Business | 23 | 0 | 3 | 3 | 6 | 26.1% |
| Engineering | | | | | | |
| BME | 9 | 3 | 2 | 2 | 7 | 77.8% |
| CHE | 13 | 2 | 2 | 0 | 4 | 30.8% |
| CEE | 14 | 7 | 1 | 0 | 8 | 57.1% |
| ECE | 19 | 9 | 2 | 1 | 12 | 63.2% |
| FPE | 4 | 3 | 0 | 0 | 3 | 75.0% |
| ME | 36 | 9 | 4 | 6 | 19 | 52.8% |
| Engineering Total | 95 | 33 | 11 | 9 | 53 | 55.8% |
| IGSD | 1 | 0 | 0 | 0 | 0 | 0.0% |
| Totals | 253 | 57 | 26 | 22 | 105 | 41.5% |
| STEM Depts | 196 | 56 | 21 | 19 | 96 | 49.0% |

5.4 Faculty Proposal Participation by Department (including co-PIs)

Worcester Polytechnic Institute
Number of Faculty Participating as PI or Co-PI on FY 2015 Proposals
(Tenured & Tenure-track Faculty Only)

| Department | # of faculty | # of faculty submitting proposals as PI only | # of faculty submitting proposals as co-PI only | # of faculty submitting proposals as PI and co-PI | Total faculty submitting proposals | Overall participation rate |
|----------------------------|---------------------|---|--|--|---|-----------------------------------|
| Arts & Sciences | | | | | | |
| BBT | 15 | 3 | 2 | 4 | 9 | 60.0% |
| CBC | 10 | 3 | 0 | 4 | 7 | 70.0% |
| CS | 26 | 4 | 5 | 10 | 19 | 73.1% |
| H&A | 33 | 3 | 5 | 1 | 9 | 27.3% |
| MA | 27 | 9 | 1 | 11 | 21 | 77.8% |
| PH | 10 | 3 | 0 | 2 | 5 | 50.0% |
| SSPS | 13 | 3 | 2 | 5 | 10 | 76.9% |
| A&S Total | 134 | 28 | 15 | 37 | 80 | 59.7% |
| Business | 23 | 4 | 3 | 3 | 10 | 43.5% |
| Engineering | | | | | | |
| BME | 9 | 3 | 0 | 7 | 10 | 111.1% |
| CHE | 13 | 3 | 1 | 3 | 7 | 53.8% |
| CEE | 14 | 2 | 1 | 6 | 9 | 64.3% |
| ECE | 19 | 7 | 1 | 5 | 13 | 68.4% |
| FPE | 4 | 2 | 1 | 1 | 4 | 100.0% |
| ME | 36 | 8 | 4 | 11 | 23 | 63.9% |
| Engineering Total | 95 | 25 | 8 | 33 | 66 | 69.5% |
| IGSD | 1 | 0 | 0 | 0 | 0 | 0.0% |
| Totals | 253 | 57 | 26 | 73 | 156 | 61.7% |
| STEM Depts | 196 | 50 | 18 | 69 | 137 | 69.9% |

6. Success of FY2014 Proposals

It takes, on average, approximately seven months to receive a funding decision on each proposal that we submit. Because of this, it is still too soon to know how our FY 2015 proposals have fared – almost half are still awaiting a decision. We can, however, look at our proposals from FY 2012. These proposals were submitted prior to June 30, 2014 and have had ample time to be reviewed by the funding agencies.

The success rates for FY 2014 proposals are shown in figures 6.1 and 6.2 below.

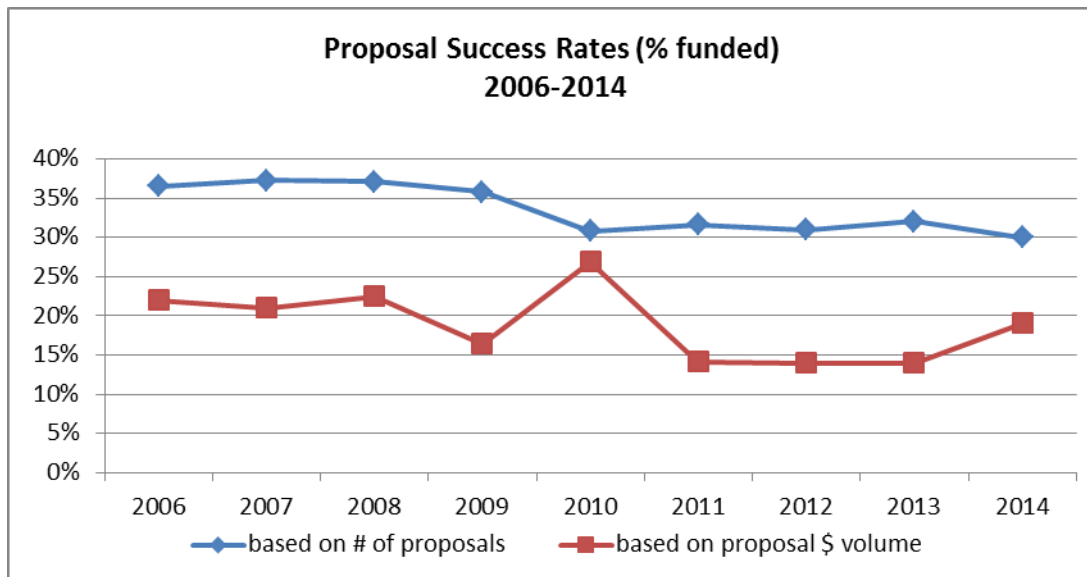
Figure 6.1

**Worcester Polytechnic Institute
Status of Proposals Submitted in FY 2014**

| <u>Status</u> | <u>Number</u> | <u>%</u> | <u>\$ Value¹</u> | <u>%</u> |
|---------------|---------------|-------------|-----------------------------|-------------|
| Funded | 114 | 30% | \$ 30,689,999 | 19% |
| Declined | 228 | 61% | \$ 122,279,203 | 74% |
| Pending | 34 | 9% | \$ 12,382,702 | 7% |
| Total | 376 | 100% | \$ 165,351,904 | 100% |

¹ Based on amount of original proposal; assumes full amount will be awarded

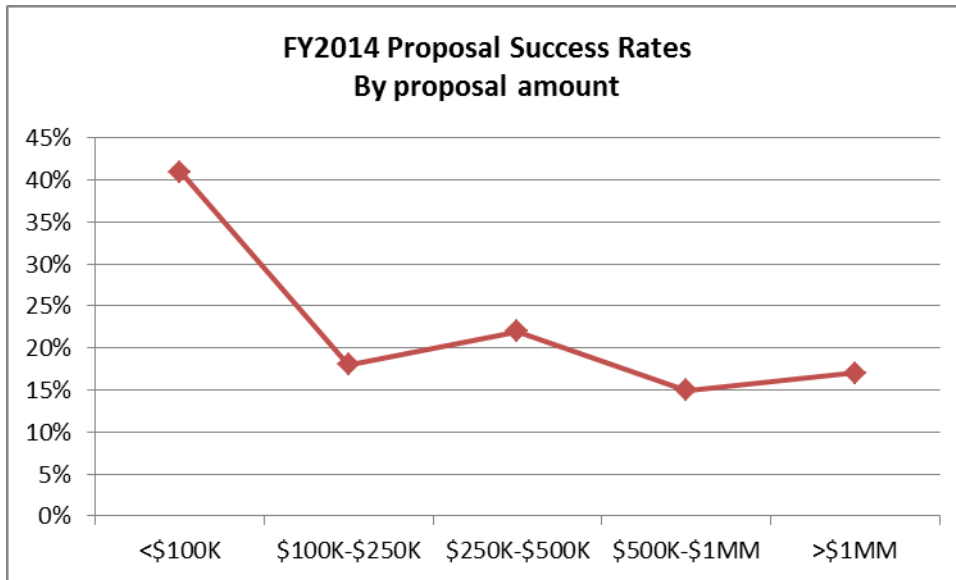
Figure 6.2



6.3 Success Rates by Proposal Size

Worcester Polytechnic Institute
Proposal Success Rates, By Proposal \$ Value
Based on \$ amount requested/funded
Proposals submitted July 1, 2013 to June 30, 2014

| | <u><\$100K</u> | <u>\$100K-\$250K</u> | <u>\$250K-\$500K</u> | <u>\$500K-\$1MM</u> | <u>>\$1MM</u> |
|--------------|-------------------|----------------------|----------------------|---------------------|------------------|
| Awarded | 41% | 18% | 22% | 15% | 17% |
| Declined | 52% | 81% | 76% | 80% | 81% |
| Pending | 7% | 1% | 2% | 5% | 2% |
| Total | 100% | 100% | 100% | 100% | 100% |



7. Historical Review of Proposals, Awards, and Expenditures

Figure 7.1 below provides a snapshot of all proposal, award, and expenditure totals for the most recent ten years. Figure 7.2 on the following page is a similar report, but the amounts shown are net of the impact of Congressional appropriations (“earmarks”), thus illustrating the results of conventional, peer-reviewed proposals only.

Figure 7.1

**Worcester Polytechnic Institute
Ten-Year Historical Summary of Sponsored Program Activity (Including Congressional Funding)
FY2006 (Base Year) to FY2015**

| Fiscal Year | Proposal Volume | | | | Award Volume | | | | Expenditure Volume ¹ | | |
|-------------|-----------------|-------------|-------------------------|------------------------|--------------|------------|-------------------------|------------------------|---------------------------------|-------------------------|-------------------------|
| | No. | Amount | % Change from Prior Yr. | % Change from Base Yr. | No. | Amount | % Change from Prior Yr. | % Change from Base Yr. | Amount | % Change from Prior Yr. | % Change from Base Year |
| Base 2006 | 219 | 69,308,920 | | | 122 | 16,654,758 | | | 12,645,331 | | |
| 2007 | 217 | 63,058,847 | -9.0% | -9.0% | 120 | 11,436,003 | -31.3% | -31.3% | 11,736,587 | -7.2% | -7.2% |
| 2008 | 274 | 91,400,387 | 44.9% | 31.9% | 126 | 14,631,997 | 27.9% | -12.1% | 12,129,731 | 3.3% | -4.1% |
| 2009 | 312 | 126,584,577 | 38.5% | 82.6% | 139 | 13,706,844 | -6.3% | -17.7% | 12,426,357 | 2.4% | -1.7% |
| 2010 | 344 | 185,350,701 | 46.4% | 167.4% | 152 | 17,374,461 | 26.8% | 4.3% | 15,117,369 | 21.7% | 19.5% |
| 2011 | 288 | 113,086,144 | -39.0% | 63.2% | 136 | 18,072,893 | 4.0% | 8.5% | 17,629,987 | 16.6% | 39.4% |
| 2012 | 340 | 207,378,461 | 83.4% | 199.2% | 140 | 18,149,913 | 0.4% | 9.0% | 14,819,675 | -15.9% | 17.2% |
| 2013 | 345 | 148,079,871 | -28.6% | 113.7% | 146 | 25,121,063 | 38.4% | 50.8% | 18,379,939 | 24.0% | 45.3% |
| 2014 | 376 | 165,351,904 | 11.7% | 138.6% | 159 | 32,993,647 | 31.3% | 98.1% | 21,722,725 | 18.2% | 71.8% |
| 2015 | 379 | 241,028,388 | 45.8% | 247.8% | 194 | 34,283,312 | 3.9% | 105.8% | 28,663,914 | 32.0% | 126.7% |

¹Source: Sponsored Programs and Research Accounting files

Figure 7.2

**Worcester Polytechnic Institute
Ten-Year Historical Summary of Sponsored Program Activity (Net of Congressional Funding)
FY2006 (Base Year) to FY2015**

| Fiscal Year | Proposal Volume | | | | Award Volume | | | | Expenditure Volume ¹ | | |
|-------------|-----------------|-------------|-------------------------|------------------------|--------------|------------|-------------------------|------------------------|---------------------------------|-------------------------|-------------------------|
| | No. | Amount | % Change from Prior Yr. | % Change from Base Yr. | No. | Amount | % Change from Prior Yr. | % Change from Base Yr. | Amount | % Change from Prior Yr. | % Change from Base Year |
| Base 2006 | 215 | 65,188,920 | | | 117 | 10,661,472 | | | 9,917,665 | | |
| 2007 | 216 | 62,219,847 | -4.6% | -4.6% | 120 | 11,436,003 | 7.3% | 7.3% | 9,254,134 | -6.7% | -6.7% |
| 2008 | 272 | 89,692,387 | 44.2% | 37.6% | 123 | 12,084,997 | 5.7% | 13.4% | 11,240,643 | 21.5% | 13.3% |
| 2009 | 311 | 124,379,627 | 38.7% | 90.8% | 139 | 13,706,844 | 13.4% | 28.6% | 11,519,641 | 2.5% | 16.2% |
| 2010 | 344 | 185,350,701 | 49.0% | 184.3% | 151 | 17,129,461 | 25.0% | 60.7% | 13,957,224 | 21.2% | 40.7% |
| 2011 | 287 | 112,152,541 | -39.5% | 72.0% | 134 | 17,019,290 | -0.6% | 59.6% | 16,889,260 | 21.0% | 70.3% |
| 2012 | 339 | 205,980,461 | 83.7% | 216.0% | 139 | 16,751,913 | -1.6% | 57.1% | 14,372,751 | -14.9% | 44.9% |
| 2013 | 345 | 148,079,871 | -28.1% | 127.2% | 146 | 25,121,063 | 50.0% | 135.6% | 17,589,880 | 22.4% | 77.4% |
| 2014 | 376 | 165,351,904 | 11.7% | 153.7% | 159 | 32,993,647 | 31.3% | 209.5% | 20,892,204 | 18.8% | 110.7% |
| 2015 | 379 | 241,028,388 | 45.8% | 269.7% | 194 | 34,283,312 | 3.9% | 221.6% | 28,663,914 | 37.2% | 189.0% |

¹Source: Sponsored Programs and Research Accounting files

Appendix: Historical and Supplementary Data

Figure A.1: Proposal/Award \$ Volumes (including Congressional funding)

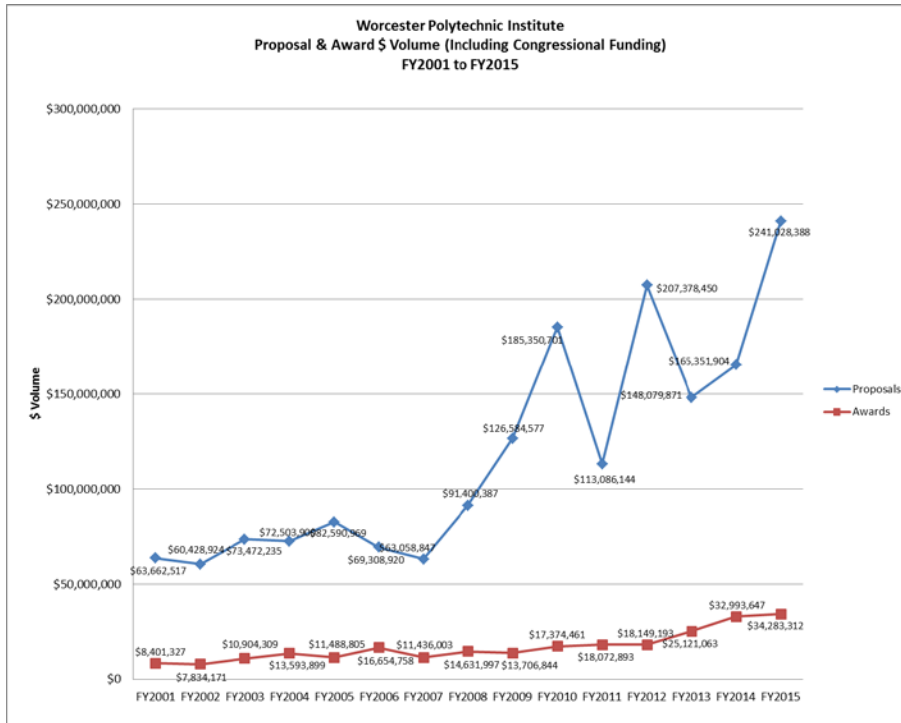


Figure A.2: Proposal/Award Counts (including Congressional funding)

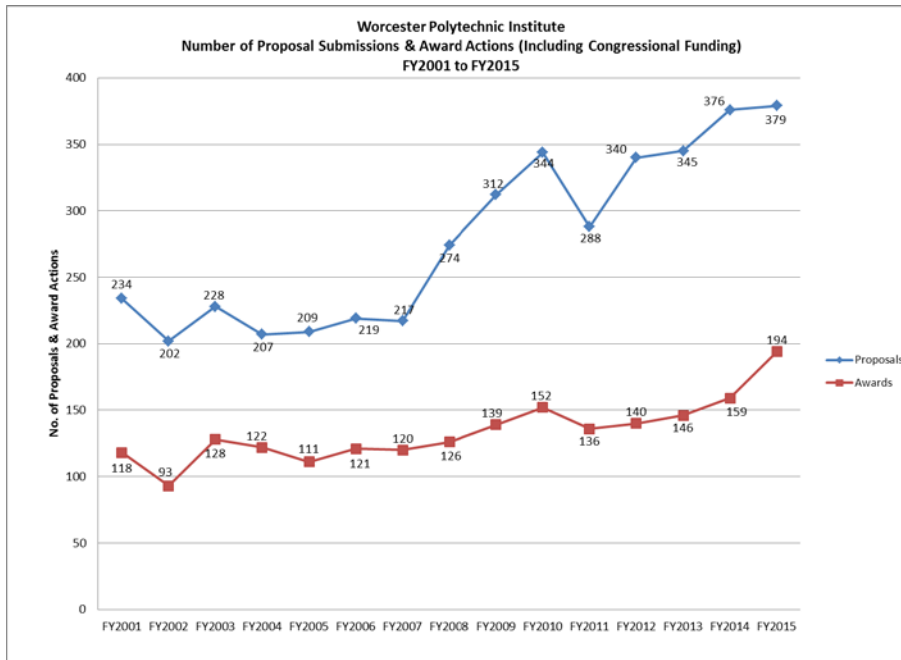


Figure A.3: Proposal/Award \$ Volumes (net of Congressional funding)

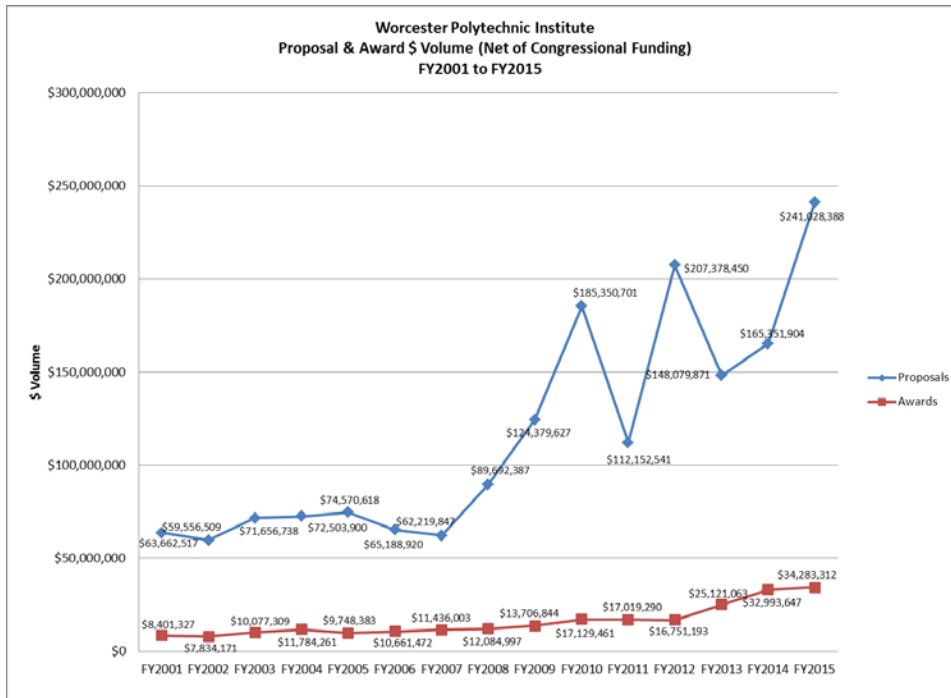


Figure A.4: Proposal/Award Counts (net of Congressional funding)

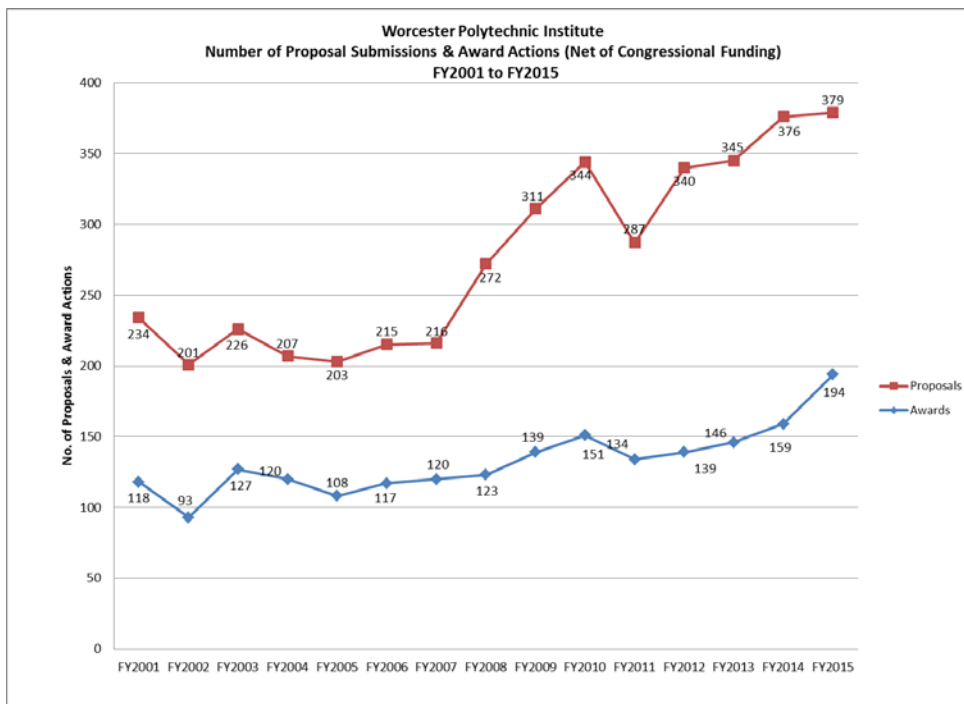
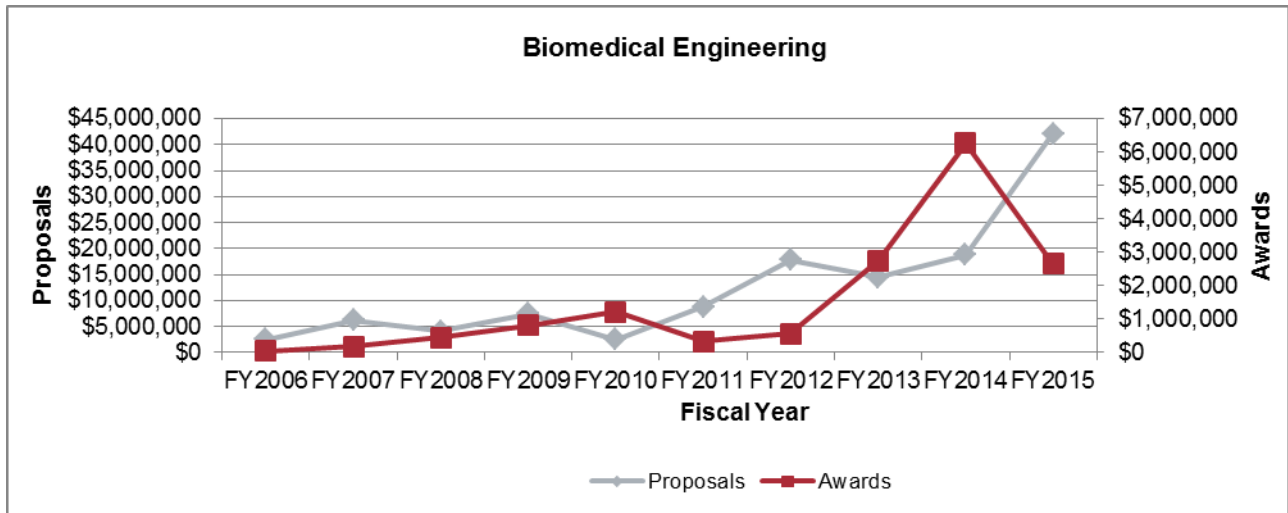
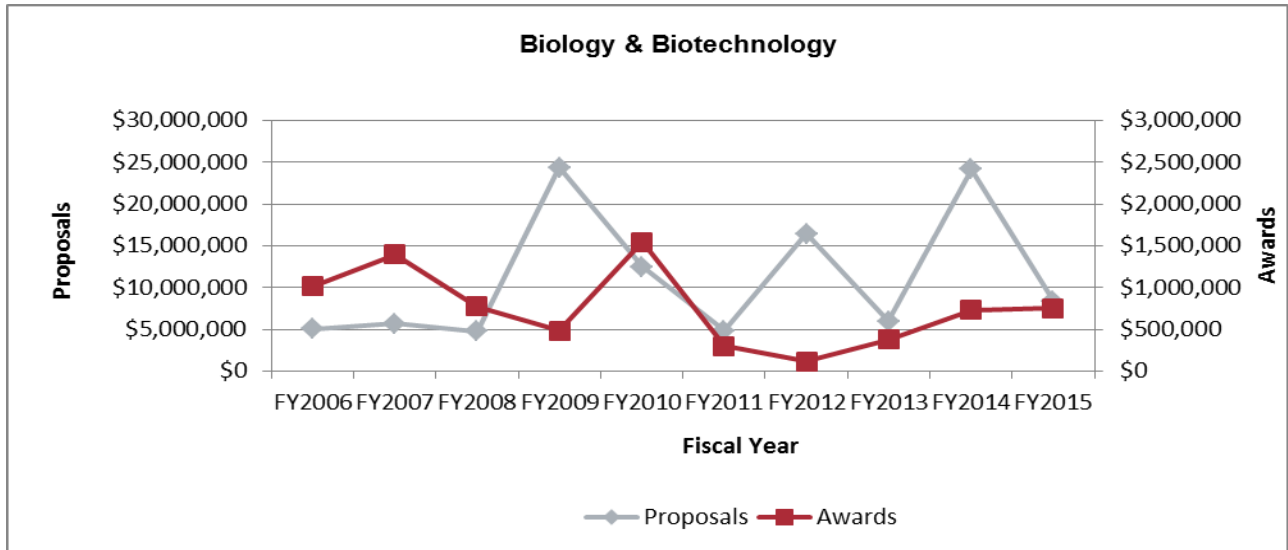
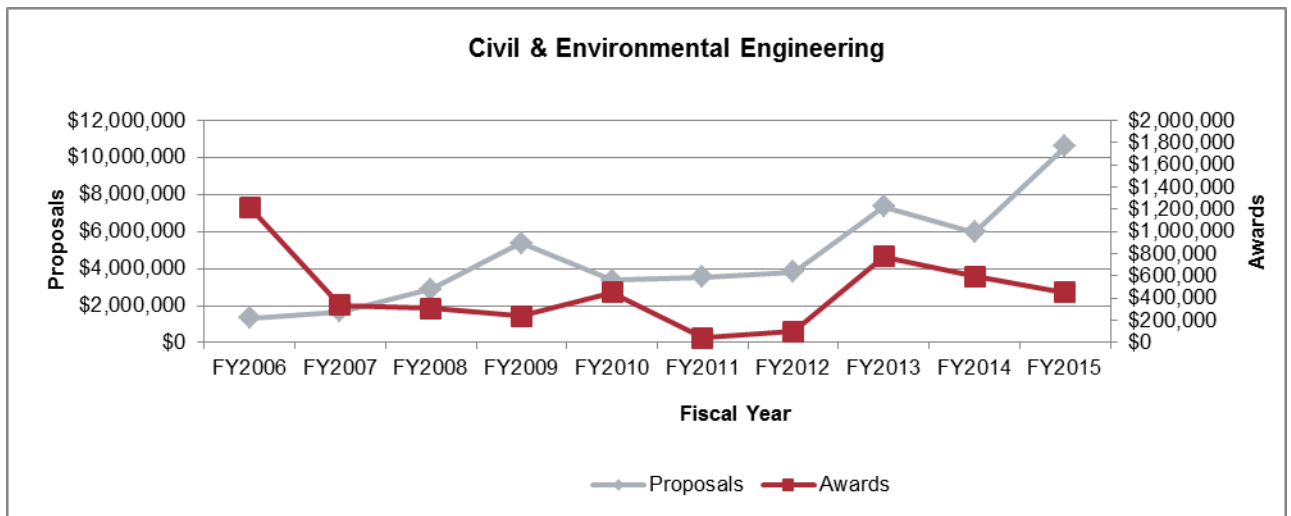
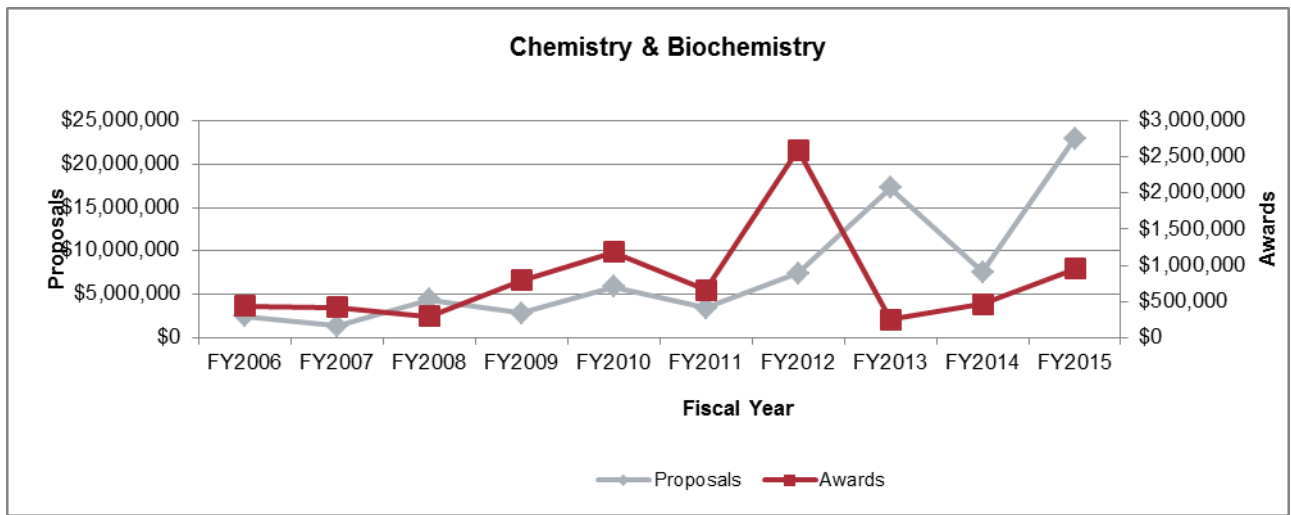
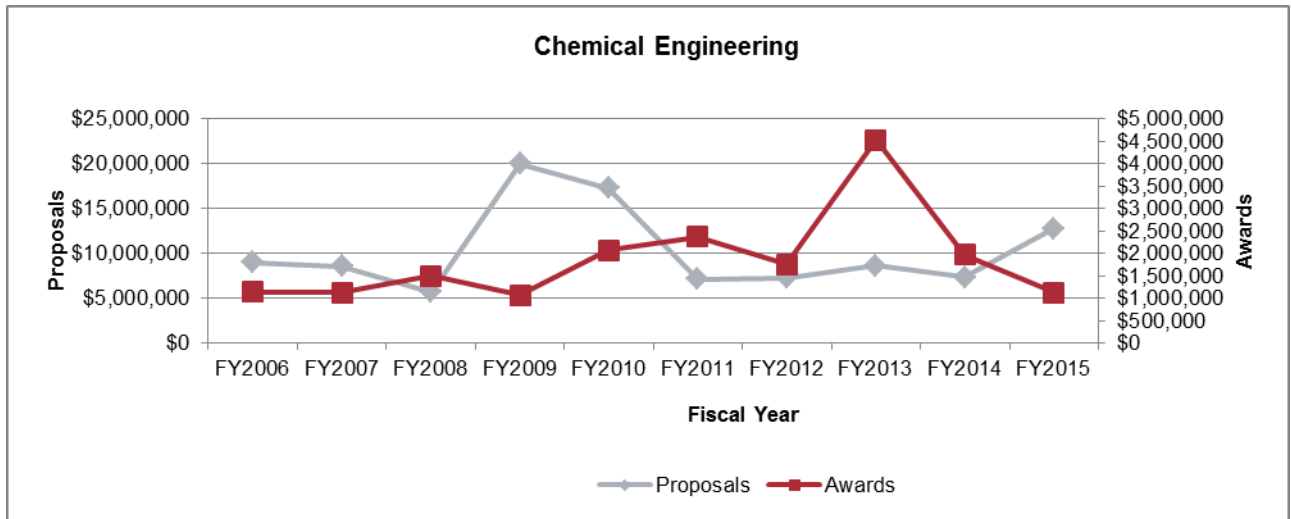
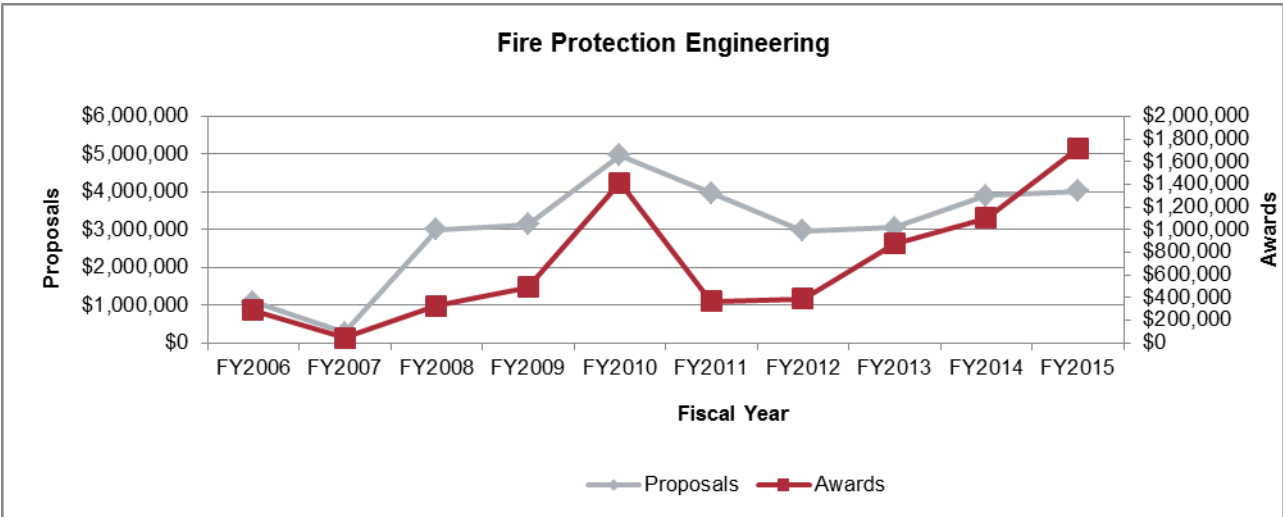
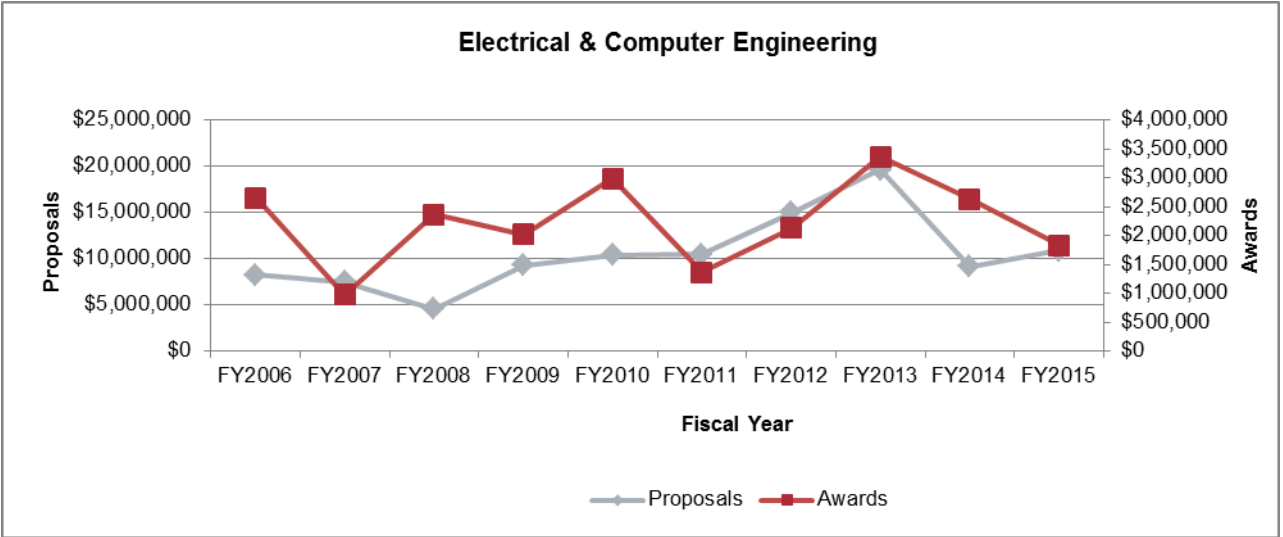
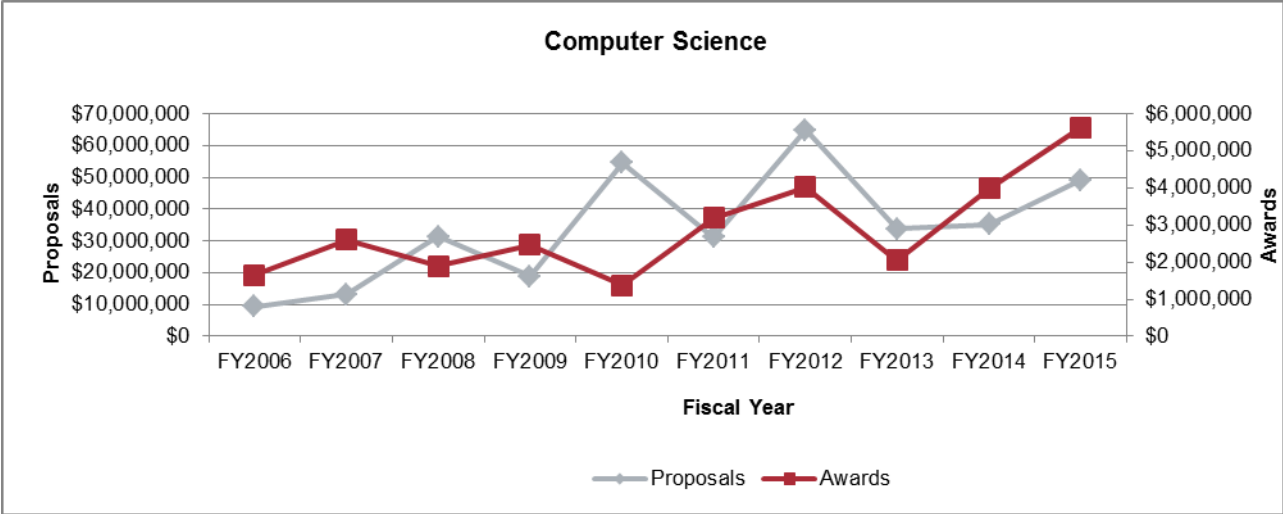
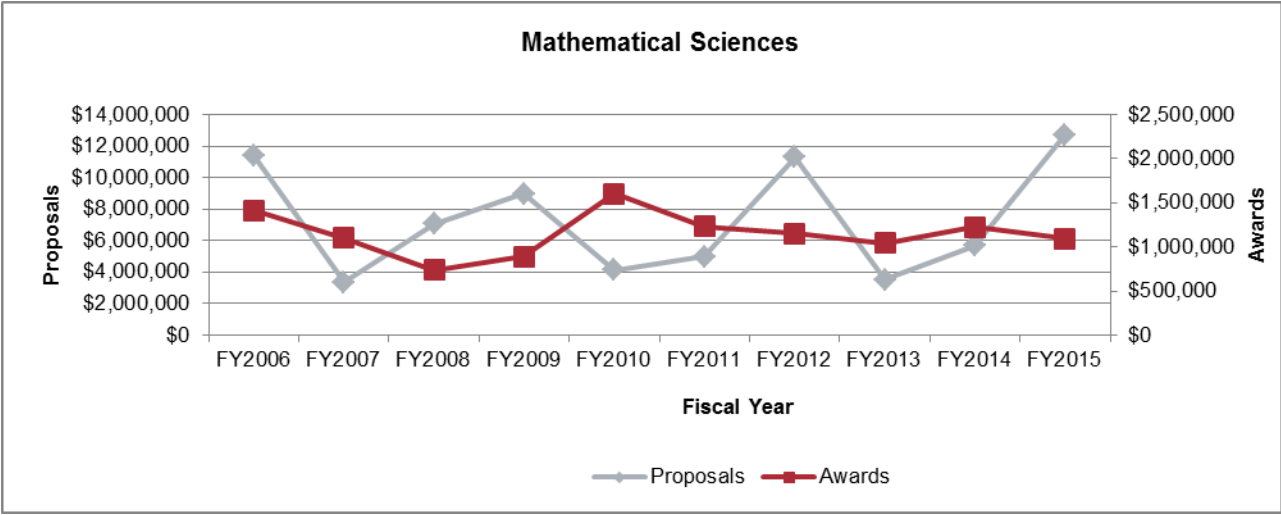
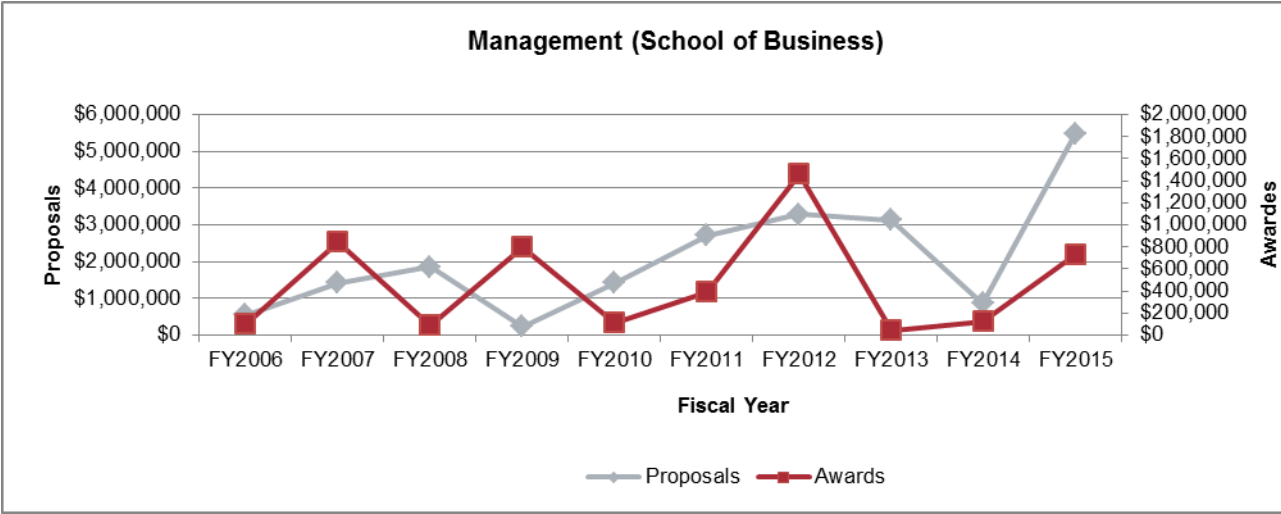
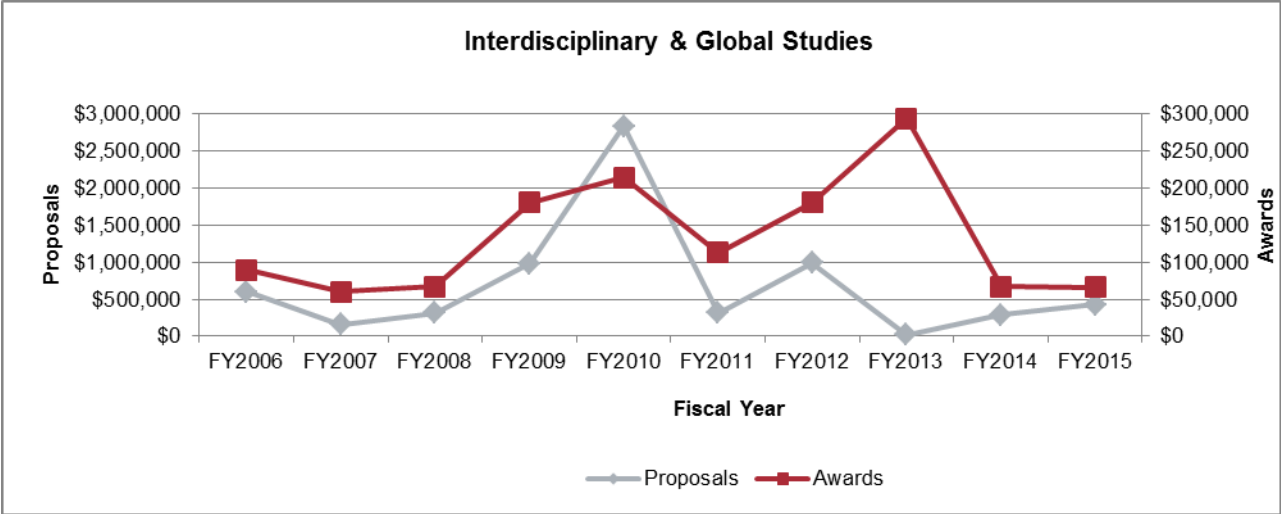


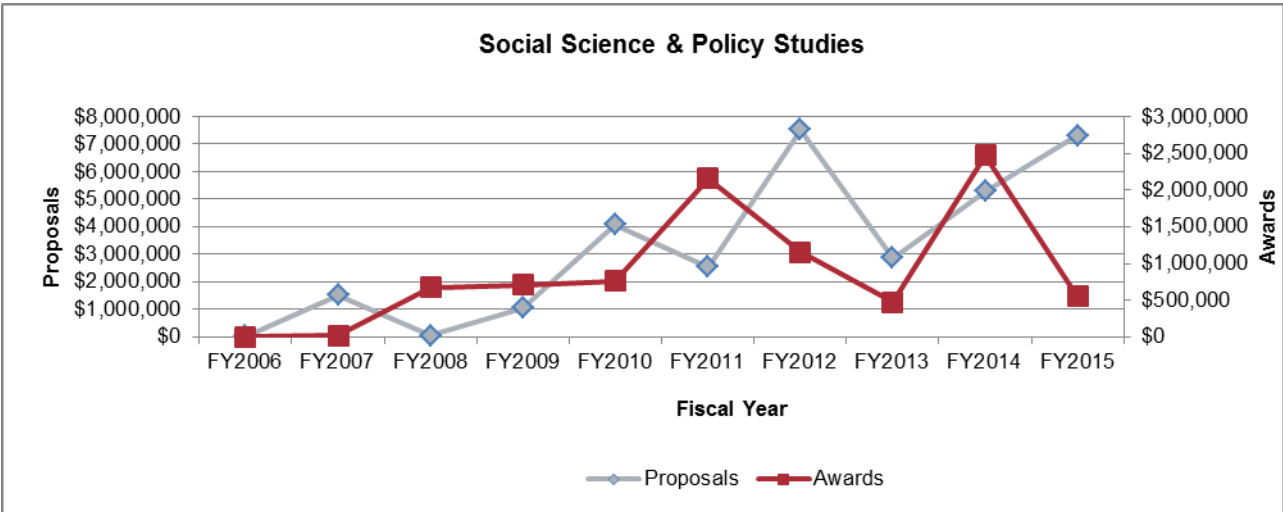
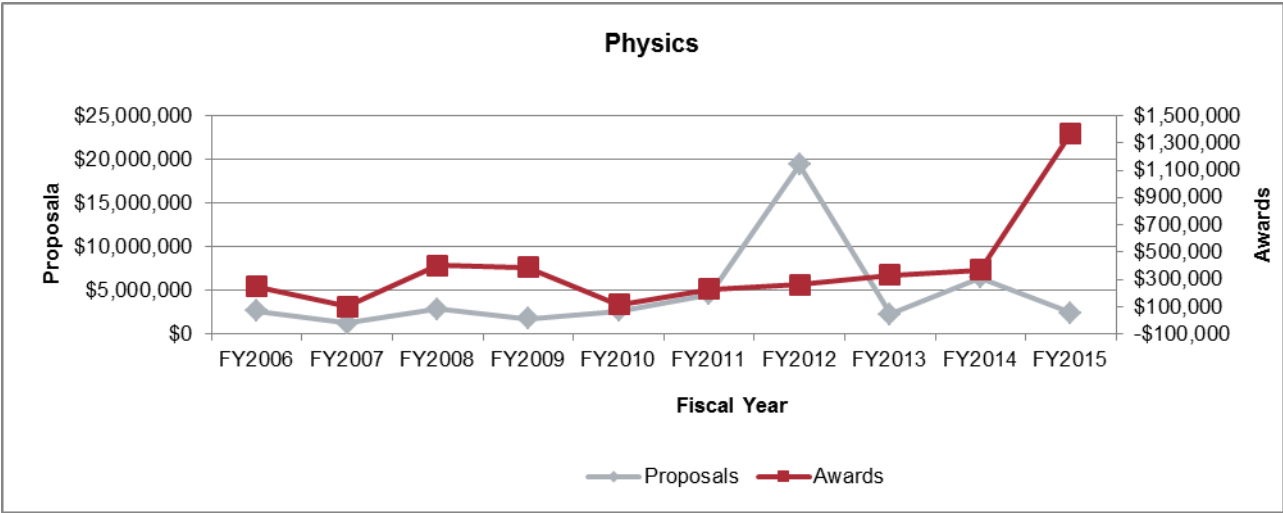
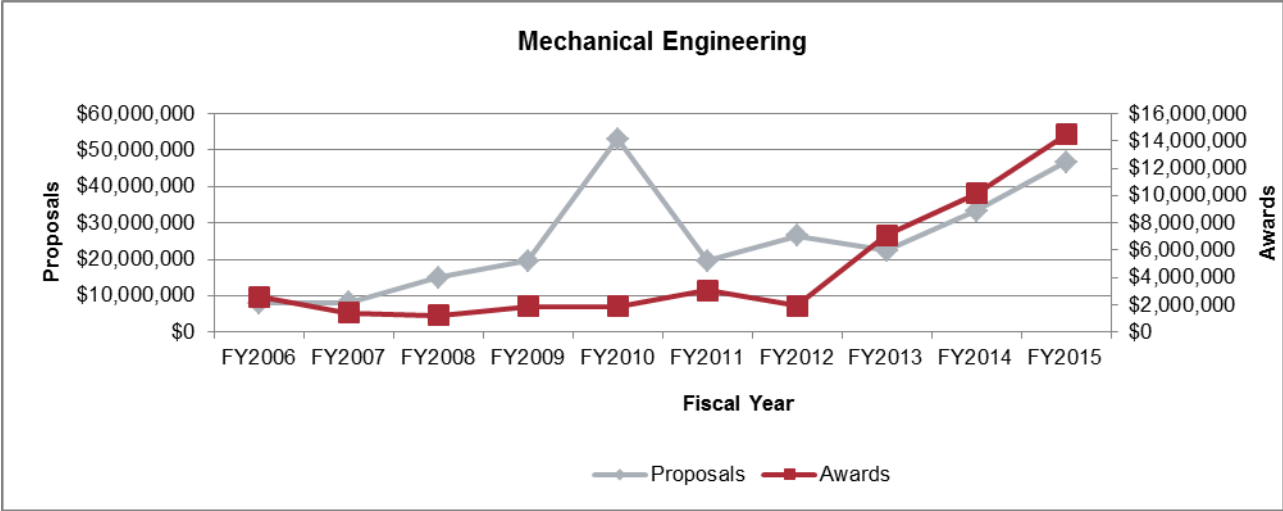
Figure A.5: Ten-year departmental proposal/award trends

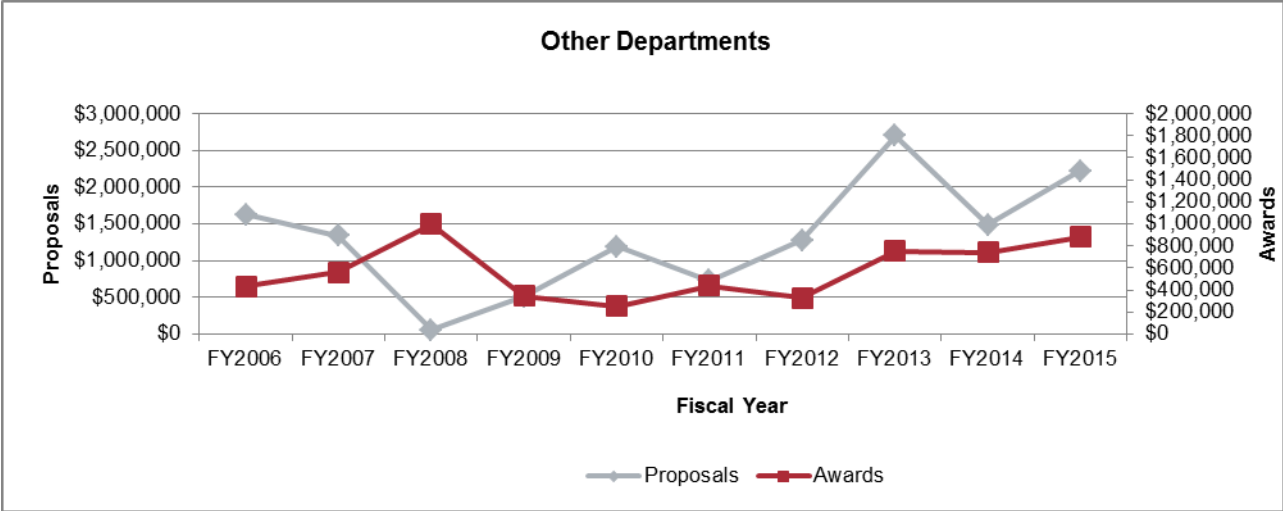












**AWARDS RECEIVED
BIOLOGY
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|--|---|---|------------------|
| Buckholt, Michael Allan | Constance Clark, Laura Robinson Hanlan, Jill Rulfs | 2014 NSF-SENCER Post Institute Implementation Award | Harrisburg University of Science and Technology | \$ 3,000 |
| Vidali, Luis | | CAREER: Role of Plant Myosin XI in Polarized Secretion and Actin Dynamics | National Science Foundation | \$ 240,062 * |
| Hegedus, Roy D. | | E. coli Fermentation | Novo Biosolutions Inc | \$ 14,300 |
| Easson, David D. | | E.coli Fermentation | Xtal BioStructures, Inc. | \$ 18,150 ** |
| Manning, Amity L. | | Manipulating chromosomes structure to suppress genome stability | National Institutes of Health | \$ 249,000 |
| Hegedus, Roy D. | | Nitrosomonas Fermentation Development | AOBiome | \$ 200,744 *** |
| Easson, David D. | | Pichia fermentation scale-up #3 | Thermalin Diabetes, LLC | \$ 25,175 ** |
| Total (22) | | | | \$750,431 |

* This award total reflects 2 increments.

**This award total reflects 3 increments.

*** This award total reflects 11 increments.

**AWARDS RECEIVED
BIOMEDICAL ENGINEERING
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|-------------------|--|---|--------------------|
| Billiar, Kristen | | Combatting retraction in tissue engineered heart valves | National Institutes of Health | \$ 450,593 |
| Billiar, Kristen | Helen G. Vassallo | REU Site: Integrated Bioengineering Research, Education, and Outreach Experiences for Females and Underrepresented Minorities at WPI | National Science Foundation | \$ 134,688 |
| Chon, Ki H. | | Assessment of the Autonomic Nervous System Utilizing Principal Dynamic Mode Analysis During Mental, Physical and Hyperbaric Stress | Office of Naval Research | \$ 98,531 * |
| Chon, Ki H. | | Development of a prototype data logger for underwater ECG monitoring | Office of Naval Research | \$ 50,000 |
| Chong, Jo Woon | Zheyang Wu | Arrhythmia Detection Using a Smart Phone | National Institutes of Health | \$ 388,706 |
| Gaudette, Glenn R. | | A template for multi-disciplinary team-based problem solving, design and assessment | Saint Louis University | \$ 6,257 |
| Gaudette, Glenn R. | George D Pins | Biological Sutures to Enhance Progenitor Cell Delivery and Retention in the Heart | National Institutes of Health | \$ 382,394 |
| Gaudette, Glenn R. | | Kern Entrepreneurial Engineering Network Proposal: Developing the Entrepreneurial Engineer | Kern Family Foundation | \$ 488,500 |
| Su, Ming | | CAREER: Biosensing in Thermal Space | National Science Foundation | \$ 165,533 * |
| Troy, Karen | Zheyang Wu | A Prospective Study of Human Bone Adaptation Using a Novel In-Vivo Loading Model | National Institutes of Health | \$ 405,580 |
| Troy, Karen | | Skeletal and clinical effects of exoskeleton assisted gait | Spaulding Rehabilitation Hospital in Boston | \$ 77,214 |
| Total (14) | | | | \$2,647,996 |

* These award totals each reflect 2 increments.

**AWARDS RECEIVED
CHEMICAL ENGINEERING
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|--|--|-----------------------------|--------------------|
| Camesano, Terri Anne | Francis Hoy | AMProtection | VentureWell | \$ 5,000 |
| Camesano, Terri Anne | Kristen Billiar, Glenn R. Gaudette, Francis Hoy, Marsha W. Rolle | IGERT: Training Innovative Leaders in Biofabrication | National Science Foundation | \$ 602,163 * |
| Timko, Michael T. | Geoffrey Tompsett | Chemicals from SCW treatment of crude or refinery streams | MIT | \$ 149,978 |
| Timko, Michael T. | | Systems biology towards a continuous platform for biofuels production | MIT | \$ 141,856 |
| Timko, Michael T. | | The role of phase behavior in Fischer-Tropsch product distributions: Supercritical Fluid Studies | American Chemical Society | \$ 110,000 |
| Zhou, Hong Susan | | Factor VIII Detection | Biogen | \$ 19,374 |
| Total (7) | | | | \$1,028,371 |

* This award total reflects 2 increments

**AWARDS RECEIVED
CHEMISTRY
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|-----------------|--|-------------------------------|------------------|
| Dempski, Robert E. | | The Molecular Determinants of Zinc Uptake mediated by hZIP4 | National Institutes of Health | \$ 286,184 |
| Emmert, Marion H | N Aaron Deskins | Electrophilic amination reagents for Pd & Cu catalyzed non-directed C-H amination | National Institutes of Health | \$ 346,561 |
| Gericke, Arne | Qi Wen | Physical chemistry of the spatiotemporal regulation of protein function through phosphoinositide domains and gradients | National Science Foundation | \$ 320,000 |
| Total (3) | | | | \$952,745 |

**AWARDS RECEIVED
CIVIL & ENVIRONMENTAL ENGINEERING
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|---|-----------------|---|-------------------------------------|------------------|
| Bergendahl, John Andrew Mallick, Rajib B. | | Advanced oxidation via ACT Hydrocavitation Technology | Triton Systems, Inc. | \$ 99,420 |
| | | Hot Mix Asphalt Intermediate Layer with Rap, Rejuvenator and Warm Mix Asphalt Technology | Department of Transportation - ME | \$ 39,899 |
| Mathisen, Paul P. | | Assessing the effectiveness of a biofiltration facility and associated groundwater flow in protecting water quality of a water supply reservoir | University of Massachusetts Amherst | \$ 24,873 |
| Rahbar, Nima | | CAREER: Mechanics of Bioinspired Multilayered Structures | National Science Foundation | \$ 4,617 |
| Sakulich, Aaron R. | | FY 2015 Summer Undergraduate Research Fellowship | NIST | \$ 17,685 |
| Sakulich, Aaron R. | Tahar El-Korchi | IRES:Environmental Impact of the Panama Canal Expansion Program | National Science Foundation | \$ 248,275 |
| Sakulich, Aaron R. | Amy M. Peterson | Self-healing coatings for steel reinforced concrete | US Environmental Protection Agency | \$ 14,982 |
| Tao, Mingjiang | | Collaborative Research: An Integrated Experimental and Computational Multiscale Study of Geopolymers for Next Generation Soil Improvement | National Science Foundation | \$ 10,000 |
| Van Dessel, Steven | | Automated process for the fabrication of highly customized thermally insulated cladding systems | PolyCel Inc. | \$ 90,000 |
| Total (9) | | | | \$549,751 |

**AWARDS RECEIVED
COMPUTER SCIENCE
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|--|--|--|---------------|
| Berenson, Dmitry | | DarWiN: Disturbance-robust Whole-body Navigation planning for shipboard firefighting humanoid robots | Office of Naval Research | \$ 117,717 |
| Berenson, Dmitry | | NRI: Small: Collaborative Research: Adaptive Motion Planning and Decision-Making for Human-Robot Collaboration in Manufacturing | National Science Foundation | \$ 49,987 |
| Berenson, Dmitry | Taskin Padir | RAPID: Robot-assisted doffing of personal protective equipment | National Science Foundation | \$ 75,243 |
| Chernova, Sonia | | CAREER: Towards the Development of Robots that Learn from Everyday People | National Science Foundation | \$ 99,009 |
| Chernova, Sonia | | Multi-representational learning from demonstration through sequential user study development | Office of Naval Research | \$ 256,261 * |
| Dougherty, Daniel J. | | SHF: Medium: A Balance of Power: Programming and reasoning for software-defined networks | Brown University | \$ 21,697 |
| Fisler, Kathryn | | Bootstrap: Code.Org | Brown University | \$ 20,030 |
| Fisler, Kathryn | Susan Landau, Craig A. Shue, Craig E Wills | Scholarship Track: Scholarships for Service at WPI | National Science Foundation | \$ 1,542,503 |
| Gennert, Michael A. | Allen H. Hoffman, John M. Sullivan | Patient Motion Detection and Compensation in SPECT | University of Massachusetts Medical School | \$ 9,274 |
| Gennert, Michael A. | Taskin Padir | Systems, Software and Simulation: Meeting the DARPA Robotics Challenge | Defense Advanced Research Projects Agency | \$ 500,000 |
| Heffernan, Neil | | Adding Research Accounts to the ASSISTments' Platform: Helping researchers do randomized controlled studies with thousands of students | National Science Foundation | \$ 486,209 |
| Heffernan, Neil | Joseph E. Beck | Building an Effective and Efficient OPEN Tutor Platform for Multiple Populations | University of Massachusetts Amherst | \$ 286,871 |
| Heffernan, Neil | | Efficacy of ASSISTments: Evaluation of a Computer-Supported Nightly Homework and Reporting System | SRI International | \$ 551,724 * |
| Heffernan, Neil | Matthew O. Ward | Fellowships in Computer Science to Support the Learning Sciences and Security | US Dept. of Education | \$ 187,836 |
| Heffernan, Neil | | Improving Formative Assessment Practices: Using Learning Trajectories to Develop Resources that Support Teacher Instructional Practice and Student Learning CMP2 | University of Illinois - Chicago | \$ 86,004 |
| Heffernan, Neil | | Making Math Tutors More Engaging and Effective Through Interaction Design Patterns and Educational Data Mining | Columbia University | \$ 246,042 * |
| Heffernan, Neil | | National Center for Cognitive and Mathematics Instruction (NCCMI) | WestEd | \$ 106,888 |
| Lindeman, Robert W. | | Wind and Vibration Feedback 4-D Subsystems for the ExxonMobil Icube | ExxonMobile Research Qatar, Limited | \$ 5,000 |
| Rich, Charles | Dmitry Berenson, Sonia Chernova, Candace L. Sidner | Collaborative Robot Learning from Demonstration Using Hierarchical Task Networks and Attributive Motion Planning | Office of Naval Research | \$ 380,091 ** |

| | | | | |
|-------------------|---|-----------------------------|----|--------------------|
| Shue, Craig A. | Enhancing choreographer for DHS Transition to Practice Program | UT-Battelle LLC | \$ | 41,015 |
| Shue, Craig A. | Joint faculty agreement university-based | UT-Battelle LLC | \$ | 13,558 |
| Shue, Craig A. | TWC: Small: Managing user-level compromises in enterprises networks | National Science Foundation | \$ | 453,735 |
| Shue, Craig A. | WPI Contract to Allied Minds for field testing the Choreographer Research Project | Allied Minds | \$ | 94,677 * |
| Total (29) | | | | \$5,631,371 |

*These award totals each reflect 2 increments

**This award total reflects 3 increments

**AWARDS RECEIVED
ELECTRICAL & COMPUTER ENGINEERING
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount | |
|-------------------------------|---|---|---------------------------------------|--------------------|----|
| Brown, Donald R. | | Arrays at Commercial Timescales: Techniques Development and Analysis | Raytheon BBN Technologies Corporation | \$ 175,361 | * |
| Duckworth, R. James | David Cyganski | Field Assessment of First Responder Location Technology | US Dept. of Interior | \$ 149,999 | |
| Duckworth, R. James | David Cyganski | Three-Dimensional Modeling to Support Indoor Location- Real-Time Image Capture System, PHASE 3 | Airbus Defence and Space SAS | \$ 118,500 | ** |
| Eisenbarth, Thomas | | CAREER: Practical Leakage Resilience: Provable Side-Channel Resistance for Embedded Systems | National Science Foundation | \$ 111,198 | ** |
| Huang, Xinming | | Collaborative Research: Practical signal design for interference management in wireless communication networks | National Science Foundation | \$ 202,000 | ** |
| Huang, Xinming | | Technology for sustainable growth of wireless communication capacity | University of Colorado | \$ 80,000 | |
| Lai, Lifeng | | CAREER: Building Secure Wireless Communication Systems via Physical Layer Resources | National Science Foundation | \$ 54,531 | |
| Lai, Lifeng | | CCSS: Collaborative: Developing a physical channel based lightweight authentication system for wireless body area networks | National Science Foundation | \$ 148,416 | |
| Lai, Lifeng | | Information Theory Enabled Secure Wireless Networking: Scaling Laws, Network Control, and Implementation | Qatar University | \$ 28,908 | |
| Lai, Lifeng | | WiFiUS: Collaborative Research: Sequential inference and learning for agile spectrum use | National Science Foundation | \$ 135,000 | |
| McNeill, John A. | | REU Supplement: An Efficient Framework for Channel State Dissemination and Network Synchronization | National Science Foundation | \$ 16,000 | |
| McNeill, John A. | | Semiconductor Device Characterization III | Allegro MicroSystems, LLC | \$ 23,680 | |
| Padir, Taskin | Sonia Chernova, Michael A. Gennert, Jeanine LM Skorinko | RAPID: Realization of a medical cyber-physical system to enhance safety of Ebola workers | National Science Foundation | \$ 200,000 | |
| Virani, Shamsnaz S. | | Systems Engineering Analysis of VHA Policy | U.S. Dept. of Veterans Affairs | \$ 76,576 | |
| Wyganski, Alexander | | Assessment of proposed preamble for next generation broadcast platform | Coherent Logix, Inc. | \$ 3,140 | |
| Wyganski, Alexander | | CAN: Use of Space Communications and Navigation (SCaN) Testbed: A Communications, Navigation, and Networking Reconfigurable Testbed | NASA | \$ 47,520 | |
| Wyganski, Alexander | | Reconfigurable wireless platforms for spectrally agile coexistence | ORB Analytics | \$ 56,090 | ** |
| Wyganski, Alexander | | WiFiUS: Collaborative Research: Future small-cell networks using reconfigurable antennas | National Science Foundation | \$ 90,161 | |
| Total (23) | | | | \$1,717,080 | |

*These award totals each reflect 3 increments

**These award totals reflect 2 increments

**AWARDS RECEIVED
FIRE PROTECTION ENGINEERING
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|---------------------|---|---|--------------------|
| Meacham, Brian Jay | | The Environmental Impact of Fire | Fire Protection Research Foundation | \$ 25,000 |
| Notarianni, Kathy Ann | Raymond T Ranellone | Community risk assessment | CFAI-Risk, Inc. | \$ 147,620 |
| Rangwala, Ali S. | | A novel experimental approach to enhance burning of oil-water emulsions by immersed objects | US Dept. of Interior | \$ 565,010 |
| Rangwala, Ali S. | | Burning behavior of crude oil in ice cavities - II | US Dept. of Interior | \$ 772,545 |
| Rangwala, Ali S. | | Development of a numerical model for gas and dust explosions | West Virginia Univ. | \$ 69,938 |
| Rangwala, Ali S. | | In-Situ Burning of Oils on Ice for Improved Environmental Emergency Management in the Arctic Region | Technical University of Denmark dba DTU | \$ 139,256 |
| Total (6) | | | | \$1,719,369 |

**AWARDS RECEIVED
HUMANITIES
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|----------------|---|------------------------------|----------------|
| Manzo, Vincent Joseph | | Interactive mobile applications for music | FM Kirby Foundation, Inc. | \$ 7,000 |
| Total (1) | | | | \$7,000 |

AWARDS RECEIVED
IGSD
JULY 1, 2014 TO JUNE 30, 2015

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|----------------|---|------------------------|-----------------|
| Clancy, Edward A. | Richard F. Vaz | 2014 Implementation of a WPI Project Center at MIT Lincoln Laboratory | MIT Lincoln Laboratory | \$ 65,948 |
| Total (1) | | | | \$65,948 |

**AWARDS RECEIVED
MATHEMATICAL SCIENCES
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|---|---|--------------------------------|--------------------|
| Capogna, Luca | | Topics in quasiconformal mapping and subelliptic PDE | National Science Foundation | \$ 84,852 |
| Fehribach, Joseph D. | Burt S. Tilley, Suzanne L. Weekes | Collaborative Research: Expanding Links with Industry through Collaborative Research and Education in Applied Mathematics | National Science Foundation | \$ 7,164 |
| Larsen, Christopher J. | | New Variational Methods for Quasi-static and Dynamic Material Defect Evolution | National Science Foundation | \$ 115,669 |
| Martin, William J. | Randy Clinton Paffenroth | Systems of Lines: Applications of algebraic combinations | National Science Foundation | \$ 25,000 |
| Nandram, Balgobin | | Bayesian nonignorable nonresponse and selection models for small areas | Simons Foundation | \$ 35,000 |
| Nandram, Balgobin | | Small area estimation at USDA's National Agriculture Statistics Service | US Department of Agriculture | \$ 122,401 |
| Olson, Sarah D | | CAREER: Numerical methods and biomechanical models for sperm motility | National Science Foundation | \$ 147,196 |
| Olson, Sarah D | | Collaborative Research: Computational models of cilia and flagella in a Brinkman fluid | National Science Foundation | \$ 150,000 |
| Sarkis-Martins, Marcus | | Domain decomposition methods for interface problems | Simons Foundation | \$ 35,000 |
| Tang, Dalin | | Vulnerable Plaques: Data, Modeling, Predictions and Clinical Applications | National Institutes of Health | \$ 7,000 |
| Tilley, Burt S. | | High Temperature Aquifer Energy Storage | Technical University Munich | \$ 225,000 |
| Weekes, Suzanne L. | Burt S. Tilley | REU Site: Research Experience for Undergraduates in Industrial Mathematics and Statistics | National Science Foundation | \$ 128,948 |
| Zou, Jian | | Leveraging integrated electronic data sources to improve population health assessment at local levels | Trustees of Indiana University | \$ 10,501 |
| Total (13) | | | | \$1,093,731 |

**AWARDS RECEIVED
MECHANICAL ENGINEERING
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|---|---|---|----------------|
| Apelian, Diran | | American Lightweight Materials Manufacturing Innovation Institute (ALMMII) | ALMMII | \$ 90,000 |
| Apelian, Diran | | Collaborative Research: Center for Resource Recovery & Recycling | National Science Foundation | \$ 25,000 |
| Apelian, Diran | | Supersonic laser cladding applications and Aaron Birt's Ph.D. project | IPG Photonics Corporation | \$ 235,540 |
| Bar-On, Isa | Christopher A. Brown, Selcuk Gucer, Sharon Johnson, Jianyu Liang, Richard D. Sisson | GAANN: Leaders in Advanced Manufacturing and Healthcare System Innovation | US Dept. of Education | \$ 140,877 |
| Bar-On, Isa | Khalid Saeed | System dynamics modeling for Lean enterprise deployment | U.S. Dept. of Veterans Affairs | \$ 79,097 |
| Brown, Christopher A. | | Development of processing and inspection procedures for class 6, metal-to-metal seals | Metso Corporation | \$ 66,286 |
| Cowlagi, Raghvendra V. | | Real-time safety assured autonomous aircraft | Aurora Flight Sciences Corporation | \$ 37,389 |
| Demetriou, Michael A. | Nikolaos A. Gatsonis | Detection of a Moving Gas Source and Estimation of its Concentration with a Sensing Aerial Vehicle: Integration of Theoretical Controls and Computational Fluid | Air Force Office of Scientific Research | \$ 135,503 |
| Fischer, Gregory S. | | Enabling Technologies for MRI-Guided Prostate Interventions | Brigham & Women's Hospital | \$ 159,276 |
| Fischer, Gregory S. | | Interactive training of teleoperated robotic systems for real-time MRI-guided steerable needle intervention | Link Foundation | \$ 28,000 |
| Fischer, Gregory S. | Reinhold Ludwig, Zheyang Wu | MR-Guided Precision Conformal Ablation Therapy for Brain Tumors | National Institutes of Health | \$ 1,187,946 * |
| Furlong-Vazquez, Cosme | | Computer-based Holography and Middle Ear Function | ***Duplicate**(use C03087201) | \$ 157,114 |
| Furlong-Vazquez, Cosme | | Study of a viability of IR imaging with fiber optic bundles | BWXT Pantex, LLC. | \$ 189,336 |
| Gatsonis, Nikolaos A. | | A Multiscale Particle Computational Method for Chemically Reacting Microplasmas | Air Force Office of Scientific Research | \$ 114,532 |
| Lados, Diana A. | | A novel method for manufacturing ceramic-reinforced metal matrix composites using liquid metal processing | National Science Foundation | \$ 423,783 |
| Lados, Diana A. | | CAREER: On the Engineering of Light Metals for Enhanced Dynamic Properties and Fatigue Performance | National Science Foundation | \$ 105,005 |
| Liu, Yuxiang | Qi Wen | Optical chopsticks for multidimensional cellular mechanics study | National Science Foundation | \$ 461,857 * |
| Mishra, Brajendra | Diran Apelian, Marion H Emmert, Yan Wang | Collaborative Research: I/UCRC Phase II: Center for Resource Recovery & Recycling | National Science Foundation | \$ 98,550 |
| Panchapakesan, Balaji | | Bioelastomer Function, Dynamics and Synthesis | University of Louisville | \$ 40,145 |

| | | | | | | |
|-----------------------|--|---|-------------------------------------|----|---------------------|-----|
| Panchapakesan, Balaji | | GOALI: Elastic Wave Resonators | National Science Foundation | \$ | 161,847 | |
| Panchapakesan, Balaji | | Scalable nanomanufacturing of graphene based composites with controllable properties | National Science Foundation | \$ | 191,531 | *** |
| Sisson, Richard D. | Diran Apelian, Marion H Emmert, Jianyu Liang, Makhoulf, Yan Wang | Center for Thermomechanical Processing of Materials by Design | US Army | \$ | 9,769,275 | |
| Wang, Yan | | Advanced electrolyte and electrolyte additive for lithium-ion battery | Argonne National Laboratory | \$ | 40,000 | |
| Wang, Yan | | Air Option 1: AIR Technology Translation - Lithium Ion Batter Recycling: From laboratory research to industrial commercialization | National Science Foundation | \$ | 4,674 | |
| Wang, Yan | | Collaborative Research: Battery electrode fabrication through innovative powder based additive manufacturing | National Science Foundation | \$ | 150,000 | |
| Wang, Yan | | I-Corps: A closed loop process for recycling spent lithium ion battery | National Science Foundation | \$ | 50,000 | |
| Wang, Yan | | Iron production via flow electrolysis | Massachusetts Clean Energy Center | \$ | 40,000 | |
| Yagoobi, Jamal | | Pool boiling heat transfer characteristics of enhanced surfaces | United Technologies Research Center | \$ | 73,500 | |
| Yagoobi, Jamal | | Study of micro/nano scale EHD-driven flow distribution control and heat transfer enhancement for thermal control system | NASA | \$ | 221,455 | ** |
| Total (26) | | | | | \$14,477,518 | |

* This award total reflects 2 increments

** This award total reflects 4 increments

*** This award total reflects 3 increments

**AWARDS RECEIVED
PHYSICS
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|--|---|--|--------------------|
| Iannacchione, Germano S. | David Christopher Medich, Richard D. Sisson | WPI Nuclear Science and Engineering Faculty Development Plan | U.S. Nuclear Regulatory Commission | \$ 367,022 |
| Medich, David Christopher | Germano S. Iannacchione, Peter Quinn Miraglia, Richard D. Sisson | WPI Nuclear Science and Engineering Fellowship Program | U.S. Nuclear Regulatory Commission | \$ 400,000 |
| Medich, David Christopher | Germano S. Iannacchione, Peter Quinn Miraglia, Richard D. Sisson | WPI Nuclear Science and Engineering Scholarship Program | U.S. Nuclear Regulatory Commission | \$ 196,022 |
| Quimby, Richard S. | | A Dy/fluoroindate fiber laser in the 4 um region | Government of Israel | \$ 100,000 |
| Stroe, Izabela RC | Germano S. Iannacchione, David Christopher Medich, Peter Quinn Miraglia | Curriculum Development for Worcester Polytechnic Institute's Nuclear Science and Engineering Program | U.S. Nuclear Regulatory Commission | \$ 197,682 |
| Tuzel, Erkan | | Kinesin and +TIP Based Microtubule Steering | Pennsylvania State University | \$ 110,082 |
| Total (6) | | | | \$1,370,808 |

**AWARDS RECEIVED
SCHOOL OF BUSINESS
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|--------------------------------|---|--|------------------|
| Hoy, Francis | | Coleman Foundation Faculty Entrepreneurship Fellows Program | Coleman Foundation | \$ 22,000 |
| Hoy, Francis | Gina M. Betti | Coleman Foundation Faculty Entrepreneurship Fellows Program | Coleman Foundation | \$ 22,000 |
| Johnson, Sharon | Renata Konrad, Bengisu Tulu | A logic-based tool for improving access | U.S. Dept. of Veterans Affairs | \$ 148,500 |
| Johnson, Sharon | Isa Bar-On, Bengisu Tulu | VERC training evaluation and assessment instrument task order | U.S. Dept. of Veterans Affairs | \$ 136,220 |
| Tulu, Bengisu | Emmanuel O. Agu | Feasibility Trial of a Problem-Solving Weight Loss Mobile Application | University of Massachusetts Medical School | \$ 31,645 |
| Tulu, Bengisu | Emmanuel O. Agu, Tsung-Yi Wang | RELAX: A mobile application suite targeting obesity and stress | University of Massachusetts Medical School | \$ 221,228 |
| Tulu, Bengisu | | TJR Guru: A mobile app for shared informed decision making in Total Joint Replacement Surgery | Agency for Healthcare Research and Quality | \$ 149,949 |
| Total (7) | | | | \$731,542 |

**AWARDS RECEIVED
SOCIAL SCIENCE AND POLICY STUDIES
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|------------------|--|------------------------------------|------------------|
| Gobert, Janice | Ryan Shaun Baker | The Development of an Intelligent Pedagogical Agent for Physical Science Inquiry Driven by Educational Data Mining | US Dept. of Education | \$ 524,531 |
| Krueger, Robert | Kristin Boudreau | Women, Water, and Development in Morocco: A classroom simulation | Engineering Information Foundation | \$ 24,544 |
| Skorinko, Jeanine LM | | Where do we look during potentially offensive behavior? | Center for Open Science | \$ 1,200 |
| Total (3) | | | | \$550,275 |

**AWARDS RECEIVED
OTHER DEPARTMENTS
JULY 1, 2014 TO JUNE 30, 2015**

| Principal Investigator | CoPI(s) | Project Title | Sponsor | Amount |
|-------------------------------|--------------------------------------|---|-------------------------------------|------------------|
| Camesano, Terri Anne | | Graduate Research Fellowship Program | National Science Foundation | \$ 151,333 * |
| Clancy, Edward A. | Richard F. Vaz | 2014 Implementation of a WPI Project Center at MIT Lincoln Laboratory | MIT Lincoln Laboratory | \$ 65,948 |
| Adams, Theresa Schmidt | Martha Cyr | Expanding STEM in Grades K-12 in MA using PLTW Curriculum Programs | Linde Family Foundation | \$ 100,000 |
| Borowski, Maria | | ExxonMobil Bernard Harris Science Summer Camp 2015 | Harris Foundation | \$ 80,000 |
| Camesano, Terri Anne | Gregory A. Snoddy | Louis Stokes Alliance for Minority Participation Phase III Grant | University of Massachusetts Amherst | \$ 66,000 |
| Cesar, Gregory | Stacy Chiaramonte, Rachel I. LeBlanc | Systems Engineering Graduate Certificate Program | US Army | \$ 8,000 |
| Cyr, Martha | Mia Dubosarsky, Melissa-Sue John | Seeds of STEM: The development of an innovative pre-kindergarten STEM curriculum | US Dept. of Education | \$ 432,022 |
| Dubosarsky, Mia | | LEGO & VEX Robotics for Educators | University of Massachusetts Amherst | \$ 4,732 |
| Dubosarsky, Mia | | Scale, Proportion & Quantity: Integrated STEM Course for teachers of grades 5-8 | Fitchburg Public Schools | \$ 25,062 |
| Richey, Katherine J | | Building Coalitions to Foster Change on College Campuses: A Four Campus Coordinated Multilevel Violence Prevention and Intervention Program | Clark University | \$ 5,500 |
| Weaver, Shari | | Bio-simulation Workshop for Educators | University of Massachusetts Amherst | \$ 3,000 |
| Total (9) | | | | \$941,597 |

* This award total reflects 3 increments

* This award total reflects 2 increments