Research & Economic Development

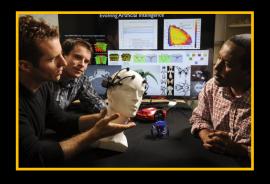
Annual Report

External Awards

and

Economic Development Snapshot

FY 2016







University of Wyoming

In fiscal year 2016, the University of Wyoming received \$95,839,018 million in external awards from federal, state and industrial sources. This funding is the result of great work performed by UW faculty and staff and represents their competitiveness in an increasingly competitive environment for external awards.

These awards support all the University's key missions of research, teaching and service. The Office of Research and Economic Development (ORED) joins the campus community in celebrating how these awards support students, create new knowledge and new applications of existing knowledge, enhance the research infrastructure and support to the University's core service and research missions to the State of Wyoming.

This year's report contains the standard external sponsored program funding using historic methodologies for determining the \$95.84 million. This allows direct comparison to prior years' data. In addition, we show Direct Student Loans which UW now administers as a result of federal legislation shifting student loans from private lenders to the student's academic institution, this year there was approximately \$43 million in such funding. Direct Student Loans are not included in the \$95 million reported as external awards.

The Office of Research and Economic Development congratulates all campus members receiving external funding in the current highly competitive environment. Through your hard work, UW's reputation grows and our constituents' benefit. It is the ORED's pleasure to serve the campus community in this important work.

William A. Gern, Vice President

William libere-

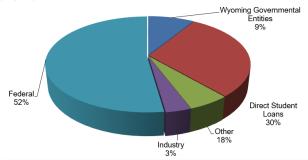
Research & Economic Development

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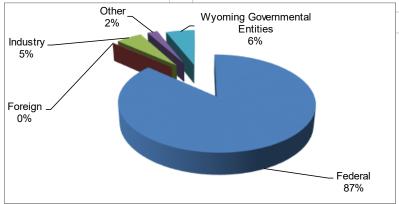
Awards by Sponsor

| PONSOR | NEW AWARDS | AMENDMENTS | TOTAL AWARDED AMOUNT |
|--|---------------|------------|----------------------|
| FEDERAL & FEDERAL PASS-THROUGH | | | |
| Corporation for National and Community Service | 1 | - | 84,510 |
| Department of Agriculture | 39 | 14 | 6,259,014 |
| Department of Commerce | 6 | 1 | 1,749,488 |
| Department of Defense | 3 | 8 | 1,614,249 |
| Department of Education | 6 | 29 | 12,353,249 |
| Department of Energy | 12 | 14 | 6,030,146 |
| Department of Health and Human Services | 19 | 34 | 16,714,435 |
| Department of Homeland Security | 3 | 1 | 132,169 |
| Department of Interior | 37 | 41 | 5,503,513 |
| Department of Justice | 3 | - | 250,279 |
| Department of State | _ | 1 | 196,180 |
| Department of Transportation | 16 | 6 | 2,990,402 |
| Environmental Protection Agency | 4 | - | 339,976 |
| Federal Communications Commission | _ | 1 | 62,40 |
| National Aeronautics and Space Administration | 8 | 9 | 1,518,277 |
| National Endowment for the Arts & Humanities | 2 | - | 9,000 |
| National Science Foundation | 23 | 25 | 14,370,025 |
| National Security Agency | 2 | - | 101,098 |
| Small Business Administration | 2 | 1 | 824,773 |
| Total Federal | 186 | 185 | 71,103,190 |
| NON-FEDERAL | | | |
| Foreign | 3 | 1 | 480,013 |
| Industry | 32 | 37 | 4,685,173 |
| Other | 62 | 96 | 7,640,97 |
| Wyoming Governmental Entities | 78 | 17 | 11,929,67 |
| Total Non-Federal | 175 | 151 | 24,735,828 |
| TOTAL FEDERAL & NON-FEDERAL | 361 | 336 | 95,839,018 |
| DIRECT STUDENT LOANS | 1 | - | 40,601,85 |
| GRAND TOTAL | 362 | 336 | 136,440,87 |



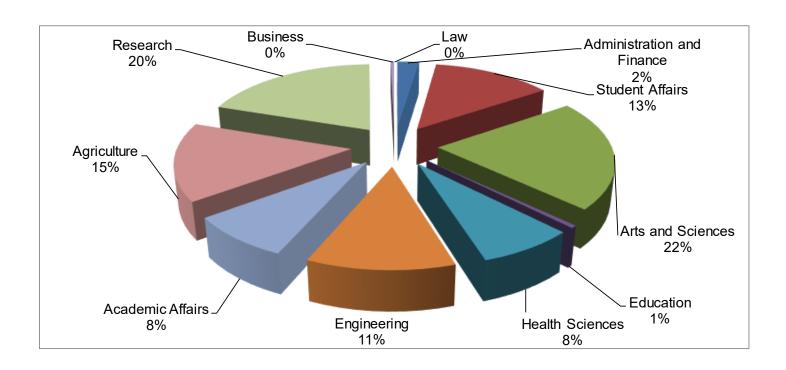
Expenditures by Sponsor

| SPONSOR | TOTAL EXPENDITURES | | | | |
|--|--------------------|--|--|--|--|
| FEDERAL | | | | | |
| Agency for International Development | 1,870 | | | | |
| Corporation for National and Community Service | 81,306 | | | | |
| Department of Agriculture | 5,851,116 | | | | |
| Department of Commerce | 1,378,243 | | | | |
| Department of Defense | 1,512,464 | | | | |
| Department of Education | 57,588,961 | | | | |
| Department of Energy | 4,672,169 | | | | |
| Department of Health and Human Services | 14,083,627 | | | | |
| Department of Homeland Security | 47,305 | | | | |
| Department of Interior | 28,635,326 | | | | |
| Department of Justice | 151,247 | | | | |
| Department of State | 194,786 | | | | |
| Department of Transportation | 2,440,633 | | | | |
| Environmental Protection Agency | 183,902 | | | | |
| Federal Communications Commission | 15,316 | | | | |
| Institute for Environment Conflict | 4,879 | | | | |
| National Aeronautics and Space Administration | 2,146,227 | | | | |
| National Endowment for the Arts and Humanities | 18,981 | | | | |
| National Science Foundation | 16,475,774 | | | | |
| Small Business Administration | 850,923 | | | | |
| Total Federal | 136,335,055 | | | | |
| NON-FEDERAL | | | | | |
| Foreign | 174,840 | | | | |
| Industry | 8,411,612 | | | | |
| Other | 3,278,565 | | | | |
| Wyoming Governmental Entities | 9,313,926 | | | | |
| Total Non-Federal | 21,178,943 | | | | |
| | | | | | |
| Wyoming Governmental GRAND TOTAL Entities | 157,513,998 | | | | |

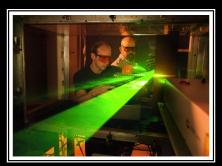


Awards to Organizational Unit

| ORGANIZATIONAL UNIT | NEW AWARDS | AMENDMENTS | TOTAL AWARDED AMOUNT |
|--|---------------|------------|----------------------|
| College of Agriculture & Natural Resources | 79 | 57 | 14,633,511 |
| College of Arts & Sciences | 123 | 78 | 20,619,979 |
| College of Business | 2 | 2 | 362,369 |
| College of Education | 1 | 3 | 475,423 |
| College of Engineering | 44 | 38 | 10,948,141 |
| College of Health Sciences | 24 | 34 | 7,276,254 |
| College of Law | - | - | - |
| Office of Academic Affairs | 32 | 22 | 8,000,862 |
| Office of Administration & Finance | 8 | 2 | 2,300,597 |
| Office of Research | 32 | 68 | 18,637,915 |
| Office of Student Affairs | 16 | 32 | 12,583,967 |
| TOTAL FEDERAL & NON-FEDERAL | 361 | 336 | 95,839,018 |
| DIRECT STUDENT LOANS | 1 | - | 40,601,856 |
| GRAND TOTAL | 362 | 336 | 136,440,874 |

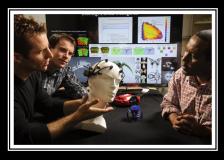


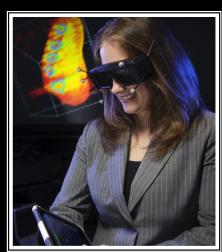
AWARDS by COLLEGE



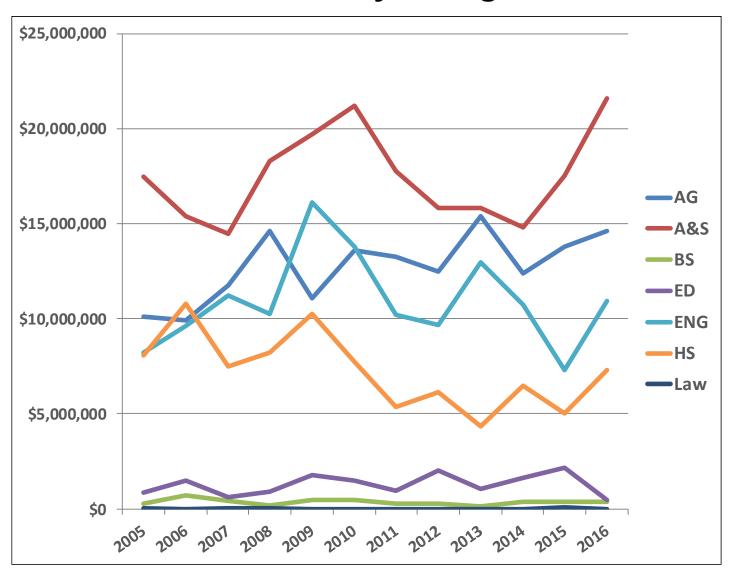








Awards by College



Highest Academic Department Awards by College:

| Agriculture: (AG) - Animal Science | \$3,649,879 |
|---|-------------|
| Arts & Sciences (A&S) - Zoology | \$4,383,872 |
| Business (BS) - Economics & Finance | \$ 362,369 |
| Education (ED) - Secondary Education | \$ 451,557 |
| Engineering (ENG) - Civil & Architectural | \$3,962,785 |
| Health Sciences (HS) - Kinesiology & Health | \$1,658,019 |

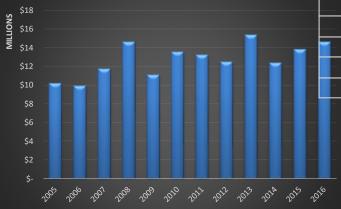
College of Agriculture & Natural Resources

| DEPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|------------------------------------|------------|-------------|----------------------------|
| Agricultural and Applied Economics | 477,571 | 52,712 | 530,283 |
| Agricultural Experiment Station | 143,239 | 405,848 | 549,087 |
| Animal Science | 3,345,432 | 304,447 | 3,649,879 |
| Cooperative Extension Service | 584,304 | 111,134 | 695,438 |
| Dean's Office | | | - |
| Ecosystem Science & Management | 1,502,982 | 590,868 | 2,093,850 |
| Family and Consumer Sciences | 2,120,175 | 500 | 2,120,675 |
| Molecular Biology | 2,998,859 | - | 2,998,859 |
| Plant Sciences | 849,734 | 372,795 | 1,222,529 |
| Veterinary Sciences | 693,841 | 59,070 | 752,911 |
| | 12,716,137 | 1,897,374 | 14,613,511 |

2016 Invention & Software Disclosures: 2

Note: the total federal award column does not include the federal formula funds we received as a land-grant institution.

| | _, , | ., | , | |
|-----|------------|----------------------|----------------------|----------------------------|
| SP | ONSOR | | | TOTAL AWARDED AMOUNT |
| FEI | DERAL | | | |
| | Agency for | r International Deve | lopment | |
| | Departme | nt of Agriculture | | 5,647,130 |
| | Departme | nt of Defense | | |
| | Departme | nt of Health and Hu | man Services | 4,991,362 |
| | Departme | nt of Interior | | 1,021,434 |
| | Departme | nt of Justice | | 57,960 |
| | Departme | nt of State | | 196,180 |
| | Environme | ental Protection Age | ency | 47,000 |
| | National S | cience Foundation | | 755,071 |
| | | | Total Federal | 12,716,137 |
| NO | N-FEDER | AL | | |
| | Foreign | | | 147,188 |
| | Industry | | | 470,506 |
| | Other | | | 420,076 |
| | Wyoming | Governmental Entit | ies | 859,604 |
| | | To | otal Non-Federal | 1,897,374 |
| | | | | |
| | | | GRAND TOTAL | 14,613,511 |
| | | | | |





College of Arts & Sciences

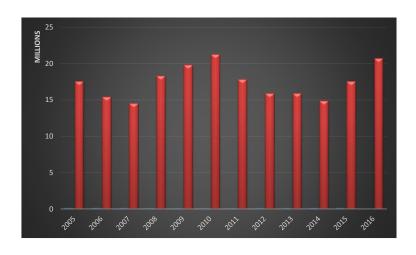
| DEPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|-------------------------------------|------------|-------------|----------------------------|
| African American & Diaspora Studies | - | - | - |
| American Indian Studies | - | - | - |
| American Studies | - | 10,000 | 10,000 |
| Anthropology & Frison Institute | 385,480 | 238,920 | 624,400 |
| Art | - | - | - |
| Botany | 1,497,664 | 46,133 | 1,543,797 |
| Chemistry | 749,970 | 16,000 | 765,970 |
| Communications & Journalism | - | - | - |
| Criminal Justice | - | - | - |
| Cultural Programs | 2,000 | - | 2,000 |
| English | - | 5,000 | 5,000 |
| Gender & Women's Studies | - | - | - |
| Geography | - | 182,209 | 182,209 |
| Geology & Geophysics | 2,106,944 | 115,725 | 2,222,669 |
| Global & Area Studies | _ | - | - |
| History | - | - | - |
| Latina/o Studies | - | 9,000 | 9,000 |
| Life Sciences Program | | - | - |
| Mathematics | 535,678 | 7,000 | 542,678 |
| Modern & Classical Languages | _ | _ | - |
| Music | _ | 5,283 | 5,283 |
| Philosophy | _ | _ | - |
| Physics and Astronomy | 663,396 | 8,600 | 671,996 |
| Political Science | - 000,000 | - 0,000 | - |
| Psychology | 8,330 | 24,021 | 32,351 |
| Religious Studies | - 0,000 | 750 | 750 |
| Sociology | 72,000 | - | 72,000 |
| Statistics | 180,311 | _ | 180,311 |
| Theatre and Dance | - | 11,349 | 11,349 |
| WYSAC | 1,810,878 | 7,543,466 | 9,354,344 |
| Zoology and Physiology | 3,402,858 | 981,014 | 4,383,872 |
| , , , | 11,415,509 | 9,204,470 | 20,619,979 |



College of Arts & Sciences continued

| SPONSOR | TOTAL AWARDED AMOUNT |
|---|----------------------------|
| FEDERAL | |
| Department of Agriculture | 314,794 |
| Department of Commerce | 152,602 |
| Department of Defense | 386,168 |
| Department of Energy | 700,731 |
| Department of Health and Human Services | 2,131,481 |
| Department of Interior | 2,115,072 |
| Department of Justice | 187,347 |
| National Aeronautics and Space Administration | 215,829 |
| National Endowment for the Arts & Humanities | 2,000 |
| National Science Foundation | 5,167,678 |
| National Security Agency | 11,106 |
| Total Federal | 11,384,808 |
| NON-FEDERAL | |
| Foreign | 53,175 |
| Industry | 425,582 |
| Other | 4,992,111 |
| Wyoming Governmental Entities | 3,764,303 |
| Total Non-Federal | 9,235,171 |
| | |
| GRAND TOTAL | 20,619,979 |

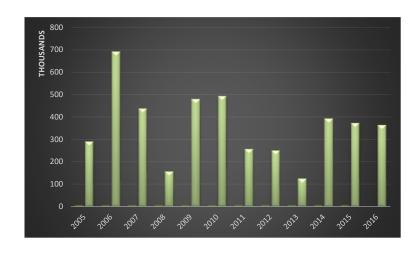
2016 Invention & Software Disclosures: 4



College of Business

| DEPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|------------------------|---------|-------------|----------------------------|
| Accounting | - | - | - |
| Economics and Finance | - | 362,369 | 362,369 |
| Management & Marketing | - | - | - |
| MBA Program | - | - | - |
| _ | - | 362,369 | 362,369 |

| SPONSOR | TOTAL AWARDED AMOUNT |
|-------------------------------|----------------------------|
| FEDERAL | |
| Total Federal | - |
| NON-FEDERAL | |
| Industry | 10,000 |
| Other | 246,819 |
| Wyoming Governmental Entities | 105,550 |
| Total Non-Federal | 362,369 |
| GRAND TOTAL | 362,369 |

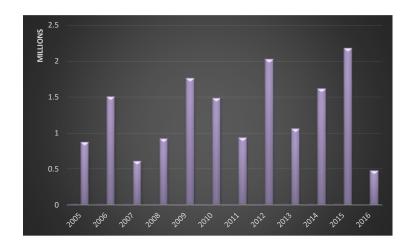




College of Education

| DEPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|--|---------|-------------|----------------------------|
| Curriculum & Instruction | - | - | - |
| Educational Studies | - | - | - |
| Elementary & Early Childhood Education | - | - | - |
| Professional Studies | - | - | - |
| Science-Math Teaching Center | 23,866 | - | 23,866 |
| Secondary Education | 451,557 | - | 451,557 |
| | 475,423 | - | 475,423 |

| | ONSOR DERAL | TOTAL AWARDED AMOUNT |
|----|-------------------------|----------------------------|
| | Department of Education | 475,423 |
| | Total Federal | 475,423 |
| | | |
| NO | N-FEDERAL | |
| | | |
| | Total Non-Federal | - |
| | | |
| | GRAND TOTAL | 475,423 |





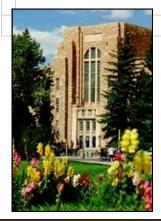
College of Engineering

| DEPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|-------------------------------------|-----------|-------------|----------------------------|
| Atmospheric Science | 3,694,782 | - | 3,694,782 |
| Chemical and Petroleum Engineering | 721,021 | 1,131,910 | 1,852,931 |
| Civil and Architectural Engineering | 3,220,373 | 742,412 | 3,962,785 |
| Computer Science | 280,900 | - | 280,900 |
| Engineering Dean | 506 | - | 506 |
| Electrical and Computer Engineering | 236,372 | - | 236,372 |
| Mechanical Engineering | 833,465 | 86,400 | 919,865 |
| | 8,987,419 | 1,960,722 | 10,948,141 |

| | TOTAL AWARDED |
|---|---------------|
| SPONSOR | AMOUNT |
| FEDERAL | |
| Department of Agriculture | 25,728 |
| Department of Commerce | 488,373 |
| Department of Defense | 235,558 |
| Department of Energy | 1,962,204 |
| Department of Health and Human Services | 24,307 |
| Department of Interior | 112,505 |
| Department of Transportation | 1,607,524 |
| Environmental Protection Agency | 116,616 |
| National Aeronautics and Space Administration | 1,002,448 |
| National Science Foundation | 3,562,156 |
| Total Federal | 9,137,419 |
| NON-FEDERAL | |
| Foreign | - |
| Industry | 547,899 |
| Other | 870,142 |
| Wyoming Governmental Entities | 392,681 |
| Total Non-Federal | 1,810,722 |
| | |

2016 Invention & Software Disclosures: 10

GRAND TOTAL 10,948,141

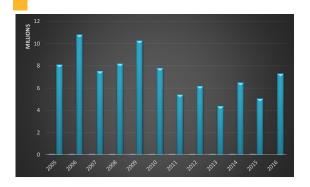


College of Health Sciences

| DEPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|---|-----------|-------------|----------------------------|
| Communication Disorders | 47,393 | - | 47,393 |
| Health Science Dean's Office | 530,685 | - | 530,685 |
| Kinesiology & Health | 1,348,369 | 309,650 | 1,658,019 |
| Medical Education & Public Health & WWAMI/GME | 112,966 | 6,552 | 119,518 |
| Nursing | 8,457 | 58,510 | 66,967 |
| Pharmacy | 240,813 | 722,934 | 963,747 |
| Social Work | - | - | - |
| WIND | 3,004,507 | 885,418 | 3,889,925 |
| | 5,293,190 | 1,983,064 | 7,276,254 |

| SPONSOR | TOTAL AWARDED AMOUNT |
|---|----------------------|
| FEDERAL | |
| Department of Agriculture | |
| Department of Education | 209,137 |
| Department of Health and Human Services | 4,986,342 |
| Department of Interior | 35,304 |
| Federal Communications Commission | 62,407 |
| Total Federal | 5,293,190 |
| NON-FEDERAL | |
| Foreign | 279,650 |
| Industry | 575,000 |
| Other | 95,998 |
| Wyoming Governmental Entities | 1,032,416 |
| Total Non-Federal | 1,983,064 |
| | |
| GRAND TOTAL | 7,276,254 |

2016 Invention & Software Disclosures: 5



Notes:

INBRE is reported under the Office of Research & Economic Development

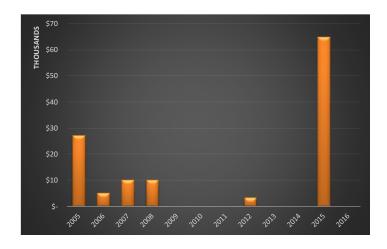


College of Law

| D | EPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|---|----------------|---------|-------------|----------------------------|
| | College of Law | | | - |
| | | | - - | - |
| | | | | |
| | | | | |
| | | | | |

| SPONSOR | TOTAL AWARDED AMOUNT |
|-------------------|----------------------------|
| FEDERAL | |
| Total Federal | |
| NON-FEDERAL | |
| | |
| | |
| | |
| Total Non-Federal | - |
| GRAND TOTAL | - |



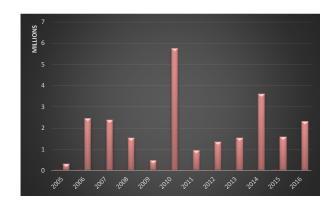


AWARDS by ADMINISTRATIVE UNIT

Administration and Finance

| DEPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|---------------------|-----------|-------------|----------------------------|
| Facilities Planning | 850,000 | - | 850,000 |
| TransPark | 1,276,682 | 27,500 | 1,304,182 |
| UW Police | 140,214 | 6,201 | 146,415 |
| | 2,266,896 | 33,701 | 2,300,597 |

| SPONSOR | TOTAL AWARDED AMOUNT |
|---------------------------------|----------------------|
| FEDERAL | |
| Department of Homeland Security | 132,168 |
| Department of Interior | 850,000 |
| Department of Transportation | 1,284,728 |
| Total Federal | 2,266,896 |
| NON-FEDERAL | |
| Wyoming Governmental Entities | 33,701 |
| Total Non-Federal | 33,701 |
| GRAND TOTAL | 2,300,597 |



Academic Affairs

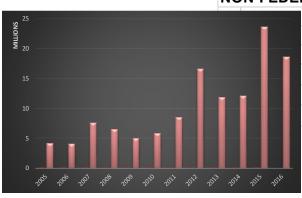
| DEPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|---|-----------|-------------|----------------------------|
| American Heritage Center | 137,500 | - | 137,500 |
| Art Museum | 7,000 | 12,040 | 19,040 |
| Coe Library | 159,162 | - | 159,162 |
| Institute for Environment & Natural Resources | 89,276 | 67,974 | 157,250 |
| International Programs | 89,992 | - | 89,992 |
| Outreach School | - | - | - |
| School of Energy Resources | 1,783,000 | 4,565,023 | 6,348,023 |
| UW-Casper | - | - | - |
| Wyoming Public Radio | - | 324,101 | 324,101 |
| WYGISC | 332,781 | 433,013 | 765,794 |
| | 2,598,711 | 5,402,151 | 8,000,862 |

| | | _,, | -,, | -,, |
|----|-----------------------------|----------------------|-----------------------|-----------|
| SP | ONSOR | TOTAL AWARDED AMOUNT | | |
| FE | DERAL | | | |
| | Departme | nt of Agriculture | | 103,446 |
| | Departme | nt of Education | | 137,500 |
| | Departme | nt of Energy | | 1,466,236 |
| | Departme | nt of Health and H | uman Services | 108,053 |
| | Departme | nt of Interior | | 566,931 |
| | Departme | nt of Transportatio | n | 98,151 |
| | National E | ndowment for the | Arts and Humanities | 7,000 |
| | National Security Agency | | 89,992 | |
| | National Science Foundation | | 21,402 | |
| | | | Total Federal | 2,598,711 |
| NC | N-FEDER | AL | | |
| | | | Foreign | |
| | | | Industry | 2,415,003 |
| | | | Other | 917,820 |
| | | Wyoming C | Sovernmental Entities | 2,069,328 |
| | | | Total Non-Federal | 5,402,151 |
| | | | | |
| | H | | GRAND TOTAL | 8,000,862 |
| | | | | |

Research & Economic Development

| DEPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|------------------------------------|------------|-------------|----------------------------|
| EPSCoR | 7,064,692 | - | 7,064,692 |
| INBRE | 3,473,181 | - | 3,473,181 |
| Manufacturing Works | 998,513 | 825,173 | 1,823,686 |
| Neuroscience Center | 989,708 | - | 989,708 |
| Office of Water Programs | 92,335 | 472,328 | 564,663 |
| Research Products Center | - | 196,590 | 196,590 |
| Small Business Development Center | 1,101,151 | 1,193,914 | 2,295,065 |
| UW-National Park Service | 62,500 | - | 62,500 |
| Wyoming Technology Business Center | 110,000 | 1,118,300 | 1,228,300 |
| WYNDD | 905,208 | 34,322 | 939,530 |
| | 14,797,288 | 3,840,627 | 18,637,915 |
| *EPSCoR (DOE, NASA & NSF) | | | |

| SPONSOR | TOTAL AWARDED AMOUNT |
|---|----------------------|
| FEDERAL | |
| Department of Agriculture | 147,916 |
| Department of Commerce | 1,108,512 |
| Department of Defense | 276,378 |
| Department of Energy | 1,900,974 |
| Department of Health and Human Services | 4,462,889 |
| Department of the Interior | 735,767 |
| Environmental Protection Agency | 176,360 |
| National Aeronautics and Space Administration | 300,000 |
| National Science Foundation | 4,863,718 |
| Small Business Administration | 824,773 |
| Total Federal | 14,797,287 |
| NON-FEDERAL | |



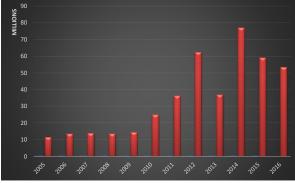
| Industry | 214,183 |
|-------------------------------|------------|
| Other | 72,007 |
| Wyoming Governmental Entities | 3,554,438 |
| Total Non-Federal | 3,840,628 |
| | |
| GRAND TOTAL | 18,637,915 |
| | |

Note: INBRE, COBRE, EPSCoR are reported under Office of Research & Economic Development

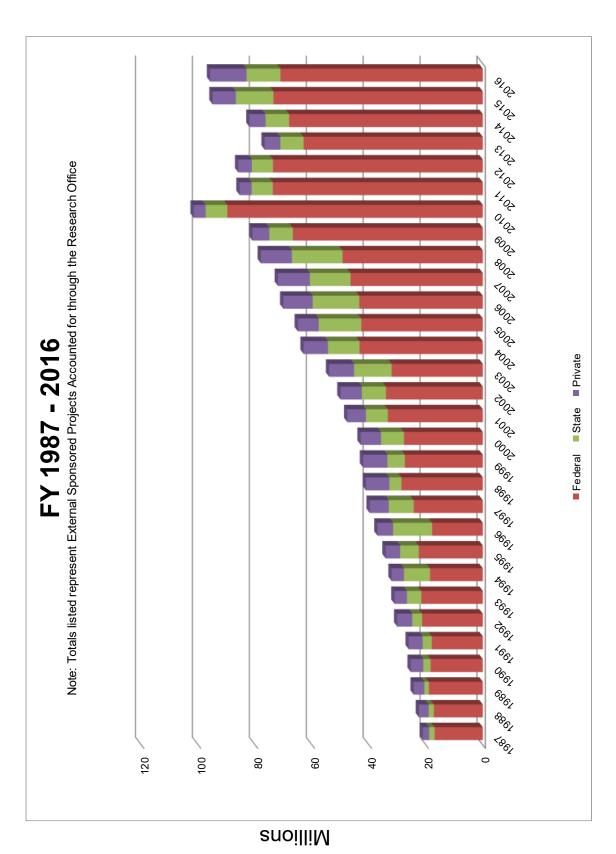
Student Affairs

| DEPARTMENT | FEDERAL | NON-FEDERAL | TOTAL AWARDED AMOUNT |
|---|------------|-------------|----------------------------|
| Associated Students of the University of Wyoming (ASUW) | - | 10,000 | 10,000 |
| Counseling Center | - | 13,600 | 13,600 |
| Direct Student Loans | 40,601,856 | - | 40,601,856 |
| Residence Life & Dining | 136,510 | 140,750 | 277,260 |
| Student Educational Opportunity | 1,576,250 | - | 1,576,250 |
| Student Financial Aid | 10,671,084 | - | 10,671,084 |
| VP Student Affairs | 29,472 | - | 29,472 |
| Wyoming Union | - | 6,300 | 6,300 |
| | 53,015,172 | 170,650 | 53,185,822 |

| SPONSOR | TOTAL AWARDED AMOUNT |
|--|----------------------|
| FEDERAL | |
| Cooperation for National and Community Service | 84,510 |
| Department of Defense | 716,145 |
| Department of Education | 11,531,189 |
| Department of Health and Human Services | 10,000 |
| Department of the Interior | 66,500 |
| Department of Justice | 4,972 |
| Total Federal | 12,413,316 |
| NON-FEDERAL | |
| Industry | 27,000 |
| Other | 26,000 |
| Wyoming Governmental Entities | 117,650 |
| Total Non-Federal | 170,650 |
| _ | |



| rotal Holl-i Cacital | 170,000 |
|-----------------------------|------------|
| | |
| TOTAL FEDERAL & NON-FEDERAL | 12,583,966 |
| | |
| DIRECT STUDENT LOANS | 40,601,856 |
| | |
| GRAND TOTAL | 53,185,822 |
| <u>.</u> | |

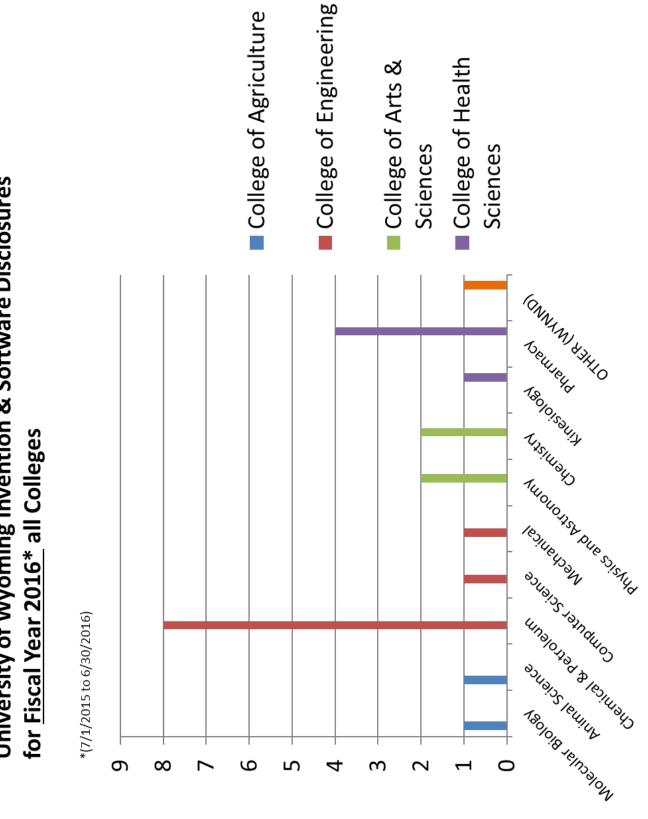


Notes: Federal pass-thru is included in the Federal dollars for FY 2009 -FY2012. In prior years federal pass-thru was included where it was awarded and not from the source of funds

Does not include Direct Student Loans

ARRA is included in the federal portion for 2009-2013

University of Wyoming Invention & Software Disclosures



Business Resource Network

Economic Development continues to be a major role for the University of Wyoming. Much of UW's work involves a unique relationship with the Wyoming Business Council (WBC) which produces important results for companies throughout the state. Called the **Business Resource Network** the University and the WBC, with federal partners, provide business assistance through several independent but coordinated organizations.

The **Wyoming Small Business Development Centers**, this time partnering with the U.S. Small Business Administration, provide a variety of services to small businesses of all types. **Manufacturing-Works**, a National Institute of Standards and Technology Manufacturing Extension Partnership entity provide a set of specific services to manufacturing businesses. **GRO-Biz**, a **Procurement and Technical Assistance Center** with federal funding provided by the Defense Logistics Agency provide training and assistance to Wyoming businesses desiring to provide goods and services to the federal, state and now local governments.

The **Wyoming Market Research Center** which has no federal partner is an organization employing a variety of databases to give small businesses clear market analysis as they contemplate growth and change. The **Wyoming SBIR/STTR Initiative** provides specific assistance to Wyoming innovation based companies to compete for federal SBIR and STTR funding and it runs the unique **Wyoming Phase 0** program which provides contracts to Wyoming businesses on a competitive basis to develop federal Phase 1 or Phase 2 proposals. The **Research Products Center** handles intellectual property transactions (patenting, licensing and copyrighting) for the University of Wyoming specifically and teaches Wyoming inventors how to protect intellectual property and, conducts to patent searches for such inventors.

Together, these six organizations provide a host services for Wyoming small businesses that is unique in the United States. The Wyoming Business Council provides the state matching funds to these organizations and the University of Wyoming provides management. All share the common philosophy that no one succeeds until there is client success.

Finally the University of Wyoming operates the **Wyoming Technology Business Center** which is a technology-related business incubator in Laramie. This center provides specific client counseling to two distinct set of clients, those called "pre-venture" clients or those that are taking initial steps towards developing a business or have formed a nascent company. Currently about 30 such companies are receiving assistance. The other group are those companies occupying space within the WTBC and are receiving the in-depth counseling services of the WTBC professionals. Making the WTBC unique is a contract with the Wyoming Business Council to manage a Tier 2+ data center in the basement of the incubator building. This data center provides high speed connectivity for companies occupying space within the incubator or who are WTBC graduates. The WTBC now manages incubators in Sheridan and Casper, Wyoming.

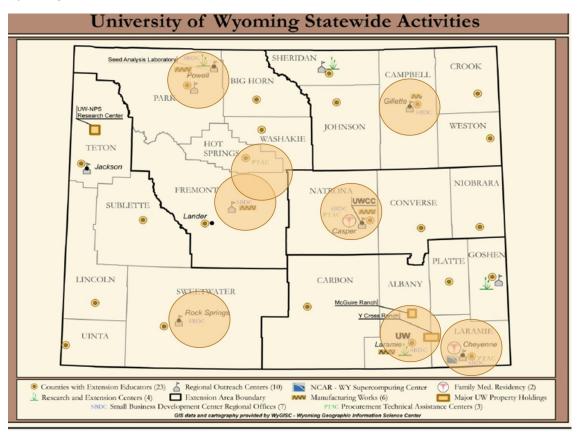
The University of Wyoming understands the deep responsibility associated with providing assistance to Wyoming business and in helping to grow technology-based businesses to provide diversification. The following is a report of Economic Development activity for the past year.

Economic Development Snapshot

Economic Development Outreach Programs Resources at your fingertips

- Small Business Development Centers 1994
- PTAC 2000
- Market Research Center 2003
- Manufacturing-Works 1995
- Wyoming SBIR/STTR 1995
- Research Products Center 1998
- Wyoming Technology Business Center 2006

UW-Wyoming Business Council Partnership formed in 1998



Small Business Development Centers

Wyoming Entrepreneur is a network of three programs at the University of Wyoming, with offices throughout the state. The programs include the Small Business Development Center (SBDC), Procurement Technical Assistance Center (PTAC) and Market Research Center (MRC).

Wyoming Entrepreneur consists of a partnership between the University of Wyoming, the Wyoming Business Council and the U.S. Small Business Administration.

In order to best serve entrepreneurs in Wyoming, we have developed a number of consulting specialties which include selling to government, business plans, marketing plans, financial health checkup, business valuation, eCommerce, succession planning, international trade, tourism marketing, market research, business ethics, social media, QuickBooks, and others.

FY16

\$ 30,013,181capital impact 2,188 jobs created or retained 1,505 clients assisted Business Startups 117 67 training events – 849 attendees, 2,477 training hours

Twenty-two years of assisting clients (1994-2016):

43,863 clients have been served \$243,352,373 capital impact 13,654 jobs created or retained

Funding

Federal (SBA) \$638,889 base State (WBC) \$763,778 UW also provides match

Procurement Technical Assistance Center (PTAC)

The Wyoming Entrepreneur Procurement Technical Assistance Center's mission is to assist Wyoming firms with identifying and securing federal, state, and local government contracting opportunities. We are here to help you navigate the government contracting learning curve and make the whole process a little easier.

FY16

269 active client base
\$12,992,253 total dollar value of prime contract and subcontract awards received by all small business concerns
460 jobs created or retained

Seventeen years assisting clients:

\$199,038,060 cumulative total of contract awards 11,245 cumulative total of attendees trained on procurement topics 3,981 jobs created or retained

Funding

Federal (DLA) \$185,848 State (WBC) \$133,887 UW also provides matching

Market Research Center (MRC)

The Wyoming Market Research Center is part of the Wyoming Small Business Development Center and it provides data to the SBDC as they assist clients. The Market Research Center offers a wide variety of research and information services to Wyoming businesses. All services are free of charge and enable businesses in Wyoming to access sophisticated resources that are normally not accessible to Wyoming businesses.

FY 16

364 clients assisted 610 projects researched

Fourteen years of assisting clients

4,510 clients assisted 8,852 projects researched

Clients assisted may cross over between SBDC and MRC due to referrals from other programs.

Funding

State (WBC) \$292,476 UW also provides match

Clients assisted may cross over between SBDC and MRC due to referrals from other programs.









Manufacturing-Works



The National Institutes of Standards and Technology is the federal partner offering the Manufacturing Extension Partnership, of which Wyoming's Manufacturing Works is a member. This program provides a set of specific services to assist manufacturing businesses (as determined by NAICS Code) throughout Wyoming.

FY 16

\$15,056,500 capital impact \$306,050 decreased costs \$1,195,000 increased sales 82 jobs created or retained 262 clients assisted

21 years of assisting clients

\$227,482,020 capital impact \$170,588,710 increased sales \$142,378,206 in decreased costs 2,442 jobs created or retained

Funding:

Federal (NIST) - \$500,000 State (WBC) - \$572,353







Wyoming SBIR/STTR Initiative



The Mission of the WSSI is to assist all qualified Wyoming small businesses and individuals in accessing the federal funding opportunities provided by the Small Business Innovative Research (SBIR) and Small Business Technology Transfer (STTR) Programs; ~\$2 billion annually.

Federal FY 2016

Total Federal \$1,759,849

Total awards 3 Phase I and 1 Phase II Awards

16 years of assisting clients

Total Federal \$54,013,092

Total awards 222 Phase I, II, and Phase III Follow-on funding

Funding*

State \$235,628

*only the federal Phase I and Phase II awards per www.SBIR.gov, https://sbir.nih.gov/statistics/award-data made to Wyoming small technology businesses reported above, there is no federal administrative program available.

Wyoming Technology Transfer and Research Products Center

The RPC is the technology transfer office for the University of Wyoming and assists Wyoming entrepreneur or inventor across the state with questions regarding IP protection for technology. We will work closely and supportively with Wyoming citizens and companies to help them identify, protect and commercialize their intellectual property.

FY16

Source: USPTO

Total number of US patents issued/granted to UW: 151 Number off UW utility patents/issued/granted in 2016: 14

Number of UW patents filed, on average, for the past five years: 36.6

FY16

- 91 Independent Wyoming Inventor IP projects assisted and completed
 - 74 Invention disclosures and patent searches
 - 14 Trademark projects and trademark searches
 - 3 other IP projects (copyright and licensing terms research)
- 112 Individual inventors/entrepreneurs assisted
- 12 UWYO Law Student Interns (or recent law school graduates) employed, part-time

17 years of assisting clients

- over 1100 independent Wyoming inventor IP projects assisted/completed
- over 1000 Individual inventors/entrepreneurs assisted, and from every county in the State

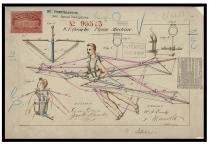
Funding*

State \$75,795

UW provides salary and benefits for the state director,

*no federal program available, this program is unique to Wyoming







Wyoming Technology Business Center

The WTBC focuses on developing early stage, technology-based companies with an emphasis on high-growth firms.

One-on-one business counseling program

Executive coaching services

Incubator/Outreach (Laramie and Statewide)

e2e events - statewide networking opportunities

Business development program, 30,000 sq. ft. facility with:

State-of-the-art data center

Office space, laboratories

Shared conference room space for client companies

State-of-the-art data center

Calendar Year 2016 (As of October 2016)

- WTBC Laramie-13 clients
- WTBC Casper-Area-9 clients
- WTBC Sheridan-Area-5 clients

Incubator Client 2015 Economic Impact Survey

- 3 Incubator Locations
- 22 WTBC incubator clients
- 88 FTE employees
- \$2.8M total WTBC incubator client payroll
- \$6.3M WTBC incubator client annual revenue
- 22 SBIR grants received since founding
- 77 patents filed since founding

WTBC Client Graduate Results

- 9 WTBC incubator graduates
- <u>125+ WTBC incubator graduate FTE employees</u>
- 21,500 sq. ft. office space occupied by WTBC graduates

Outreach:

- e2e Wyoming events Laramie, Casper, and Sheridan
- <u>6,000+ total attendees from 2009-2015</u>
- Notable speakers from: BD, Autodesk, American Express, Yahoo!, ambreenergy, WTBC Incubator graduate – Jared Stack



UW/WBC Business Resource Network Program Combined Impact over Life of Programs (through FY16)

| Capital Impact Since Program Inception | | |
|--|---------------|--|
| Small Business Development Center (SBDC) | \$243,352,373 | |
| Wyoming Procurement Technical Assistance Center (PTAC) | \$199,038,060 | |
| Wyoming SBIR/STTR Initiative (WSSI) | \$54,013,092 | |
| Manufacturing Works (M-W) | \$227,482,020 | |
| TOTAL Program Impact | \$723,885,545 | |

| Jobs Created or Retained Since Program Inception | |
|--|--------|
| Small Business Development Center (SBDC) | 13,654 |
| Wyoming Procurement Technical Assistance Center (PTAC) | 3,981 |
| Manufacturing Works (M-W) | 2,442 |
| TOTAL Program Impact | 20,077 |



Fiscal Year (FY) 2016 spans the period July 1, 2015 through June 30, 2016.

Agency Abbreviations

NSF: National Science Foundation

NASA: National Aeronautics and Space Administration

EPA: Environmental Protection Agency

NARA: National Archives and Records Administration
DHHS: Department of Health and Human Services
HUD: Department of Housing and Urban Development

UDSA: Department of Agriculture

NEAH: National Endowment for the Arts and the Humanities

SBA: Small Business Administration VA: Department of Veteran Affair's

Department Abbreviations:

ASUW: Associated Students of the University of Wyoming (Student Government)

EPSCOR: Experimental Program to Stimulate Competitive Research

EORI: Enhanced Oil Recovery Institute

UW-NPS: University of Wyoming-National Park Service Research Center

SBDC: Small Business Development Center
WYNDD: Wyoming Natural Diversity Database

IENR: Institute of Environment and Natural Resources

WYGISC: Wyoming Geographic Information Science Center

AHC: American Heritage Center SER: School of Energy Resources

CRHRE: Center for Rural Health Research and Education

MEPH: Medical Education and Public Health

WWAMI: Washington, Wyoming, Alaska, Montana, and Idaho

GME: General Medical Education

Other Abbreviations:

Inst: Institute
Dept: Department
Natl: National

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