BALL STATE UNIVERSITY

FALL 2019

Research

Reach for the STARS

Exploring Indiana's largest planetarium ➤ P. 10

ARTIFICIAL INTELLIGENCE + HEALTH

Dr. Shaoen Wu improves health care with artificial intelligence ➤ P. 12

WELCOME

Sponsored Projects Administration (SPA) is excited to celebrate with the Ball State University community its accomplishments in research, scholarly, educational, and creative endeavors throughout fiscal year (FY) 2018-19.

After a thorough peer review by the National Council of University Research Administrators (NCURA) and recognizing the needs of the campus community for additional research development support, SPA is now co-led with Jackie Davis serving as the Director for Sponsored Projects Development and Justin Miller continuing as the Director for Sponsored Projects Administration. This emphasis on development will provide a gateway to Ball State University's new strategic plan, *Destination 2040: Our Flight Path*. We will continue to refine policies and procedures and have created our SPA mission statement and guiding beliefs, so that we may achieve the highest level of service possible throughout each sponsored project's life cycle:

MISSION STATEMENT

The role of SPA is to help faculty, staff, and students:

- seek funding
- apply for funding
- spend awarded funds according to applicable guidelines

to foster excellent education, research, scholarship, creative endeavors, and community partnerships, working together to make the world a better place.

GUIDING BELIEFS

As research administrators, SPA staff aims to:

- perform our duties with honesty, diligence, and responsibility
- conduct ourselves free of personal and professional conflicts and impropriety
- remain mindful that the funds we assist in requesting and managing have been provided fundamentally for the public good
- be prudent in the use and protection of sensitive information/data
- act in good faith promoting ethical integrity in all of our actions
- maintain respectful communication about others in our community
- create and maintain a good relationship between Ball State University and our sponsors and partners

**Modified from the Code of Ethics for Certified Research Administrators*

In addition to sharing the accomplishments of many faculty, professionals, staff, and students, this magazine includes the FY 2018–19 records pertaining to SPA. Figures include grants, contracts, and funding awarded to the Ball State University Foundation that resulted in sponsored programs. We are also eager to share sponsored project expenditure data for the first time in this report.

Executive Summary: SPA currently manages Ball State's sponsored project portfolio of approximately $45 million. For FY 2018–19, more than $21.4 million in external funding was awarded to Ball State, a 50% increase over the previous year. In addition, 421 proposals were submitted during the fiscal year, and 211 funded awards were recorded. Research expenditures topped $3.8 million, and expenditures from all sponsored projects exceeded $23 million.

We extend our appreciation to all who carried out the challenging work of preparing and administering sponsored projects, both internal and external—awarded or not—and recognize the efforts and commitment represented by all who are actively engaged in the pursuit of extramural funding: faculty, professionals, staff, students, and administrators alike.

On behalf of the first-rate and hard-working SPA staff, we offer our warm regards and best wishes for continued success.

Susan A. McDowell, PhD
Vice Provost for Research

Jacqueline S. Davis, MA, CRA
Director, Sponsored Projects Development

Justin M. Miller, EdD, MPA
Director, Sponsored Projects Administration

Sponsored Projects Administration

ANNUAL REPORT 2018–2019

Sponsored Projects Administration (SPA) supports the University's mission by assisting Ball State faculty, staff, and students in the quest for external funding to carry out their research, scholarship, and creative activity, as well as subsequent award administration. Support includes identifying potential funding opportunities, guidance in proposal and budget development, submission of proposals to funding agencies, award administration, and related compliance assurances.

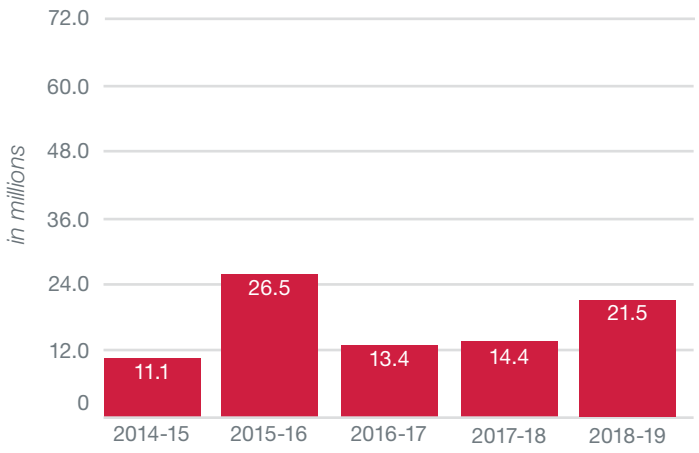
SPA offers workshops in sponsored projects development and administration, oversees the University's research incentive programs, and supports early seed funding through the ASPiRE and ADVANCE internal grant programs.

SPA fosters an atmosphere of academic, scientific, and creative inquiry; internal and external collaboration; cross-disciplinary teamwork throughout the sponsored project lifecycle; and community engagement while promoting integrity, responsibility, and ethics in all phases of scientific, intellectual, and artistic inquiry.

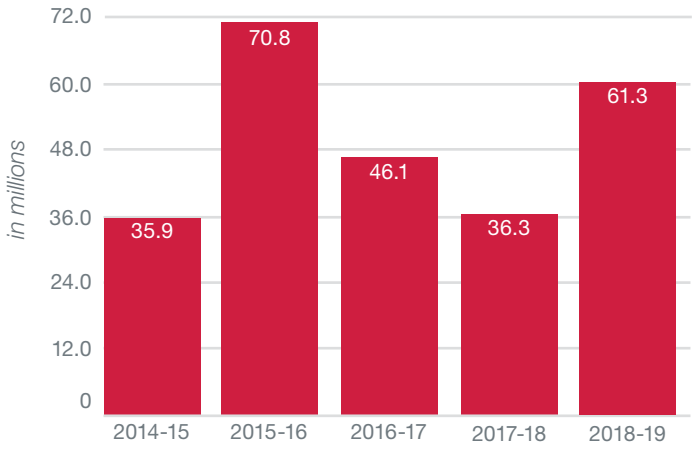
EXTERNAL FUNDING OVERVIEW

SPA external funding totals include Ball State University Foundation funds that play out as externally sponsored projects, as well as funding that is self-administered by University Service Centers. The charts below, "External Dollars Received FY15–19," "External Dollars Proposed FY15–19," and "Total Number of Proposals Funded and Submitted by External Grants FY15–19," reflect totals for all sources of external funding for Ball State projects, including the aforementioned Foundation support and centers.

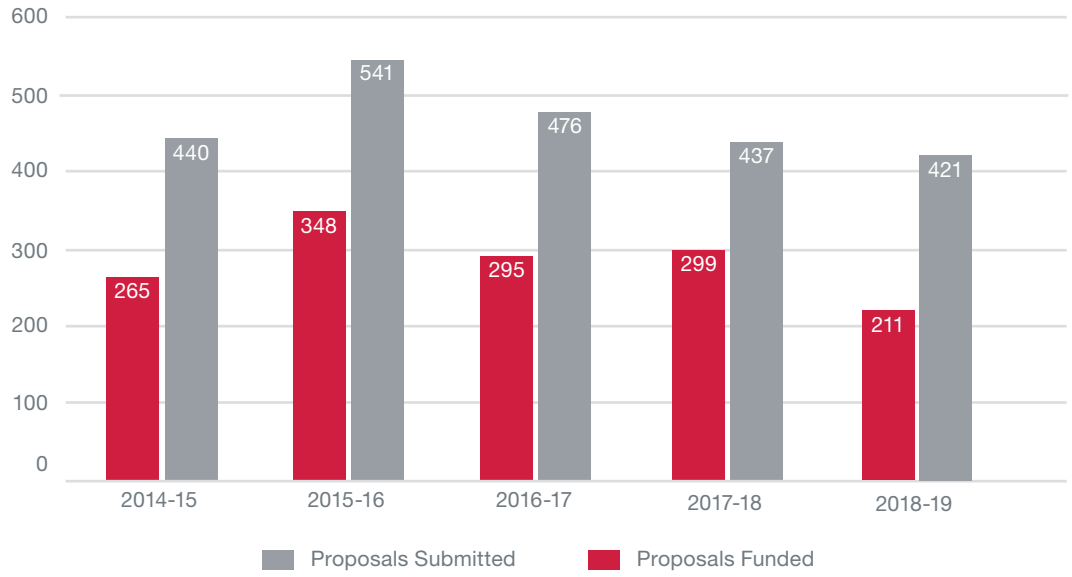
External Dollars Received FY15–19



External Dollars Proposed FY15–19



Total Number of Proposals Funded and Submitted by External Grants FY15–19



Sponsored Projects Proposal Activity by Sponsor Type

Source	Number of Proposals	Total Requested	Percentage
Foundation	128	$17,366,344	28%
Federal	103	$26,145,267	42%
State (Indiana)	14	$2,266,110	4%
Nonprofit	102	$3,084,984	5%
Industry	42	$11,700,925	19%
Local Gov't Agency	15	$342,974	< 1%
Foreign Source	4	$176,717	< 1%
College/University	10	$286,241	< 1%
Individual	3	$7,400	< 1%
Total	421	$61,376,962	100%

Sponsored Projects Proposal Activity by Activity Type

Activity	Number of Proposals	Total Requested	Percentage
Institutional Support	58	$14,288,301	23%
Public Service	72	$5,682,025	9%
Academic Support	73	$13,063,574	21%
Basic Research	100	$12,211,521	20%
Applied Research	86	$8,714,836	14%
Instruction	32	$7,416,706	12%
Total	421	$61,376,962	100%

Sponsored Projects Proposal Activity by College/Unit

Source	Number of Proposals	Total Requested	Percentage
Sciences and Humanities	145	$26,086,263	43%
Teachers College	57	$8,716,296	14%
Business	25	$13,295,909	21%
Health	74	$4,989,560	8%
Information Technology	6	$1,384,500	2%
University Development	15	$373,830	<1%
Academic Affairs	19	$4,169,375	7%
Chief Strategy Officer	12	$261,436	<1%
Architecture and Planning	35	$936,304	2%
Student Affairs	3	$4,100	<1%
Business Affairs	3	$23,875	<1%
Fine Arts	10	$157,611	<1%
Communication, Information, and Media	15	$921,903	2%
Honors College	2	$56,000	<1%
Total	421	$61,376,962	100%

External Dollars Received by Sponsor Type

Source	Number of Awards	Total Awarded	Percentage
Foundation	54	$2,570,665	12%
Federal	53	$5,521,674	26%
State (Indiana)	12	$162,001	<1%
Nonprofit	42	$1,406,103	7%
Industry	31	$11,639,528	54%
Local Gov't Agency	11	$119,854	< 1%
Foreign Source	2	$12,293	< 1%
College/University	4	$35,630	< 1%
Individual	2	$5,600	< 1%
Total	211	$21,473,347	100%

External Dollars Received by Activity Type

Activity	Number of Awards	Total Awarded	Percentage
Institutional Support	45	$2,358,124	11%
Public Service	45	$3,268,846	15%
Academic Support	44	$11,670,677	54%
Basic Research	35	$1,109,872	5%
Applied Research	27	$1,838,301	9%
Instruction	15	$1,227,528	6%
Total	211	$21,473,347	100%

External Dollars Received by College/Unit

Source	Number of Awards	Total Awarded	Percentage
Sciences and Humanities	58	$12,857,581	60%
Teachers College	43	$1,710,913	8%
Business	13	$1,349,751	6%
Health	26	$788,004	4%
Information Technology	7	$1,484,500	7%
University Development	15	$373,830	2%
Academic Affairs	7	$1,996,003	9%
Chief Strategy Officer	4	$208,937	1%
Architecture and Planning	23	$552,728	3%
Student Affairs	3	$3,350	<1%
Business Affairs	2	$23,750	<1%
Fine Arts	5	$94,000	<1%
Communication, Information, and Media	5	$30,000	<1%
Total	211	$21,473,347	100%

Sponsored Projects Expenditures by Activity Type

Activity	Total Expended	Percentage
Academic Support	$12,921,933	56%
Research	$3,829,215	17%
Public Service	$3,450,110	15%
Institutional Support	$1,715,512	7%
Instruction	$1,107,693	5%
Total	$23,024,463	100%

Externally Funded Research Expenditures Comparison FY16–19

College	FY16	FY17	FY18	FY19
Architecture & Planning	$35,143	$5,027	—	$11,006
Communication, Information, & Media	—	—	—	—
Health	$1,009,382	$704,600	$796,360	$705,640
Sciences & Humanities	$2,210,671	$2,157,781	$2,427,517	$2,514,594
Fine Arts	—	—	$24,000	—
Business	$191,502	$126,953	$23,035	$42,547
Teachers College	$151,345	$257,269	$681,164	$553,623
Extra-Collegial	$155,655	$145,352	$26,256	$1,805
Total	$3,753,698	$3,396,982	$3,978,332	$3,829,215

All Externally Funded Expenditures Comparison FY16–19

College	FY16	FY17	FY18	FY19
Architecture & Planning	$421,940	$246,715	$193,258	$307,874
Communication, Information, & Media	$111,567	$58,213	$46,695	$60,462
Health	$1,213,740	$1,339,090	$1,352,965	$1,558,217
Sciences & Humanities	$2,912,408	$3,116,678	$3,288,185	$13,490,059
Fine Arts	$49,604	$374,759	$155,189	$114,797
Business	$602,694	$1,348,792	$1,541,042	$1,626,643
Teachers College	$1,763,460	$1,839,014	$2,664,391	$3,264,935
Extra-Collegial	$4,561,795	$4,519,582	$3,597,998	$2,601,476
Total	$11,636,208	$12,842,843	$12,839,723	$23,024,463

Research Recognition

Student Symposium

The 2019 Symposium continued to serve as an important public forum for undergraduate and graduate students to display and present their research and creative projects. In all, 235 individual student participants presented 140 posters and 35 papers.

Award Winners:

Breanna Daugherty, Journalism
Project Title: *Video Attention on Social Media*
Faculty Mentor: Robin Blom, Journalism, College of Communication, Information, and Media

M. Logan Eder, Chemistry
Project Title: *Inverse Vulcanization of Sulfur and Charged Monomers to Enhance Solubility and Create Inexpensive Metal binding materials*
Faculty Mentor: Cori Jenkins, Chemistry, College of Sciences and Humanities

Nathan Edwards, School of Kinesiology
Project Title: *Quantifying Biomechanical Risk Factors for Low Back Pain in Amateur Golfers*
Funded by a Ball State ASPiRE Internal Grant
Faculty Mentor: Henry Wang, School of Kinesiology, College of Health

Hannah Ferguson, Biology
Project Title: *Biomass and Composition of Macroinvertebrate Communities Across a Gradient of Peatland Types: Implications for Boreal Peatland Food Web Dynamics*
Funded by a grant from the National Science Foundation
Faculty Mentor: Kevin Wyatt, Biology, College of Sciences and Humanities

Taylor Ross & Itzel Sanchez, Nutrition and Health Science
Project Title: *Burden of Skin Diseases in College Students*
Faculty Mentor: Jagdish Khubchandani, Nutrition and Health Science, College of Health

Monica Scofield, Speech Pathology and Audiology
Project Title: *Hearing Loss and Deafness in America*
Faculty Mentor: Jagdish Khubchandani, Nutrition and Health Science, College of Health

Rody Seballos, Biology
Project Title: *Resource Controls on Bacterial Community Structure During Freshwater Benthic Biofilm Development*
Faculty Mentor: Allison Rober, Biology, College of Sciences and Humanities

Samantha Turk, Biology, Honors College
Project Title: *Determination of Genes Required to Unclog Clogged Cellular Channels*
Funded by an Honors College Undergraduate Fellowship
Faculty Mentor: Eric (VJ) Rubenstein, Biology, College of Sciences and Humanities

Benefacta Day

The 28th annual Benefacta Day was celebrated October 22, 2018 in the Ball State Alumni Center. This event for recognizing faculty and professional personnel active in submitting proposals and carrying out sponsored projects brought together more than 100 attendees.

Outstanding Research and Creative Endeavor Awards

The annual lectures and reception featuring the Outstanding Creative Endeavor and Outstanding Research Awardees took place on October 26, 2018 in Bracken Library. Each awardee is nominated by peers and is chosen by either the Creative Arts Committee or the University Research Committee, respectively.

2018 Outstanding Creative Endeavor

Jennifer Blackmer, Professor, Department of Theatre and Dance and Executive Director, Immersive Learning and Virginia B. Ball Center for Creative Inquiry.

"Dreaming Ms. Atwood: A Playwright's Adventures in Adaptation".

2018 Outstanding Research Award

Joseph Marchal, Professor of Religious Studies

"Appalling Bodies: Or, Why we Should Care about Marginalized Figures in Ancient Assemblies".

Staff Updates

In reviewing campus needs, administrative support, in response to a peer review by our professional organization, the National Council of University Research Administrators (NCURA), and in preparation for the University's strategic plan, SPA developed a new organization structure. This new structure, co-led by Jackie Davis, Director for Sponsored Projects Development and Justin Miller, Director for Sponsored Projects Administration, allows for increased staff in our Compliance and Contracts team. Under the direction of Sheila Shafer, Associate Director for Compliance Operations, SPA added three new Contract Compliance Coordinators: Donald Davidson, Brittnie Sell, and Rebecca Tyler. With the promotion of Rebecca Tyler, Katie Wilkinson joined the team as the Secretary for Compliance Operations. We wished all the best to Ted Kolodka, Contract Compliance Analyst, who is continuing his career at Notre Dame University.

In February 2019, SPA celebrated the retirement of Lee Anne Shore, Grant Manager and was happy to welcome Malissa Garrison as a new Grant Manager.

Program Offerings and Support Programs

Research Week, 2018

This weeklong spotlight on research and sponsored projects includes lectures each day from faculty honorees. For 2018, we celebrated the accomplishments of: Lenny Kaminsky, Director of the Fisher Institute for Health and Wellbeing; Allison Rober, Assistant Professor of Environmental Biology; and Ron Morris, Professor of History.

SPA Fellows Program

The 2018-19 SPA Fellows cohort consisted of 8 new faculty selected by the Provost, Vice Provost for Research and college deans. This year-long intensive educational program is designed to develop knowledge and grantwriting skills in support of externally funded research, scholarship, creative projects, or other fundable endeavors. The Fellows program is led by Jackie Davis, Director for Sponsored Projects Development. Since its inception in 2012, 96 faculty have completed the program.

Indirect Cost Recovery Distribution

Per University policy, of the $870,133 in indirect costs recovered by the University, currently: 5 percent goes to principal investigator(s), 10 percent to departments/units, and 5 percent to colleges. During the past year, the following amounts were transferred: $34,156 to PIs, $106,912 to departments/centers, and $43,511 to colleges—for a total distribution of $184,579.

SUBMIT Incentive Program

The SUBMIT program encourages external proposal development and submission. Proposals that are submitted at a minimum of $15,000 and follow the University Proposal Submission Policy, will receive funds placed into a Research Incentive Account (RIA) of the Principal Investigator (PI)/Co-Principal Investigator(s) to support scholarship and professional development. During the past year, 169 proposals received SUBMIT funds with a total amount of distribution being $73,450.

SPA Professional Development

SPA staff attended and/or presented at the following conferences and professional meetings: • Federal Demonstration Partnership • Grants Resource Center • Institute of Education Sciences • Midwest Research and Graduate Administrators Forum • National Institutes of Health Conference • National Council of University Research Administrators • National Organization of Research Development Professionals • National Science Foundation Regional Conference • Shafer Leadership Academy • Society of Research Administrators • Various webinars on specific topics or sponsors • Women Working in Technology Conference

ASPiRE INTERNAL GRANT PROGRAMS

Ball State University's Internal Grants program was created in 1965 to provide funding to faculty and students and to support and develop projects in the areas of research and creative endeavors. ASPiRE Internal grants are intended to supplement and strengthen the support for research and creative endeavors that comes both from departmental and college resources along with other University programs.

Ball State Internal Grants program offerings consisted of the following competitions this fiscal year: Junior Faculty Research, Junior Faculty Creative Arts, ADVANCE, CREATE, New Faculty Start-Up, Reprint/Publication Support, Travel Support for External Funding for faculty, International Travel Support, and Hollis as well as Graduate Creative Arts, Graduate Research, Undergraduate Creative Arts, Undergraduate Research, and Travel Support for Professional Meetings for students.

2018-19 Program Participation

The ASPiRE Internal Grants program processed 299 student proposals and awarded $117,985 to support 260 projects. The increase of funding to support this larger number of funded projects was graciously provided by the Graduate School for Academic Year 2018-19. Faculty programming funding remained static and resulted in 116 faculty proposals and awarded $266,430 to support 94 projects.

Faculty Programs – Research	Requests Submitted	Proposals Awarded	Award Amount
ADVANCE	5	4	$59,260
Junior Faculty Research	18	8	$104,235
Total Research	23	12	$163,495

Faculty Programs – Creative Arts	Requests Submitted	Proposals Awarded	Award Amount
Create	9	9	$44,500
Junior Faculty Creative Arts	2	1	$14,000
Total Creative Arts	11	10	$58,500
Hollis	3	3	$1,449
International Travel	40	37	$14,800
New-Faculty Start-Up	13	7	$20,700
Reprint/Publication Support	27	25	$7,486
Travel Support for External Funding	0	0	—
Total Faculty Programs	117	94	$266,430

Graduate Student Programs	Requests Submitted	Proposals Awarded	Award Amount
Creative Arts	5	4	$3,700
Research	42	26	$22,495
Hollis	20	9	$4,400
Travel Support for Professional Meetings	148	136	$78,145
Total	215	175	$108,740

Undergraduate Student Programs	Requests Submitted	Proposals Awarded	Award Amount
Creative Arts	3	1	$300
Research	6	3	$900
Travel Support for Professional Meetings	82	81	$8,045
Total	91	85	$9,245

Total Student Programs	306	260	$117,985
Total Internal Grants	423	354	$384,415

INTELLECTUAL PROPERTY

Intellectual property development remains an integral component to the research enterprise at the University. SPA is responsible for receiving and evaluating intellectual property disclosures regarding copyrightable or potentially patentable works. SPA works closely with the Ball State Innovation Corporation (BSIC) to direct commercialization and licensing activities related to Ball State's works of intellectual property.

During FY19, nine (9) intellectual property disclosures were made, while FY19 royalties totaled $57,140. An itemized list of the works generating royalty income is below. For additional information on the intellectual property process at Ball State or for information on specific products available for licensing, contact Stephanie Roof.

	Author(s)	Project Title	Income
DVD	Nancy Carlson, Ann Eldridge, Mark Warshaw	Gene Stratton Porter	$155.00
	Michael O'Hara, Judith Sebesta	Explore Theatre: A Backstage Pass - DVD	$24,874.79
	Linda Siktberg, Ann (Burford) Bilodeau	Safe Swallowing	$39.95
	Hans P. Kellogg	Legacies of Perfection: Auburn Cord Duesenberg	$151.83

	Author(s)	Project Title	Income
CD	Eric Lassiter	Kiowa Hymns	$125.78

	Author(s)	Project Title	Income
Software	Rebecca Hammons	Software Quality Fundamentals	$13,837.50

	Author(s)	Project Title	Income
Miscellaneous	Mike Goldsby, Rob Mathews	Goldsby/Mathews Curriculum Licenses	$8,775.00
	Dayna Thompson, Monique Gabb, Ron Kaitchuck	Halloween: Celestial Origins	$9,148.43
	Dayna Thompson, Monique Gabb, Ron Kaitchuck	Saturn & Beyond	$31.80

BALL STATE
UNIVERSITY

2000 W. University Ave.
Muncie, IN 47306

Food Summit

The Local Food Summit brings together stakeholders in Delaware County and East Central Indiana to join forces in building a more equitable, resilient, and sustainable local food system.

The summit is collaboratively organized by the Muncie Food Hub Partnership, Purdue Extension, the Delaware County Food Council, and Muncie residents. The overarching goal is to bring together stakeholder groups in the areas of local food production, distribution, consumption, education, and governance to work toward creating food solutions for our community.

Related objectives include:

- sharing current initiatives among food access organizations working to create a more resilient, equitable, and sustainable food system
- identifying barriers to food access and generating community-based solutions
- soliciting input from stakeholder groups to inform development of the Muncie Food Hub
- identifying leadership and input to further develop Delaware County's local food council that is working to shape local food policy and actions

2019 marked the fourth annual Local Food Summit. The daylong conference featured Kelsey Timmerman as the keynote speaker, followed by a locally sourced lunch, then concurrent sessions led by local leaders. The sessions were geared toward information sharing and solution development. The later afternoon featured a panel of area farmers and chefs discussing the barriers, opportunities, and strategies toward sourcing and utilizing local products in east central Indiana. This was followed by a networking session highlighting Guardian Brewing Company and vendors from local food-related organizations. ■