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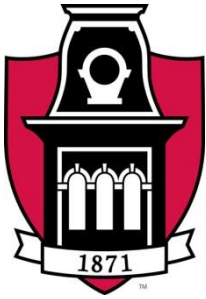
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*Office of the Vice Provost for
Research & Economic Development*

Annual Report 2014-2015

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Executive Summary

FY15 was an excellent year for the Office of Research and Economic Development. Research awards through RSSP were up from FY14. Research expenditures and the amount of Facilities & Administrative (F&A) reimbursements were both up.

VPRS: The RED Strategic Plan document was released in FY15. The inaugural Research Camp was held for 1st, 2nd, and 3rd year tenure-track faculty members to help orient them to the research enterprise at the University of Arkansas. The Office of Undergraduate Research was started and will become operational in FY16.

RSSP: The Office of Research Support and Sponsored Programs (RSSP) received a total of 593 awards from various sponsors during FY2015. The total dollar amount of new sponsored awards administered by RSSP for FY2015 was \$63,710,269. This represents an increase of 6% or \$3,836,603 over FY2014. This remarkable growth, in a difficult funding environment, is largely the result of holding nearly steady in federal funding while increasing our success with other sources. The Division of Agriculture administered new research support in the amount of \$16,028,711 representing a decrease of 22%. University of Arkansas external support for sponsored activities received in FY2015 was \$79,738,980, an overall decrease of \$28,211 or essentially staying the same as the previous year.

Research Compliance: Institutional Review Board (IRB) handled 741 new protocols, 269 protocol modifications, and 278 protocol extensions. Radiation Safety Committee (RSC) met six times during the year. The Arkansas Department of Health performed its annual inspection in April. There were no findings of non-compliance. Institutional Animal Care and Use Committee (IACUC) handled 67 new protocols and had 72 protocol modifications. Research Compliance successfully completed negotiations to renew our USDA Animal Welfare Assurance for a period of three years. Biological Safety Committee (IBC) handled 25 new protocols, 28 protocol renewals, and 56 protocol modifications. Ms. Candita Meek, a graduate of the University's microElectronics and Photonics Program, joined the RSCP team in December 2015 as the Export Control Officer. Ms. Meeks gained significant export compliance experience while working in the private sector.

Tech Ventures: The office received 20 invention disclosures, filed 28 patent applications and received 10 issued patents. Even though Technology Ventures saw a decrease in licensing activity, 10 licenses/ options/ amendments/ agreements were negotiated in 2015. It is worth noting that most of the new inventions submitted to Technology Ventures in fiscal year 2015 were related to the medical field and were submitted to the Technology Ventures office without animal data. Without funds to provide for substantiating animal data, we can expect a decrease in interest in licensing technologies in these areas. For fiscal year 2015, licensing revenues of \$76,494 and patent cost reimbursements of \$96,815 were realized.

Entrepreneurship: Since 2009, the University of Arkansas has won 20 national/international business plan competitions, far more than the next closest competitors (Louisville, MIT, Northwestern, Texas, Stanford, and Carnegie-Mellon). Eighteen start-ups have come out of the UA entrepreneurship program in the past seven years. These start-ups employ approximately 100 Arkansans in high-wage jobs and have raised over \$40 million in private funding and government grants and incentives to build their companies. Approximately 150 faculty members and administrators from four Arkansas research

universities (UAF, UAMS, UALR, and ASU) attended three-day commercialization retreat organized and hosted by the Office of Entrepreneurship in July 2014 and June 2015. The retreats were highly regarded by the participants. The 2015 retreat focused on lean startup methodology that is employed by NSF, NIH and other government grant organizations. The IGNITE program continues to be a success. Companies throughout the state have become involved in the Emerging Technologies class. A program through which STEM students mentor high school students in the Arkansas Delta was funded (\$10,000) by the Women's Giving Circle.

Space Center: The Arkansas Center for Space and Planetary Sciences (Space Center) took control of new permanent space located in the lower floor of Ferritor Hall in AY 2015. Office and administrative space was relocated to Stone House North. A record number of proposal submissions were generated in AY 2015 and in the spring of 2015, more than \$1,300,000 in new awards were announced.* These new awards will generate exciting new research in our new laboratory space, supporting faculty and students. Lin Oliver announced in the spring of 2015 a desire to step down as Space Center director after five years. Dr. Larry Roe of the mechanical engineering department and a founding member of the Space Center took over as director on July 1, 2015.

Arkansas Press: The transition to the University of Chicago Press's Distribution Center (CDC) was completed in September 2014. The final Press employee related to fulfillment retired in September 2014, and now all orders and distribution are handled by CDC. The change has resulted in cost savings while also allowing UAP personnel to focus on our core mission of publishing great books. UAP books garnered a number of awards in Fiscal 2015.

HPC: As a Core Research Facility under the Vice Provost for Research Office, the Arkansas High Performance Computing Center (AHPCC) continues to provide leading edge support for computationally intensive research to the campus, UA system, and the State of Arkansas. David Chaffin and Jeff Pummill were named co-Directors of the Center. 30M core hours were delivered to 154 active users across five UA colleges and units (ENGR, ARSC, AFLS, GRAD, & VPRED), 51 UA project leaders in 22 departments, plus UALR, ASU, St. Jude's Children's Hospital, West Virginia University, and UAF collaborators at 9 additional institutions. AHPCC computing, storage and networking resources as well as user service efforts such as training, workshops, etc. enabled more than \$25M in active extramural research grants and contracts. By far the most significant addition to AHPCC in FY15 was the acquisition of the Trestles HPC Cluster from San Diego Supercomputer Center. This system cost \$2.5M when deployed in 2011 by SDSC. A collaboration among AHPCC, SDSC, and NSF allowed 85% of this national resource to be relocated to AHPCC in 2015. The addition of these resources more than doubled our existing compute capabilities.

Office of the Vice-Provost for Research and Economic Development

Office Structure: Dr. Jennifer Taylor was hired as the Assistant Vice-Provost for Research and Sponsored Programs and to lead the RSSP Office. Dr. Bob Beitle joined the office as a second AVPRED during the last year. Dr. Cynthia Sagers who had served as the Associate VPR for the last year and an interim AVPR before that is leaving the office on July 31, 2015 to become the new Vice-President for Research at Oregon State University. A search will be conducted in FY16 to refill that position.

Strategic Planning: The five-year RED Strategic Plan was developed in FY15 through the efforts of a faculty, staff, and student team. The plan has six major objectives:

1. University Culture of Discovery and Innovation
2. Nationally-recognized Research Clusters
3. State-of-the-art Research Infrastructure
4. Thriving Student Research Community
5. Research-based Economic Growth
6. Public Awareness of the Value of Research

The plan was printed by University Relations and has been distributed in constituent stakeholders inside and outside the university.

Faculty development: The VPRED office initiated or continued several programs in FY15 to enhance the UA research enterprise. An Arts and Humanities Seed Funding program is in its fourth year and this year the program was increased to \$25k. Faculty from all UA colleges were invited to submit a brief proposal on an arts and humanities related project.

The Office sponsored recognition ceremonies for recipients of major awards, including the NSF CAREER awards. Other recognition programs included the "Top 15 in 2015" program for top funded researchers and the inventors' banquet. This is part of ongoing efforts to recognize and promote research excellence from our faculty and students.

The inaugural Research Camp was held in Eureka Springs in collaboration with the Vice-Provost for Faculty Development. The two-day program offered 1st, 2nd, and 3rd year tenure-track faculty an opportunity to learn more about conducting research at the University of Arkansas. A follow-up reception was held in the Spring semester to talk about the research progress made by each of the attendees.

The Office of Undergraduate Research was initiated in FY15 to help students not in the Honors College find research opportunities. The program is a clearinghouse for undergraduate research programs in the colleges and also the Research Experience for Undergraduates (REU) program. A zero-credit hour course was identified so that research experiences could be captured on the student transcript.

Research and Sponsored Programs

The Office of Research Support and Sponsored Programs (RSSP) received a total of 593 awards from various sponsors during FY2015. The total dollar amount of new sponsored awards administered by RSSP for FY2015 was \$63,710,269. This represents an increase of 6% or \$3,836,603 over FY2014. This remarkable growth, in a difficult funding environment, is largely the result of holding nearly steady in federal funding while increasing our success with other sources. The Division of Agriculture administered new research support in the amount of \$16,028,711 representing a decrease of 22%. As shown in Table 1, University of Arkansas external support for sponsored activities received in FY2015 was \$79,738,980, an overall decrease of \$28,211 or essentially staying the same as the previous year.

Decade Summary of Awards											
Unit	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
ADMIN	3,047,822	5,641,669	5,118,183	4,130,794	4,148,068	6,521,614	5,297,357	4,228,831	3,882,716	4,233,179	5,247,482
AFLS	17,335,331	14,931,201	13,696,441	1,635,858	2,650,574	3,257,783	3,529,599	4,406,029	2,611,206	54,536	19,628
ARDO	1,433,944	1,778,349	1,043,038	586,961	855,246	468,085	191,493	95,720	33,825	156,500	504,208
ARSC	20,634,520	19,886,493	17,220,638	19,891,658	21,308,726	21,858,369	18,666,359	14,662,942	13,438,270	17,553,592	13,730,043
DREX	0	0	0	14,295,088	17,357,118	18,032,980	22,044,008	21,212,954	18,346,099	22,521,867	17,579,236
EDUC	5,348,988	7,676,504	6,368,064	7,372,031	7,176,954	8,698,295	8,226,951	11,338,163	14,148,152	16,827,761	24,005,168
ENGR	10,399,587	20,994,561	10,992,697	17,935,215	8,755,641	19,326,484	15,474,529	10,528,923	9,981,270	16,905,877	17,302,497
GRAD	197,136	615,541	1,527,150	436,831	649,833	3,477,614	490,240	348,475	232,121	200,000	0
LAW	39,744	46,510	117,853	87,529	11,000	39,744	39,744	39,744	50,000	528,025	315,601
MULN	30,000	0	0	0	0	0	0	5,590	152,399	70,000	83,160
VPRS	0	0	0	0	0	0	0	0	0	252,389	588,961
WCOB	1,135,109	775,381	1,004,007	918,644	1,197,457	618,478	640,988	1,868,823	466,686	463,465	362,996
TOTAL	\$59,602,181	\$72,346,209	\$57,088,071	\$67,290,609	\$64,110,617	\$82,299,446	\$74,600,936	\$68,736,194	\$63,342,744	\$79,767,191	\$79,738,980

The composition of total FY2015 awards processed by RSSP was \$40,941,189 (64%) from federal sources, \$13,600,943 (21%) from state sources, and \$90,168,137 (14%) from other sources such as industry and private foundations. This represents somewhat of a reduction in the percentage represented by federal sources as, while the amounts received from those sources saw only a small decline, the amounts received from other sources rose. This is particularly true in the case of business/industry and private foundations where inroads are being made in accord with our strategic plan. These sources increased from 10% of the total to 14.4%. This gain represents growth in that category of 43% from \$6.4 million to nearly \$9.2 million.

RSSP assisted with the development and submission of 1,003 new proposals, exclusive of continuation requests and no-cost extensions, in FY2015. Total funds requested were \$227,817,160. This includes requests of \$163,030,001 (78%) for federal funding, \$23,557,026 (10%) for state funding and \$41,230,132 (18 %) for other types of funding.

Research Compliance

Fiscal year 2014-15 was an extremely busy and productive year for the Office of Research Compliance. A brief summary of activities is provided below.

Institutional Review Board (IRB) handled 741 new protocols, 269 protocol modifications, and 278 protocol extensions. There were no reportable Adverse Events in this fiscal year. There was one instance of serious noncompliance which required the IRB to halt the research project until significant steps were taken to protect researchers and participants.

Radiation Safety Committee (RSC) met six times during the year. The Arkansas Department of Health performed its annual inspection in April. There were no findings of non-compliance.

Institutional Animal Care and Use Committee (IACUC) handled 67 new protocols and had 72 protocol modifications. Research Compliance successfully completed negotiations to renew our USDA Animal Welfare Assurance for a period of three years.

Biological Safety Committee (IBC) handled 25 new protocols, 28 protocol renewals, and 56 protocol modifications. Because of a laboratory accident that exposed a research assistant to potential blood borne pathogens, the Committee issued an immediate stop work order to investigate the incident. Upon completion of the investigation, the Committee required the research staff to undergo additional training. In addition, the Principal Investigator was required to modify and resubmit all protocols which require potential exposure to human bodily fluids and waste.

The Committee voted unanimously to recommend to Mr. Phillip Stafford that research park lease agreements require tenants to operate in a manner consistent with the UA Chemical Hygiene Plan and UA Biological Safety Manual and to register the use of all Biological Safety Level 2, or greater, pathogens with Environmental Health and Safety.

Toxic Substances Committee (TSC) was not called upon to meet in FY15.

US Export Controls and Sanctions Compliance. Ms. Candita Meek, a graduate of the University's microElectronics and Photonics Program, joined the RSCP team in December 2015. Ms. Meeks gained significant export compliance experience while working in the private sector.

Technology Ventures/UATD

The office received 20 invention disclosures, filed 28 patent applications and received 10 issued patents. Even though Technology Ventures saw a decrease in licensing activity, 10 licenses/ options/ amendments/ agreements were negotiated in 2015. It is worth noting that most of the new inventions submitted to Technology Ventures in fiscal year 2015 were related to the medical field and were submitted to the Technology Ventures office without animal data. Without funds to provide for substantiating animal data, we can expect a decrease in interest in licensing technologies in these areas.

For fiscal year 2015, licensing revenues of \$76,494 and patent cost reimbursements of \$96,815 were realized.

To continue improving researcher engagement, Technology Ventures held the 3rd Annual Inventor Awards Banquet and were honored to initiate new faculty, including UA System President Don Bobbitt, into the National Academy of Inventors.

Entrepreneurship

Since 2009, the University of Arkansas has won 20 national/international business plan competitions, far more than the next closest competitors (Louisville, MIT, Northwestern, Texas, Stanford, and Carnegie-Mellon).

Eighteen start-ups have come out of the UA entrepreneurship program in the past seven years. These start-ups employ approximately 100 Arkansans in high-wage jobs and have raised over \$40 million in private funding and government grants and incentives to build their companies.

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UAP books garnered a number of awards in Fiscal 2015. Some highlights include:

- *Architects of Little Rock* (Witsell & Wittenberg) – Winner of the Outstanding Publication Award from the Historic Preservation Alliance of Arkansas
- *Rise to Respectability* (White) received the American Library Association's Choice Outstanding Academic Title designation
- *When the Wolf Came* (Warde) – Winner of the Oklahoma Book Award, nonfiction
- *To the Bramble and the Briar* (Scafidi) – Finalist for the Balcones Poetry Prize

Arkansas High Performance Computing Center

As a Core Research Facility under the Vice Provost for Research Office, the Arkansas High Performance Computing Center (AHPCC) continues to provide leading edge support for computationally intensive research to the campus, UA system, and the State of Arkansas. David Chaffin and Jeff Pummill were named co-Directors of the Center. Dr. Chaffin will be responsible for computing systems and support while Mr. Pummill will develop and coordinate the Center's relationship with national programs, including the NSF XSEDE project. Senior Administrator Dr. Pawel Wolinski, fills out the current staff and not only provides direct support to researchers collaborating with the Center but teaches a well-attended CSCE course on high performance computing.

Usage metrics:

30M core hours were delivered to **154 active users** across **five UA colleges and units** (ENGR, ARSC, AFSL, GRAD, & VPRED), 51 UA project leaders in 22 departments, plus UALR, ASU, St. Jude's Children's Hospital, West Virginia University, and UAF collaborators at 9 additional institutions. AHPCC computing, storage and networking resources as well as user service efforts such as training, workshops, etc. enabled more than **\$25M** in active extramural research grants and contracts.

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Arkansas Center for Space and Planetary Sciences

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