RESEARCH + GRADUATE STUDIES

2017

Annual Report

EXECUTIVE SUMMARY

Six years have passed since USU's Research Office merged with the School of Graduate Studies. Over that time, we've worked to develop strategies and programs to meet goals, demonstrate our values and further our mission.

In fiscal year 2016-2017, we've continued that effort, focusing on enhancing the efficiency and efficacy of recently implemented initiatives.

RGS training programs continued to grow in attendance as we've implemented regular surveys to gauge interest and needs. Technology efforts, including the reorganization of Technology Transfer Services and the implementation of Kuali, help streamlined processes for staff, faculty and students.

The future holds opportunities and challenges for RGS: the uncertainty surrounding future federal support for research and unpredictable F&A funding will put pressure on the RGS budget for the next few years. Additionally, the transition of Technology Transfer to an RGS division required significant efforts from RGS.

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OFFICE OVERVIEW

MISSION STATEMENT

The mission of USU's Office of Research and Graduate Studies (RGS) is to facilitate a culture of excellence in research, scholarship and creative activity that spans the lifecycle of faculty and students through operational, training, funding and compliance support.

VALUES

Seven core values guide the way in which RGS executes its mission and formulates its key strategic goals and strategies. In the way a mission statement informs what RGS does, these values define how it is best accomplished.

INDIVIDUAL CAPACITY DEVELOPMENT
Faculty and graduate students should continue to grow their understanding of how to best propose, conduct and report research and scholarly activities.

INTEGRITY & SAFETY
Scholarship should be conducted with top consideration toward exceeding ethical and regulatory standards.

STUDENT ENGAGEMENT
Students are a core focus of a land-grant institution. They can have better educational experiences when they engage in research opportunities.

INTERDISCIPLINARY INTEGRATION
Research should not live within silos; all scholars can benefit from interdisciplinary learning.

APPLICATION
Research and scholarship should embrace the land-grant mission of providing meaningful impact for the state, nation and world.

INNOVATION
All activities should undergo constant evaluation for improvement in effectiveness and efficiency, and those opportunities should be implemented whenever possible.

TRANSPARENCY
As a public institution, all USU stakeholders should have access to a clear understanding of RGS functions and Operations.

CHAPTER 1

Strategic Planning & Implementation

RGS GOALS AND STRATEGIES

- Enhance Researcher Capacity & Productivity.
- Champion a culture of safety, compliance and integrity.
- Support Technology Transfer efforts.
- Enhance quality, quantity and inclusiveness of USU's Grad Students and Programs.
- Enhance USU's Undergraduate Research Program.

RGS ORGANIZATIONS AND DIVISIONS

RGS oversees nine divisions: Animal Care and Use, Environmental Health and Safety, Graduate and Undergraduate Research, Integrity and Compliance, the Institutional Review Board, Research Development, the School of Graduate Studies, Sponsored Programs and Technology Transfer Services. Each of these divisions works to support the RGS mission and strategic goals. In total, RGS has 63 full-time employees. The office also coordinates the USU Research and Graduate Councils. As of July 1, 2016 an additional division was added to RGS, Technology Transfer Services. This change will fundamentally affect RGS goals and strategies in the coming year.

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VICE PRESIDENT FOR RESEARCH
& DEAN OF GRADUATE STUDIES
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ASSOCIATE VICE PRESIDENT &
ASSOCIATE DEAN
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ASSOCIATE DEAN
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ANNA.MCENTIRE

Dan Perry
PROGRAMMER &
SYSTEMS ANALYST
DAN.PERRY

Merideth Thompson
FACULTY FELLOW
MERIDETH.THOMPSON

THE OFFICE OF

RESEARCH + GRADUATE STUDIES

1 Strategic Goal: ENHANCE RESEARCHER CAPACITY & PRODUCTIVITY

SPONSORED PROGRAMS

RGS.USU.EDU/SPO

Kevin Peterson
EXECUTIVE DIRECTOR
KEVIN.PETERSON

RESEARCH DEVELOPMENT

RGS.USU.EDU/RD

Jerilyn Hansen
DIRECTOR
JERILYN.HANSEN

MICROSCOPY CORE FACILITY

RGS.USU.EDU/MCF

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MANAGER
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SYNTHETIC BIOMANUFACTURING FACILITY

RGS.USU.EDU/SBF

2 Strategic Goal: CHAMPION A CULTURE OF SAFETY, COMPLIANCE & INTEGRITY

INTEGRITY & COMPLIANCE

RGS.USU.EDU/COMPLIANCE

Russ Price
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3 Strategic Goal: SUPPORT TECHNOLOGY TRANSFER EFFORTS

TECHNOLOGY TRANSFER SERVICES

RGS.USU.EDU/TECHTRANSFER

Christian Iverson
DIRECTOR
CHRISTIAN.IVERSON

4 Strategic Goal: ENHANCE QUALITY, QUANTITY, & INCLUSIVENESS OF USU'S GRAD STUDENTS & PROGRAM

SCHOOL OF GRADUATE STUDIES

RGS.USU.EDU/GRADSTUDIES

5 Strategic Goal: ENHANCE USU'S UNDERGRADUATE RESEARCH PROGRAM

GRADUATE & UNDERGRADUATE RESEARCH

RGS.USU.EDU/UNDERGRADRESEARCH

STRATEGIC GOAL 1

Enhance Researcher Capacity & Productivity

TRAINING FOR RESEARCH FACULTY (TRF)

In FY17, RGS continued its Training for Research Faculty workshops. The series provides resources and guidance on special topics related to research and graduate student mentorship through panels of faculty experienced in those areas. RGS queried all faculty in a survey in summer 2016 to determine what workshop topics were of greatest need and interest. After receiving feedback, RGS selected seven topics that were broadly applicable across disciplines, while others are chosen to address very specific faculty needs.

In 2016-17, an average of 30 faculty members RSVP'ed for each TRF workshop. This is slightly lower than previous years' attendance, likely due to more specialized workshop topics which included open access to data, interdisciplinary graduate training, and finding human research subjects.

The most attended TRF workshop of FY17 was "Supporting students who struggle with mental health issues." The workshop shared warning signs, resources, and guidance for seeking help for graduate studnents, or anyone on campus. Significant ongoing discussion continued in the week following the December workshop.

Mark McLellan, Vice President for Research and Dean of Graduate Studies, introduces panelists at a Training for Research Faculty workshop.

TRF 2016-2017 TOPICS

- Support students who struggle with mental health
- Find participants for your research study
- Opportunities in interdisciplinary graduate training
- Increase your pool of potential graduate students
- Open access to data: What do I need to know?
- Utilize faculty Resources
- Mentor students more effectively

For FY18, RGS plans to reduce the number of offered workshops from seven to four, but it will continue with the format of utilizing faculty panels for input regarding content of the workshops. Next year's workshops will implement broadcasts and online materials making these workshops more accessible to those who can't attend due to time or location constraints.

DEPARTMENT HEADS FORUM

In 2016, RGS hosted the first Department Heads Forum where we created a meeting space to allow for open conversation of challenging issues. On August 8, 2017, the second annual forum ran for two hours and covered a range of topics including Startup Funding, Space Surveys and Graduate Faculty in the departments. For each topic, critical information was exchanged and solutions were discussed. RGS is assembling a feedback summary for the department heads which will include links to requested information and documents.

KUALI IMPLEMENTATION

Effective February 2017, all campus units began utilizing Kuali Research for preparing and submitting sponsored proposals. To prepare for the implementation of Kuali Research, Sponsored Programs began using Kuali Research internally in October 2015, and then rolled out the system to the College of Natural Resources, the College of Science, Student Services, and Regional Campuses and Distance Education in 2016.

Sponsored Programs staff conducted over 20 campus-wide Kuali trainings, approximately 25 college/department-specific trainings and many one-on-one trainings to faculty within the first four months of Kauli implementation. Trainings were offered to Business Services personnel, department heads, college deans and any faculty interested in conducting sponsored research.

Further, Sponsored Programs created a number of quick guides, found on the RGS Kuali website, to lead faculty through proposal creation and budget preparation in Kuali. Sponsored Programs staff also assist with responding to requests for assistance with Kuali submitted through ServiceNow.

Kuali replaces Sponsored Programs' paper based proposal submission process with an online system that streamlines proposal preparation, review, approval and submission. Kuali allows faculty to complete all internal and external proposal requirements in one spot, and allows submission to grants.gov directly through Kuali.

On Apr. 14, 2017, a standing-room-only crowd packed the library south atrium to hear nine students discuss the stories behind their research at Ignite USU.

RESEARCH WEEK

In early April, RGS hosted USU's 12th annual Research Week (RW). RW highlighted the best of Undergraduate, Graduate and faculty research. Several events, including Ignite USU, the Student Research Symposium and the D. Wynne Thorne Lecture, shared research through various poster and oral presentations, research lectures and speaking events.

Over 50 awardees received formal recognition for their outstanding research acumen. The awards included Faculty Researchers of the Year, Doctoral Researchers of the Year, Masters Researchers of the Year and Undergraduate Researchers of the Year. At the Research Awards Gala two university awards, the D. Wynne Thorne Career Research Award and the Graduate Mentor of the Year, were awarded. Researchers who received notable grants or patents were also recognized for their accomplishments. Additionally, hundreds of students and faculty were recognized informally throughout the week.

SUNRISE SESSIONS

Now in its eleventh year, Sunrise Sessions bring the creative endeavors of USU's faculty to our constituents in Salt Lake City. RGS continued with full management of the event, working closely with Advancement in tailoring each presentation's audience to the speaker. The program continues to be supported by Regence.

Four faculty presented their research in FY17. About 100-150 people attend each Sunrise Session and talks are recorded and posted to YouTube. You can learn more at sunrise.usu.edu.

SUNRISE 2017 SPEAKERS

Speaker	Title
Travis Dorsch	Parent Involvement In Organized Youth Sport: The Good, The Bad, And The Ugly
Courtney Flint	Exploring Well-Being In The Wasatch Through Mountain Sociology
Jack Schmidt	Development And Protection Of The Colorado River System In Utah – From Jon Wesley Powell to the Future
Thomas Higbee	Unlocking The Full Potential Of Utah's Children With Autism Through Early Intensive Behavioral Intervention

Elizabeth Vargis, assistant professor of biological engineering, presented her talk, "Building muscles and mentors," at TEDxUSU on Oct. 28, 2016.

TEDXUSU

RGS organized its fifth TEDxUSU, an independently organized TED-like event dedicated to "ideas worth spreading." Centered on the theme "Lift," TEDxUSU 2016 featured eleven speakers whose talks spanned a wide range of disciplines. Speakers informed us of the role of native bees, the importance of diversity in comics and reframed the role and meaning of conflict.

For the first time, the TEDxUSU team pre-recorded a talk in a direct-to-camera format, making this talk available the same day as TEDxUSU. Additionally, graduate student speaker Amy Moser gave a talk on the role of geology in understanding and predicting earthquakes; it was featured on screens at the National Science Foundation headquarters in Washington D.C.

Over five years, TEDxUSU talks have been viewed over 836,000 times on YouTube.

TEDXUSU 2017

Due to the overwhelming interest in attending TEDxUSU, TEDx will be moving from the 400-person Manon Caine Russel Kathryn Caine Wanlass Performance Hall to the newly renovated Daines Concert Hall, quadrupling audience capacity. With this move, those interested in attending TEDxUSU will no longer have to enter a ticket lottery and can instead purchase tickets on a first-come-first-serve basis.

STRATEGIC GOAL 2

Champion a Culture of Safety, Integrity and Compliance

AAHRPP REACCREDITATION

In December of 2016, the USU Human Research Protections Program hosted site reviewers from the Association for the Accreditation of Human Research Protections Programs (AAHRPP). The IRB worked closely with the Office of Compliance Assistance to participate in the site-review required for Utah State University's reaccreditation cycle. Accreditation by AAHRPP is an assurance to the research community, participants included, that USU units diligently work to maximize protections to human participants in research. Students, faculty, staff and administrators met with AAHRPP site visitors to ensure that USU is adhering to the standards of accreditation set forth by the AAHRPP Council.

In March of 2017, Utah State University was awarded full AAHRPP Accreditation for the third time. AAHRPP Accreditation is awarded in five year cycles, with an annual reporting requirement every Spring semester. AAHRPP made two findings related to USU's Human Research Protections Program, both of which have been addressed to the satisfaction of the AAHRPP Council. Despite lower than average staffing for an IRB with as many protocols as USU produces, USU's IRB has demonstrated a commitment to ensuring high standards for its HRPP.

These three simple rules of safety help USU faculty and staff create a culture of safety:

1. If you are in authority over a location, activity, or program then you must know and understand the hazards associated with the location, activity or program. (Assess hazards.)

2. Safety Training - Anyone entering into the location, activity or program with a known hazard, you must ensure they are made aware of the hazard. (Complete safety training.)

3. Upon identifying the hazard and conducting training for the hazard, a record must be made regarding hazard assessment and the training. (Record the traning details.)

AAALAC REACCREDITATION

The IACUC and LARC at USU continue in their dedication to high quality animal care and welfare. In March 2016, the LARC at USU participated in a triennial site visit with representatives from AAALAC International. Subsequent to the site visit the LARC and its staff have responded to recommendations that were made and received notification in March 2017 that full ongoing accreditation had been granted. The next AAALAC accreditation visit is expected to occur in the spring of 2019.

EHS PERSONNEL AT USU EASTERN

USU Eastern is the largest of Utah State Universities regional campuses, and the only full service regional campus. USU Eastern has its own student housing, dining, facilities, custodial, grounds and police services. The size of the USU Eastern campus and scope of the services they offer has required EHS staff to make frequent trips to the USU Eastern Campus in order to provide safety training, establish OSHA safety programs and address safety concerns. In FY16, an agreement was established between RGS and USU Eastern to provide the campus with a full time environmental health and safety professional, and Mr. Cameron Mix was hired into that position in FY17. Cameron brings high-level safety expertise to USU Eastern and other regional campuses, and he facilitates local delivery of all required environmental, health and safety training. Cameron also participates on the USU Eastern Safety Committee as well as the USU Safety Committee. In sum, his presence on the USU Eastern campus helps ensure USU safety policies and all applicable occupational safety, industrial hygiene, radiation and environmental regulations are understood and regularly followed.

REVAMPED STRUCTURE OF USU SAFETY COMMITTEES

Approval of the revised USU Safety and Health Policy (#337) by the USU Board of Trustees in May of 2016 established a more formal and institutionally representative USU Safety Committee, as well as college/unit committees that are comprised of a safety representative from every USU department. The Safety Committee includes each of the eight academic College Safety Committee chairs, as well as the following representatives or their designees:

- The Director of USU's Environmental Health and Safety Division (EHS)
- The chairs from the University Safety Committees (USU Biohazards Committee, Institutional Biosafety Committee, Chemical Hygiene Committee, and Radiological Safety Committee), who are appointed by the Vice President for Research
- The chair of the Risk Control Committee, who is appointed by the Vice President for Business and Finance
- The President of the Classified Employees Association
- The USU Police Chief
- A representative chosen by the Regional Campus/Eastern Administrative Council
- Other appropriate university units that participate in an ad hoc capacity as necessary. The Vice President for Business and Finance appoints individuals to represent USU's auxiliary services. Those currently include USU's Fire Marshall and the Directors for Housing and Dining Services.

The Committee meets once each semester and has responsibility to review and approve institutional procedures that relate to radiation, biohazards, chemical safety, recombinant DNA, risk control and occupational safety at the university. It also hears reports on safety-related incidents and initiatives from the colleges, departments and auxiliary units, and helps facilitate sharing of best practices across the campus community. The USU Safety Committee can also make recommendations for new policy as needed.

The university-wide safety committee met twice in FY16 with Dr. Dale Barnard from the ADVS department serving as chair; the inaugural meeting was held in October, and the Spring semester meeting was convened in March. Representatives from RGS attended both meetings, and were very encouraged by the open discussions and exchange of ideas. At the March meeting, Dr. Barnard announced his pending retirement, and worked with RGS and EHS to recruit a capable replacement. We are very happy to announce that Dr. Alvan Hengge from the department of Chemistry and Biochemistry has accepted that role. As an active researcher and head of the Department of Chemistry and Biochemistry, Dr. Hengge brings a deep understanding of laboratory safety and an incredible record of strong leadership to the USU Safety Committee.

NEW POLICY RELATED TO FEDERAL RULES FOR PUBLIC ACCESS TO RESEARCH PUBLICATIONS AND DATA

USU implemented two policy changes in FY16 related to new Federal rules for public access to research publications and data. First, USU policy 586-Open Access to Scholarly Articles, was revised to ensure its alignment with federal rules on public access to research publications. In January 2016, the Research Council approved a recommendation from the Library that section 4.1 of policy 586 be revised to include the following text (emphasized):

> All employees during their employment with the University grant to the University a nonexclusive license to exercise any and all rights under copyright relating to each of their scholarly articles, in any medium, provided that the articles are not sold for profit, and to authorize others to do the same. These articles will also be deposited in the University's Open Access Institutional Repository to ensure the widest possible dissemination. The nonexclusive license will be waived at the sole discretion of the author, ***except in cases where a funder mandate requires article deposit,*** and will be administered on behalf of the Provost's Office by the Library.

This edit was approved by the USU Executive Committee in August, 2016.

Additionally, the recent federal requirements for public access to data sharing prompted USU to develop a completely new Research Data policy (#588, Appendix A p.48) that would provide uniform guidance on the rights and responsibilities of individual researchers and the institution regarding data produced as part of USU's research enterprise. A draft policy was created by representatives from RGS, the Library and Information Security, then shared with the USU Research Council as well as deans and department heads for college review and input. In addition to outlining the responsibilities of individuals and the institution in regard to research data, the new policy includes sections that define data ownership, retention, access, and transfer of data associated with a transferred contract or grant (see appendix A, p. 48). Policy 588 was approved by the USU Board of Trustees on May 5, 2017.

CHRISTIAN IVERSON
DIRECTOR

KATE ASTLE
TECHNOLOGY TRANSFER MANAGER

ALAN EDWARDS
TECHNOLOGY TRANSFER MANAGER

In addition to Technology Transfer Services, RGS also gained responsibility for USU's Synthetic Biomanufacturing Facility (SBF). (Located on Utah State University's Innovation Campus, the Synthetic Biomanufacturing Facility is designed and staffed to optimize large-scale development and production of bioproducts and raw cell material.)

STRATEGIC GOAL 3

Support technology transfer efforts

NEW DIVISION AND VISION

Technology Transfer Services (TTS) was restructured as a new division within RGS and relocated to Old Main. Rebranding our division to include services was an intentional decision to bring TTS' focus back to USU's faculty. Our goal is to provide faculty, staff and students training, consultation, business services, strategic protection and commercialization of USU discoveries and inventions. To achieve our goal, we have identified five strategies:

1. Provide training and communication to current and potential USU inventors.

2. Provide guidance on commercialization opportunities.

3. Coordinate efficient commercialization and legal services for IP holders.

4. Promote the commercialization of USU discoveries.

5. Foster regional economic development.

The TTS team is dedicated to providing the services and support to protect and promote the commercialization of discoveries and technologies invented at Utah State University that improve quality of life for faculty and staff.

CHRISTIAN IVERSON, **DIRECTOR**

Christian Iverson's primary area of focus is the commercialization of life science technologies. Christian has ten years of experience in biotechnology research, development, commercialization and start-up management.

Prior to joining Utah State in 2012, he served as the Executive Director of the Spendlove Medical Research Institute where he developed and managed a wide variety of programs, including programs to develop low cost diagnostic tools, improve air quality and teach the invention process to high school students. Prior to being Executive Director he was the co-founder and Vice President of Business Development for Quansys Biosciences. As VP of Business Development, he oversaw the Sales and Marketing and Administration activities for the company.

Prior to his employment at Quansys, he was an R&D Project Manager at the Spendlove Medical Research Institute where he led the multiplex development of antibodies for the Q-Plex Technology. The technology was licensed to Quansys Biosciences and he was picked to function as the VP of Business Development. Christian Iverson earned his undergraduate degrees in biology and business as well as his MBA from Utah State University.

KATE ASTLE, **TECHNOLOGY TRANSFER MANAGER**

Kate Peterson Astle's primary area of focus is the commercialization of education and software related technologies. Astle joined the Technology Transfer Services team in 2012.

During her time at USU, Kate has worked on a number of proposals and contracts, most recently helping USU receive the "Innovation and Economic Prosperity Designation" by the Association of Public Land-Grant Institutions.

Kate also served as an Entrepreneurial Mentor for an NSF funded I-Corps team, where she had the opportunity to coach a team of scientific researchers through the process of customer discovery and market fit using lean startup methodologies.

Prior to joining the Technology Transfer Services team, Kate served as a Graduate Research Assistant for economics professor Dr. Nick Lei Guo. Kate earned her undergraduate degree in English with a minor in Chemistry as well as her MBA from Utah State University.

ALAN EDWARDS, **TECHNOLOGY TRANSFER MANAGER**

Alan Edwards was added to the TTS team in March 2017. His primary focus is on the innovative technologies originating from the College of Engineering, Physics Department and the Space Dynamics Laboratory. He joined the Technology Transfer Services team in 2017, with previous experience as a technology manager at the University of Utah, commercializing faculty innovations ranging from laser interferometry to music recording systems through licensing or startup company.

Alan is a registered patent attorney with several years of experience protecting, enforcing and defending technologies that include diesel engines, photographic optics and nuclear plasma containment methods in New York, Utah, Colorado and Washington D.C. federal courts, with additional experience in trademarks, copyrights, trade secrets, licensing and domain name disputes. Alan has been an advisor to the officer of the National Congress of Inventor Organizations. He co-founded and was CEO of Great Sun Software, a sports-related startup company, and for 10 years was an award-winning journalist with the Salt Lake Deseret News, covering technology, government and a variety of other topics. Alan holds a BA in physics and MA in communications from Utah State University, and a JD from Duke University.

PROVIDE REGULAR FINANCIAL REPORTS TO IP HOLDERS

In an effort to provide an improved level of service and transparency we've implemented regular financial reports that are sent to our faculty inventors. This report details the relevant financial data for licensed IP–revenue received, accumulated IP, TTS expenses and the distributions of received revenue to individual inventors, departments and the university.

CONNECTIONS WITH FACULTY MEMBERS

Gaining the trust and cooperation of faculty—and educating researchers on key commercialization challenges—is critical to TTS' success. Under the new direction from RGS, TTS is focused on serving and connecting with all USU faculty inventors. An important initial step was to host an open forum for the USU community to update them on changes to USU's technology transfer future and to engage in a conversation about technology transfer at USU. As a direct result from this listening session, TTS has been focused on establishing and in some cases rebuilding faculty relationships and jumpstarting the commercialization of USU intellectual properties.

ESTABLISH AND WORK WITH TTS ADVISORY BOARD

An effective advisory board is essential to the technology transfer infrastructure. The TTS Advisory Board was organized in early 2017 and held its first meeting in March 2017. Our board member participation helps provide additional perspective needed to effectively guide TTS services and projects. TTS is pleased to have the following as members of its Advisory Board:

- G. Michael Alder
  DirectorOffice of Technology Transfer at Brigham Young University
- Jeff Bernel
  Adjunct Professor, University of Notre Dame and Valparaiso University
- Lisa M. Berreau
  Associate Dean of Research and Faculty Issues, Utah State University, College of Science
- Cory J. Card
  Principal Scientist, Cell Culture, GE Healthcare
- James Davis
  Chairman of the Management Department, Director of Executive Education, Jon M. Huntsman School of Business, Utah State University
- T. Wade Fallin
  CEO, Surgical Frontiers
- Jake Gunther
  Department of Electrical and Computer Engineering Department Head, Utah State University
- H. Scott Hinton
  President, Utah State University Research Foundation
- Susan Mooney Johnson
  President & CEO, Futura Industries
- Kevin Reeve, Director
  Teaching & Learning Technology, Utah State University, Academic & Instructional Services
- Kelly Slone
  President & CEO, BioUtah
- Kenneth White
  Dean of the College of Agriculture and Applied Sciences, Utah State University

We expect our board members to actively review TTS activities and strategies and assess future activities and plans of the office. In doing so, the advisory board will address its primary tasks:

- Ensure USU Technology Transfer Services provides effective services and technical support to the university's research, outreach and teaching community.
- Foster more proficient disclosure, capture and commercialization of USU intellectual property.

The advisory board will help us shape the next era of our technology commercialization activities, following the transfer and restructure of the office as a division of RGS. The members of the advisory board are expected to discuss TTS activities, operations and opportunities and provide critical feedback. The board is advisory to the Vice President for Research, and to the TTS leadership structure. Dr. Jeff Broadbent has been designated as chair of the advisory board.

STRATEGIC GOAL 4

Enhance Quality, Quantity and Inclusiveness of USU's Graduate Students And Programs

EMERGENCY HEALTH FUND

Many graduate students lack the financial resources to deal with medical emergencies. Unplanned expenses of that sort may put at risk a student's ability to complete a graduate degree program.

In spring 2017, RGS created an Emergency Medical Fund that can help defray unexpected health costs. Applications submitted by students are reviewed by Dr. James Davis (Director, Student Health & Wellness Center) and by RGS.

FLEXIBILITY IN GRADUATE STUDENTS ON STARTUP FUNDING

This year RGS was able to conduct discussions with department heads and others to get feedback on many of our programs. Some of the feedback we heard related to our new faculty startups. After RGS reviewed the feedback and discussed the implications the new faculty startups were modified to expand support for graduate students. Previously new faculty startups were limited to 1 year of RGS funded support for graduate students. Now up to 3 years of RGS funded graduate assistantships can be included on new faculty startups.

This is clearly of benefit to new faculty and is decidedly important in recognizing the needs of researchers who might heavily depend upon graduate student research as a major cost of their program versus laboratory equipment for example. Other additions to the new faculty startup form include a place for terms and conditions that the department or college feel are important to specify regarding the startup funds.

We believe that this new flexibility in the startup support will be a great addition to attracting new faculty to our ranks. We have already received positive feedback regarding this change and are seeing the expanded graduate assistantship support be used in offers to new faculty members. RGS is pleased to partner with departments and colleges on new faculty startups in their search for the best faculty hires possible.

RECURRING SURVEYS

RGS believes that making data-driven decisions is the best way to achieve both desirable and measurable results. Because of this, we place a high priority on data collection and analytics.

Throughout the year, we conduct surveys and assemble focus groups to collect data about graduate student recruitment. We use these data to better target our recruiting efforts, and we also provide them to departments and graduate programs to help in their decision making.

Our office administers and analyzes a New Student Survey and an Opt-In Survey for graduate students on a yearly basis. We also collaborate with the Office of Analysis, Assessment and Accreditation (AAA) in providing a Graduating Student Survey. These surveys assess graduate student opinion on a variety of subjects, including their graduate school search, the availability of financial aid, social media use, overall satisfaction with the USU experience, etc.

Although RGS has recurring data collection methods, there are frequently more data needs that arise throughout the year. Our office administers various other surveys in order to fill these informational needs. These projects are termed "Ad-hoc Surveys", and in 2017 will include a Department Graduate Recruitment Self-Assessment, a Non-Enroll Survey, a Potential Student Survey and analyses of various events hosted by the Project Management and Communications team. These data will be collected and analyzed to help in the decision process for specific areas.

GRADSCHOOLMATCH.COM

GradSchoolMatch.com provides online "matchmaking" for potential graduate students and graduate degree programs. By creating and maintaining profiles on the GradSchoolMatch site, programs can increase their "top-of-funnel" recruitment by identifying students that match their needs and make valuable one-on-one connections with these students through the site's messaging services.

Utah State began using the service in November 2015. USU currently has 100 profiles for different programs, degrees and emphases throughout the university. 7% of all graduate school applications received during the 2016-17 school year were redirected from GradSchoolMatch. 19% of USU profiles were considered "complete" at the beginning of 2017. Our goal is to increase this number to 60% by the end of the year. As of August 1, that number had reached 30%. As the number of completed profiles and usage of the site continue to increase, we expect to see higher numbers of applications coming from this valuable resource.

GRADUATE STUDENT SOCIALS

Last fall, RGS responded to a measured desire for more university sponsored social opportunities for current graduate students by creating graduate student socials. This event is a monthly program designed to provide graduate students with a relaxing environment to socialize with other graduate students outside of their department or college. Each social includes free food and entertainment, which creates an informal and social setting. The socials are co-hosted each month by RGS and one or more of the university's colleges.

The 2016-17 school year featured eight student socials with an average attendance of 127 students. Activities included live music, trivia, karaoke and bingo. There are seven socials planned for the coming school year.

This year, RGS began hosting monthly socials for USU graduate students at the Logan Country Club. (The events are designed to fill a need expressed by students to be able to meet and mingle with others outside their own disciplines and cohorts. Each month a different college signs up to be host for that event.)

RECRUITMENT WEEKEND

In February of 2016, RGS hosted Utah State University's first multi-department graduate recruitment weekend visit. Fourteen departments participated, bringing 61 potential graduate students to campus to get to know the programs and opportunities available to them at USU.

Prior to the implementation of the weekend visit, individual programs and departments were already bringing prospective students to campus. Over the past year, 67% of graduate recruitment grants requested from the Office of RGS were used in whole or in part for bringing prospective graduate students to campus. By providing centralized programming during the recruitment weekend visit, more students can receive a quality experience while engaging with USU.

Centralized programming for the weekend visit included a welcome breakfast, the February Graduate Training Series workshop, a campus tour, optional recreational activities such as skiing or snowshoeing and several meals. In the future, the Graduate Student Social will be included instead of the Graduate Training Series.

After the visit, participants were asked to rate their impression of USU prior to attending, as well as their current impression. Ratings from prior to the visit ranked from 3-10 with an average of 6.5, and ratings from after the visit ranked from 7-10 with an average of 8.7. After having attended the recruitment weekend, 90% of survey respondents said they were either likely or very likely to attend USU, 10% said they were neutral, and 0% reported that they were either unlikely or very unlikely to attend USU. Departments accepted 49 of the weekend visit participants, of whom 55% chose to attend USU.

MASTER'S AND DOCTORAL RESEARCHER OF THE YEAR AWARD

Each year the Graduate School reviews nominations and selects a graduate student to be the Graduate Researcher of the Year. This award recognizes an outstanding contribution in research or creative activity. In light of the greater time and effort that is typically associated with a Doctoral Dissertation relative to a Master's Thesis, and to ensure that an outstanding Master's student would have an equal chance for this recognition, the Graduate Council decided to make separate Master's and Doctoral Researcher of the Year awards, beginning in spring 2018.

STRATEGIC GOAL 5

Enhance USU's Undergraduate Research Program

UR MENTOR ORIENTATION

In fall, 2016, the division of Graduate and Undergraduate Research extended the orientation schedule to a new audience: faculty mentors. The faculty mentor orientation was designed to outline the undergraduate research program for the coming year, including important dates, events, and programming. It was also an opportunity to outline changes and additions to the undergraduate research program. Finally, it was an opportunity to get feedback from faculty mentors related to the undergraduate research program. All faculty mentors were invited, as were all new faculty.

INCREASE IN PEAK ENDOWMENT

Terry Peak, professor in the department of sociology, social work, and anthropology, and David Peak, professor of physics have generously expanded the nature and scope of the David and Terry Peak Endowment for Undergraduate Research, and made another significant contribution. The endowment was amended to include funding for the Joyce Kinkead honors thesis of the year and the Undergraduate Research Mentor of the Year. Both of these awards will now be funded by the endowment. The endowment will continue to fund the Peak Prize award for the Undergraduate Researchers of the year at each college, and the university-wide undergraduate researcher of the year, awarded at the annual Robins awards.

CHAPTER 2

Research Council and Graduate Council

ACTIONS OF RESEARCH COUNCIL IN FY 2017

The Research Council provides advice and recommendations to the Vice President for Research and the Dean of the School of Graduate Studies. Additionally, members of the council provide direct and important channels of communication between researchers and those who make decisions affecting research at USU.

SEPTEMBER 2016

The Research Council reviewed and discussed the distribution of awards and research spending. The Council also discussed the restructure and renaming of the Division of Technology Transfer Services (TTS), its new alignment under the Office of RGS and the new roles within the division. Christian Iverson was introduced to the Research Council as TTS Director. Additionally, the Research Council discussed draft revisions to Intellectual Policy #587. These revisions to the policy incorporate the restructure of TTS.

NOVEMBER 2016

The Research Council reviewed TEDxUSU 2016 and future plans for the event. With over 4000 requests for tickets and only 400 seats available, the 2017 event will be held in Daines Concert Hall, which accommodates approximately 1500 attendees. Recorded talks are featured at tedx.usu.edu. The Research Council discussed the successful implementation of Kuali by Natural Resources and the College of Science. Remaining colleges implemented Kuali on February 1, 2017 after each college successfully completed training.

JANUARY 2017

The Research Council continued discussion on the Kuali/Coeus update. As of Feb. 1, 2017, no SPO-1 forms will be submitted by paper or Docusign. A step by step guide to entering a proposal in Kuali can be accessed at: http://rgs.usu.edu/spo/. Technical work to interface Kuali data with Digital Measures was completed early in July 2017.

MARCH 2017

The Research Council discussed FY17's F&A budget. Notable items from the new budget include the following:

- Support with colleges on new faculty startup packages in FY2018 will be distributed over a three-year budget span as 10% from RGS in FY2018, 40% in FY2019, 50% in FY2020. The distribution will then return to normal in FY2019 (1/3 shared funding over each of the subsequent three years).
- No new funding of E&G assistantships in FY2018.
- F&A funding to support PDRF will temporarily be moved to residual fee funding.
- RC/SPARC/GEM seed funding grants capped at $500K.
- No equipment match grants will be offered in FY2018. (Current matches will remain and are already allocated in budget. This program will return in 2019.)
- Post Doc support trimmed back.
- Cost savings implemented by purchasing energy directly from supplier versus third party that is designated for USTAR O&M fees.
- Disallowance budget reduced based on improved past vendor performance.
- Reduce the number of RGS funded Faculty Fellows going to Washington, DC this fall from 20 to 15.

RESEARCH COUNCIL ROSTER

Mark McLellan	Chair, Vice President for Research and Dean of Graduate Studies
Douglas Anderson	Jon M Huntsman School of Business
Beth Foley	Emma Eccles Jones College of Education and Human Services
Maura Hagan	College of Science
Jagath Kaluarachchi	College of Engineering
Joseph Ward	College of Humanities and Social Sciences
Mac McKee	Utah Water Research Laboratory
Craig Jessop	Caine College of the Arts
Nancy Huntly	Ecology Center
Ken White	College of Agriculture and Applied Sciences
Brad Cole	Libraries
Rylish Moeller	Faculty Senate Representative
Chris Luecke	S.J. and Jessie E. Quinney College of Natural Resources
Matthew Wappett	Center for Persons with Disabilities

ACTIVITIES OF THE GRADUATE COUNCIL

The Graduate Council advises the Vice President and the Dean for Research and Graduate Studies, providing a forum for considering major graduate program and student issues and approving changes in programs.

DIGITAL SUBMISSION OF THESIS TO LIBRARY

Beginning October 1, 2016, the library will accept electronic theses. Exceptions are still in place for embargoed theses.

CATALOG UPDATE

The Graduate General Catalog was updated to reflect current members and college/school participants currently on the Graduate Council.

ADMISSIONS TEST REQUIREMENT

The Social Inequality and MOU Memorandum of Understanding regarding applicants to the MSW Program at USU dropped the admissions test requirement for applicants with a master's degree.

ELIGIBILITY FOR GRADUATE MENTOR AWARD

The Council approved the wording change for award eligibility from "university employee" to "faculty" who taught within the last 12 months; this includes adjunct faculty.

PORTFOLIO OPTION

As of Jan 11, 2017, the full-time MBA program will waive the entrance exam requirement for students submitting a portfolio. The conditions for receiving this waiver can be found in the memorandum below:

RE: Portfolio Wavier Request for Full-time MBA Program (Approved 1-11-2017)

The MBA program in the Huntsman School of Business would like to amend the entrance exam requirement for the full-time MBA program. In addition to the entrance exam option, we would like to add a portfolio waiver option. We propose that the portfolio waiver be based on an applicant's body of work experience in industry.

To be considered for the portfolio waiver, candidates must have a minimum of four years of managerial leadership experience. The admissions committee (consisting of four MBA program faculty, one from each Huntsman School Departmental Discipline) will review candidate experience portfolio for admission and make recommendations to the MBA Program Director who will make the final admission decision.

Many MBA programs across the country, including aspirational peer institutions, (e.g., the University of Notre Dame, University of Michigan, NYU Stern School, Northwestern, University of Southern California, Washington State, etc.) provide the option of an experience-based portfolio for admission for applicants with significant work experience. We, therefore, request that the option for a portfolio waiver be added to our application process for our full-time MBA program.

Director of MBA Programs
Huntsman School of Business
Utah State University

FACULTY START UP FORM

The Council discussed the form to review guidelines and to encourage sharing within departments. This form now gives a three-year timeline for funding of assistantships and can provide more information and documentation of actual strategies. Download the Form Here

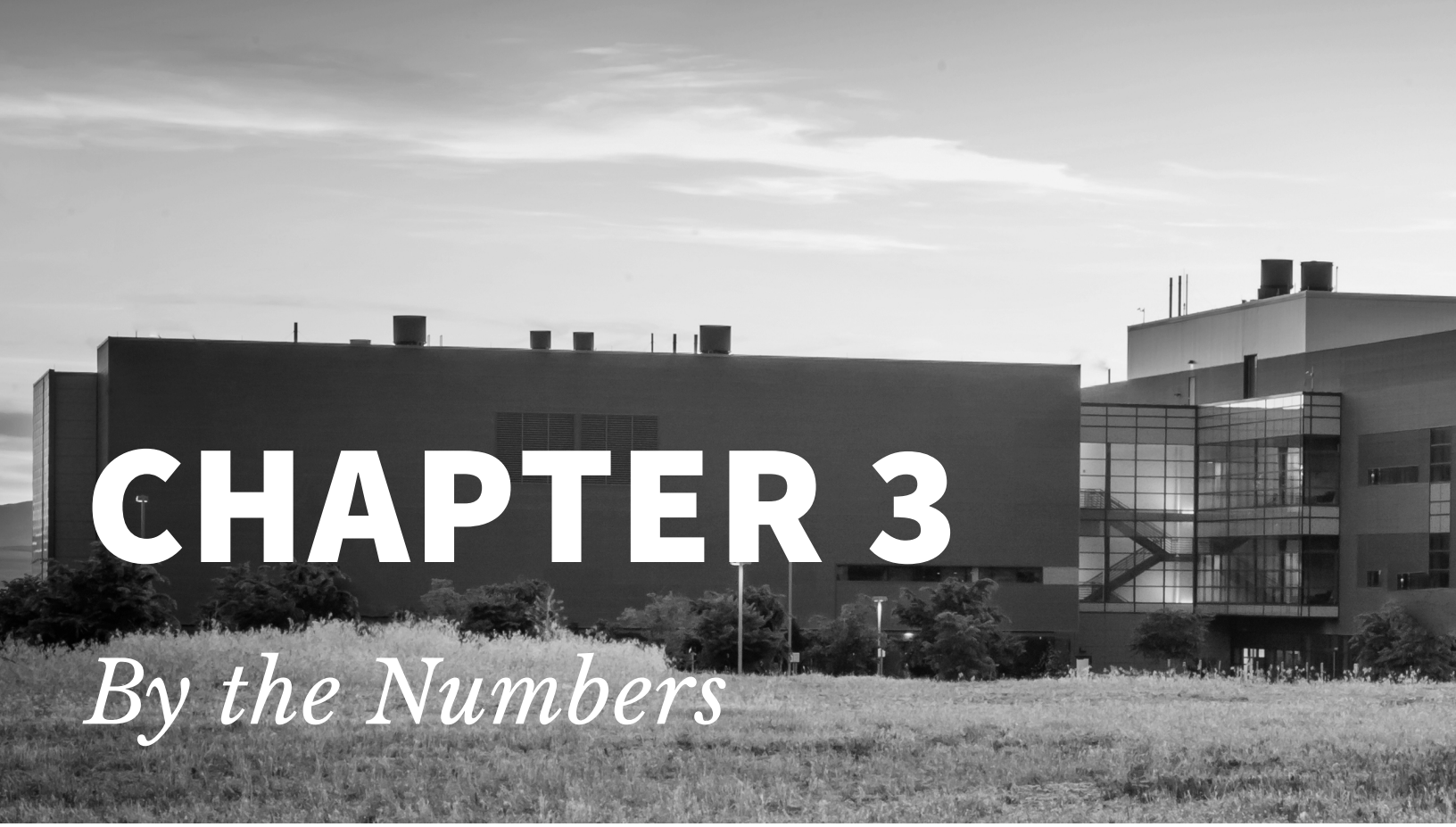
GRADUATE STUDENT HEALTH INSURANCE

Due to unexpected, significant medical costs, premiums for the self-funded program will increase. The Council also discussed increasing deductibles, premiums and partnering with other universities.

GRAD COUNCIL ROSTER

Chair	Mark McLellen	School of Graduate Studies
EndTerm		
2016	Abby Benninghoff	Agriculture
2018	Kathy Puzey	Arts
2018	Konrad Lee	Business
2018	Troy Beckert	Education
2018	Nick Flann	Engineering
2018	Rick Krannich	CHaSS
2018	Johan Du Toit	Natural Resources
2019	Michelle Baker	Science
2017	Lisa Gabbert	Faculty Senate
	Britt Fagerheim	Library
2016	Ty Aller	Graduate Senator

Members of the USUSA graduate council meet together.



CHAPTER 3

By the Numbers

USU PROFILE

Utah State University is Utah's land-grant and space grant institution. Its Carnegie classification is RU/H, a research university with high research activity. USU consists of the Logan Campus, a regional college (USU-Eastern) and three regional campuses (Brigham City, Tooele, Uintah Basin).

USU has eight academic colleges: Caine College of the Arts, College of Agriculture and Applied Sciences, Jon M. Huntsman School of Business, Emma Eccles Jones College of Education and Human Services, College of Engineering, College of Humanities and Social Sciences, S.J. and Jessie E. Quinney College of Natural Resources, and the College of Science. USU also has a highly productive Extension program.

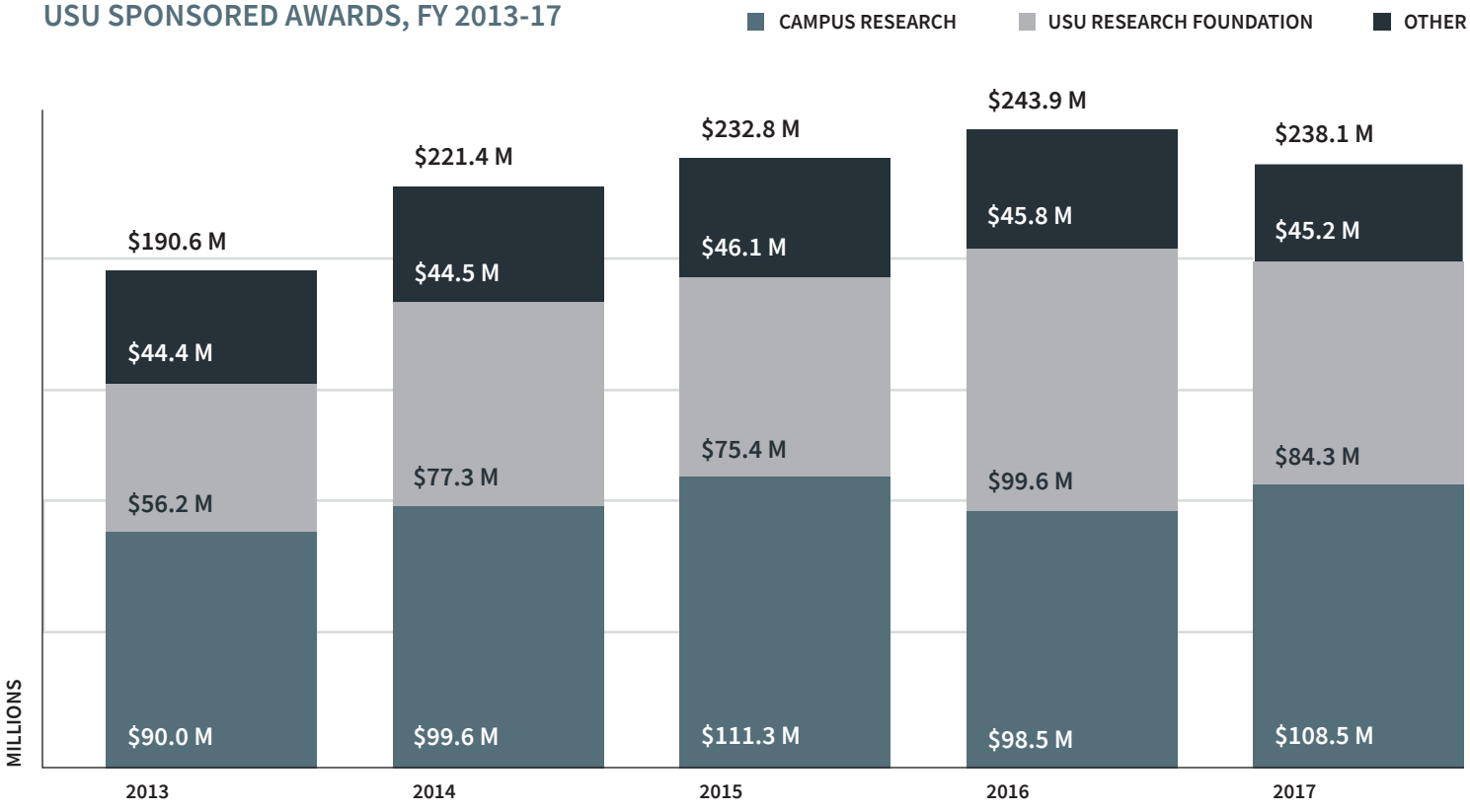
USU ranks second in the nation in aerospace and aeronautical research funding and third in the nation in external funding for a college of education. USU also consistently is ranked highly as a high value university for graduate students and undergraduates.

PROFILE OVERVIEW

Faculty Members (2016)	800
Total headcount enrollment (Fall 2016)	28,118
Graduate degrees offered	143
Total # sponsored awards received (FY17)	1,416
Total USU sponsored awards (FY17)	$238.1 M
Total # USU proposals (FY17)	1,463
Total amount of USU proposals (FY17)	$679.4 M

SPONSORED AWARDS

USU SPONSORED AWARDS, FY 2013-17



Includes financial aid, Pell Grants, federal formula funds and gifts for research.

SPONSORED AWARDS, FY13 - FY17

USU ACADEMIC COLLEGE	FY13	FY14	FY15	FY16	FY17	Change Over LY
Agriculture	$ 13,771,403	$ 19,153,454	$ 19,608,798	$ 15,738,020	$ 20,838,041	32%
Arts	$ 5,000	$ 21,700	$ 70,000	$ 38,000	$ 99,640	162%
Business	-	$ 259,118	-	$ 99,931	$ 75,000	-25%
Education	$ 24,032,307	$ 27,192,393	40,044,261	32,047,117	25,841,878	-19%
Engineering	$ 15,545,515	$ 11,689,831	$ 11,858,717	$ 12,057,115	$ 15,691,032	30%
CHaSS	$ 1,428,822	$ 896,037	$ 1,899,816	$ 1,827,820	$ 5,885,679	222%
Natural Resources	$ 13,443,810	$ 9,572,317	$ 7,289,265	$ 9,761,161	$ 14,038,210	44%
Science	$ 6,484,336	$ 14,459,045	$ 9,744,040	$ 15,974,335	$ 11,745,768	-26%
OTHER						
Extension	$ 3,800,117	$ 4,478,248	$ 13,142,518	$ 3,249,655	$ 5,069,381	56%
Student Services	$ 960,612	$ 1,763,941	$ 2,283,886	$ 1,721,134	$ 792,224	-54%
USU Eastern	$ 2,660,336	$ 2,952,436	$ 2,938,077	$ 3,190,900	$ 3,620,329	13%
Miscellaneous[1]	$ 7,860,853	$ 7,188,215	$ 2,417,895	$ 2,834,999	$ 4,803,063	69%
Campus Subtotal	$ 89,993,112	$ 99,626,736	$ 111,297,272	$ 98,540,187	$ 108,500,244	10%
USURF[2]	$ 56,228,730	$ 77,297,145	$ 75,352,922	$ 99,581,109	$ 84,372,932	-15%
Financial Aid, Pell Grants	$ 39,963,223	$ 39,484,606	$ 40,782,241	$ 39,922,478	$ 38,237,530	-4%
Federal Formula Funds	$ 4,432,614	$ 4,879,946	$ 4,840,428	$ 4,845,494	$ 4,854,716	0%
Gifts for Research	$ 20,125	$ 127,100	$ 521,459	$ 1,044,612	$ 2,149,549	106%
USU Grand Total	**$ 190,637,803**	**$ 221,415,533**	**$ 232,794,322**	**$ 243,933,880**	**$ 238,114,971**	**-2.4%**

1 "Miscellaneous" is a chatch-all category, with the Provost's Office, Administrative Services, and Regional Campuses accounting for the majority of these revenues.

2 AWS awards for FY14 in the amount of $488,684 have been included with USURF totals.

RESEARCH EXPENDITURES, FY 2012 - FY 2016

	2012	2013	2014	2015	2016[1]	Change Over LY
Research Expenditures	$ 157,355	$ 158,352	$ 169,605	$ 175,353	$ 183,105	4.42%

Source: NSF HERD Survey

1 Estimated. Includes tuition remissions to graduate students working on research. This information was not available for FY12 & FY13.

COMPARATIVE DATA

		($M) Research Expenditures [1]		Research Expenditures Ranking		Tenured Faculty [2,3]		Tenure-Track Faculty [2]	
		FY14	FY15	FY14	FY15	2014	2015	2014	2015
CSU	Colorado State University-Fort	$ 308.0	$ 317.2	75	73	754	753	223	241
KSU	Kansas State University	$ 184.9	$ 188.7	106	106	558	545	219	237
MSU	Montana State University	$ 113.3	$ 108.4	140	141	320	316	153	157
NMSU	New Mexico State University-	$ 134.3	$ 132.4	129	133	400	392	166	163
OSU	Oregon State University	$ 231.0	$ 245.3	90	86	585	589	297	308
UNeb	University of Nebraska-Lincoln	$ 278.3	$ 284.4	80	79	766	751	273	259
UNev	University of Nevada-Reno	$ 87.3	$ 90.1	155	150	370	366	157	189
UWyo	University of Wyoming	$ 51.4	$ 57.0	191	184	411	413	174	184
WSU	Washington State University	$ 326.4	$ 333.1	69	68	654	665	236	247
USU	**Utah State University**	**$ 169.6**	**$ 175.4**	**115**	**110**	**483**	**491**	**207**	**194**

		Undergrad Enrollment[2]		Grad Enrollment[2]		% Grad Enrollment[2,4]		Grad Students per Faculty	
		2014	2015	2014	2015	2014	2015	2014	2015
CSU	Colorado State University-Fort	23,598	23,917	7,756	6,697	24.7%	21.9%	7.9	6.7
KSU	Kansas State University	20,327	19,859	4,439	4,287	17.9%	17.8%	5.7	5.5
MSU	Montana State University	13,298	13,633	1,684	1,603	11.2%	10.5%	3.6	3.4
NMSU	New Mexico State University-	12,784	12,526	3,045	2,964	19.2%	19.1%	5.4	5.3
OSU	Oregon State University	23,903	24,612	4,983	4,964	17.3%	16.8%	5.6	5.5
UNeb	University of Nebraska-Lincoln	19,979	20,182	5,027	5,078	20.1%	20.1%	4.8	5.0
UNev	University of Nevada-Reno	16,839	17,770	3,095	3,128	15.5%	15.0%	5.9	5.6
UWyo	University of Wyoming	10,124	10,045	2,696	2,603	21.0%	20.6%	4.6	4.4
WSU	Washington State University	23,867	24,470	4,819	3,363	16.8%	12.1%	5.4	3.7
USU	**Utah State University**	**24,271**	**25,259**	**2,528**	**2,587**	**12.3%**	**11.7%%**	**3.7**	**3.8**

Total Faculty [2,3]		Expenditures per Tenured Faculty ($K)		Carnegie Ranking		F&A Rate	
2014	2015	FY14	FY15	2010	2015	FY17	FY18
977	994	$ 408	$ 421	R1	R1	52.0%	52.0%
777	782	$ 331	$ 346	R2	R1	52.0%	52.0%
473	473	$ 354	$ 343	R1	R2	44.0%	44.0%
566	555	$ 336	$ 338	R2	R2	48.0%	48.0%
882	897	$ 395	$ 416	R1	R1	47.0%	47.0%
1,039	1,010	$ 363	$ 379	R1	R1	-	-
527	555	$ 236	$ 246	R2	R2	43.5%	44.0%
585	597	$ 125	$ 138	R2	R2	44%	44.5%
890	912	$ 499	$ 501	R1	R1	52.0%	53.0%
690	**685**	**$ 351**	**$ 357**	**R2**	**R2**	**39.4%**	**42.6%**

Doctorates Awarded [2]		MS Awarded [2]	
2015	2016	2015	2016
369	377	1,606	1,755
274	303	1,031	1,109
56	79	482	528
114	131	807	794
346	355	857	874
447	464	852	860
173	179	612	622
222	222	489	492
438	464	731	741
115	**108**	**927**	**904**

Sources

1. *NSF HERD report*
2. *IPEDS Data Center (This differs from the calculations used for internal tracking on page 33.)*
3. *Includes non-tenure track instructional faculty.*
4. *Based on the total number of tenured plus tenure-track faculty. Instructional faculty were excluded.*

PERFORMANCE METRICS

RESEARCH

	FY14	FY15	FY16	FY17
Total New Awards	$ 221.4 M	$ 232.8 M	$ 243.9 M	$ 238.1 M
National Rank for Research Expenditures (643 institutions)	115	110	NYA	NYA
New Sponsored Programs Proposals Submitted	1521	1600	1422	1463
Peer-reviewed Journal Publications	962	1000	1058	997
Books	42	31	42	41
Public Exhibitions and Public Performances	58	41	79	104

GRADUATE STUDIES

	AY13-14	AY14-15	AY15-16	AY16-17
Fall (day 15) Enrollment of Degree-Seeking Grad Students	2527	2528	2587	2479
Percentage of Student Body that is Grad Students	12.3%	12.3%	11.7%	11.7%
Doctoral Degrees Awarded	115	108	102	NYA
Master's Degrees Awarded	927	900	830	NYA

GRADUATE & UNDERGRADUATE RESEARCH

	FY14	FY15	FY16	FY17
Peer-reviewed Publications with Graduate Student Authors	339	357	341	302
Peer-reviewed Publications with Undergraduate Authors	38	53	54	65

RGS PROGRAM REPORTS AND METRICS

RGS PORTION OF NEW FACULTY STARTUP COMMITMENTS

		5-Year Detail	Yearly Detail					
College	**Total**	**Average**		**($) FY13**	**($) FY14**	**($) FY15**	**($) FY16**	**($) FY17**
Caine College of the Arts	$ 13,218	$ 2,802	Yearly Total	3,066	10,152	-	-	-
			Yearly Average	3,066	2,538	-	-	-
College of Agriculture	$ 941,358	$ 54,357	Yearly Total	72,600	149,628	159,334	177,596	382,200
			Yearly Average	36,300	74,814	39,834	44,399	76,440
Huntsman School for Business	$ 3,908	$ 1,954	Yearly Total	-	1,954	1,954	-	-
			Yearly Average	-	1,954	1,954	-	-
College of Education & Human Services	$ 2,156,334	$ 45,204	Yearly Total	759,135	84,571	239,505	215,562	857,560
			Yearly Average	75,914	21,143	47,901	35,927	45,135
College of Engineering	$ 2,999,400	$ 100,307	Yearly Total	309,133	1,544,389	413,287	312,985	419,606
			Yearly Average	61,827	118,799	137,762	78,246	104,902
College of Humanities and Social Sciences	$ 425,174	$ 11,687	Yearly Total	82,347	213,026	48,157	81,644	-
			Yearly Average	9,150	19,366	8,026	10,205	-
College of Natural Resources	$ 1,198,542	$ 83,098	Yearly Total	40,000	165,400	481,395	424,131	87,616
			Yearly Average	40,000	82,700	120,349	84,826	87,616
College of Science	$ 2,681,872	$ 142,900	Yearly Total	436,561	923,599	173,000	305,550	843,162
			Yearly Average	62,366	230,900	57,667	152,775	210,790
Utah State University	**$ 10,419,806**	**$ 64,320**	**RGS Total Commitments**	**1,702,843**	**3,092,719**	**1,516,633**	**1,517,468**	**2,590,144**
			Average Commitment/ Total Startups	**47,301 / 36**	**75,432/ 41**	**58,364/ 26**	**56,938/ 27**	**78,489/ 33**

Note: Yearly totals are calculated based on full new faculty startup amount; this does not mean that they are paid out in full that same year. New faculty startups are paid over muliple years. Averages are based on total new faculty startup amount.

SEED GRANTS *October 2016 & April 2017 Grant Cycles*

RESEARCH CATALYST GRANTS (RC)

Researcher	Department /Center	College	Project Title	Co-PIs	($) Amount
Ralph Meyer	ADVS	College of Agriculture & Applied Sciences	Sperm Epigenetics in the Niacin-Deficient Male		$ 20,000
Scott Jones	PSC/ Climate	College of Agriculture & Applied Sciences	Developing High Resolution Root-Zone Soil Moisture Products from Optical Satellite Images		$ 20,000
Simon Wang	PSC/ Climate	College of Agriculture & Applied Sciences	Forestry-based Reconstruction of Snowpack for Western United States	H. W. Hsu	$ 20,000
David Bolton	KHS	College of Education and Human Services	Does Vision Automatically Prepare the Brain to Generate Movements		$ 19,941
Chris Dakin	KHS	College of Education and Human Services	Vestibular Intervention for Fall Prevention	Eadric Bressel	$ 20,000
Elizabeth Fauth	FCHD	College of Education and Human Services	Determining the Role of Stress and Social Support on Health Behaviors and Mood: Do Processes Differ for Adolescents and Older Adults	Troy Beckert	$ 19,963
Sarah Yoho Leopold	COMD	College of Education and Human Services	Improving Speech Intelligibility for Listeners Hearing Loss		$ 19,155
Amy Wilson-Lopez	TEAL	College of Education and Human Services	Developing an Instructional Framework to Support Engineering Argumentation		$ 18,997
Ziqi Song	CEE	College of Engineering	Improved Accuracy, Timeliness, and Cost-Efficiency for Highway Feature Extraction Utilizing Novel Automated Approach	Xiaojun Qi	$ 19,941
Nicholas Roberts	MAE	College of Engineering	Measurement of Heat Spreading, Effective Thermal Conductivity and Surface Temperature in Suspended and Supported Thin Films		$ 20,000
Ryan Davidson	ECE	College of Engineering	A New Method for Making RPA-Type Measurements in the Ionosphere		$ 17,727
Kristina Scharp	LPSC	College of Humanities and Social Sciences	Exploring the Stories Hearing Parents Tell Their Deaf Children About Their Decision to (or not to) opt for Cochlear Implantation During Infancy	Brittan Barker	$ 19,994
Janice Brahney	WATS	College of Natural Resources	Using Cosmogenic Elements as Geochronological Markers in Lake Sediments and Incorporating Instantaneous Sedimentation Rates into Holocene Age-Models	Dennis Newell	$ 19,818
Trisha Atwood	WATS	College of Natural Resources	Trophic Cascades Shape Blue Carbon Hotspots in Seagrass Ecosystems		$ 19,923

Joan Hevel	Chem/ BioChem	College of Science	Redox Regulation of PRMT1	**$** 19,941
Andreas Malmendier		College of Science	An Algebro-geometric Approach to Determining Special Function Identities and Their Implementation into Symbolic Computing	**$** 19,712
Dennis Newell	Geology	College of Science	Great Salt Lake Microbialite Chronology and Isotope Geochemistry: Implications for Paleolake Hydrological and Geochemical Evolution	**$** 20,000

SEED PROGRAM TO ADVANCE RESEARCH COLLABORATIONS (SPARC) GRANT

Researcher	**Department /Center**	**College**	**Project Title**	**Co-PIs**	**($) Amount**
Clara Cho	NDFS	College of Agriculture & Applied Sciences	Mathematical Modeling of Gut Microbial Interactions and Trimethylamine Production	Geordie Richards, Guifang Fu	35,000
Brian Belland	ITLS	College of Education and Human Services	Computer-based individualized and Customized Supports for K-12 Students: The Development of	Yong Seog Kim	34,507
Thayne Sweeten	CPD/ Biology	College of Education and Human Services	The Relationship Between HLA Genes, Mid-Gestational Immune Activation and Intelligence in Autism	Anthony Torres, Chris	33,960
Layne Coppock	ENVS	College of Natural Resources	Co-Adaptation of a Large Carnivore and Human Society across a Dynamic Wildland-Rural-Urban Interface	Julie K. Young, Arthur	35,000

GRANT EXPERIENCE FOR MENTORSHIP (GEM) GRANTS

David Wall	Art & Design	College of the Arts	Space, Place and Empire: Anxiety and Abundance in Postwar British Cinema	Michael Martin	10,000
Jessica Shumway	TEAL	College of Education and Human Services	A Number System Knowledge Instructional Treatment: Linking Quantities with Numerals		9,897
Kristin Hulvey	Wildland Resources	College of Natural Resources	Using GPS and Remotely Sensed Data to Discern Differences in Forage-Use Among Three Common Livestock Grazing Systems	Mark Brunson	9,993
Kelly Bradbury	Geology	College of Science	Hydrogeochemical, Structural and Mechanical Properties of the Sedimentary Crystalline Bedrock Interface Via Scientific Drilling in NE Iowa: Implications for Injection Induced Seismicity	John Shervais	10,000

PRESIDENTIAL DOCTORAL RESEARCH FELLOW ALLOCATIONS

The Presidential Doctoral Research Fellows program completed its fifth year in 2016. In addition to PDRF program covering 100% of university tuition on the plan of study, the program also includes a $10k stipend per year from RGS. Fellows must also be awarded a standard department assistantship (or other source) of funding. We are entering the recruiting season for the next cohort of PDRFs–students would start Fall 2018. Allocation of the 51 slots is partially determined by PHD headcount. It is: 10% (5 slots) for each of CAAS, QNR, and RGS (at large), 22% (11 slots) for each of EEJCEHS, ENGR, and SCI, and 6% (3 slots) for CHASS. Open slots are the result of (a) a student 'graduating' from the four-year PDRF program, (b) a slot that has gone unfilled, or (c) a slot that has been vacated.

The following fellows were recruited in 2016 and will begin their PHD programs in fall 2017:

- **Devon S. Isaacs**
  Psychology, Emma Eccles Jones College of Education and Human Services
- **Junnan Geng**
  Biological Engeineerinug, College of Engineering
- **Ibrahim A. Abdelmotelb Ibrahim**
  College of Engineering
- **Simon P. Shuster**
  Mechanical and Aerospace Engineering, College of Engineering
- **Emily Wilkins**
  Environment & Society, Quinney College of Natural Resources
- **Donald J. Benkendorf**
  Watershed Sciences, Quinney College of Natural Resources
- **Mathangi Soundararajan**
  Chemistry & Biochemistry, College of Science
- **Elizabeth G. Simpson**
  Biology, College of Science
- **Michael D. Briscoe**
  Sociology Social Work & Anthropology, College of Humanities and Social Sciences.
- **Claudia M. Wright**
  Sociology Social Work & Anthropology, College of Humanities and Social Sciences
- **Meng Xu**
  Computer Science, College of Engineering

Ryan Choi (PDRF), Wildland Resources Department, Seeking PhD Ecology Degree

FACILITIES AND ADMINISTRATION ALLOCATION

F&A Revenue	FY2017 Budget	% of Total Allocation	FY2017 Actuals[1]	% of Total Allocation
USU Eastern Revenues - 100% returned	150.0		163.8	
30% to USU Colleges/Departments/P.I.s	3,931.1		3,941.3	
70% to Central F&A Pool	9,430.5		9,196.5	
Total F&A Generated	**13,511.6**		**13,301.6**	
Funds Available for Distribution by RGS				
F&A Revenues in Central Pool (70%)	9,135.4		9,196.5	
Unused Prior Period Allocations Returned to Central Pool	-		161.9	
Carry Forward	-324.6		-324.6	
Total F&A available for distribution	**8,810.8**		**9,033.7**	
RGS Allocations from Central Pool (70% of Central F&A Pool)				
Discovery				
Direct College Support	2,676.3		3,300.7	
Support for Commercialization	2,042.2		1,681.1	
Core/Central Laboratories	927.5		900.9	
Support for Research Services and Programs	371.7		382.7	
Total Discovery	**6,017.7**	68.30%	**6,265.4**	69.36%
Administration				
Support for Central Administration Functions	1,007.6		1,016.8	
Support for Research Services and Programs	141.0		126.7	
Compliance Personnel Support	374.1		364.7	
Support for Education and Training	40.0		30.0	
Total Administration	**1,562.7**	17.74%	**1,538.2**	17.03%
Engagement				
Support for Commercialization	550.0		626.8	
Support for Education and Training	145.3		155.3	
Total Engagement	**695.3**	7.89%	**782.1**	8.66%
Learning				
Direct College Support	100.0		36.0	
Direct Student Support	659.0		227.8	
Support for Research Services and Programs	45.9		37.8	
Support for Education and Training	68.4		68.4	
Total Learning	**873.3**	**9.91%**	**370.0**	**4.10%**
Total F&A Allocations	**9,149.0**	103.84%	**8,955.6**	99.14%
FY17 (Over)/Under Allocated	**-338.2**	-3.84%	**78.1**	0.86%

[1] *Preliminary numbers may change.*

CHAPTER 4

Division Reports

ENVIRONMENTAL HEALTH & SAFETY

ADMINISTRATION

Environmental Health & Safety (EHS) Director Steve Bilbao retired in FY17 after 14 years of service. After a national search, Eric Jorgensen was promoted from Assistant Director to fill Steve's role. Additionally, Kirt Poulsen was promoted to the role of Assistant Director of EHS, and a new Hazardous Waste Manager was hired to replace Eric's responsibilities in tracking and managing regulated wastes on campus. Finally, a full time environmental health and safety professional, Mr. Cameron Mix, was hired to work on the USU Eastern campus. Cameron brings high-level safety expertise to USU Eastern and other regional campuses, and he facilitates local delivery of all required environmental, health and safety training.

During FY 17, the EHS Office was successfully managed at approximately 10% under budget while accomplishing all the duties of the EHS Office and implementing of the new USU Policy 337. To facilitate compliance with policy 337, major upgrades were made to the EHS Assistant program, including addition of a short questionnaire to determine what training is required based on employee activities. Supervisors now have the ability to determine what training personnel need, when that training has been accomplished and when they need to have refresher training. EHS personnel met with many of the colleges to get people registered into the system and provide tutorials on its effective use.

UNIVERSITY SAFETY COMMITTEE

The University Safety Committee expanded from the five traditional sub-committees (Biohazards, Radiation Safety, Chemical Hygiene, Institutional Biosafety Committee and Risk Management) to include representatives from the safety committees of all eight Colleges, the three main areas under the Vice President of Business and Finance, representation from USU eastern and four representatives from various areas within Student Services. The newly expanded University Safety Committee met twice during the last fiscal year. Attendance at all meetings exceeded 90% with each representative providing detailed reports of safety activities within their area including hazard identification, risk assessment/mitigation and record keeping. The chair of the safety committee, Dale Barnard, retired after seven years of service. Alvan Hengge, Chemistry Department Head, was installed as the new chair of the committee.

The 19 sub committees reporting to the University Safety Committee include 144 faculty and staff members all working to attain full compliance with the USU Safety and Health Policy #337

HEALTH & SAFETY

CHEMICAL HYGIENE/SAFETY

The indoor air quality at USU was protected through a series of programs managed by the EHS Office. Thirty-two emergency indoor air quality issues were investigated and resolved to maintain a safe and comfortable work place. Additionally, every fume hood on campus was inspected for proper functioning to assure no hazardous chemicals were released into the breathing zones within laboratories. Long-term ventilation issues were addressed to improve indoor air quality. These sites included the cadaver laboratory on the Uintah Basin campus and positive pressure issues in laboratories in the Eccles Science Learning Center.

BIOLOGICAL SAFETY

EHS also conducted inspections of areas where select agents and biological hazards were in use to assure compliance with all regulatory guidance. Inspectors from USDA visited USU on two separate occasions to assess compliance with regulations and for renewal of the Select Agents Program. Inspectors focused on the vivarium in USTAR building 650 and the LARC. Inspectors found a few minor issues, which laboratory and EHS personnel were able to immediately address and correct.

The EHS Office also coordinated and managed the shutdown and yearly maintenance of the vivaria in USTAR building 650 and the LARC to assure regulatory compliance and continuity of a safe research environment.

INDUSTRIAL HYGIENE

The EHS Office continued oversight for OSHA required occupational safety programs, and coordinated with safety representative within USU Facilities to provide forklift operator, Lock out-Tag out, confined space and electrical safety.

ACCIDENT INVESTIGATION

At the request of the University Risk Management Department, EHS Office personnel initiated a program to investigate accidents reported to risk management for 'Worker Compensation'. This program is an attempt to identify causes of accidents and to develop procedures to reduce risks. Findings of accident investigations with causes and possible solutions are provided to the department where the accident occurred and to all other persons on campus that conduct similar activities. Severe or widely applicable accident investigations are also reported to the University Safety Committee.

ENVIRONMENTAL MANAGEMENT

HAZARDOUS WASTE DISPOSAL

- Collected 2,020 containers from 505 different areas on campus
- Disposed of 368 drums of waste totaling 67,929 pounds

Regulators from the State of Utah Division of Environmental Quality inspected the hazardous waste program. The program was found to be in full compliance with all local, state and federal regulations.

ASBESTOS PROJECTS

EHS personnel monitored and managed $770,468.80 in asbestos abatement projects in University buildings throughout the State.

RADIATION

All 29 radioactive material areas on campus were inspected and recertified for safe use of isotopes. The personnel working in these areas received refresher training or initial training as applicable.

Every isotope on campus was inventoried and recorded in an updated radioactive isotope inventory. This investigation determined that a number of isotopes could be discarded or had decayed. The removal of these isotopes from the university inventory decreased the regulatory burden and increased the overall safety of the program.

PHASE I SITE ASSESSMENTS

Seven properties purchased by or donated to the university were investigated to determine their potential for environmental liability. The sites were scattered across the state and included residential areas, agricultural real estate, and one commercial site.

AIR QUALITY

EHS personnel submitted a modification to the USEPA Title V air quality permit to keep the Logan campus in compliance with the new regulations imposed by the State as Cache Valley has been designated by the USEPA as 'Serious Non-Attainment for PM2.5'.

EHS also compiled the annual emission inventories for all of the priority pollutants (NOx, SOx, particulates, carbon monoxide, and volatile organics) in greenhouse gas emissions. The reports were submitted to State and Federal regulatory agencies in compliance with the Clean Air Act. Greenhouse gas emissions were also reported to Association for the Advancement of Sustainability in Higher Education in compliance with the Presidents Climate Commitment.

Finally, EHS personnel worked with researchers within the Electrical Engineering department to develop emission controls to capture the toxic by-products generated during destructive testing on lithium-ion batteries.

WATER QUALITY

USU's Storm Water Pollution Prevention Plan was reviewed, and all of the chemical storage locations on the Logan and branch campuses were inspected for integrity and evidence of spills, leaks and releases.

EMERGENCY RESPONSE

EHS personnel completed an update to the Emergency Response map for Logan Campus. This interactive GIS map includes the location of all utilities, ventilation systems and emergency equipment (fire extinguishers, emergency showers and eyewash stations). The map includes evaluation routes and staging areas to evacuees and responding emergency services. The map is available to emergency responders and USU Administrators through a web-based platform. EHS personnel also initiated the Emergency Mapping of the USU Eastern campus.

EHS personnel responded to, contained and cleaned four mercury spills inside laboratories and four fuel spills in parking lots and roadways. EHS personnel assisted laboratory personnel in the clean-up and containerization of general chemical spills on seven separate occasions.

INSTITUTIONAL REVIEW BOARD

The 2016-2017 academic year saw continued growth in the number of protocol reviews. A record 1,711 protocol and amendment approval actions occurred during the last reporting year. Nevertheless, review times for exempt and expedite protocol reviews decreased substantially. The median expedite protocol review time decreased from 43 to 37 days last reporting year, while the median exempt protocol review time decreased from 16 to 13 days.

HUMAN RESEARCH PROTECTIONS PROGRAM (AAHRPP)

In December of 2016, the USU Human Research Protections Program hosted site reviewers from the Association for the Accreditation of Human Research Protections Programs (AAHRPP). The IRB worked closely with the Office of Compliance Assistance to participate in the site review required for Utah State University's second re-accreditation cycle. Accreditation by AAHRPP is an assurance to the research community, participants included, that USU units diligently work to maximize protections to human participants in research. Students, faculty, staff, and administrators met with AAHRPP site visitors to ensure that USU is adhering to the standards of accreditation set forth by the AAHRPP Council.

In March of 2017, Utah State University was awarded full AAHRPP Accreditation for the third time. AAHRPP Accreditation is awarded in five year cycles, with an annual reporting requirement every Spring semester. AAHRPP made two findings related to USU's Human Research Protections Program, both of which have been addressed to the satisfaction of the AAHRPP Council. Despite lower than average staffing for an IRB with as many protocols as USU produces, USU's IRB has demonstrated a commitment to ensuring high standards for its Human Research Protections Program.

MEETING FEDERAL REGULATIONS

Earlier this year, the federal Office for Human Research Protections in the Department of Health and Human Services released a new regulatory rule governing the operations of IRBs. The updated Federal Policy for the Protection of Human Subjects substantially broadens the categories of exempt research, brings identifiable biospecimens under the purview of the federal rule, updates requirements for documenting informed consent, requires single IRB review, and removes the need for annual approval of expedite research projects. The USU IRB has already made updates consistent with the requirements relating to informed consent, single IRB review and looks forward to making the remaining changes as the rule comes into effect over the course of the next academic year.

MOVING FORWARD

During the upcoming academic year, the IRB looks forward to welcoming new staff. Dr. Johanna Phelps Hillen, the IRB's Program Coordinator for the last two years, has accepted a faculty position with the English Department at Washington State University – Vancouver. Dr. Erin Brewer will be replacing her early Fall 2017. Dr. Brewer has worked for Utah State University for the last three years, including a previous role within RGS. Her expertise in Instructional Technology & Learning Systems and qualitative research is a welcome addition to the USU IRB.

Also in the upcoming academic year, the IRB will be rolling out a new online protocol management system within Kuali. The adoption, originally scheduled for the 2016-2017 academic year, was delayed while Kuali worked to put the finishing touches on the protocols module. Soon, USU researchers will be able to complete their sponsored programs, conflict of interest, and protocols work all within the same interface. Trainings and rollout are expected to occur Spring 2018, and information related to the transition will be disseminated on the IRB website and the active human subjects researchers listserv.

LABORATORY ANIMAL RESEARCH CENTER & INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE

ONGOING SUPPORT FOR GROWING RESEARCH PROGRAMS

The primary role of the LARC is to provide support to faculty members using laboratory animals in their research. The LARC has observed an increased demand for those services as represented by an approximate 5% increase in the number of animals being housed in the facility. The LARC continues to meet its support role by adding caging and other equipment and by continually evaluating current future animal care needs through internal review and regular communication with researchers.

FORMALIZED COLLABORATIVE RELATIONSHIP

The USU IACUC works to serve all animal users at the University by providing review and oversight of proposed use of animals in teaching or research. For many years, through informal agreements, the USU IACUC has helped provide animal use oversight to the Poisonous Plant Research Laboratory, a federal research laboratory funded by the United States Department of Agriculture-Agricultural Research Services. In the past year the IACUC and the RGS has formalized the relationship by establishing written Memorandum of Understanding. This more formal relationship helps to ensures proper oversight of a closely located research institution while also opening additional opportunities for collaboration and sharing resources between USU faculty members and federal animal scientists at the laboratory.

MAINTAINING ACCREDITATION

The IACUC and LARC at USU continue in their dedication to high quality animal care and welfare. In March 2016, the LARC at USU participated in a triennial site visit with representatives from AAALAC International. Subsequent to the site visit, the LARC and its staff have responded to recommendations that were made and, in March 2017, received notification that full, ongoing accreditation had been granted. The next AAALAC accreditation visit is expected to occur in the spring of 2019.

LARC STAFF PROVIDE SERVICE TO NATIONAL ORGANIZATIONS

Service within the field of laboratory animal medicine is an important responsibility for members of the USU animal care team. The Laboratory Animal Managers Association (LAMA) is an organization dedicated to advancing the quality of management and care of laboratory animals throughout the world. Lisa DeSoi, Supervisor of the LARC, currently serves for the second time on the program committee for LAMA, which is responsible for establishing national meeting curriculum, recruiting speakers and planning educational activities for the annual LAMA meeting.

RESEARCH DEVELOPMENT

NEW RD STAFF

In FY2017, RD partnered with the College of Science to hire a proposal development specialist. This individual began working with CoS faculty in July 2016.

Additionally, RD began discussions with the College of Humanities and Social Sciences and the Caine College of the Arts to hire a proposal development specialist to assist their faculty.

The RD Division currently consists of a director, a part-time program assistant, and five proposal development specialists (Pam Garcia, Agriculture; Nancy Sassano, Education; Monica Kessel, Engineering; Janee Livingston, Extension, and Carly Cummings, Science).

GRANTSMANSHIP TRAINING PROGRAM

GRADUATE STUDENTS

- The grant writing seminar tailored specifically to the needs of graduate students was offered once in FY2017:
- 1 seminar – fall semester
- 103 graduate students and/or postdocs attended

FACULTY

- 1 seminar – fall semester
- 71 faculty and research support staff attended

All seminars were presented by Grant Writers' Seminars & Workshops (www.grantcentral.com). RGS covered seminar participants' material costs, lunches, and breaks. The faculty seminar focused on "writing to the review process.

PROPOSAL WRITING INSTITUTE

The Proposal Writing Institute completed training its ninth, and **largest ever**, cohort in FY2017. Sixteen faculty members were selected via a competitive application process to participate in this 4-week, intensive proposal writing training opportunity.

Including this most recent cohort, the Proposal Writing Institute has trained 114 faculty over the past nine years. At the end of FY2017, those faculty submitted 123 proposals worth nearly $68 million that can be tied directly to the projects worked on during the Institute. Of those submitted proposals, Institute faculty have received 23 awards worth nearly $11 million.

FUNDING FINDER

The Funding Finder database is the primary USU-provided resource for faculty to find funding opportunities. The database includes federal agency and private foundation/organization funding opportunities; limited submission opportunities; internal seed funding opportunities; undergraduate/graduate funding opportunities; faculty prize/recognition opportunities; and funding agency notifications regarding changes to policy/procedures, funding priorities, agency-specific training/educational opportunities, etc.

All faculty are encouraged to sign up for the weekly ***Funding Finder Newsletter***, which can be done by visiting the main page (https://fundingfinder.usu.edu/) and clicking the Sign Up button. At the end of FY2017, there were 503 newsletter subscribers.

In FY2017, RD migrated to MailChimp for the weekly email distribution of the ***Funding Finder Newsletter***. The use of MailChimp provides better metrics on recipient activity (e.g., opens, clicks) and allows for the addition of content outside of the Funding Finder database (e.g., special announcements, training dates, events).

RGS SEED GRANT PROGRAM

In FY2017, the RGS seed grant program received 41 applications and made 25 awards through its biannual competition cycles:

GEM

- 5 applications
- 4 awards

RC

- 30 applications
- 17 awards

SPARC

- 6 applications
- 4 awards

Beth Fauth, associate professor in the Department of Family, Consumer and Human Development, along with Troy Beckert (not pictured), received a seed grant for determining the role of stress and social support on health behaviors and mood.

RESEARCH INTEGRITY & COMPLIANCE

RESPONSE TO REGULATIONS

During FY17 Research Integrity & Compliance (RIC) responded to four regulatory actions.

1. The Office of Human Research Protections (OHRP) in the Department of Health and Human Services issued a Notice of Proposed Rule Making that has potentially far reaching impacts on USU's Human Research Protection Program (HRPP). USU, along with many institutions of higher education and academic medical centers, provided comments and participated in forums to alert OHRP of the negative consequences that would follow from many of the regulatory changes being proposed. During the current year, a final rule may be issued, and compliance with the new regulations may require significant effort by USU.

2. During FY16, a major effort to harmonize the Export Control regulations overseen within the Departments of Commerce and State came to fruition, and USU developed training and internal controls to achieve compliance with the new harmonized rule. The RIC established a partnership with Sponsored Programs to identify and negotiate terms and conditions that are related to export control regulations, and provide support in meeting requirements under the regulations and monitoring compliance with teams conducting export controlled projects.

3. The Office of Science & Technology Policy (OSTP) promulgated rules during FY15 that required all federal agencies to develop rules regarding the sharing of data that is acquired under federal funding. Those agency-specific policies became available during FY16, and USU has developed institutional systems and procedures (Appendix B, p. 56), as well as a new Research Data policy (#588, Appendix A, p.48), to implement data sharing requirements.

4. Policies related to Information Security and treatment of Protected Health Information related to the Health Insurance Portability and Accountability Act (HIPAA) are also being developed at USU, and RIC is representing RGS in the development of these policies.

MANAGEMENT OF COMPLIANCE SYSTEMS

In addition to its governance role at the university, RIC oversees and maintains the following systems to support research cotmpliance:

RESEARCH FINANCIAL AND ADMINISTRATIVE TRAINING SERIES (RFAST)

RFAST is an online system used to provide training to all individuals within the university that conduct sponsored research. The training consists of modules that provide baseline training in areas including budgeting, grant preparation, post-award administration and regulatory compliance. The system provides evidence that USU's researchers have been trained to utilize its internal control systems to apply best practices to its portfolio of grants and contracts.

RESPONSIBLE CONDUCT OF RESEARCH (RCR) TRAINING

RCR training is gaining increasing emphasis among federal funding agencies. USU's RCR training is delivered to students through USU 6900, "Research Integrity," which is a zero-credit course offered every semester that exposes students to key topics in research ethics such as research collaboration, mentor/trainee relationships, and conflicts of interest.

CONFLICTS OF INTEREST (COI)

Responsibility for disclosure and management of conflicts of interest resides with RIC. USU has used a system known as iComply to support faculty members in disclosing financial interests that may represent conflicts of interest. The RIC works to assess whether disclosed interest gives rise to COIs that require management, reduction or elimination. During FY18, USU will transition to a COI disclosure module inside the Kuali software package. In FY17, we implemented a system for identification of potential institutional conflicts of interest (ICOI) in research involving human subjects. These types of conflicts arise when the university or its leadership have financial interests that may also be related to research being conducted at USU.

SPONSORED PROGRAMS

KUALI RESEARCH IMPLEMENTED

Effective February 2017, all campus units began utilizing Kuali Research for preparing and submitting sponsored proposals. To prepare for the implementation of Kuali Research, Sponsored Programs began using Kuali Research internally in October 2015, and rolled out the system to the College of Natural Resources, the College of Science, Student Services, and Regional Campuses and Distance Education in 2016.

Sponsored Programs staff conducted over 20 campus-wide Kuali trainings and approximately 25 college/department specific Kuali trainings, in addition to many one-on-one trainings to faculty, within the first four months of Kauli implementation. Trainings were offered to Business Services personnel, department heads, college deans, and faculty interested in conducting research.

Further, Sponsored Programs created a number of quick guides to step faculty through proposal creation and budget preparation in Kuali, which are found on the RGS Kuali website. Sponsored Programs staff also assist with responding to requests for assistance with Kuali submitted through ServiceNow.

Kuali replaces Sponsored Programs' paper based proposal submission process with an electronic system that streamlines proposal preparation, review, approval, and submission all online. Kuali allows faculty to complete all internal and external proposal requirements in one spot and allows for grants.gov opportunities, submission to grants.gov directly through Kuali.

SPONSORED PROPOSALS AND AWARDS

Sponsored Programs staff continue to work with faculty on proposal preparation, proposal review, proposal submission, award creation, award monitoring, and award closeout activities. During FY17, Sponsored Programs processed 1066 award actions for $108.5 million in award funding. The $108.5 million in award funding is 10% more than the $98.5 million received in FY16. The number of proposal submissions and amount of proposal funding increased in FY17. During FY17, Sponsored Programs submitted 1239 proposals, which is 82 more than the number of proposals submitted in FY16. Proposal funding increased by $99 million in FY17 to $360.9 million.

DATA MANAGEMENT PROCESS

Sponsored Programs worked closely with other RGS Divisions and the Merrill-Cazier Library (Library) to develop and implement a process for managing data generated during sponsored programs consistent with federal regulations. As part of the data management process, Sponsored Programs staff collect Data Management Plans (DMP) and generate a Primary Metadata Document (DMP) at the time of award creation. The DMPs and PMDs are then provided to the Library for record creation of data and publications in Digital Commons. Each month, Sponsored Programs generates a report of new federal awards to ensure that the Library is receiving a PMD and DMP when required by a federal sponsor (Appendix B).

AUDITS

Sponsored Programs worked closely with auditors from the State of Utah and US Department of Education to strengthen USU subrecipient risk assessment and monitoring activities as required under the Uniform Guidance. Forms were created to assist faculty with documenting subrecipient monitoring activities and processes were strengthened to better document compliance.

SPONSORED PROGRAMS STAFF

Sponsored Programs is currently divided into three teams designated to support specific colleges. Each team consists of a Senior Grant and Contract Officer (assists with award creation and management), a Grant and Contract Officer (reviews and submits proposals), and a Grant and Contract Administrator (prepares subawards, conducts subrecipient monitoring activities and manages award closeouts). Sponsored Programs is staffed with 11 fulltime employees.

REPORTS

Sponsored Programs released a granular report of Sponsored Program proposals and awards, which is accessible to college deans and updated monthly. The granular report allows deans to see proposal and award numbers at the college, department, and individual faculty levels.

SPO AND SPO ACCOUNTING

In FY17, the directors of Sponsored Programs and Sponsored Program Accounting began meeting every other week to discuss index creation, award management, compliance concerns, and other issues related to performance of a sponsored award.

APPENDIX

APPENDIX A

UtahState UNIVERSITY

POLICY MANUAL
RESEARCH

Number 588
Subject: **Research Data**
Covered Employees: **USU Employees and Students**
Date of Origin: **May 5, 2017**

588.1 INTRODUCTION

Research data are an essential component of any research university, and shall be managed so that compliance with all legal, regulatory, contractual and policy obligations are met.

The purpose of this policy is to describe the rights and responsibilities of individual researchers and the institution in the use, retention, maintenance and sharing of data produced as part of USU's research enterprise. Except as set forth herein, this policy applies to all USU personnel (faculty, staff and students) and encompasses all Research Data produced under USU projects, whether through external funding sources or USU sources. Research Data so produced at USU shall be recorded, maintained, retained, used, protected and shared in accordance with State and Federal regulations and with USU policies and procedures. In cases where a conflict or discrepancy exists between this policy and Federal or Utah State laws, regulations or guidance, the Federal or state requirements shall take precedence.

USU may choose not to claim rights to data generated or collected by:

- Investigators, if there is a specific condition to the contrary in the sponsored project's grant, contract or cooperative agreement, or if the investigator is engaged in Scholarly Works as defined and within the limits set forth in USU Policy 587, "Intellectual Property," such that the activity is considered to be the unrestricted property of the author.

- Students, so long as the students:
    - Are not also employees of the university with a work assignment related to research; and
    - Are engaged in activities that are conducted without the use of substantial University resources, including USU facilities equipment, materials, or financial support.

Other related policies include:
#583 – Research
#584 – Human Participants in Research
#585 – Animal Care and Use
#587 – Intellectual Property (reflecting Federal guidance as included in OMB Uniform Guidance (2 CFR Part 200))
#558 –Information Security Policy (Pending)

588.2 DEFINITIONS

2.1 *Research* shall be as defined in Policy 583.1.5.1, "Research" and shall be understood to encompass all those activities carried out by Investigators within their respective role statements, employment assignments or courses of study which are designed to increase knowledge or improve upon human inventions.

2.2 *Investigator* shall be as defined in Policy 583.1.3.2, "Investigator," and under this policy shall mean a person or entity affiliated with USU, whether as an employee, student or otherwise, whose role statement, job description, employment assignment and/or function within the University is, either in whole or in part, to carry out Research, whether sponsored by external or internal sources. Such Investigators shall include, but not be limited to, USU faculty, professional researchers, librarians who have a research role, research assistants, laboratory and clinical staff, and others as may be designated by the Vice President for Research.

2.3 *Principal Investigator* shall be an Investigator who has primary responsibility within the University for the design, conduct and reporting of Research.

2.4 *Research Data* shall be as defined in the Uniform Guidance, 200.315(e) (iii), and shall mean:

"[T]he recorded factual material commonly accepted in the scientific community as necessary to validate research findings, but not any of the following: Preliminary analysis, drafts of scientific papers, plans for future research, peer reviews, or communications with colleagues. This 'recorded' material excludes physical objects (e.g., laboratory samples). Research data also do not include:

> "Trade secrets, commercial information, materials necessary to be held confidential by a researcher until they are published, or similar information which is protected under law: and
>
> "Personnel and medical information and similar information the disclosure of which would constitute a clearly unwarranted invasion of personal privacy, such as information that could be used to identify a particular person in a research study."

Though the above Uniform Guidance definition focuses on the "scientific community", USU implements this more broadly across our academic community encompassing any Investigator engaged in Research, as defined above.

2.5 *Intangible Property,* as defined in 2 CFR 200.59 shall mean "property having no physical existence, such as trademarks, copyrights, patents and patent applications and property, such as loans, notes and other debt instruments, lease agreements, stock and other instruments of property ownership," and includes Research Data in accordance with 2 CFR 200.315(e)(3)

2.6 *Tangible Research Property* shall be as defined in Policy 587.2.5: "tangible items produced in the course of research, such as compositions, chemical compounds, Biological Materials, materials, drawings, devices, integrated circuit chips, computer databases, computer software, prototypes, circuit designs, and equipment." Tangible property shall be treated as Research Data only to the degree that it meets the definition in 2.4 above, or when agency-specific regulatory language or contract language requires that it be classified as Research Data (e.g., physical samples or photographic images when they are used to support findings in published papers).

588.3 OWNERSHIP OF DATA

OMB Uniform Guidance, Section 200.315(a) provides guidance on ownership and use of Intangible Property, including Research Data. USU applies this guidance to all Research Data. Therefore, title to Research Data vests in Utah State University (USU) immediately upon its acquisition. USU must use Research Data for any originally-authorized purpose as outlined in any funding agreement sponsoring the Research, and must not restrict access to the Research Data in contravention of Federal or other applicable regulations or contractual requirements.

588.4 RETENTION

Research Data must be retained in accordance with 2 CFR 200.333 for federally funded Research (i.e., a minimum of three years after the submission of the final expenditure report in most cases) or, for non-federally funded research, for a minimum of three years after the completion of the research project under which it was gathered. Longer retention of data may be required under additional circumstances, such as, but not limited to, the following:

- Conditions of the funding agency,
- Program income transactions,
- Protection of intellectual property,

- Student involvement. Research Data must be retained at least until the degree is awarded or until it is clear that the student has abandoned the work.
- Charges, audits, claims, or litigations regarding research, such as allegations of scientific misconduct, non-compliance or fraud or abuse. In these circumstances, Research Data and underlying data gathered in the conduct of research that is the subject of investigation is often required to be retained for seven (7) years after proceedings adjudicating such charge, audit, claim or litigation have resulted in full resolution and final action. Consult University Counsel and the Division of Research Integrity and Compliance for specific retention requirements when audit, investigations or legal proceedings incorporate Research Data.

Retention requirements must be compliant with any data restrictions, as outlined in section 588.5.4, below.

If public access to Research Data is required by the sponsor as set forth in 5.1, below, the University is responsible for providing such access unless the research study is transferred to another entity, as set forth in Section 588.5, below. Therefore, the Research Data must remain at the University under the management of a designated investigator/data steward.

588.5 ACCESS TO DATA

5.1 Data Sharing Requirements

Under the Office of Science and Technology Policy Memorandum entitled "Increasing Access to the Results of Federally Funded Scientific Research" (dated February 22, 2013), the Federal Government requires that: "to the greatest extent and with the fewest restraints possible…the direct results of federally-funded scientific research are made available to and useful for the public, industry and the scientific community. Such results include peer-reviewed publications and digital data."

USU's mission aligns with this requirement. USU's Publication Policy as stated in Policy 583.6, is that "[r]estrictions on publication of the results of Research are incompatible with the basic concept of a research and educational institution as a source of knowledge." USU Policy 586, "Open Access to Scholarly Articles", further states: "Utah State University is committed to the widest dissemination of employees' scholarly articles." The results to be made available extend to Research Data that supports peer-reviewed publications. Federal agencies have promulgated policies under the OSTP guidance. USU complies with all applicable agency policies, and makes Research Data available as broadly as possible while also providing protection to data collected or acquired in the planning or conduct of research that is specifically restricted or controlled under Federal laws and regulations (e.g.,

export controlled data, Protected Health Information, or FERPA-protected Personally-Identifiable Information). For additional information regarding data access requirements of Federal Agencies and others, consult with the Data Services Coordinator at the USU Libraries.

Access to Research Data, and to data related to research but not yet incorporated in a peer-reviewed publication may be granted by the PI to co-investigators or other individuals. The PI is responsible for informing all data recipients of any limitations or restrictions on the use or dissemination of the data. Recipients are subject to all USU policies and procedures, state and federal laws, and contractual obligations relevant to the data they are provided by the PI.

5.2 Data Repositories

In addition to the sharing of Research Data that supports published research results, USU also engages in sharing of Research Data in the context of ongoing research collaboration. Such collaborations may be facilitated through the use of public or controlled data repositories. PIs shall exercise caution when publishing data to repositories to ensure that no data that is under contractual, regulatory or policy restrictions, as set forth in 5.4, below, are released to a repository or system that does not provide adequate security, as required under USU Policy # 558, "information Security."

USU's University Libraries provides access to public data archiving through its Open Access Institutional Repository, currently DigitalCommons@USU, provided at https://DigitalCommons.usu.edu. Refer to USU's Repository Terms of Deposit for guidance on preparation and submission of data to the Open Access Institutional Repository. When USU Research Data is to be archived in discipline-specific or other public data repositories, metadata directing users to such data may be included in the University Open Access Institutional Repository as a means of fulfilling Data Sharing requirements.

5.3 Legal and regulatory access

To ensure needed and appropriate access – for example, to facilitate response to an allegation of research misconduct – university policies and procedures provide for sequestration of records under the authority of the Vice President for Research.

In some instances, a research sponsor has a legal right of access or access may be requested through the sponsoring agency under the federal Freedom of Information Act (FOIA). Such Requests will be coordinated through General Counsel, in its capacity as USU's FOIA and GRAMA officer, or the Vice President for Research.

5.4 Data Restrictions

USU is subject to regulatory requirements that affect the acquisition and protection of data associated with Research and other operations. Among federal regulations and policies that affect USU's treatment of data are the following:

- The Health Insurance Portability and Accountability Act (HIPAA), 45 CFR Part 160 and Part 164, Subparts A, C & E, controls the use and release of Electronic Private Health Information (e-PHI) and impacts Research carried out by, or in collaboration with, USU Health Care Components. See USU's Hybrid Entity Declaration for a list of units required to comply under HIPAA.
- The Family Educational Rights and Privacy Act (FERPA) 34 CFR Part 99 and the associated Protection of Pupil Rights Amendment (PPRA) protects individual's educational records and controls the information that can be gathered and released concerning students in US educational institutions. FERPA and PPRA impacts Research carried out with students in K-12 and institutions of higher education.
- Export Control regulations are contained in the Export Administration Regulations (15 CFR 730-774) and the International Traffic in Arms Regulations (22 CFR 120-130). These regulations are overseen by the Department of Commerce and the Department of State, respectively. The goal of export control regulations is to prevent the sharing of technological items information that has been identified as posing potential threats to US national interests with foreign nationals. Data that is export controlled should never be shared publicly, but work accomplished as Fundamental Research may be released, as it is exempt from export control. Investigators should coordinate with the RGS Division of Sponsored Programs and USU Export Control Officers associated with RGS Division of Research Compliance & Integrity, when conducting research involving export controls.
- Federal agency restrictions are sometimes placed on release of information or technology developed under federal funding. Such data are sometimes referred to as Sensitive but Unclassified in federal funding instruments. The Division of Sponsored Programs has primary responsibility for negotiating the terms of federal agreements, and seeks to limit USU's liability related to data restrictions. Investigators should coordinate with the Sponsored Programs Division when they identify language that appears to restrict USU's ability to freely publish its research findings.
- USU Information Security Policy provides guidance on protection of restricted data, including physical security and information technology systems security. The policy discusses oversight of Institutional Data and provides for the classification of data types.
- Intellectual Property protections are set forth in USU Policy 587 and reflect the requirements of the Bayh-Dole Act of 1980. Release of certain protectable information prior to taking steps to protect intellectual property rights limits USU's ability to provide appropriate protections, and may inhibit the university in establishing patent or other rights as anticipated under Bayh-Dole and other statutes. For additional information concerning

intellectual property rights, contact the Technology Transfer Services Division within the Office of Research and Graduate Studies.

- Contractual Restrictions are sometimes negotiated between USU and research sponsors that include restrictions on release of certain data. For example, non-disclosure agreements often accompany certain research contracts of cooperative agreements. The Division of Sponsored Programs (DSP) has primary responsibility for negotiating contracts with research sponsors. Investigators should coordinate with DSP to provide the least restrictions reasonable related to public release of data, in accordance with the intent of the OSTP Memorandum referred to in Section 5.1 above.

588.6 TRANSFER OF RESEARCH DATA ASSOCIATED WITH A TRANSFERRED CONTRACT OR GRANT

Original Research Data and preliminary data collected or acquired in the conduct of Research at USU must be retained at USU, except as set forth below when the Principal Investigator (PI) leaves the university. When an investigator at USU leaves the University, the investigator may take copies of Research Data and other data associated with the Research when the individual's participation in the design, conduct or reporting of the associated project can be established, and with permission from an authorized university representative.

When a PI leaves USU the Department Head and/or Dean, shall determine who will take responsibility for Research Data as set forth in RGS Procedure 588-PR.

588.7 AUTHORITIES and RESPONSIBILITIES

7.1 University

Utah State University has the authority and is responsible for

- Negotiating and Complying with the terms of sponsored research agreements;
- Ensuring the appropriate use of project resources, e.g. animals, human subjects, recombinant DNA
- Protecting the rights of researchers, including, but not limited to, their rights to access data associated with research in which they participated;
- Securing intellectual property rights;
- Facilitating the investigation of charges, such as research misconduct or conflict of interest;
- Maintaining confidentiality of data, where appropriate; and
- Complying with applicable state and federal laws and regulations

7.2 The Principal Investigator

The Principal Investigator (PI) has the authority and responsibility for primary stewardship of Research Data and all data associated with the conduct of research under their supervision on behalf of the University. In this capacity, the PI is

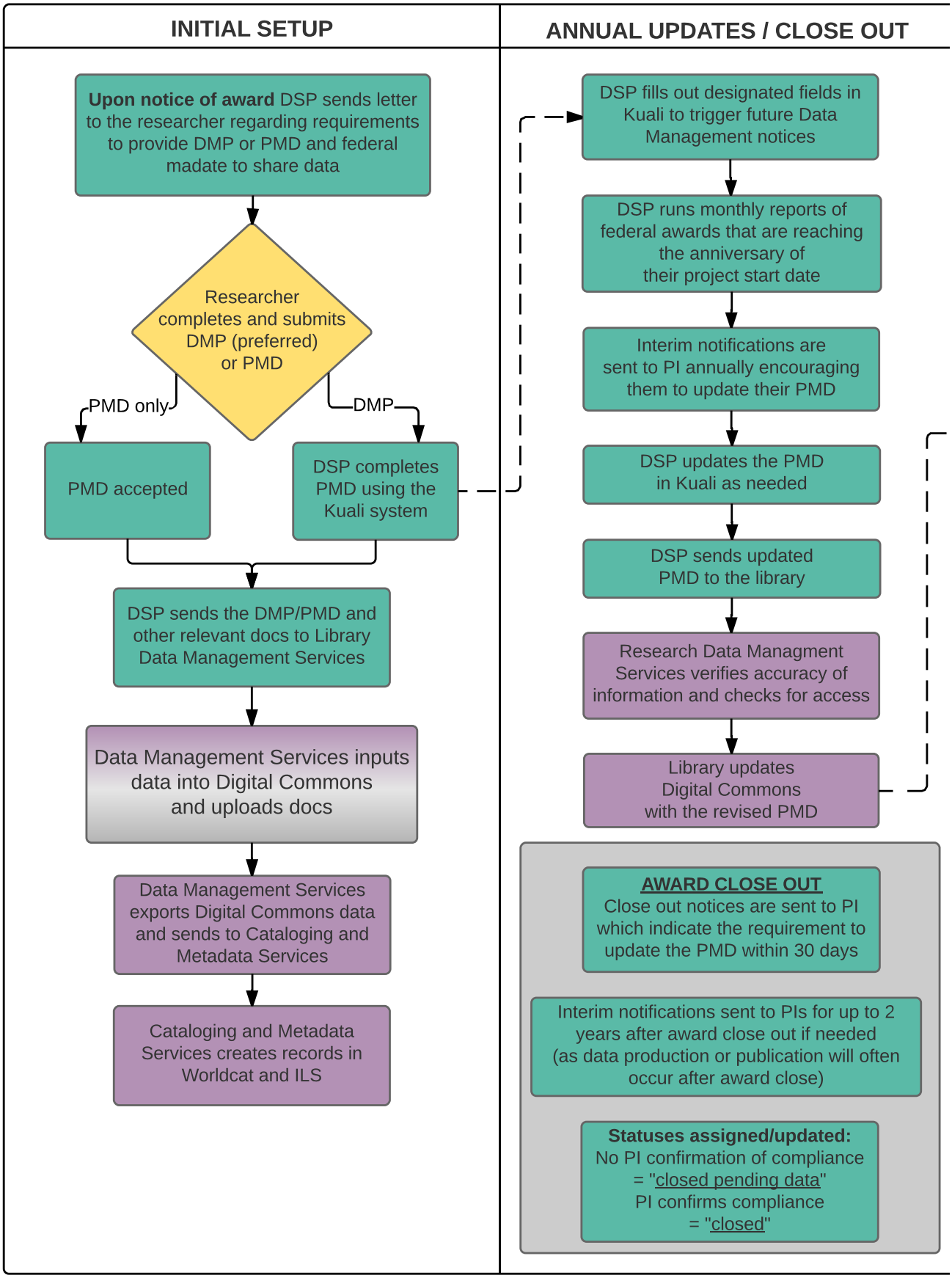
responsible for data management in keeping with this policy and best practices in the PI's discipline as follows:

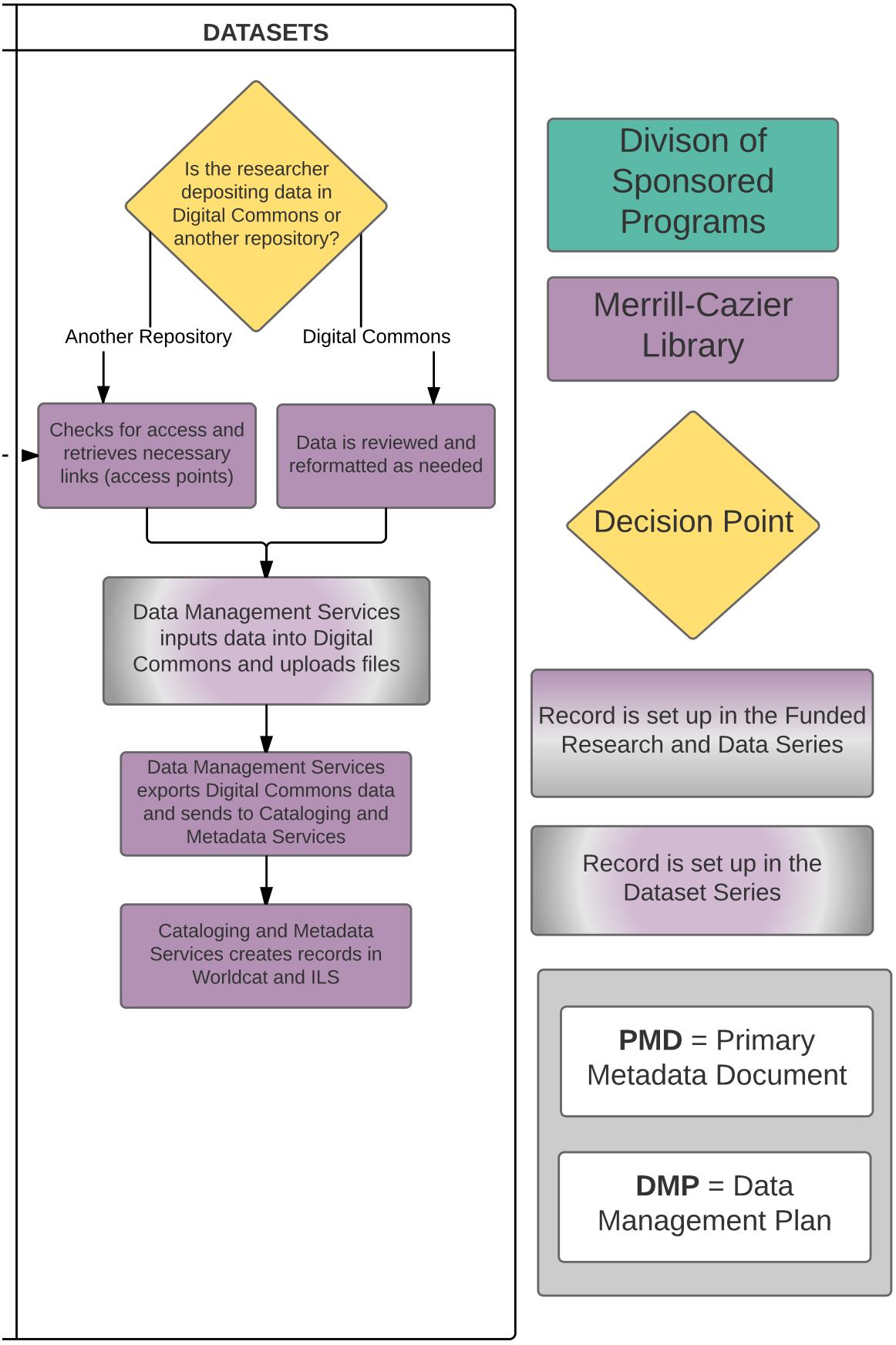
- Designing and implementing data acquisition processes that will support the conduct and reporting of research
- Implementing data management systems that accommodate any applicable data security, protection, or restriction requirements
- Ensuring proper management and retention of data in accordance with this and other USU policy
- Establishing and maintaining appropriate procedures for the protection of restricted data and other essential data and records
- Ensuring compliance with program requirements
- Maintaining appropriate confidentiality of data
- Complying with applicable state and federal laws and regulation
- Archiving data appropriately, following USU's Repository
- Terms of Deposit and/or licensing with Creative Commons or Open Data Commons license.

In case of incapacity of the PI, that individual's Data Trustee will take custody of the research data until other suitable arrangements are made for alternate custody of the data.

APPENDIX B

USU PUBLIC ACCESS TO DATA - WORKFLOWS




DATASETS
Is the researcher depositing data in Digital Commons or another repository?
Another Repository
Digital Commons
Checks for access and retrieves necessary links (access points)
Data is reviewed and reformatted as needed
Data Management Services inputs data into Digital Commons and uploads files
Data Management Services exports Digital Commons data and sends to Cataloging and Metadata Services
Cataloging and Metadata Services creates records in Worldcat and ILS
Divison of Sponsored Programs
Merrill-Cazier Library
Decision Point
Record is set up in the Funded Research and Data Series
Record is set up in the Dataset Series
PMD = Primary Metadata Document
DMP = Data Management Plan

RESEARCH *and*
GRADUATE STUDIES
UtahStateUniversity

2017
Annual Report

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Dean of the School of Graduate Studies