RESEARCH *and*
GRADUATE STUDIES ™

UtahStateUniversity ™

ANNUAL REPORT

to the Faculty Senate for fiscal year 2016

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Vice President for Research and
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Contents

Executive Summary

It has been five years since USU's Research Office merged with the School of Graduate Studies. Over that time, we've worked to develop strategies and programs that capitalize on the strengths of both sides of our mission.

In fiscal year 2015-2016, we've continued that effort, focusing on enhancing the efficiency and efficacy of recently implemented initiatives.

RGS training programs have continued to grow in popularity and success; both our monthly workshop series (Training for Research Faculty and Graduate Training Series) grew in scope and attendance this year. Interest in our DC trip for new faculty to visit federal funding agencies also increased. We've continued to implement ideas and initiatives to streamline our processes and relieve effort from campus faculty and staff. Recruit by Ellucian has simplified the graduate student application process, and Kuali Research will make the grant proposal process a one-stop effort.

The future holds opportunities and challenges for RGS: fluctuations in F&A funding and proposal submissions will put pressure on the RGS budget for the next few years. Additionally, the transformation of Technology Transfer to an RGS division will require significant effort to build up as a key service for faculty and students on campus.

Chapter 1:
Strategic planning and implementation

Office Overview

Mission statement

The mission of USU's Office of Research and Graduate Studies 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

Six 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, the values define how it is best accomplished. Those values are listed below.

RGS Values

Value	Belief Statement
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 and safety	Scholarship should be conducted with top consideration toward exceeding moral 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 relationships.
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.

RGS goals and strategies

Grow and strengthen USU's research portfolio

Increase proposal quality

Strategically fund research initiatives

Increase research infrastructure

Provide efficient research support services

Communicate research successes

Foster success of USU's graduate students

Increase student financial support

Enhance recruitment efforts

Improve departmental programs

Provide value-added opportunities

Provide efficient graduate support services

Enhance USU's undergraduate research program

Encourage greater participation in undergraduate research

Encourage recruitment of high achieving students

Provide funding opportunities for undergraduate research projects

Recognize undergraduate research successes

Train students in research best practices

Three main goals have been established to execute the mission of Research and Graduate Studies. For each of those goals, five strategies have been agreed upon to accomplish the goals, as well as further the RGS values. All initiatives undertaken by RGS fall under one of these strategies.

RGS organizations and divisions

The Office of Research and Graduate Studies oversees eight divisions: the School of Graduate Studies, Sponsored Programs, the Institutional Review Board, Research Development, Animal Care and Use, Integrity and Compliance, Environmental Health and Safety, and Graduate and Undergraduate Research. Each of these divisions works to support the RGS mission and strategic goals. In total, RGS has 55 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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Strategic goal:
Grow and strengthen
USU's research portfolio.

Strategic goal:
Foster success of USU's
graduate students.

Strategic goal:
Enhance USU's
undergraduate
research program.

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Alexa Sand, associate professor in the Department of Art and Design, is the first faculty fellow in the Office of Research and Graduate Studies. Her perspective helps assist the direction of decisions and initiatives made by the RGS executive team.

RGS staff changes

Alexa Sand joined the Office of Research and Graduate Studies in January 2016. As Faculty Fellow, she sits on the RGS executive team, bringing a perspective from the arts and humanities to bear on issues ranging from grant-writing to graduate funding. The view the fellowship offers onto the wider operations of USU as a research university is invaluable, and the opportunity to work across disciplinary and college lines helps build institution-wide networks of collaborative scholarship and learning. Ultimately, the goal of the Faculty Fellow is to help integrate humanistic and creative scholarship with USU's mission to build a socially and intellectually vibrant campus research community.

Strategic goal 1: Grow and strengthen USU's research portfolio

Strategy: Increase proposal quality

Washington DC, funding agency trip

In October 2015, RGS took 18 faculty members on the third annual Washington, DC funding agency trip. Participants included representatives from 7 colleges, the largest contingent of faculty to participate in the trip. In addition to the one faculty member from each college that was supported by RGS, each college funded travel for one or two additional faculty. This support from college deans is evidence that they are convinced of the value of having their faculty meet with program officers from a broad range of funding agencies and foundations.

Training for Research Faculty

Each year, RGS holds a luncheon for faculty who are new to Utah State. The luncheon includes an introduction to RGS resources through a "speed-networking" format, focused on creating personal connections with the individual RGS division directors. Additionally, in December 2015, as part of the RGS Office's continuing efforts to provide top-quality assistance and resources to new faculty, we held a brief, low-key refresher regarding RGS divisions and the services and support they provide.

Training for all faculty, especially new faculty members, continues throughout the year with Training for Research Faculty. TRF is a workshop series that features training on topics of special interest to USU researchers, helping to enhance individual capacity development of USU faculty. In July 2015, RGS sent out a survey to all faculty members requesting feedback of requested topics for the workshops in 2015-2016. Based on those requests, a year-long schedule was compiled and implemented and included the following topics: components of an outstanding sabbatical, tools for mentoring graduate students, maximizing proposal chances, making tenure and promotion and including broader impacts in proposals.

Training for Research Faculty workshops are held on a monthly basis in the Merrill-Cazier Library for faculty members interested in improving their research and mentoring.

Training for Research Faculty (TRF) 2015-2016 Schedule

Components of an Outstanding Sabbatical (Sept. 9)

Presenters
JR Dennison (PHYX)
Nancy Hills (THEA)
David Koons (WILD)
Jennifer Sinor (ENGL)
Barton Smith (MAE)

Announcement
Now is the time to start planning your next sabbatical opportunity, and there are a lot of important choices to be made early on. Learn the ropes of USU's sabbatical policy, and then hear recently returned faculty members discuss their thoughts on the sabbatical experience and the choices they made.

Tools for Mentoring Graduate Students (Oct. 7)

Presenters
Sean Johnson (CHEM)
Karen Munoz (COMD)
Bethany Neilson (CEE)
Gretchen Peacock (PSYCH)
Matthew Sanders (LPCS)

Announcement
As a researcher, a key responsibility is recruiting and mentoring graduate students. Students come with diverse backgrounds, organization styles, and a spectrum of skills. How do you manage these differences and have both positive and productive relationships with your students? We'll look at three case studies and provide tools to elevate your student to the next level.

Lessons Learned in DC: How to Maximize my Proposal Chances (Nov. 11)

Presenters
Trisha Atwood (WATS)
Zachariah Gompert (BIOL)
Peter Howe (ENVS)
Mark Koven (ART)
Silvana Martini (NDFS)
Sydney Schaefer (HPER)

Announcement
Each year the Office of Research and Graduate Studies takes a core group of faculty to Washington DC to build relationships with program officers from NSF, FDA, and NIH. A panel of experienced members will inform you of how they were able to be selected for this opportunity, as well as walk you through the trip itself. Crucial to the success of researchers is the acceptance and funding of federal grants and proposals. This group of faculty will pass on the lessons gained to you.

An Insider's Perspective to Making Tenure and Promotion (Feb. 17)

Presenter
Mark McLellan (RGS)

Announcement
The promotion and tenure process is an integral part of a researcher's professional standing. At this training, you'll learn about how you'll be evaluated, what's important to the committee and how to set yourself up for success. Learn about annual reviews, preparing your dossier, and the hierarchy of recommendations in the review process.

Broader Impacts: How to Include them on my Proposal (Mar. 16)

Presenters
David Francis (4-H)
Denise Stewardson (Extension)
Brian Higginbotham (eXtension)
Dave Feldon (STE2M center)
Al Savitzky and Katie Weglarz
   (Blanding Summer Program)
Nancy Huntly (Science Unwrapped)

Announcement
Funding agencies are increasingly requiring PIs to demonstrate how their results will impact their communities (sometimes called "broader impacts"). A clear and effective plan will strengthen your proposal, and it's easier to come up with than you think. Rather than creating your own outreach plan, you can partner with resources at the university to share your research. Join us at TRF, and you'll learn about these programs and some unexpected ways to integrate them with your research.

College Specialists

The Research Development division is comprised of a network of proposal development staff located in units (colleges/departments/research centers) across campus. Proposal developers report jointly to their unit directors (deans/department heads/research center directors) and to the centrally located Director of Research Development, who reports to the Associate Vice President for Research in the Office of Research and Graduate Studies.

The goal of network staff is to relieve researchers of the logistics of proposal development to allow them more time to focus on their technical writing. To achieve this, network staff can help researchers from beginning to end of the proposal development process, or at any point throughout the process depending on the researcher's needs and/or wants.

Two proposal specialists were added in the Research Development division in 2015-2016. One specialist is assigned to work specifically with Extension faculty and the other will be working with faculty from the College of Science.

Strategy: Strategically fund research initiatives

Seed grants

RGS continues to support three different seed grant programs that carry unique missions/goals and expected outcomes. In FY2016, a total of 29 applications (3 GEM, 21 RC and 5 SPARC) were submitted, 18 of which were awarded. Each seed grant supports RGS' belief that interactions and collaborations between junior and more senior faculty and across disciplines enhances the success of gaining extramural support. A full explanation of the grants is included on page 74 in the Research Development division report and a table of awards is included on page 64.

Strategy: Increase research infrastructure

Greater access to high performance computing

USU faculty and students are now able to make use of high performance computing resources at the University of Utah's Center for High Performance Computing (CHPC). Access to the CHPC is the result of a partnership between USU and UU that

Carly Cummings (above) is a new proposal development specialist for the College of Science, added to the grant writers' network this year. Janee' Livingston was also added to Extension's staff as a proposal specialist.
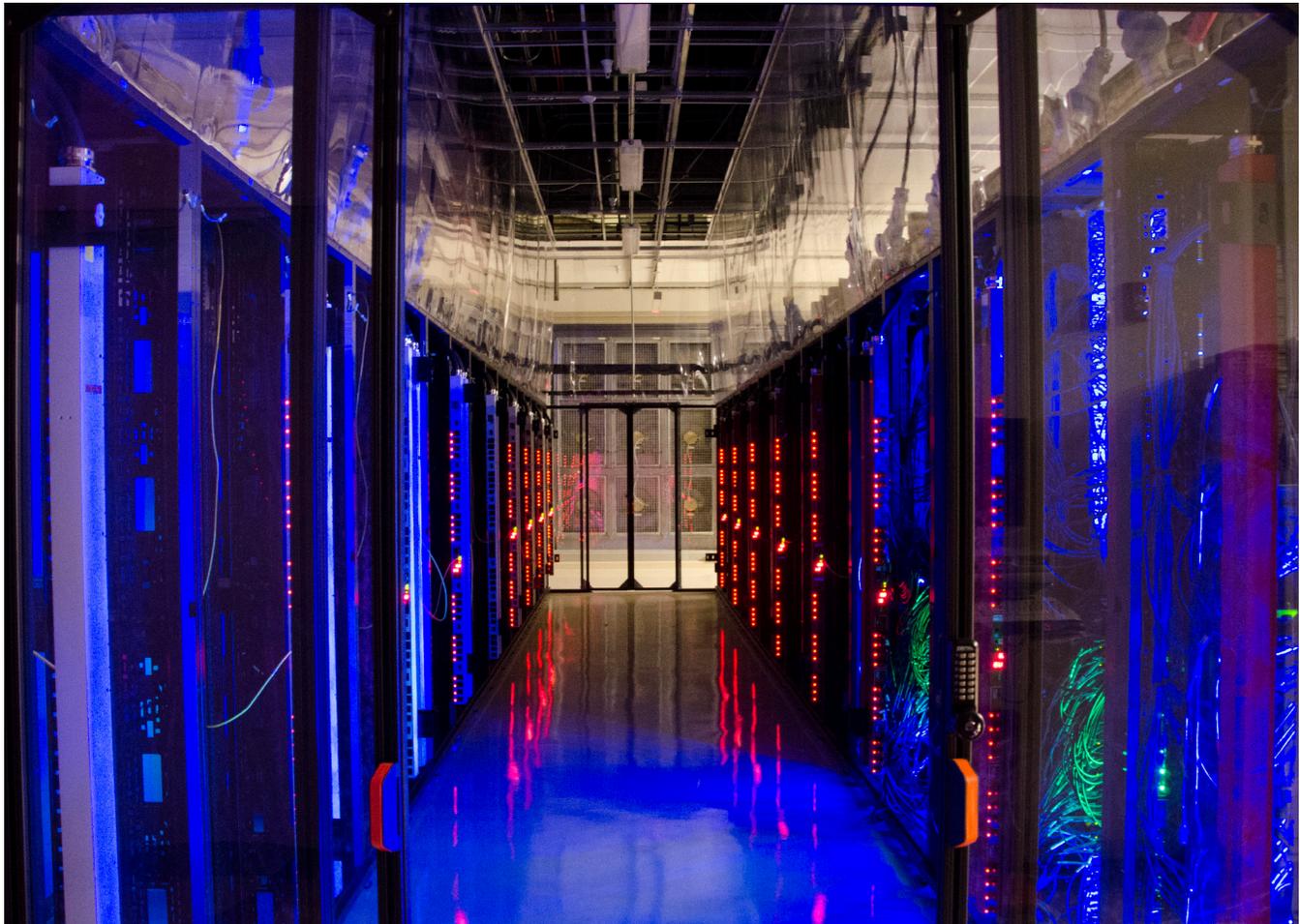
USU faculty and students are now able to make use of high performance computing resources at the University of Utah's Center for High Performance Computing (CHPC).

was created by the Research Vice President at each institution, with support from the two university presidents. Through this agreement, USU faculty and students are provided with the same CHPC access as their counterparts at the University of Utah, including the option of purchasing hardware to ensure uninterrupted access for computing jobs that require long run times. What was the most heavily used cluster in the USU HPC was relocated to the CHPC in spring 2016, where the hardware remains accessible to the faculty who purchased nodes that made up the cluster.

Microscopy core facility

The microscopy core facility housed in SER 005 provides microscopy services, project consultation, and user training for scanning electron microscopy and laser dissection microscopy. Core operations are guided by leadership from a core director and

12-member faculty advisory board (FAB). Growing interest in the core brought several new members to the FAB in FY16, and a change in director. Dr. John Shervais concluded his two-year term, and was replaced on July 1, 2016 by Dr. Anhong Zhou from the Biological Engineering department.

For a very modest $300 annual membership fee, USU faculty, staff, and students are able to access the facility and receive assistance and training on core instruments from a full-time and highly experienced operator, Dr. Fen-Ann Shen. Scholarship support is also available to graduate students who are not on funded research projects yet wish to explore microscopy in their research program. Researchers outside USU can also obtain access to the core on a fee-for-service basis. Membership in the core grew nearly 20% FY16, and the facility provided training and demonstrations to 527 students. Total usage of the

core instruments was 1293 hours. To learn how you can access this state-of-the-art facility to support your research, visit www.mcf.usu.edu.

Annual equipment matching fund

RGS offered another round of internal capital equipment grants with a 50% (1:1) matching funds requirement. The total budget for this program was increased from $200,000 in FY15 to $400,000 for FY16. Once again, applications were accepted from individual USU researchers, teams of researchers, or by departments or colleges. 19 applications with requests totaling over $1.2 million were received. RGS staff and college associate deans for research performed merit review of those applications and awarded the full $400,000 across 15 proposals. A table of all the equipment purchased with these grants is included on page 66.

Strategy: Provide efficient research support services

Safety policy

Utah State University is committed to creating a safe environment and a culture of institutional safety, and develops and implements safety and health programs consistent with the best practices for activities and institutions of this type. Realization of a safe and healthy work environment requires attention and responsibility at every level, and all employees are required to fully follow all procedures relating to safety rules.

To this end, in 2015, USU ratified a new university policy on safety. The policy establishes a new representative form of safety communication and guidance at USU. It emphasizes that it's a core responsibility of faculty and staff to develop and implement safety practices, protocols, and rules that best assure safety in their classrooms, laboratories, field sites and other workspaces within their purview. Full text of this policy can be found on page 47.

To further support this effort, the Environmental Health and Safety division of RGS has implemented an online system, EHS Assistant, to better track safety trainings of all USU faculty and staff. The system can be accessed from the EHS homepage: rgs.usu.edu/ehs. Additionally, RGS implemented
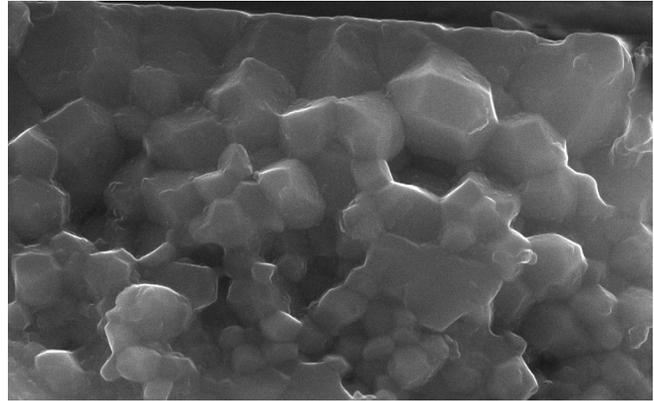
A routine user of the core, Dr. Alexis Ault relies on microscopy for research and student training on earthquake physics and other seismic hazards. Images like this one have proved critical in her group's discovery of new fault zone textures and development of a technique to directly date when small earthquakes happened in the past on Utah's Wasatch fault. Knowing the past history of earthquakes is essential to understanding how those same faults may be acting today.

a program to provide a 1/3 match on all fees associated with bringing a necessary external safety training to campus.

Kuali software implementation

Sponsored Programs implemented Kuali Researcher in October and has been using the module internally. Sponsored Programs staff have been training with Kuali Researcher, developing training materials, and conducting focus groups in preparation of a campus-wide roll out beginning in Fall 2016. Kuali Researcher offers campus-wide authentication and routing. Using Kuali, researchers will be able to complete proposal applications and all required proposal materials electronically, replacing the need for paper copies of the Proposal Approval Form (SP-01) and budget template.

IRB grant for translation

Both abroad and at home, USU researchers are working with an increasingly diverse participant population. Not surprisingly, this has resulted in a growing need for high-quality translations of informed consent documents. In April 2016, the IRB Director was awarded an internal grant to assist researchers in defraying the cost of obtaining certified translations. Full details of the awarded grant can be found on page 72 in the IRB division report.

Data management, storage and implementation

In FY15, representatives from RGS, the Library, Central IT, and the Information Security Office formed a Data Management Group to address the pending open access requirements for research publications and data by all federal funding agencies. That process is now in a near-final draft stage, and it leverages the strong keyword search capacity of the libraries catalog system, the unlimited storage available through Digital Commons and Box.com, and the new RGS sponsored awards database, Kuali.

The Library will serve as the main point-of-contact to assist researchers in making their publications and data publicly available, and walk them through the resources USU has established to satisfy the new federal requirements. The RGS Sponsored Programs Division will notify researchers when an

award requires public access, and send periodic reminders over the course of the award to remind them of this requirement.

The Data Management Group anticipates this process will allow USU to meet the new federal open access rules, but it will continue to stay abreast of this rapidly changing issue.

Strategy: Communicate research success

Website update

In 2014, Utah State University Central IT made the decision to discontinue support for its proprietary content management system, EZ Plug. Throughout that year, RGS personnel evaluated other website options, including OU Campus, a new vendor solution provided by Utah State, and decided to migrate RGS website to WordPress Multisite. Since WordPress is an open-source platform, it has a robust support community and suite of pre-programmed themes and plugins to assist the RGS team of student employees who manage the website.

Throughout 2015, those student employees worked to migrate 4,500 website pages to WordPress and launched the new site in December, with content and aesthetic changes continuing to be made through 2016 and beyond.

TEDxUSU

RGS organized its fourth TEDxUSU, an independently organized TED-like event dedicated to sharing "ideas worth spreading." Given the high demand of the event, held in the Caine Performance Hall, tickets were awarded based on a lottery system as opposed to a first-come first-served basis. Ten participants—including Luciana Borio, the acting chief scientist of the FDA and Brady Parks, of the National Parks, along with USU faculty and students—gave talks or performances on the theme "Duality" during this three-part event, including an interactive second session.

As in past years, the preparation process was treated as a training experience to hone their communication and presentation skills to a wider audience than their peers. After a competitive nomination and audition process, speakers were coached and supported by RGS staff for more

Johan DuToit shares his research experiences in Africa as he compares the generous nature of his research subjects to sometimes less benevolent actions of humans.

TEDxUSU 2016 Speakers

Presenter	College	Department	Title
Mark Damen	College of Humanities and Social Sciences	History	The Indo-European dual
Johan du Toit	SJ and Jessie E. Quinney College of Natural Resources	Wildland Resources	An idea for humanity, from a considerate elephant
Beth Fauth	Emma Eccles Jones College of Education and Human Services	Family Consumer and Human Development	Finding joy in an Alzheimer's reality
Rob Gillies Rob Davies	College of Agriculture and Applied Sciences, Utah Climate Center	Plant, Soils and Climate	Another #$@%! climate talk
Vonda Jump	Emma Eccles Jones College of Education and Human Services	Center for Persons with Disabilities	Dear Bianca: Use your heart to build your baby's brain
Salif Mahamane	College of Humanities and Social Sciences	Experimental and Applied Psychology	ADHD sucks, but not really
Lynne McNeill	College of Humanities and Social Sciences	English	Folklore doesn't meme what you think it memes

Regan Zane presents about his research on wireless car battery charging at the January 2016 Sunrise Session, held at Little America in Salt Lake City.

than five months as they prepared their talks and performances.

Over four years, TEDxUSU talks have been viewed over 450,000 times. Links to the talks can be found at tedx.usu.edu.

Sunrise Sessions
Now in its tenth year, Sunrise Sessions bring USU research presentations to our Salt Lake constituents on a quarterly basis. This year RGS took on full responsibility of Sunrise Sessions after a long-term partnership with the USU Advancement Office. The program continues to be supported by Regence.

For FY16, three faculty and four students presented their research. In April 2016, four students from USU's Ignite lineup presented at a Sunrise Session for the first time. About 100-150 people attend each Sunrise Session, and all talks were recorded and posted as podcasts at sunrise.usu.edu/sunrise for additional listening.

Sunrise Session 2015-16 Presenters

Name	College	Department	Title
Jeannie Johnson	College of Humanities and Social Science	Political Science	US blind spots in foreign policy
Tony Lowry	College of Science	Geology	Water tectonics and the roots of Utah's earthquakes
Regan Zane	College of Engineering	Electrical and Computer Engineering	Electrification: Towards a sustainable future for our transportation system
Ignite USU Presenters			
Daisha Cummins	Education and Science	HPER and Biology	Simple Tools for Complex Questions about Autism
CJ Guadarrama	College of Humanities and Social Sciences	History	Why I Trespassed in the Intermountain Indian School
Brett Hurst	College of Agriculture and Applied Sciences	Institute for Antiviral Research	Doctor + Nurse Makes a Virologist
Amy Moser	College of Science	Geology	All I Do is Rocks Rocks Rocks No Matter What

Research Week

On April 11-15, RGS hosted USU's 11th annual Research Week, showcasing the best of the best in undergraduate, graduate and faculty research.

Research Week gave student researchers center stage through events such as Ignite USU and the Student Research Symposium, and celebrated faculty research at the annual Awards Gala and the D. Wynne Thorne Lecture. Throughout Research Week, the Office of Research and

Graduate Studies formally recognized more than 50 college awardees: Faculty Researchers of the Year, Graduate Researchers of the Year, Graduate Instructors of the Year, Undergraduate Researchers of the Year, and Undergraduate Research Faculty Mentors. Two university awards, the D. Wynne Thorne Career Research Award and the Graduate Mentor of the Year, were also given. Hundreds of other students and faculty were recognized on a more informal basis throughout the week.

Research Week events included a faculty author exhibition (presenter Sherry Marx pictured top left), Research Awards Gala (D. Wynne Thorne Career Research Awardee Bruce Bugbee pictured top right), and Ignite speaking event and closing reception (bottom).

Goal: Grow and strengthen USU's research portfolio.

Strategies	Before 2014	2014-15	2015-16	2016-17
Increase proposal quality and quantity.	Central and embedded proposal development specialists (ENG 2013, EXT, SCI 2015)			
	Proposal Writing Institute			
	Grant-writing workshops			
	Arts/Humanities WS		Arts/Humanities WS	
	Funding Finder email newsletter			
	Online limited submission process			
	New Faculty Research Orientation			
	Faculty trip to visit DC agencies			
		DMP Data Management Tool		
		Training for Research Faculty (5 workshops per year)		
Communicate research successes.	Research Week (Awards Gala, Ignite, student presentations and awards)			
	D. Wynne Thorne and USU Researcher of the Year faculty research recognition awards			
	Sunrise Sessions (RGS manage)			
	Ascend email newsletter			
	RGS social media (FB: USUResearch, Twitter: @USU_RGS, YouTube: USU RGS)			
	TEDxUSU conference			
Strategically fund research initiatives.	30% F&A automatically returned to generating units			
	Startup funds for new faculty			
	Biannual seed grants program			
	Annual Equipment matching fund			
				Tech Transfer
Increase research infrastructure.	Microscopy Core Facility			
	High Performance Computing		HPC University of Utah partnership	
	Qualtrics support and training			
	Nuclear magnetic resonance support			
	Herbarium support			
Provide efficient research support services.	Proposal submission and other documents through DocuSign			
	Training for certification in sponsored programs administration			
		SPD restructure		
			Kuali Research implementation	
	Research Scholars Certification (RCR) training			
		Research and Financial Administration (RFAST) training		
		EHS Assist Tool		
				EHS @USU Eastern
	Protis online protocol submission system			
	AAHRPP and AALAC (human subjects and animal subjects) re-accreditation			
	Time & effort, extra service comp. policy		Uniform Guidance	Safety, ICOI policy

Strategic goal 2: Foster success of USU's graduate students

Increase student financial support

Funding for graduate student support

For the third year in a row, the Utah legislature allocated new funding targeted at enhancing graduate education at USU. Part of the new recurring funds that were allocated for FY17 will help meet critical graduate student support needs in each of the colleges, with the specific uses for those funds being determined by each college. Other new funding will support new faculty hires in areas that will contribute to graduate education, including a new emphasis on Data Science that is being developed by the colleges of Science, Engineering, and the Huntsman College of Business. The Library was the final recipient of a portion of the new funding, in recognition of the critical role that the library plays in supporting graduate education and research.

Supplemental language tuition

In recognition of the important role that facility in a foreign language can play in some fields of study, the Office of Research and Graduate Studies established a limited fund to cover tuition for foreign language coursework. Limiting funding to coursework that is included on a graduate Program of Study will ensure that the student's supervisory committee has determined that the language study will contribute to the student's graduate program.

PDRF expansion

In FY16, the final 13 fellowship slots were allocated to departments. From this point forward, the total
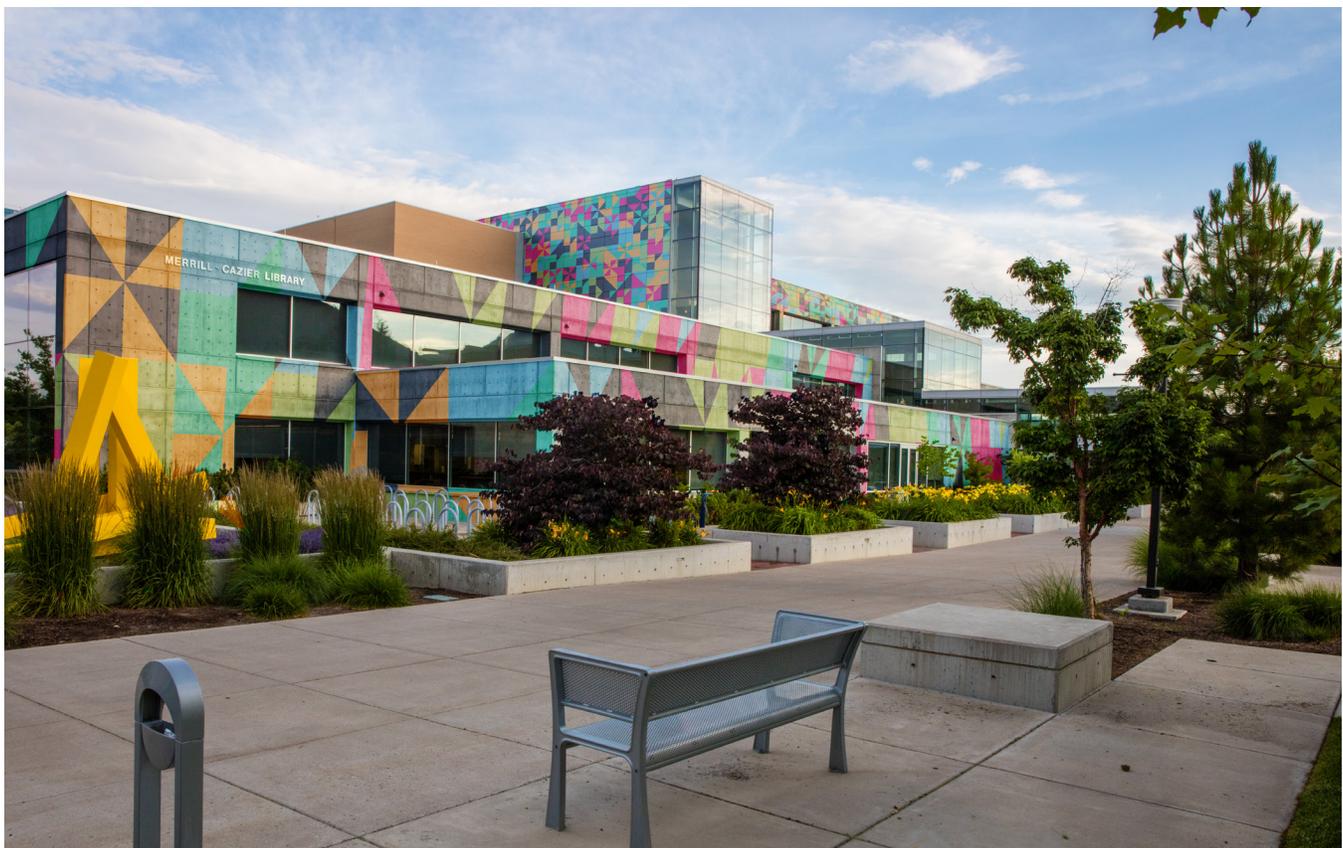
The Library received a portion of allocated funding from the state legislature, in recognition of the critical role that the library plays in supporting graduate education.

of 51 fellowships slots (allocated to colleges based on proportion of PH.D. enrollments) will become open when a current Fellow "Graduates" from their slot.

The nature of the award remains the same: a $20,000 minimum income for students, with an average of $10,000 per student per year coming in the form of a fellowship stipend from RGS, the rest funded by students' home departments. In addition, RGS covers 100% of tuition (excluding differential tuition) for the Fellows during their four years of fellowship funding.

In addition, this year the Presidential Doctoral Research Fellowships program graduated its first two fellows: Troy Munro and Maureen Frank.

First ArtSTEM fellow graduated

Matt Fiske, the first graduate student to be supported by an ART-STEM Fellowship, completed his degree in spring 2016 and has accepted a prestigious 1-year residency at the Red Lodge Clay Center in Red Lodge, MT. Matt completed his MFA degree in the Department of Art and Design,

working with Professor of Ceramics John Neely. The STEM components of Matt's graduate program included both geology and material science. His integration of those STEM fields with his focus on ceramics is an outstanding example of the goal of the ART-STEM fellowship, which was created to encourage collaboration across traditional disciplinary boundaries.

Enhance recruitment efforts

The Graduate Student Recruitment Team aims to recruit an increased quality, quantity and diversity of students by supporting projects, processes and initiatives that produce measurable changes.

These recruitment efforts fall under one of two categories: department support and central recruitment.

Department support, when enacted systematically and efficiently, is a crucial component of graduate student recruitment as contact with potential students often occurs on the department level.

Central recruitment consists of projects and initiatives supporting faculty and department

Having obtained both his Bachelors and Masters from USU, Tory Munro was encouraged by his major advisor, Heng Ban, to pursue his PhD in Engineering. Munro was quickly identified as an ideal candidate for the first cohort of the PDRF program. Not only was he highly engaged in the program, taking on mentorship roles and always willing to review undergraduate research programs, Munro exemplified the best of a Utah State education. As a new PhD, Munro currently holds an Assistant Professorship of Mechanical Engineering at Brigham Young University.

Maureen Frank serves as another success story. As the first PDRF fellow for the department of Wildland Resources, Frank's research focused on the migratory and dietary patterns of phalaropes, a type of bird that utilizes the Great Salt Lake as a migration stop over. In addition to pursuing her research, Frank participated in other training and speaking opportunities, such as Ignite, USU's premiere student research showcase. Upon receipt of her PhD, Frank accepted a position as an Extension Wildlife Specialist and Assistant Professor at her ungraduate alma matter, Texas A&M.

2015-2016 New Presidential Doctoral Research Fellows

Fellow	College	Department	Advisor
Tatiana Drugova	College of Agriculture and Applied Sciences	Applied Economics	Kynda Curtis
Idowu Atoloye	College of Agriculture and Applied Sciences	Plants, Spoils and Climate	Jennifer Reeve
Beth Shirley	College of Humanities and Social Sciences	English	Jared Colton
Samantha Corralejo	Emma Eccles Jones College of Education and Human Services	Psychology	Melanie Domenech Rodriguez
Carla Idalia Orellana	Emma Eccles Jones College of Education and Human Services	Communicative Disorders and Deaf Education	Ron Gillam
Ji Eun Lee	Emma Eccles Jones College of Education and Human Services	Instructional Technology and Learning Sciences	Mimi Recker
Taylor Sorensen	College of Engineering	Civil and Environmental Engineering	Marc Maguire
Aatreyi Bal	College of Engineering	Electrical and Computer Engineering	Sanghamitra Roy
Nguyen Vo	College of Engineering	Computer Science	Kyumin Lee
Rachael Hager	S.J. & Jessie E. Quinney College of Natural Resources	Watershed Sciences	Karin Kettenrign
Yajie Li	S.J. & Jessie E. Quinney College of Natural Resources	Environment and Society	Peter Howe
Jill Lundell	College of Science	Mathematics and Statistics	Chris Corcoran
Camden DeBruler	College of Science	Chemistry	Sean Johnson
Randall Reese	College of Science	Mathematics and Statistics	Chris Corcoran

recruitment needs. Centralized projects and resources have the potential to improve graduate school recruitment throughout all programs and fall into one of these three areas: branding, lead generation and evaluation.

Three tactics were identified FY16 to aid in departmental recruitment:

Gradschoolmatch

In June 2016, the recruitment team invested in a membership with Gradschoolmatch. Gradschoolmatch, is an online hub where an advanced algorithm uses each program's profile information to generate a list of students that would be a good fit for the program. Currently, all USU programs are on Gradschoolmatch giving faculty another tool to find students and allow them to directly message students who are currently making a short list of programs.

The recruitment team recognizes that Gradschoolmatch is a new tool, and is dedicated to increasing awareness of the tool and training on how to best utilize it to faculty throughout FY17.

Recruitment weekend

RGS knows that visiting a prospective institution makes a difference in a student's decision. Because of this, in FY17, RGS will support departments interested in bringing students who have been made offers to USU for campus visits. RGS support will come in providing programing for weekend visits and covering the cost of the programing provided. Departments will still be responsible for covering the travel costs of visiting students.

Ellucian Recruit

The new industry standard in graduate student recruitment is that students make decisions based on the personal attention and immediate service that they get.

To better track graduate student information requests and prospective students' progression in the graduate admission process, the recruitment team has employed Ellucian Recruit, which is already being used to process student applications. FY17 will bring further development of workflows and tools to aid in recruitment tactics.

Strategy: Provide value-added opportunities

Graduate Training Series (GrTS)
Now in its third year, the Graduate Training Series (GrTS) provides monthly opportunities for graduate students to augment their studies with professional development that will prepare them for the next steps in their career paths. Drawing from experts across campus, GrTS provides graduate students from across disciplines skillsets that will set them apart as strong professionals in their fields.

In addition to the workshops, resources were made available online (grts.usu.edu) to those who were not able to attend.

Events like Graduate Training Series (GrTS) and Graduate Student Orientation (pictured left) help provide skills and social opportunities that aren't as readily available in day-to-day research or classwork.

Graduate Training Series (GrTS) 2015-2016 Schedule

What I wish I knew (September 23, 2015)

Presenters
Christy Glass (SSWA)
Jarod Raithel (Grad, WILD)
Ty Aller (Grad, USUSA)

Announcement
In a lot of ways, graduate school is like a marathon; you've spent a lot of time training and preparing and now race time is here. You've looked at your map and have an idea of what's ahead, but there might still be some unexpected obstacles along the way. There are a lot of people you'll work with along the way, but ultimately, you are running your own race. You are in charge; you can listen to suggestions and take others' advice, but this is your race. September's edition of GrTS focused on the tips and advice incoming students need to be successful.

3 most effective tactics to improve your teaching (October 14, 2015)

Presenters
Scott Bates (PSYCH)
Fran Titchener (HIST)

Announcement
Teaching has a similar reputation as parenting: "People have been doing this for a long time, so everyone knows what they're doing." There's a sense that no training is involved, but when graduate school includes a teaching context, it could be your first exposure to teaching. That can be intimidating. Graduate Training Series featured asked students to compare teaching to parenting (or being parented).

Prepare for your career in academia (November 18, 2015)

Presenters
Suzanne Sumsion
Jared Woolstenhulme

Announcement
The road to a career in academia begins with thoughtful planning. November's GrTS, led by USU Career Services, featured tips to help you jump-start that planning by focusing on how to strengthen your academic presence, so when the opportunity comes, you'll be ready.

3 Essential steps to beautify your graphs and data plots (January 20, 2016)

Presenter
Abby Benninghoff (ADVS)

Announcement
Abby Benninghoff, associate professor in the Animal, Dairy and Veterinary Science Department, discussed how students can best present their graphs and data plots. Benninghoff discussed the best ways to create graphs and data and how to be clear, concise and powerful with your information.

3 Merrill-Cazier library resources that will make your life easier (February 24, 2016)

Presenters
Becky Thoms
Betty Rozum
Britt Fagerheim

Announcement
Librarians Becky Thoms, Betty Rozum and Britt Fagerheim discussed the importance of literature reviews, citations and data storage.

Getting smart about posters and slides (March 23, 2016)

Presenters
Anna McEntire (RGS)

Announcement
Anna McEntire, communications director for the Office of Research and Graduate Studies, discussed what makes an engaging and visually appealing poster or slide. Become an expert on slide and poster design.

More than 300 students participated in USU's Student Research Symposium and this year's expanded training opportunities in association with it.

Student Research Symposium

Student Research Symposium (SRS), one of Research Week's most attended events, is USU's largest showcase of student research. Intended to give students a platform to share their research with their peers, faculty judges, and the campus community, SRS features over 300 graduate and undergraduate researchers.

To refine the goals of SRS, the Project Management and Communication division issued a survey to past participants and results indicated that students highly valued SRS as a training opportunity to improve their presentation skills. For the second year, students could submit their posters and slides to PMC prior to SRS to receive evaluation of their work based on a best practices rubric. This feedback was emailed back to students and submissions demonstrating best practices were awarded "Excellent Communicator" badges that students could display during their poster or oral session. As in previous years, students presented

Graduate Student travel awards continue to support travel to professional conferences by USU students, including Tyler King (left), Samantha Wilden (top right), Ana Caballero (middle right), and Prabal Basu (bottom right).

in discipline specific sessions where they received email feedback from some of the 60 faculty judges.

Graduate Student Travel Awards

The Graduate Student Travel Fund promotes student involvement in their disciplines by partially funding travel costs associated with professional presentations at regional, national, and international conference. The travel fund is a dollar-for-dollar matching grant between RGS and an applicant's department. Depending on if an applicant is attending a region, national, or international conference, RGS will provide up to $200, $300 or $400, respectively.

This year RGS received 367 applications for travel funding, awarding 313 (85.3%) of applicants. For FY16, RGS awarded $88,600 worth of travel fund grants, which were matched by $88,600 in department funds.

USU Office of Research and Graduate Studies

Strategy: Provide Graduate support services

Ellucian Recruit

Ellucian Recruit was implemented in fall 2015 as the new software platform for undergraduate and graduate applications. Recruit automates a number of processes that were previously done by Graduate School admission processors such as facilitate communication with applicants, allow departments and programs to customize their applications if they require additional application materials, and provide a web-based interface through which applicants can monitor the status of their applications. One notable outcome of this transition to Recruit is a reduction in the number of admission processors that the Graduate School employs to deal with the large number of applications that are submitted from November through February (over 1,900 applications this past year).

Goal: Foster success of USU's graduate students.

Strategies	Before 2013	2013-14	2014-15	2015-16
Increase student financial support.	Tuition awards, fellowships, scholarships			
		Non-resident research waiver (PhD and thesis master's degrees)		
		Non-resident excellence waiver		
	Subsidized insurance	(moved to Student Services)		
	Tuition award pool (decentralized, two-year cycle, backstop with F&A)			
	Require tuition be included on grant proposals			
	PhD conversion			
	One-time state funding: PDRF expansion, dissertation enhancement			
		Recurring state funding: X-STEM, RGS assistantships		
Enhance recruitment efforts.	Recruitment grants	(augmented)		
	Grad school recruiting email campaign			
	Presidential Doctoral Research Fellows program, profiles, posters			
	Western Regional Graduate Program			
	Recruitment online toolkit, workshop, panels			
	Web enhancement			
			Recruit CRM software	
			New strategic plan	
Improve dept programs.	Program reviews (Self studies, 5-year plans)		(mid-term reviews)	
	Restructuring programs and degrees; conversion of MS/C to professional degrees			
	Graduate faculty process: department review			
Provide value-added opportunities.	Thesis and dissertation workshops			
	Graduate Research Symposium	(symposium training)	(combined with UG)	
	Responsible conduct of research training		(mandatory for doctoral)	
	Social media			
	Grant-writing workshops each semester			
	Travel funding moved to RGS			
	Ignite speaking event			
	Graduate Student Training Series (7 workshops per year)			
	Graduate student awards moved to RGS			
			Teaching Assistant training	
Provide efficient graduate support services.	New student orientation		(grad orientation fair)	
	Graduate catalog	(RGS ownership)		(Acalog system)
	Graduate faculty forums			
	DocuSign form routing			
	Data summaries: college/dept demographics			

Strategic goal 3: Enhance USU's undergraduate research program

Strategy: Encourage greater participation in undergraduate research

This past year our efforts in USU's first-year experience (USU Connections) was significantly expanded in an effort to broaden and encourage greater participation in undergraduate research. Connections reaches a significant majority of Logan-campus incoming freshman, and, last year, students received UR-related materials as a part of their welcome packet, an invitation (using the Aggie Passport system) to the Fall Undergrdauate Research Orientation and fall poster-symposium. Scott Bates also presented to all four sections of Honors Connections on the value of undergraduate research and how to get involved. Further, Bates presented a brief orientation of undergraduate research to hundreds of Connections students across the four-day event. In addition, the Division of Graduate and Undergraduate Research participated in Day on the Quad, in an effort to publicize the orientation.

The Fall Undergraduate Research Orientation was held on September 11, 2015. Bates provided an introduction to undergraduate research, guidance on "how to get involved," and information about programming (URCO, Research on Capitol Hill). Directly after the orientation, a poster session was

The Fall Undergraduate Research Poster Session provided students the opportunity to share the results of their summer research projects while generating interest for students who were just becoming familiar with undergraduate research at the UR Orientaiton.

held outside on a major campus thoroughfare in an effort to continue to capture attention of new and current students.

The division has also spent resources and supported a number of college, department, and program-level undergraduate research presentation opportunities, including: Hansen Life Science Retreat, the Fall Undergraduate Research Symposium (led by Dr. Travis Dorsch, FCHD), the Spring Runoff Conference, the LPSC Annual Spring Student Research Symposium, the Sagebrush Ecosystems Convention, the research day in the Caine College of the Arts, and the Animal, Dairy, and Veterinary Science annual student research symposium.

Each of these strategies were designed to encourage greater participation in undergraduate research.

Strategy: Encourage recruitment of high achieving students

Scholars' Day

For the second year, RGS participated in a refocused Scholars' Day during May, in coordination with the Honors program and Admissions, with a focus on recruiting high ability high school juniors, as opposed to committed seniors after scholarship and application deadlines.

This year, selected student Ignite speakers were asked to present their talks in front of the audience of high-ability high-school juniors and many of their parents. The high-school students were then provided the opportunity to explore campus research opportunities from all ends of campus, from the Animal Diagnostic Lab, to ASSERT— the program that supports children with autism spectrum disorder and their families—to the spider-
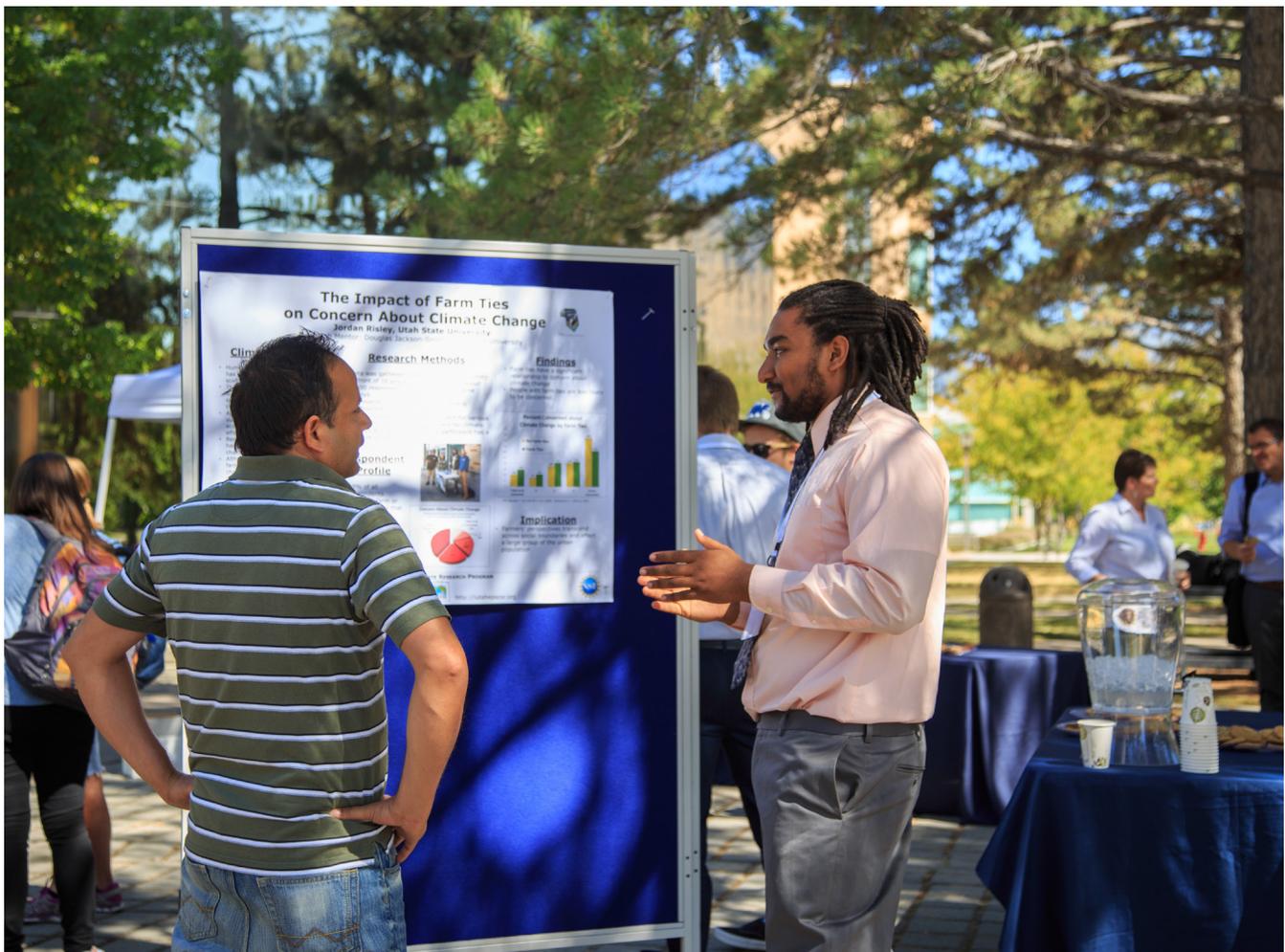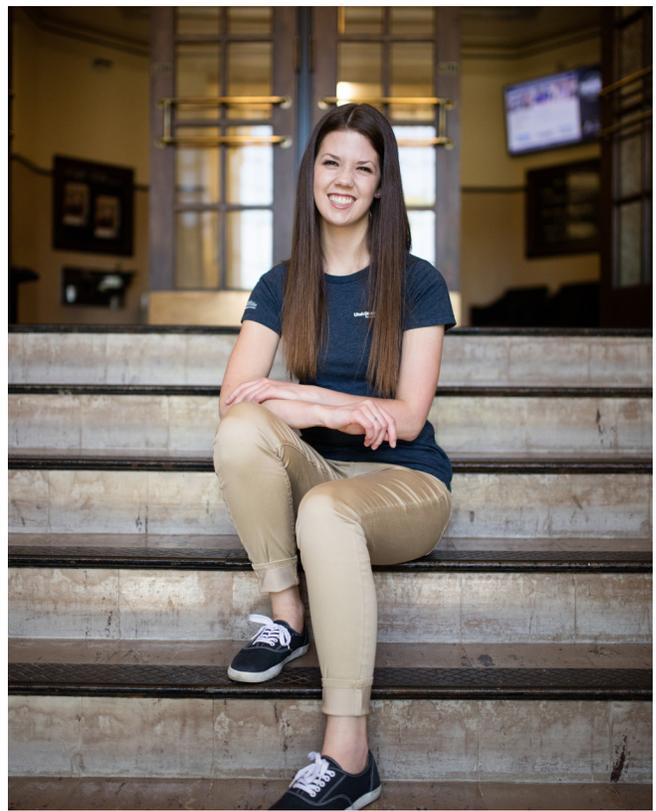
This year, enhancements were made to the Undergraduate Research Fellows program, USU's flagship opportunity for high-achieving students. Recruitment was streamlined through the Honors program, and sophomores were considered for the fellowship as well. Current Undergraduate Research Fellows include Gianna Patchett (top) Hunter Klein (bottom left) and Morgan Sanford (bottom right).

silk lab, to a session on the philosophical underlings of Star Wars.

Undergraduate Research Fellows

Finally, the undergraduate research program and the Honors program continued to work together to identify high-achieving students for the Undergraduate Research Fellows program. This year, all students who applied for Honors were reviewed for the Undergraduate Research Fellows program. The result was a much more diverse incoming class of Undergraduate Research Fellows. In addition, for the first time, sophomore students were invited into the Undergraduate Research Fellows program. The first cohort of ten sophomores was selected in June and will begin as Research Fellows in fall 2016.

Strategy: Provide funding opportunities for undergraduate research

Changes to URCO policies

The requirements for URCO remain the same: students must submit a proposal, attend budget training session, and present the results of their grant at a university-sponsored, or professional conference.

This year, 75 proposals were submitted for funding in FY16, and 53 were awarded. The table below shows rates for college, and departments.

28 faculty reviewers, and 9 doctoral student reviewers participated in the review process and a total of $64,313 were awarded (these dollars were matched with $36,063 of other department funds).

This year brought a few change as to the center piece of the undergraduate research and creative opportunities grant program. First, a summer deadline was established. The new, June 15, deadline is for students who are interested in being funded during the fall semester. The October 15 deadline remains for students who wish to be funded in the spring, and the February 15 deadline remains for students who wish to be funded in the summer.

The nature of the award has also shifted. The total award available remains $2000 (this includes a $750 match from another University source). $1000

of this award is in the form of a scholarship, and the remaining $1000 is for equipment, supplies, and research related travel. Groups of students, too, can be awarded scholarships (although the amount is reduced for groups).

Undergraduate travel funding

In January of 2016, RGS launched a new program designed to support undergraduate researchers. The RGS Undergraduate Student Travel Award promotes student involvement in their disciplines by partially funding travel costs associated with professional presentations at regional, national, and international conferences. The ongoing program has a budget of $20,000. Allocation decisions are made on a first-come/first-served basis.

In FY16, a total of 54 awards were made (60 requests were submitted) and the total dollars distributed was $13,550. Students from all 8 colleges (and 20 departments) participated in the program. Students traveled to regional, national, and international conferences.

Fifty-four students attended conferences, including:

- National Conference on Undergraduate Research
- Experimental Biology
- American Geophysical Union
- 37th Annual Southwest Popular/American Culture Association Conference
- Institute of Biological Engineering (IBE)
- Society for the Quantitative Analyses of Behavior
- Cognitive Neuroscience Society
- International Symposium on Society and Resource Management

Strategy: Recognize undergraduate research success

Research on Capitol Hill

Utah Research on Capitol Hill is a collaboration with the University of Utah to highlight the best of undergraduate research from Utah's state research institutions. On January 26, 2016, 50 students, 25 from the University of Utah and 25 from Utah State
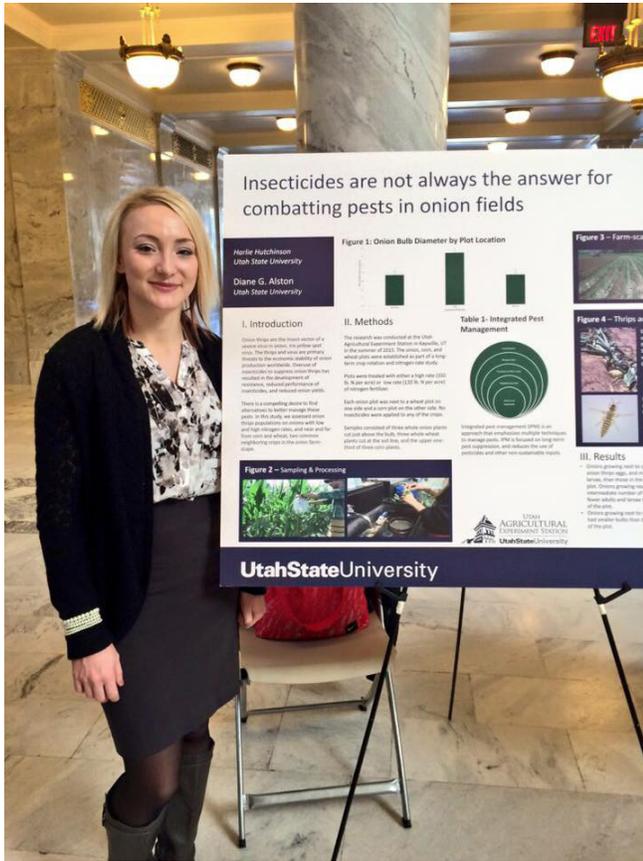
Students from Utah State University (including Harlie Hutchinson, pictured above) and the University of Utah presented their work at Research on Capitol Hill in January 2016.

University presented their research to the state legislator.

This year, students were trained on poster design (a process that included basic skills, and an iterative feedback process), as well as scholarly communication. Experts in university/governmental relations provided an hour-long training session on science communication skills, given the audience, which included the general public, Utah legislators, staff, and the news media.

Utah Conference on Undergraduate Research
Based on the National Conference on Undergraduate Research, the Utah Conference on Undergraduate Research celebrates academic, professional and personal achievements resulting from undergraduate research projects or creative endeavors across disciplines. In 2016 USU had 42 undergraduate students give presentations.

Strategy: Train students on research best practices

URF Boot Camp
High-ability students in the Undergraduate Research Fellowships program were required to attend a four-hour "boot camp" session where they learned about identifying and getting involved in undergraduate research. Undergraduate Research Fellows are required to be "vigorously involved in undergraduate research," and the boot camp was the training session designed to facilitate their early engagement.

Undergraduate Research Guidebook
The Undergraduate Research Guidebook was expanded in an effort to provide addition training to students. New expanded sections on identifying undergraduate research opportunities, responsible conduct of research, and safety were written to provide a base document for undergraduate researchers and their faculty mentors.

Graduate Student Workshops
Advanced undergraduate researchers were also invited to participate in the Graduate Training Series (GrTS), as well as the RGS-funded graduate student grant writing seminar called "Getting Started as a Successful Proposal Writer." Those

This year's Ignite student speakers were (pictured left to right): Matt Fiske, Jeannie Woller, Danielle Christensen, Daisha Cummins, Amy Moser, CJ Guadarrama, Enjie Li, Brett Hurst and Antra Boca. Their talks can be viewed online at ignite.usu.edu.

opportunities provided advanced students access to best practices in scholarly writing, communication, and research skills.

Student Research Symposium

Student Research Symposium (SRS) gives undergraduate researchers the opportunity to present their research in a conference like setting. As part of the SRS preparation materials, students have access to a series of training videos, that coach them on best practices in formatting posters and slides for conference presentations. Additionally, students can submit their work to the Project Management and Communications team prior to SRS to be evaluated for an "Outstanding Communicator" badge. Built into the symposium

are both faculty and peer evaluations, to which the standard of measure is provided prior to the event.

Ignite

Also, as part of Research Week, students continue to receive training on how to effectively present their undergraduate (and graduate) research at Ignite, a speaking series designed to showcase student research interests in an engaging way. Attendance at this event continued to grow in 2016, with nine total speakers who received more than three months of intensive training.

New this year, four Ignite student presenters were selected to give their talks at the spring 2016 Sunrise Session in Salt Lake, as well as at the Scholars' Day program for high school students.

Goal: Enhance USU's undergraduate research program.

Strategies	Before 2013	2013-14	2014-15	2015-16
Encourage greater participation in undergraduate research.	Undergraduate Research Advisory Board			
	Day on the Quad promotion			
	Social media			
	List serve			
	Fall undergraduate research orientation		(summer research symposium)	
	Spring undergraduate research orientation			
		Erevna UR String Quartet		
			Connections content	
Encourage recruitment of high achieving students.	Undergraduate Research Fellows program communication			
	Coordination with Honors			
	Scholars' Experience recruiting event		(May event)	
	Overhaul URF application process	(Combine process with Honors)		
Provide funding opportunities for undergraduate research projects.	Undergraduate Research and Creative Opportunity (URCO) grants			
	Undergraduate Research Fellow program			
	Travel Funding (UCUR, NCUR, POTH, ROCH)			
	SURCO program for summer research			
		Changes to URCO policies		
		Combine URCO with SURCO		
			UR Travel Award	
Recognize undergraduate research successes.	Research on Capitol Hill			+U/U partnership
	UR transcript designation			
	Undergraduate research awards			
	Research Fellow activities			
	Faculty mentor reception			
Train students in research best practices.	Student Showcase		(Student Research Symposium)	
		SRS badging, training, feedback, partnerships		
	Utah Conference on Undergraduate Research			
	National events: NCUR/POTH			
	URF guidebook	(UR guidebook)		
	Student Showcase training			
	Ignite speaking event			
		URCO training		
			URF boot camp	

Chapter 2:

Research Council and Graduate Council

Activities of the Research Council

The Research Council provides advice and recommendations to the Vice President for Research and 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.

Actions of Research Council in FY 2015

September 2015
The Research Council reviewed and discussed revisions to USU Policy #584, Human Participants in Research, to implement guidelines for identification and management of institutional conflicts of interest (ICOI). Policy on ICOI for Human Participants in Research is required for renewal of USU's accreditation by the Association for the Accreditation of Human Research Protection Programs (AAHRPP). AAHRPP accreditation represents acknowledgement that the research infrastructure at USU provides strong and effective protections for human participants. Research Council voted unanimously to support the policy revisions. The policy advanced through all subsequent administrative steps and was presented and approved at the March 4, 2016 USU Board of Trustees meeting. The full text of the policy is included on page 37.

October 2015
Vice President McLellan provided the Research Council with an update on revisions to policy # 337, Safety and Health, which the Council had supported in FY15. There are two fundamental changes to the existing policy; 1) Formalization of USU Safety Committee and university representation to assure better communication about safety issues, and 2) Identified safety responsibilities for university administrators and personnel. Dr. McLellan noted that language within the proposed revision addressed input

Research Council FY 2015 Roster

Representative	College
Mark McLellan	Chair, Vice President for Research and Dean of Graduate Studies
Noelle Cockett (Andi McCabe)	Provost
Larry Walther (Jeff Doyle)	Jon M. Huntsman School of Business
Beth Foley (Jamison Fargo)	Emma Eccles Jones College of Education and Human Services
Maura Hagan	College of Science
Christine Hailey (Jagath Kaluarachchi)	College of Engineering
John Allen	College of Humanities and Social Sciences
Mac McKee	Utah Water Research Laboratory
Craig Jessop (Chris Terry)	Caine College of the Arts
Nancy Huntly (Jodi Costa)	Ecology Center
Ken White (DeeVon Bailey)	College of Agriculture and Applied Sciences
Brad Cole (Betty Rozum)	Libraries
Rylish Moeller	Faculty Senate Representative
Chris Luecke	S.J. and Jessie E. Quinney College of Natural Resources
Judith Holt (John Copenhaver)	Center for Persons with Disabilities

from USU's Safety Committee, Risk Management, college faculty and campus administration, campus units, as well as employee committees, and that the tone within the policy had been broadened to better capture how the university functions as a whole. The policy advanced through all subsequent administrative steps and was presented and approved at the May 6, 2016 USU Board of Trustees meeting. The full text of the policy is included on page 47.

January 2016

The Research Council reviewed and discussed revisions to USU Policy #586, Open Access to Scholarly Articles, to incorporate greatly expanded federal agency requirements for open access to publications. The Research Council voted unanimously to add language to section 4.1 paragraph 1 of Policy 586 as follows:

"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."

The revised policy was subsequently presented for review and discussion to the Faculty Senate, Business Finance and Welfare Committee, the Council of Deans, and finally to the USU Executive Committee, where it was approved. The policy will go forward for final approval from the USU Board of Trustees in Fall 2016.

Policy Number 584
Human Participants in Research

584.1 PURPOSE

The purpose of this policy is to govern the involvement of human participants in the conduct of research at Utah State University. The University is committed to safeguarding the rights and welfare of human participants, and complies with the regulations of the U.S. federal government and the State of Utah.

584.2 DEFINITIONS

2.1 Research

For the purposes of this policy, research is defined in harmony with 45 Code of Federal Regulations (CFR) 46 as a systematic investigation, including research development, testing and evaluation designed to develop or contribute to generalizable knowledge.

For the purpose of this policy, a systematic investigation is defined as a process that involves

the formulation of a hypothesis or research question and the collection and/or analysis of data that will lead to a conclusion that either supports or disproves the hypothesis or that answers the research question. Generalizable knowledge is any result of research that is intended to be extended (or generalized) beyond the population or program being investigated. Such extension shall include public disclosure of such results either in public settings, through publication of a thesis or dissertation, or through other dissemination or publication.

The USU Institutional Review Board (IRB) shall have the sole responsibility, through interaction with the Principal Investigator and review as set forth in this policy, to determine whether an investigation to be conducted constitutes research in accordance with 45 CFR 46, as illustrated in Decision Chart #1, published as guidance by the Office of Human Research Protections (OHRP), available at: http://

www.hhs.gov/ohrp/humansubjects/guidance/decisioncharts.htm.

2.2   Human Participant

A human participant ("participant") in research is a living individual, about whom an investigator (whether professional or student) conducting research obtains:

1. Data through intervention or interaction with the individual; or

2. Identifiable private information.

The terms "human participant" and "participant" are equivalent to the terms "human subject" and "subject" as used in the "Common Rule," 45 CFR 46.

2.3 Human Research

Human research, or research involving human participants, is any research, as defined above, that involves human participants in accordance with 45 CFR 46 and as illustrated in Decision Chart #1, published as guidance by the OHRP, available at: http://www.hhs.gov/ohrp/humansubjects/guidance/decisioncharts.htm.

The USU IRB shall have the sole responsibility of determining whether an investigation constitutes human research, under the above definition. The following activities, which may be found to be exempt from Common Rule (45 CFR 46) requirements, shall nonetheless be included among those to be submitted for IRB review: quality improvement programs and program evaluations carried out for other than exclusive use by the organization sponsoring the evaluation, classroom exercises that are associated with research methodologies courses, public health activities, and innovative health care.

2.4 Investigator

Investigator is 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. Such investigators shall include, but not be limited to, USU faculty, professional researchers, research assistants, laboratory and clinical staff, and others as may be designated by the Vice President for Research.

Principal Investigator (PI) is an investigator who is an employee of the University and is authorized by his/her unit and college, or by the Vice President for Research, to take responsibility for research involving human participants. This individual shall have primary responsibility for submitting research protocols and carrying out research programs that protect the health and well-being of Human Participants, as set forth in this policy.

2.5 Intervention

Intervention includes both physical procedures, by which data are gathered (for example, venipuncture), and manipulations of the participant or the participant's environment that are performed for research purposes.

2.6 Interaction

Interaction includes communication or interpersonal contact between investigator and participant.

2.7 Vulnerable Populations

The IRB gives special consideration to protecting the welfare of particularly vulnerable populations, such as children, prisoners, pregnant women, mentally disabled persons, or economically or educationally disadvantaged persons.

1. A child is a person under the age of 18 who is not able to legally consent to treatments or procedures involved in the research (see Utah Code Annotated 75-1-201 [29]).

2. A child's guardian, according to U.S. Department of Health and Human Services (DHHS) regulations, is an individual authorized to consent on behalf of the child to general medical care.

3. A guardian of an incapacitated adult shall be a person who has qualified as such pursuant to testamentary or court appointment.

2.8 Private Information

Private information includes information about behavior that occurs in a context in which an individual can reasonably expect that no

observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (e.g., a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may be ascertained by the investigator or associated with the information) in order for the obtaining of the information to qualify as research involving human participants.

2.9 Minimal Risk

Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater, in and of themselves, than those ordinarily encountered in daily life, or during the performance of routine physical or psychological examinations or tests.

2.10 Conflict of Interest

An individual conflict of interest is a situation in which a University employee owes a professional obligation to the University, which is or can be compromised by the pursuit of outside interests. Conflicts of interest are further defined and discussed in USU Policy 307 Conflicts of Interest.

An Institutional Conflict of Interest (ICOI) exists whenever the financial or other interests of the University, or of an Institutional Leader acting within his or her authority on behalf of the university, conflict with - or have the potential to conflict with - obligations to University research participants or others.

Unaddressed ICOI can give rise to bias entering into the decision making of the university, which could raise questions regarding the integrity of the research.

Examples of such biases might be:

- Special handling of issues addressed by University departments or oversight committees, such as the Institutional Review Board (IRB).
- Management decisions that:
  - Affect data ownership or sequestration of data.

- Restrict publication or dissemination of research results.

- Restrict intellectual property rights.

- Influence research agendas within the University.

For purposes of the Human Research Protection Program, Institutional Leaders are those senior leaders who are in a position to directly influence salaries, appointments, resource allocation or oversight of human participant research. This will include the president, vice presidents, associate vice presidents, deans, administrative directors, center directors and department heads. Members of the USU Board of Trustees have their own disclosure requirements, and USU shall coordinate with the Board of Trustees to identify any financial interests they may hold that would be considered to create an Institutional Conflict of Interest.

2.11 Confidentiality

Confidentiality is the withholding of certain information as specified under an agreement between USU and another individual or entity (e.g., a collaborating institution) wherein the entities agree to maintain as confidential all private information regarding the research, protocol, investigational process, and information discovered during the investigation. Also, the right of a human participant to have private information protected from disclosure except as allowed under the Privacy Rule (42 CFR 160, 164).

584.3 POLICY

USU investigators must adhere to strict ethical standards when involving human participants in their research. These standards are in place to protect the basic rights of participants. Any research that departs from the spirit of these standards violates University policy. All research performed under the auspices of USU, including collaborative research conducted with one or more public or private entities, in which human participants are involved must be reviewed and approved by the Institutional Review Board (IRB) appointed by the Vice President for Research, or

by such other review body as shall be designated by the IRB. USU, through its Human Research Protection Program, its IRB and other review processes, works together with investigators, sponsors and research participants to uphold ethical standards and practices in its research.

The IRB review and approval process shall be conducted in accordance with all U.S. federal government and state laws, and all University policies and regulations that govern the use of human participants in research, including the IRB Handbook and the IRB Standard Operating Procedures current at the time of the review. The requirement for IRB review and approval applies to all human research involving USU Investigators or human participants in all locations, whether funded or not, and whether conducted by faculty, students, or other employees. It also applies to persons unaffiliated with the University who wish to investigate participants who are under the protection of the University, such as students and patients. No such study shall begin before it has been approved by the IRB. No other official of the University may approve human research that has not been approved by the IRB. Investigators are encouraged to consult with the IRB Administrator, or the IRB Chair, during preparation of an early draft of proposals to be submitted, at which time concise and current details concerning human research can be obtained.

The IRB web site at www.usu.edu/research/irb is made available to principal investigators, investigators, human participants and others in order to provide ready access to USU's Policies, Standard Operating Procedures, the IRB Handbook, and associated information. Interested parties should make use of the information provided electronically, and whenever appropriate they may contact the IRB Administrator or Chair for additional assistance with the preparation, approval, and execution of protocols involving human participants.

Investigators are referred to the following documents and regulations, hereby made a part of this policy by reference:

1. Ethical Principles and Guidelines for the Protection of Human Subjects of Research (The Belmont Report).

2. 45 Code of Federal Regulations (CFR) 46 "Protection of Human Subjects," (The "Common Rule").

3. 45 CFR 160 and 164A,E "Standards for Privacy of Individually Identifiable Health Information," ("The Privacy Rule").

4. 42 CFR 50, Subpart F, "Responsibility of Applicants for Promoting Objectivity in Research for which PHS Funding is Sought."

5. Department of Health and Human Services guide document: "Financial Relationships and Interests in Research Involving Human Subjects: Guidance for Human Subjects Protection."

If an investigator is unsure of the interpretation of the federal and state statutes and guidelines as listed, or has other questions regarding the applicability or effect of federal, state, or local laws or regulations, he/she shall contact University Counsel for advice and direction.

The USU IRB is authorized to approve research protocols involving human participants through the Federal-Wide Assurance # 00003308, dated September 6, 2002. This assurance is on file with the Office of Human Research Protections, U.S. Department of Health and Human Services. USU delegates to the IRB the responsibility for reviewing research protocols primarily for the purpose of ensuring that human research is carried out in accordance with ethical principles, as outlined in the Belmont Report, and for protecting the welfare and rights of human participants. The IRB shall act independently in this capacity, but shall coordinate its review with other USU review bodies – including the Sponsored Programs Office, the Conflicts of Interest Committee, the RGS Division of Research Integrity and Compliance, and the Office of the Vice President for Research – whose responsibilities under USU policy include review of the scientific and scholarly validity of the proposed research study, and its freedom from bias introduced because of unmanaged conflicts of interest. The IRB is authorized to:

1. Approve, require modification to secure approval, or disapprove all human research activities overseen or conducted at USU;

2. Suspend or terminate approval of human research not being conducted in accordance with the IRB's requirements or that has been associated with unexpected serious harm to participants;

3. Observe, or have a third party observe, the consent process;

4. Observe, or have a third party observe, the conduct of the research.

5. Authorize a separate IRB or other review body that has a current Federal-Wide Assurance to provide oversight of a multi-site or specialized study under an authorization agreement, as allowed by federal statute.

584.4 PROCEDURES

4.1 Principles

Principles that IRB members consider during their reviews are set forth in the IRB Review Checklist document (available at: http://rgs.usu.edu/irb/resources/forms-for-reference-only) current at the time of application. These principles include:

1. Minimizing the risks to participants.

2. Balancing of risks with the potential benefits from the study.

3. Obtaining informed consent from the participant or permission from a legal guardian before participation. Such consent or permission must be in writing unless waived by the IRB.

4. Providing adequate detail about the study in language that is understood by the participant so the participant can make an informed decision.

5. Maintaining participants' privacy and confidentiality.

6. Informing participants that their participation is voluntary and that they are free to withdraw from the study at any time without consequence.

4.2 Protocols

Protocols submitted to the IRB are categorized as follows:

(1) Exempt from further review

Determination of exempt status shall be made in accordance with the standard operating procedures of the IRB, and shall in no case be made by an individual who might have a conflict of interest concerning the study. All research adjudged to be exempt shall nonetheless be subject to monitoring and continued review by the institution through the IRB so that the health, well-being and privacy of human participants involved in such research are adequately protected. Such review shall require an annual update confirming that the then-current activities qualify for exemption, outlining any changes made in the protocol or indicating that the project has been completed and/or terminated.

Certain human research may be exempt from review under certain circumstances, in accordance with 45 CFR 46.101(b), subsections a-f. These may include the following: certain educational settings; certain tests, surveys, certain interviews and public behavior observations; certain existing data, documents, records, and specimens; certain public benefit or service programs and certain food taste/acceptance studies.

These exemptions must be arrived at by analyzing the decision charts referred to at HHS.gov under Policies and noted as "Checklists & Decision Trees" located currently at http://www.hhs.gov/ohrp/policy/checklists/index.html.

 (2) Subject to expedited review

If the IRB Administrator finds that a protocol involves no more than minimal risk, expedited review may be conducted by a limited number of experienced board members who possess expertise in the research activity being conducted. Selection of IRB members to conduct expedited reviews shall be by the IRB Chair, and expedited reviews shall be performed in accordance with the standard operating procedures of the USU IRB. This process

generally requires a period of four to six weeks to complete.

(3) Subject to full review

In cases where more than minimal risk is involved, and where expedited review is deemed by the IRB Administrator to be insufficient or inappropriate, the protocol is subject to review by the full board. Such reviews typically require a period of four to six weeks to complete.

4.3 Protocols submitted to the IRB for review

Protocols submitted to the IRB for review shall be presented by a principal investigator, and shall consist of three components. (Forms and information can be found at http://www.usu.edu/research/irb)

(1) IRB Application Form

Completion of this form will allow the IRB Administrator to quickly place the protocol in the appropriate review category (exempt, expedited, or full board review). These forms have been developed to minimize the response time of the IRB. All sections of the application must be completed in order for the IRB to begin its review. Information should be written in lay language, avoiding jargon and acronyms.

(2) Copy of the grant, thesis, or dissertation upon which the project is based

If a project has none of the above documentation, a description of methods and objectives, and a clear, concise description of procedures to be used in the project shall be submitted.

(3) Informed Consent Form

This document must conform to the requirements of the IRB standard operating procedures as reflected in the Informed Consent Checklist (available at: http://rgs.usu.edu/irb/resources/informed-consent-samples) and be approved for use in the study by the IRB. It contains the following elements as required under 45 CFR 46.116:

- A statement that the study involves research.

- A statement of the research to be performed and the purpose of the research.

- A description of reasonably foreseeable risks or discomforts.

- A description of reasonably foreseeable benefits to participants and others.

- Appropriate alternatives to the study that may benefit the participant.

- A statement of confidentiality.

- Availability of compensation or treatment for injury.

- Contact information for:

    - Answers to pertinent questions about the research.

    - Answers to pertinent questions about the research participants' rights.

    - Reporting of research related injuries or harms.

    - The research team (if not provided above) for questions, concerns, or complaints.

    - Someone independent of the research team for problems, concerns, questions, information or input.

- A statement explaining that participation is voluntary and that there is no penalty or loss of benefit to which the participant was entitled if the participant withdraws or refuses to participate.

- When appropriate:

- The consequences of a participant's decision to withdraw from the research.

- An approximate number of participants involved in the study.

- The informed consent form shall contain adequate information, written in plain language familiar to the participant, so that he/she can make an informed decision regarding participation.

4.4 Protocol Process

IRB applications shall be completed on line in accordance with the IRB standard operating procedures. Incomplete packages will be returned to the investigator without review. The IRB Administrator and staff work with Investigators to verify completeness of submissions and identify concerns or needed clarifications. Reviews are then conducted as described above. If full board review is required, the investigator will provide ample copies of packets for each board member (as directed by the IRB administrator) no later than two weeks before the monthly IRB meeting.

Upon completion of the IRB review, notification of decision regarding the protocol is sent by the IRB Administrator to the investigator. Revisions are sometimes needed, and when the protocol is considered to meet acceptable standards, the research protocol will be approved for one year (beginning on the date the protocol was approved), or such other term (never greater than one year) as shall be determined by the IRB.

For those protocols that require an extension beyond the one-year limitation of the IRB approval, a status report will be mailed to the investigator by the IRB Office one month before the anniversary approval date. The investigator will have ten working days from the date of receipt to submit the Status Report form. A memo shall be attached to the Status Report form stating the investigator's intention to continue the research and document any modification to the experimental protocol. The memo shall contain a concise overview of the research to date (i.e., current copy of the informed consent, number of subjects involved, summary of any recent significant findings, adverse events, etc.). If the protocol is acceptable, an approval letter will be sent to the investigator, extending the project for an additional year. Continuing review may occur more than once a year depending on the level of risk.

The investigator will maintain a current file for each protocol he/she submits and have a copy of all records relating to the research protocol (IRB application form, data derived from the study/case report forms/computer data/adverse events, correspondence with the IRB/sponsor/

funding sources/FDA/others, sponsor's protocol—if applicable, original informed consent and assent forms).

4.5 Retention of Records

Records shall be retained by the PI for all protocols for three years from the date the study is completed, terminated, or discontinued. Federally-funded research may require a longer record retention period.

The IRB shall retain for at least three years after the completion of the research (or for protocols which are cancelled without participant enrollment, for at least a three-year period after cancellation) the following records in accordance with 45 CFR 45 Section 115:

1. Minutes of IRB meetings.

2. Protocols.

3. Scientific evaluations.

4. Department of Health and Human Services-approved sample consent documents and protocols, when they exist.

5. Reports of injuries to participants.

6. Records of continuing review activities including continuing review status reports submitted to the investigator.

7. Other progress reports submitted by investigators.

8. Statements of significant new findings provided to participants.

9. For initial and continuing review of research by expedited procedure;
    a. The specific permissible category.
    b. A description of action taken by the reviewer.
    c. Any findings required under regulations.

10. For exemption determinations, the specific category of exemption.

11. Unless documented in the IRB minutes, determinations required by the regulations and protocol-specific findings supporting those determinations for:
    a. Waiver or alteration of the consent process.

b. Research involving pregnant women, fetuses, and neonates.

c.Research involving prisoners.

d. Research involving children.

12. For each protocol's initial and continuing review, the frequency for the next continuing review.

13. Copies of all correspondence between the IRB and investigators.

14. A list of IRB members to be maintained on a continuous basis.

15. The standard operating procedures of the IRB to be maintained on a continuous basis.

Investigators will notify the IRB office if they either leave the University before the research is completed, or complete the research and leave the institution before the end of the three-year record retention date. If the investigator desires to take copies of the research records to another institution, additional issues may need to be resolved related to the Health Insurance Portability and Accountability Act (HIPAA; 45 CFR 160).

4.6 IRB Training in the Protection of Human Participants in Research

USU requires Investigators, co-investigators, and any research personnel who interact with participants in research to be trained in the ethical protection of human participants. Certification achieved by completion of prescribed training shall be valid for three years from the date that training was completed.

4.7 Conflicts of Interest

The IRB Application Form shall include questions designed to identify any potential individual conflicts of interest that may arise in connection with the study. Positive disclosures of individual conflicting interests shall be referred by the IRB Administrator to USU's Federal Compliance Manager so that the conflict of interest can be fully disclosed and managed or eliminated, as required under federal guidelines and in accordance with USU Policy 307 "Conflicts of Interest." No research for which a conflict of interest has been disclosed shall be conducted under an IRB-approved protocol

until a Conflict of Interest Management Plan has been approved for the work by the USU Conflict of Interest Committee. In addition, members of the IRB shall be queried at the beginning of each IRB review meeting concerning potential conflicts of interest they may have in connection with protocols to be reviewed. Members of the IRB who disclose such conflicts may provide information to the Board as requested, but shall recuse themselves from voting for approval or disapproval of the protocol in question.

Outside interests of USU or its Institutional Leaders that are related to USU research, and that could give rise to Institutional Conflicts of Interest (ICOI) shall be identified through two mechanisms which shall trigger initiation of an ICOI assessment procedure conducted under RGS Procedure 532:

1. A screening process conducted by the Sponsored Programs Division. All sponsored projects for which there is an external, non-governmental sponsor shall trigger an ICOI assessment.

2. A screening process conducted directly by the IRB. All projects in which a product or service is to be used, but which are not directly sponsored by the outside entity providing the product or service (and therefore not subject to Sponsored Programs review) shall trigger initiation of an ICOI assessment.

The ICOI assessment identifies matches between outside interests identified through the above screening processes with financial interests held by USU or its Institutional Leaders. Each match identified under these assessments shall be provided by the Federal Compliance Manager to the Institutional Conflict of Interest Committee along with any proposed management plan and/or review of existing internal controls that would provide adequate management of the ICOI. After its review and action the ICOI Committee shall forward to the IRB any approved plan or recommendation. Copies of this document shall also be provided to the department head and dean of the affected unit(s). The IRB shall have final authority to accept and have the management plan

implemented, to alter the management plan, or to deny the management plan and reject the study.

The Conflict of Interest Committee, appointed by the University President to oversee the implementation of Policy # 307 "Conflicts of Interest", shall, with the addition of a member deemed independent by the President, be constituted as the Institutional Conflict of Interest Committee, and shall have oversight of the implementation of the ICOI procedures contained herein.

The Conflict of Interest Committee will consist of:

1. the Provost or an authorized designee of the Provost (Committee Chair);

2. a representative from the Office of the Vice President for Research;

3. a representative of the Institutional Review Board;

4. a representative of the Faculty Senate;

5. a representative of the Intellectual Property Services Office; and

6. a member external, unaffiliated to the University.

Others may be added as the President deems appropriate. The Federal Compliance Manager and general counsel serve as ex officio members of the Committee.

The Institutional Conflict of Interest Committee shall meet as required to review all disclosed Institutional Conflicts of Interest related to Human Subjects Research; shall review for approval all Institutional Conflict of Interest management plans; shall recommend elimination of conflicts as it deems necessary; and shall monitor all active management plans.

4.8 Researcher Noncompliance: Allegations, Investigations, and Disposition

The purpose of this section of the policy is to ensure, consistent with Utah State University's Federal Wide Assurance, that human subjects research is conducted in accordance with applicable regulations, USU Policies governing human subjects

research, IRB Standard Operating Procedures (SOPs), and determinations of the USU IRB.

Non-compliance is any situation, incident, or process during the conduct of human subjects research that is inconsistent with any of the following: applicable local, state, federal laws, regulations or policies; USU Policies; IRB SOPs; approved IRB protocols; or any directive from the USU IRB. Non-compliance may be minor and/or infrequent, or serious and/or continuing. USU's IRB works in collaboration with USU's RIC, University Counsel, and other USU units in receiving allegations of, evaluating, and taking corrective action with respect to non-compliance related to human subjects research. Definitions and terms regarding non-compliance, and processes carried out with regard to non-compliance shall be as set forth in the IRB SOPs, Section II.B.10.

Non-compliant activities may be identified through IRB oversight, self-reporting, or reporting from employees, human participants or others. Allegations of non-compliance may be presented to the IRB Chair or Administrator, the Federal Compliance Manager at the RIC office, USU's Internal Audit Services (IAS) either through the hotline or with a representative of IAS, or to University Counsel. Any report of alleged non-compliant behavior involving human subjects research shall be reported to the IRB chair at the earliest opportunity. Utah State University does not tolerate retaliation against individuals who come forward in good faith with allegations of non-compliance. In instances where non-compliance is determined, notifications will be made to the appropriate department head(s) and dean(s).

The IRB Chair shall make the initial determination of whether the substance of the non-compliance allegation would constitute non-compliance involving human subjects research. If so the IRB Chair shall follow the steps set forth in IRB SOPs, Section II.B.10, to initiate an investigation into the alleged non-compliance.

The IRB Chair or the Institutional Official may suspend the research pending investigative outcomes and determinations by the convened IRB if there is cause to believe that the allegations may constitute serious or continuing non-compliance,

or if the allegations otherwise contain information that would constitute an elevation in the risk to participants.

Investigative findings shall be presented to the IRB at its next convened meeting. The IRB shall review the documentation and evidence as required in the IRB SOPs. If the convened IRB determines that serious or continuing non-compliance has occurred, it shall require a corrective action plan as deemed appropriate for the circumstances. The IRB is authorized to suspend or terminate its approval of human subjects research. Other actions may be required, including but not limited to: more frequent review of approved research presented by the researcher, increased monitoring of the consent process or of the research, informing participants of aspects of the non-compliance that may have increased their risks, or impacted their willingness to participate in the research, or requiring additional training for researchers and research staff involved.

4.9 Unanticipated Problems

Investigators shall follow the procedures contained in the IRB standard operating procedures, Chapter 9.j whenever an unanticipated problem arises having to do with risks to human participants or others. The PI shall have responsibility for identifying and reporting unanticipated risks as set forth in the SOPs, Chapter 4.f, submitting information to the chair of the IRB in sufficient detail for the Chair to draft the report as required in 4.11, below, and otherwise as required by the SOPs. If the unanticipated risk is life-threatening, emergency services shall be summoned and all reasonable steps shall be taken to ensure the safety and well-being of the participants or any others affected.

4.10 Suspensions and Terminations of Previously Approved Research

The IRB is authorized to suspend (defined as temporarily discontinuing) or terminate (defined as permanently discontinuing) research in order to protect the rights and welfare of research participants and others.

The determination of the appropriate action shall be made by the IRB chair, based on non-compliance with the IRB-approved protocol for the research, or on the association of the research with an unexpected serious harm to participants or others. Determinations shall be ratified by the membership of the IRB, and shall be reported to the USU Office of Compliance Assistance, Research Integrity Officer, University Counsel, and the appropriate funding agency as set forth in 4.11, below.

Suspensions may be lifted if an investigation determines that the harm was not associated with the research, or if compliance with the approved protocol is re-established, and is determined to be sufficient to protect the rights and welfare of human participants.

When a termination or suspension involves the withdrawal of current participants from a study:

1. Enrolled participants will be notified by the IRB.

2. Participants to be withdrawn will be informed by the IRB of any unexpected risks to which they may have been subjected, and shall be provided with support in understanding and ameliorating those risks.

3. Participants to be withdrawn will be informed by the IRB of any follow-up that is required or offered, and will be informed that any adverse event or unanticipated problems involving risks to them or others should be reported to the IRB and others as appropriate.

4.11 Reports of Unanticipated Problems

Reports of unanticipated problems involving risks to participants or others, terminations, suspensions and serious or continuing non-compliance shall be submitted to federal agencies in compliance with applicable regulations. The Institutional Official shall ensure that all required reportings are completed within 15 business days.

The IRB Chair shall have responsibility for coordinating with the principal investigator,

gathering any additional required information and writing the initial report, which shall include:

1. The nature of the event or problem.

2. The findings of USU.

3. The action taken by the IRB and USU.

4. The reasoning underlying the actions taken.

5. Any plans or recommendations for a continuing inquiry or investigation.

The IRB chair shall submit the draft report in a timely manner to the RGS Division of Research Integrity and Compliance and the Research Integrity Officer for review. The Research Integrity Officer shall have responsibility for final approval and signature of the report, and for its submission to the appropriate agency. Copies of the reports shall be distributed to the IRB, Office of Human Research Protections (OHRP) when the research is covered by U.S. Department of Health and Human Services regulations, and other federal agencies when research is overseen by those agencies and such agencies required reporting separate from that to OHRP.

Policy Number 337 Safety and Health

337.1 POLICY

Utah State University is committed to creating a safe environment and a culture of institutional safety, and develops and implements safety and health programs consistent with the best practices for activities and institutions of this type. The University takes safety extremely seriously and will work diligently to provide the necessary safeguards required to assure the safety and health of employees, students, and the public, as well as facilities, equipment, and other property.

These programs strive to continuously reduce worker risk and improve the prevention of illnesses

584.5 CONTINUOUS IMPROVEMENT OF THE HUMAN RESEARCH PROTECTION PROGRAM

The IRB and the RGS Division of Research Integrity and Compliance shall work together to measure and report the performance of the Human Research Protection Program to USU's administration. Annual and unannounced reviews of the IRB's operating and review procedures shall be carried out in order to assess the effectiveness and quality of the processes; and to assure compliance with USU's policies and procedures, and with applicable federal, state and local laws and guidelines.

USU Investigators, other USU employees, human participants and sponsors of research are encouraged to bring forward concerns and suggestions regarding improvement of the program, including the IRB review process.

584.6 RECRUITMENT PROHIBITIONS

The following activities shall not be permitted:

1. Payments to professionals in exchange for referrals of potential participants (finder's fees).

2. Payments designed to accelerate recruitment that are tied to the rate of timing of enrollment (bonus payments).

and injuries in all work environments including but not limited to offices, laboratories, farms and field sites, and driving for work. To accomplish these tasks, all employees (faculty, benefited staff and wage/hourly) are required to fully cooperate with University safety guidelines and to fully follow all procedures relating to safety rules.

Realization of a safe and healthy work environment requires attention and responsibility at every level, including the President, Provost, Chancellor and Vice Chancellors, Deans and Vice Presidents, Department Heads and Directors, lab supervisors, unit supervisors, and all employees. If investigation

shows that an employee has failed to follow this policy, appropriate action will be taken in accordance with University policies.

337.2 PROVISIONS

2.1 University Programs

The University subscribes to recognized standards for health, safety, and fire protection. Such standards are published by the Environmental Protection Agency, the Occupational Safety and Health Administration, the National Institutes of Health, the American Conference of Governmental Industrial Hygienist, the Nuclear Regulatory Commission, the National Fire Protection Association, the Uniform Building Code, the American National Standards Institute, and other recognized safety standard-making bodies. In accordance with these rules and USU institutional policies, it is the responsibility of employees, supervisors, administrators, and all other persons in authority to provide for safety in the environment and operations under their control.

The University reserves the right to require examinations, testing, and training of employees as mandated by federal and state rules, laws, and regulations for purposes of this and other institutional policies.

2.2 USU Safety Committees.

2.2.1 The USU University Safety Committee.
This committee is named by the President, and consists of the following representatives: 1) the Directors, or their designees, of USU's Environmental Health and Safety Division (EHS); 2) 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; 3) the chair of the Risk Control Committee, who is appointed by the Vice President for Business and Finance; 4) each of the eight academic College Safety Committees; 5) the President of the Classified Employees Association or their designee; 6) the USU Police Chief; 7) a representative chosen by the Regional Campus/Eastern Administrative Council; and 8) other appropriate university units that participate in an ad hoc capacity as necessary. The Vice President

for Business and Finance shall appoint individuals to represent USU's auxiliary services as appropriate.

The University Safety Committee meets at least two times each year 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, and make recommendations for new policy as needed. Additionally, the committee oversees activities of the USU's Biohazards Committee, Chemical Hygiene Committee, Institutional Biosafety Committee, Radiation Safety Committee and the Risk Control Committee.

2.2.2   College/Unit Safety Committees.
These committees are established by deans or campus unit administrators and are comprised of Departmental or Campus Unit Safety Representatives. The dean or unit administrator shall have flexibility to appoint committee members as needed, and student representation is encouraged. The chair serves as a member of USU's University Safety Committee and serves as liaison between the University Safety Committee and his/her campus unit. The committee meets at least once each quarter, and has responsibility to review accident reports and make appropriate recommendations to the dean/unit administrator regarding proposed changes in safety procedures. It also provides regular updates on safety-related issues, including copies of EHS reports, to college dean/unit administrator.

2.2.3   Departmental Safety Representative.
This individual is identified by the department head, and serves on the College Safety Committee. The departmental safety representative acts as a liaison between the College Safety Committee, EHS, and his/her campus unit. He or she has responsibility to: 1) reviews all safety incident reports and makes appropriate recommendations, in conjunction with EHS, to the department head regarding proposed changes in workplace procedures. Copies of these recommendations must be provided to the department head and dean or unit director; 2) work with the department head to ensure, within reason, that identified deficiencies and recommended corrective actions are addressed; and 3) provide regular updates on safety-related issues to department head and faculty.

2.3 Specific Requirements

Certain departments may have specific job safety requirements, for example health providers must have certain inoculations, and food service workers must have a food handler's permit. These requirements are included in job descriptions.

The Environmental Health and Safety Division (EHS) has the authority and responsibility to promote compliance with all University, state, and federal health and safety regulations by interpreting standards and promulgating procedures and policies to assure University compliance. EHS employees are responsible for monitoring compliance, evaluating potential health hazards, and investigating accidents and injuries.

EHS employees partner with administrators, faculty, and researchers to support a strong, positive safety culture. They offer collaboration and support in meeting the responsibilities of this policy.

USU Risk Management is responsible for filing and managing all Workers Compensation claims and assisting employees in returning to work after an injury. Risk Management offers collaboration and support to all employees in implementing USU's Return to Work program.

2.3.1 In the event of a condition immediately dangerous to life or health, or otherwise determined to present an unacceptable safety risk, EHS has authority to immediately mitigate the unsafe condition. EHS must notify the University Safety Committee any time such action is taken.

2.3.2 In a more enduring safety concern, EHS will engage university leadership to review and ameliorate the unsafe condition.

2.3.3 If faculty or administrators believe actions taken by EHS to ameliorate safety are unwarranted, they may appeal to the Vice President for Research.

2.4 Hazardous Areas

All employees working in areas exposing them to substances or conditions that could be hazardous to health, as determined by state and federal laws, are required to participate in the University's health monitoring and health surveillance program. Any questions regarding substances or conditions that are questionable should be addressed to EHS.

Any questions or concerns regarding employees traveling to hazardous areas in the states or world should be addressed to the University's Risk Management office.

2.5 Workplace Violence

Refer to Policy #342, Violence in the Workplace.

337.3 RESPONSIBILITY

Realization of a safe workplace and a culture of safety requires attention and responsibility at every level of the organization. Core responsibilities include, but are not limited to:

University President

- Establishes a safety policy (USU policy 337) that supports the administration's commitment to faculty, staff, and student safety.

- Assigns responsibility for implementation and oversight of the safety policy and the institution's safety program to the Vice President for Research and other senior administrators as indicated by the safety policy.

- Provides resources and financial support for the institution's safety program, according to the recommendations of the Vice President for Research and other senior administrators who are responsible for oversight of the program.

- Communicates to the entire institution the importance of safety and expectations to establish and maintain a strong safety program that continually improves and protects all faculty, staff, students, and guests.

- Ensures, within reason, that rapid and effective response is taken to remediate any serious safety issues/incidents on the campus.

- Supports Return to Work programs throughout the University.

Provost, Vice Presidents, Chancellor, or Vice Chancellors

- Allocates necessary resources, as deemed appropriate, for implementation of the

institution's safety policy, programs, and committees (e.g., University Safety Committee and related sub-committees for Biohazards, Chemical Hygiene, Radiation Safety, Recombinant DNA, Risk Control, and Dual Use Research).

- Communicates responsibilities to deans and other administrators for safety programs within their areas of oversight.

- Supports safety training within the institution.

- Ensures, within reason, that effective systems are established to identify and address institutional safety concerns.

- Ensures, within reason, that the President is notified if there are serious safety issues/incidents on the campus.

- Supports Return to Work programs throughout the University

Deans and other Campus Unit Administrators, i.e. Executive Directors

- Works with department heads/directors and faculty, supervisors or foreman to identify and allocates resources as deemed appropriate and needed for implementation and maintenance of safety programs for each department or unit within their area of responsibility.

- Communicates to department heads the responsibility for incorporation of risk management and safety into the curriculum for each department or unit with their area of responsibility as appropriate.

- Deans establish a College Safety Committee comprised of Departmental Safety Representatives.

- Supports safety training for managers and supervisors within their unit that emphasizes health and safety leadership responsibilities.

- Deans review reports from the College Safety Committee, Environmental Health and Safety Office (EHS), department heads or other unit directors about the status of safety programs in each department or unit within their area of responsibility.

- Identified deficiencies and recommended corrective actions are addressed.

- Ensures, within reason, that the Provost, Vice President, Chancellor, or Vice Chancellor is notified if there are serious safety issues/incidents within their area of responsibility.

- Supports Return to Work programs within their units.

- Where the setting is a Regional Campus/Eastern, the academic dean, vice chancellor, and executive director/dean have a shared responsibility to ensure the elements in this section.

Department Head/Directors

- Works with dean/unit director and faculty, supervisors or foreman to identify and allocates resources as deemed appropriate and needed for implementation and maintenance of departmental safety programs.

- Ensures, within reason, that faculty and staff members understand and implement responsibilities as listed and assumes responsibility for work and laboratory space, including field sites, and safe operations.

- Identifies a Departmental Safety Representative.

- When applicable, establishes curricular goals for safety education of students.

- Ensures, within reason, that the development and implementation of safety practices, safety protocols, and safety rules for undergraduate and graduate teaching laboratories and work space, including field sites, as well as affiliated shops, storerooms, stockrooms, and corridors within their purview.

- Reviews EHS-documented safety training for faculty and staff to ensure, within reason, that it is complete and up to date.

- Ensures, within reason, that all safety practices, protocols, and safety rules are

fully and regularly discussed by faculty and staff.

- Includes discussion of safety training and goals in regular annual reviews of faculty and staff.

- Works with EHS to respond to regular inspections of both teaching and research laboratories.

  - After receipt of the laboratory/work space inspection report meets with faculty members to discuss cited violations and to ensure, within reason, that timely actions to protect personnel and facilities and that the department remains in compliance with all applicable federal, state, university, local, and departmental codes and regulations.

- Ensures, within reason, that the health and safety of departmental personnel, authorized visitors (including student volunteers, visiting scholars, vendors, and contractors), and students any time there is a change in use of departmental space.

- Develops and maintains a list of Return to Work options within their department or unit with the assistance of faculty members, principal investigators, and supervisors as appropriate.

Faculty Member/Principal Investigator

- Works with dean and department head to identify and allocate resources as deemed appropriate and needed for implementation and maintenance of laboratory or field safety needs.

- Ensures, within reason, that supervisors and lab personnel understand and implement responsibilities as listed and assumes responsibility for workplace and/or laboratory space, including field sites, and safe operations.

- Participates in appropriate safety training.

- Implements the curricular goals for safety education of students.

- Ensures, within reason, that principle-based safety education and specific safety training relating to their areas of research is provided to students, lab personnel, and staff within their workplace and/or laboratories.

- Regularly reviews EHS-documented safety training of workplace and/or laboratory members to confirm it is complete and up to date.

- Safety is regularly discussed during research group meetings.

- Develops a Chemical Hygiene Plan that is specific to the activities occurring in the laboratory or work area.

- Serves as safety advisor and mentor for students, staff, and laboratory personnel who work and study under their supervision, and encourages group discussion of "near misses".

- Sets clear expectations that laboratory personnel, students, and staff under his or her direction must understand and follow safety practices and protocols.

  - Sets an example by following all pertinent safety rules when working in the laboratory or work area.

  - Always wears personal protective equipment (PPE) that is compatible to the degree of hazard.

  - Promotes good housekeeping practices in the laboratory or work area.

  - Safety needs will vary according to the activities, materials and equipment present in the work area. The faculty member/PI develops specific standard operating procedures (SOPs) for activities, materials and equipment that present particular hazards, and incorporates the SOPs into the chemical hygiene plan or other safety plan for the program

- Enforces all health and safety practices, protocols, and rules within his or her laboratory space, including field sites. Institutes disciplinary measures for students, staff, and laboratory personnel who repeatedly violates these rules.

- Ensures, within reason, that the appropriate personal protective equipment is available and used by all personnel in the laboratory.

- Responsible to conduct periodic hazard analysis of all program activities to identify potential risks or areas in need of additional safety measures or training.

- Conducts periodic formal safety, chemical hygiene, and housekeeping inspections, including review of the Chemical Hygiene Plan and SOPs, for laboratories and work areas under their purview.

- Ensures, within reason, that all approved visitors (including student volunteers, visiting scholars, vendors, and contractors) follow the safety rules.

- Ensures, within reason, that all laboratory incidents are rapidly and properly reported. Any incidents of a safety matter including those that involve medical attention, property damage, or have a high probability of becoming a liability claim must be reported immediately to EHS or Risk Management.

- Reports promptly any safety related facility problem or improperly functioning safety equipment that present a safety risk to the Departmental Safety Representative and department head.

- Reports all safety-related incidents to the Departmental Safety Representative.

- Develops and maintains a list of Return to Work options within their areas of responsibility with the assistance of the workplace supervisor.

Laboratory/Workplace Supervisor or Foreman

- Works with their immediate supervisor (faculty member, department head or director) to identify and allocate resources as deemed appropriate and needed for implementation and maintenance of laboratory or field safety needs.

- Receives appropriate safety training.

- Reads, understands, and follow all safety rules and regulations that apply to their work area.

- Develops safe practices, safety protocols, and safety rules for areas under their purview.

- Sets clear expectations that students, staff, and other personnel under his or her direction must understand and follow safety practices and protocols.

  - Sets an example by following all pertinent safety rules when working in the laboratory or work area.

  - Always wears personal protective equipment (PPE) that is compatible to the degree of hazard.

  - Promotes good housekeeping practices in the laboratory or work area.

- Works with their immediate supervisor to rapidly address unresolved, unsafe practices, hazardous conditions, and safety equipment malfunctions.

- Immediately responds to all safety-related incidents - call 911 in emergency.

- Any incidents of a safety matter including those that involve medical attention, property damage, or have a high probability of becoming a liability claim must be reported immediately to EHS or Risk Management.

- Directly participates in the investigations for all incidents and near-misses.

- Ensures, within reason, that new safety measures are implemented within the lab and/or workplace safety program.

- Works with their immediate supervisor to conduct periodic hazard analysis of lab and/ or workplace practices to identify areas in need of additional safety measures or

training.

- Develops and maintains a list of Return to Work options within their area of responsibility. Works directly with injured employees to get them working again within the employee's medical restrictions.

Employees/Laboratory workers
(laboratory personnel and staff)
Receive appropriate safety training.

- Read, understands, and follows all safety rules and regulations that apply to the work area.
- Conduct each operation in accordance with the work area specific chemical hygiene procedures and implements new safety measures as appropriate.
    - Develops good personal work area safety habits, including use of PPE as appropriate for each procedure that involves hazards

and promoting good housekeeping practices in the laboratory or work area.

- Report all safety incidents to managing supervisor and faculty member.
    - Immediately reports any job-related illness or injury or property damage to the supervisor and faculty member.

- Report unresolved, unsafe practices or hazardous conditions to the work area supervisor and faculty member.
- Participate in periodic safety inspections of work areas.
- Participates in Return to Work program.

Student safety expectations are outlined in SECTION V-3. University Standards of Student Conduct.

Activities of the Graduate Council

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

Catalog changes to reflect policy

Five changes were made to the catalog to better reflect university policy:

1. Thesis/Dissertation submission
Review of these documents within the Graduate School is now being done electronically. As of June 1, 2016, submission of theses and dissertations to the Merrill-Cazier Library is also electronic, with a bound copy of the document being required only if the document is embargoed.

2.Inclusion of undergraduate coursework on a graduate Program of Study
Consistent with an underlying philosophy that a student's supervisory committee should be best

able to identify coursework required to support the student's graduate program, a student's supervisory committee may now include undergraduate coursework on a graduate program of study. Rather than specifying a maximum number of credits that may be included at the 5000 level or below, the catalog now states that a Master's degree must include at least 15 semester credits at the level of 6000 or above, a doctoral degree must include at least 30 credits at the 6000 level or above if the student does not have a Master's degree, and at least 15 credits at the 6000 level or above if the student has a Master's degree.

3. Authorship of papers included in a thesis or dissertation
Students may include multi-author papers in a thesis or dissertation if the student's supervisory committee determines that the student made a substantial intellectual contribution to the work. Order of authorship on a paper does not determine if a paper may be included in a thesis or dissertation.

4. Full time status

Graduate students who have completed all coursework on an approved Program of Study will now be considered full time if registered for at least 3 credits.

5. Portfolio Option

The Masters of Accounting program was approved to accept a portfolio in place of a graduate admission test score.

Graduate Council FY 2016 Roster

Member	Representing	End of Term
Abby Benninghoff	Agriculture	2016
Chris Terry	Arts	2018
Konrad Lee	Business	2018
Louis Nadelson	Education	2018
Nick Flann	Engineering	2016
Rick Krannich	Humanities	2016
Johan Du Toit	Natural Resources	2018
Michelle Baker	Science	2019
Charles Waugh	Faculty Senate	2017
John Elsweiler	Library	
Mark McLellan	School of Graduate Studies	Chair
Ty Aller	USUSA Graduate Senator,	
USUSA Director of Research,		
USUSA Director of Graduate Campus Affairs	2016	
Scott Bates	School of Graduate Studies	
Cara Allen	School of Graduate Studies	
Jeff Broadbent	School of Graduate Studies	
Richard Inouye	School of Graduate Studies	

Chapter 3:

By the numbers

USU Office of Research and Graduate Studies

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.

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.

USU Profile

Faculty members (2015)[1]	788
Total headcount enrollment (fall 2015)[1]	28,622
Graduate degrees offered	143
Total # USU sponsored awards (FY16)[2]	1,422
Total USU sponsored awards (FY16)[2]	$243.9
Total # USU proposals (FY16)[2]	1,422
Total amount USU proposals (FY16)[2]	$487.3 M

[1]Source: USU Office of Analysis, Assessment and Accreditation
[2]Source: USU Sponsored Programs

USU sponsored awards, FY 2012 - FY 2016

	FY12	FY13	FY14	FY15	FY16
Total	$207	$185	$220	$233	$244
Other*	$39.5	$40.0	$43.7	$46.1	$45.8
USU Research Foundation	$70.5	$56.2	$76.8	$75.4	$99.6
Campus research	$97.2	$89.2	$99.6	$111.3	$98.5

■ Campus research   ■ USU Research Foundation   ■ Other*
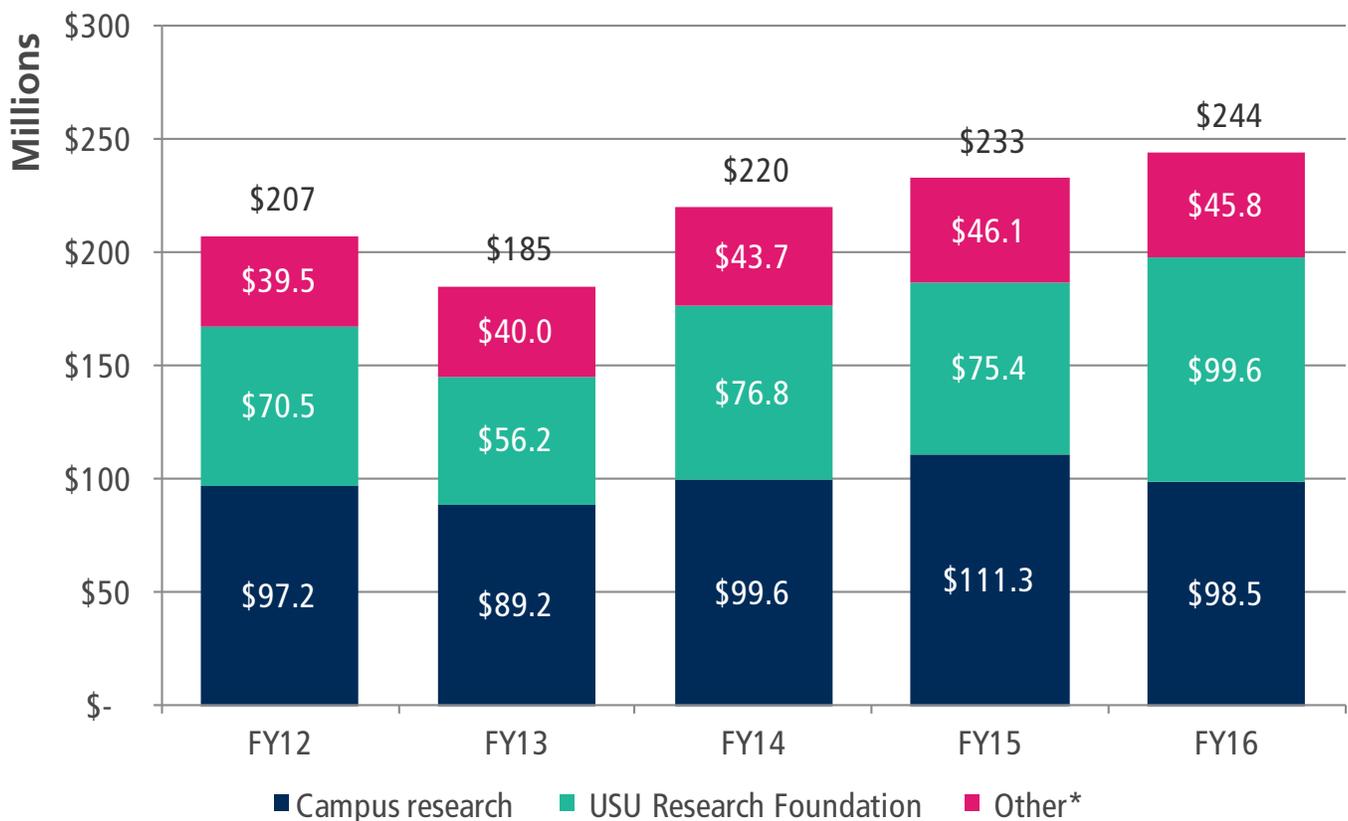
* Includes financial aid, Pell grants, federal formula funds and gifts for research.

Sponsored Awards, FY 2012-FY 2016

	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	Change over LY
USU Academic College						
Agriculture	20,482,942	13,771,403	19,153,454	19,608,798	15,738,020	-24.6%
Arts	158,435	5,000	21,700	70,000	38,000	-84.2%
Business	-	-	259,118	-	99,931	100.0%
Education	27,645,152	24,032,307	27,192,393	40,044,261	32,047,117	-25.0%
Engineering	12,616,058	15,545,515	11,689,831	11,858,717	12,057,115	1.7%
CHaSS	2,092,417	1,428,822	896,037	1,899,816	1,827,820	-3.9%
Natural Resources	8,527,371	13,443,810	9,572,317	7,289,265	9,761,161	25.3%
Science	10,026,708	6,484,336	14,459,045	9,744,040	15,974,335	39.0%
Other						
Extension	4,475,830	3,800,117	4,478,248	13,142,518	3,249,655	-304.4%
Student Services	1,361,623	956,612	1,763,941	2,283,886	1,721,134	-32.7%
USU Eastern	3,926,552	2,660,336	2,952,436	2,938,077	3,190,900	7.9%
Miscellaneous	5,915,983	7,864,853	7,188,215	2,417,895	2,834,999	14.7%
Campus Subtotal	**97,229,070**	**89,993,112**	**99,626,736**	**111,297,272**	**98,540,187**	**-12.9%**
USURF	70,543,805	56,228,730	77,297,145	75,352,922	99,581,109	32.1%
Financial Aid, Pell Grants	39,525,494	39,963,223	39,484,606	40,782,241	39,922,478	-2.1%
Federal Formula Funds	4,844,298	4,432,614	4,879,946	4,840,428	4,845,494	.0%
Gifts for Research	54,304	20,125	127,100	521,459	1,044,612	49.9%
USU Grand Total	**212,196,972**	**190,637,803**	**221,415,533**	**232,794,322**	**243,933,881**	**4.8%**

[1] "Miscellaneous" is a catch-all category, with the Provost's Office, Administrative Services, and Regional Campuses accounting for the majority of these revenues.
[2] AWS awards for FY12 in the amount of $488,864 have been included with the USURF totals.
[3] AWS awards were not included when calculating the percentage of change over the previous years.
[4] Financial aid, primarily Pell grant revenues, are anticipated to gradually increase in future years.

Research Expenditures, FY 2012-FY 2016

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Change over LY
Research Expenditures (thousands)	$174,167	$157,355	$158,352	$169,605[1]	$175,353[1]	3.4%

Source: NSF HERD Survey
[1] Includes tuition remissions to graduate students working on research. This information was not available for FY11-FY13.

Comparative metrics

Institution	Research Expenditures[1] (millions)		Research Expenditures Ranking[1]	
	FY13	FY14	FY13	FY14
Colorado State University-Fort Collins	$313.2	$308.0	72	75
Kansas State University	$183.1	$184.9	107	106
Montana State University	$113.1	$113.3	139	140
New Mexico State University-Main Campus	$142.4	$134.3	130	129
Oregon State University	$232.7	$230.9	90	90
University of Nebraska-Lincoln	$266.4	$278.3	81	80
University of Nevada-Reno	$89.8	$87.3	153	155
University of Wyoming	$65.5	$51.4	175	191
Washington State University	$341.1	$326.4	68	69
Utah State University	**$158.4**	**$169.6**	**118**	**115**

Institution	Total faculty[2,3]		Tenured Faculty[2]	
	2013	2014	2013	2014
Colorado State University-Fort Collins	1,267	1,272	743	754
Kansas State University	1,065	1,081	567	558
Montana State University	496	569	323	324
New Mexico State University-Main Campus	680	689	405	400
Oregon State University	930	1,292	375	592
University of Nebraska-Lincoln	1,236	1,259	767	766
University of Nevada-Reno	834	761	402	370
University of Wyoming	757	747	424	411
Washington State University	1,242	1,317	657	654
Utah State University	**880**	**878**	**479**	**484**

Institution	% Grad Enrollment[2,4]		Doctorates Awarded[2]	
	2013	2014	2014	2015
Colorado State University-Fort Collins	32%	33%	368	377
Kansas State University	22%	22%	274	303
Montana State University	13%	13%	56	79
New Mexico State University-Main Campus	23%	24%	114	131
Oregon State University	20%	21%	341	351
University of Nebraska-Lincoln	26%	25%	445	464
University of Nevada-Reno	20%	18%	173	179
University of Wyoming	26%	27%	222	222
Washington State University	20%	20%	438	464
Utah State University	**14%**	**14%**	**115**	**108**

Carnegie Classification		Expenditures per tenured faculty (thousands)		F&A Rate	
2010	**2015**	**2013**	**2014**	**FY16**	**FY17**
R1	R1	$314	$315	50.0%	51.0%
R2	R1	$232	$238	50.0%	50.0%
R1	R2	$243	$233	44.0%	44.0%
R2	R2	$247	$237	46.0%	48.0%
R1	R1	$378	$259	46.5%	47.0%
R1	R1	$257	$268	52.0%	53.5%
R2	R2	$163	$166	43.5%	43.5%
R2	R2	$109	$87	44.0%	44.0%
R1	R1	$390	$367	51.0%	52.0%
R2	**R2**	**$226**	**$245**	**43.1%**	**39.4%**

Tenure-track faculty[2]		Undergrad enrollment[2]		Grad enrollment[2]	
2013	**2014**	**2013**	**2014**	**2013**	**2014**
253	224	23,548	23,598	7,638	7,756
223	219	20,169	20,327	4,412	4,439
143	162	13,174	13,298	1,678	1,684
172	166	13,582	12,784	3,183	3,045
240	299	23,157	23,903	4,745	4,983
269	273	19,376	19,979	5,069	5,027
149	157	15,694	16,839	3,082	3,095
177	177	10,117	10,124	2,661	2,696
217	236	23,070	23,867	4,572	4,819
223	**208**	**24,385**	**24,271**	**3,427**	**3,391**

MS Awarded[2]		Grad students per faculty[2,4]	
2014	**2015**	**2013**	**2014**
1,600	1,745	7.7	7.9
1,031	1,109	5.6	5.7
482	528	3.6	3.5
802	786	5.5	5.4
844	870	7.7	5.6
850	856	4.9	4.8
610	605	5.6	5.9
475	463	4.4	4.6
731	741	5.2	5.4
927	**879**	**4.9**	**4.9**

Performance metrics

Research

	2012	2013	2014	2015
Total new awards [1, 2]	$212.1 M	$190.4 M	$221.4 M	$232.8
National rank of research expenditures (of 643 institutions) [1, 4]	119	118	115	NYA
New sponsored programs proposals submitted [1, 2]	1,059	951	1,028	1,422
Peer-reviewed refereed journal publications [3, 5]	999	962	1,000	1,058
Books [3, 5]	40	42	31	42
Public exhibitions and public performances [3, 5]	72	58	41	79

[1] Fiscal year
[2] Source: USU Sponsored Programs
[3] Calendar year
[4] Source: National Science Foundation
[5] Source: Digital Measures

Graduate Studies

	AY11-12	AY12-13	AY13-14	AY14-15	AY 15-16
Fall (day 15) enrollment of degree-seeking graduate students	2,674	2,593	2,527	2,528	2,587
Percentage of student body that is graduate students [1]	11.2%	10.9%	10.8%	10.7%	
Doctoral degrees awarded	99	109	115	108	
Master's degrees awarded	990	895	927	900	

[1] Based on degree seeking students, both graduate and undergraduate

Graduate and Undergraduate Research

	FY11	FY12	FY13	FY14	FY15
Peer-reviewed publications with graduate student authors [1]	274	347	339	357	341
Peer-reviewed publications with undergraduate authors [1]	42	45	38	53	54

[1] Source: Digital Measures

Research awards by source, FY 2015

Source	Amount
Federal government - other	$48.6 M
Department of Defense	$43.0 M
Private	$27.4 M
State of Utah	$19.1 M
Other states/international/local	$15.4 M
National Science Foundation	$14.4 M
Department of Agriculture	$11.3 M
Department of Education	$9.6 M
Dept. of Health and Human Services	$9.5 M
Total	**$198.1 M**
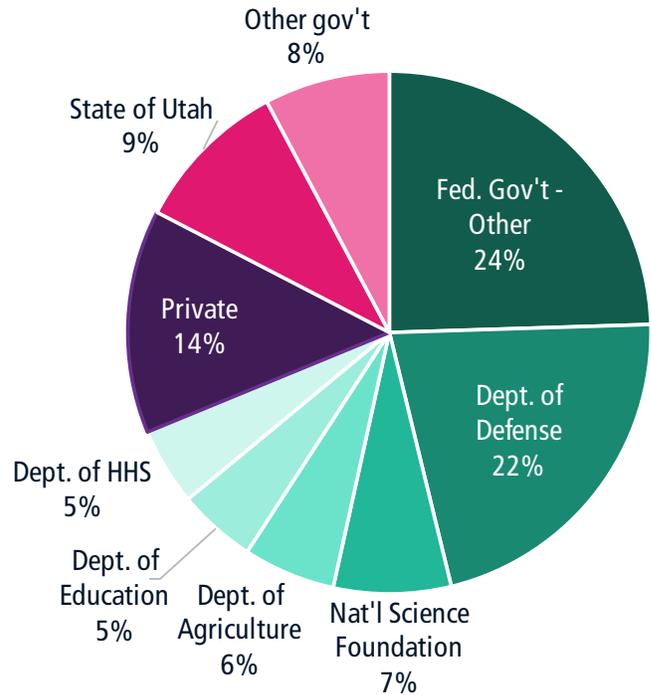
Notable new grants, FY 2015

This table represents just a few highlighted grants from the past fiscal year. They demonstrate cross-college collaborations, large contracts for new and established faculty, and projects that have significant real-world impacts.

PI's	Dept.	College	Project	Source	Amount
Jim Dorward, Eric Packenham	School of Teacher Education and Leadership	Emma Eccles Jones of Education and Human Services	STARS! GEAR UP	US Dept of Education	$16,439,200
Carrie Durward, Heidi Leblanc, Mateja Savoie	Nutrition, Dietetics and Food Sciences	College of Agriculture and Applied Sciences	Multi-Disciplinary Methods for Effective, Sustainable, and Scalable Evaluations	US Dept of Agriculture	$1,000,000
Nathan Geer	Mathematics and Statistics	College of Science	CAREER: The Geometry and Physics of Non-Semi-Simple Quantum Topology	National Science Foundation	$450,193

PI's	Dept.	College	Project	Source	Amount
James Evans	Geology	College of Science	Evidence for Dynamic Weakening Mechanisms in the San Andreas Fault	National Science Foundation	$186,607
Stephen Whitmore	Mechanical and Aerospace Engineering	College of Engineering	Ignition and Flight Test Support for the Dream Chaser Engineering Test Article Flight Program	Sierra Nevada Corporation	$119,088
Victor Lee	Instructional Technology and Learning Sciences	Emma Eccles Jones College of Education and Human Services	Supporting the Development of Public and School Librarians as Stewards of Cross-Setting STEM Maker Programs Through Implementation Research	US Institute of Museum and Library Sciences	$481,997
Randy Lewis, Justin Jones	Biology	College of Science	SBIR Phase II: Spider Silk Materials	Army Research Office	$299,868
Amy Wilson	Teacher Education and Leadership	Emma Eccles Jones College of Education and Human Services	CAREER: Literacy Infused Engineering Design Instruction for Middle School Students	National Science Foundation	$128,297 with an anticipated total of $802,184 over five years
Terry Messmer	Wildland Resources	Quinney College of Natural Resources	Mapping Greater Sage Grouse Response to Power Lines	Pacificorp	$68,000

RGS program reports and metrics

New Faculty Startup Commitments

USU Academic College	5-Year Total	5-Year Avg.		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Arts	$29,347	$7,244	Total	$16,129	$3,066	$10,152	-	-
			Avg	$16,129	$3,066	$2,538	-	-
Agriculture	$612,372	$44,391	Total	$53,214	$72,600	$149,628	$159,334	$177,596
			Avg	$26,607	$36,300	$74,814	$39,834	$44,399
Business	$3,908	$1,954	Total	-	-	$1,954	$1,954	-
			Avg	-	-	$1,954	$1,954	-
Education	$1,527,638	$39,856	Total	$176,483	$759,135	$84,571	$239,505	$267,943
			Avg	$16,044	$75,914	$21,143	$47,901	$38,278
Engineering	$2,754,218	$90,955	Total	$174,424	$309,113	$1,544,389	$413,287	$312,985
			Avg	$58,141	$61,827	$118,799	$137,762	$78,246
CHaSS	$412,092	$10,231	Total	$60,000	$40,000	$165,400	$481,395	$424,131
			Avg	$,4651	$9,150	$19,366	$8,164	$9,827
Natural Resources	$1,170,926	$77,575	Total	$60,000	$40,000	$165,400	$481,395	$424,131
			Avg	$60,000	$40,000	$82,700	$120,349	$84,826
Science	$2,636,754	$116,702	Total	$798,043	$436,561	$923,599	$173,000	$305,550
			Avg	$79,804	$62,366	$230,900	$57,667	$152,775
USU Grand Total	$9,147,255	$56,11	RGS Commitments	$1,296,896	$1,702,843	$3,092,719	$1,517,459	$1,537,339
			Avg commitment/ total startups	$39,300/33	$47,301/36	$75,432/41	$58,364/26	$56,938/27

Notes:
Yearly totals are calculated based on full new faculty startup amount; some new startups are paid over multiple years.
Averages are based on total new faculty startup amount.

Grant Experience for Mentorship (GEM) grants

PI's	Dept.	College	Project	Co-PIs	Amount
Kara Thornton-Kurt	ADVS	Agriculture and Applied Sciences	Elucidation of the Relationship Between the Genomic Mechanism of Androgen-Mediated Increases in Skeletal Muscle Growth and the Polyamine Biosynthetic Pathway		$10,000
Fazilat Soukhakian	ART	Caine College of the Arts	The Shah (King) and His Camera in the Unveiling of Iranian Women from the Harem: 1848 to 1979 (the Year of the Islamic Revolution)		$10,000

Seed Program to Advance Research Collaborations (SPARC) grant

PI's	Dept.	College	Project	Co-PIs	Amount
Andrew Walker	ITLS	Emma Eccles Jones College of Education and Human Services	Canvalytics: Understanding Interaction Data from the Canvas Learning Management System	Mimi Recker, Kyumin Lee, John Louviere	$34,955
Ron Gillam	COM-D	Emma Eccles Jones College of Education and Human Services	Multi-modal Examination of Language Processing During Speech and Reading	Sandra Gillam, Kathleen Mohr, Kerry Jordan	$35,000
Jordan Smith	ENVS	Quinney College of Natural Resources	Developing a Coupled Socio-Hydrological Agent-based Model to Examine the Demand for and Supply of Outdoor Recreation and Tourism Opportunities Under Future Climate Scenarios	Jacopo Baggio, Sarah Null	$34,634
Xiaojun Qi	CS	College of Engineering	An Interdisciplinary Approach to Timely Space Situational Awareness	Mike Taylor, Kohei Fujimoto	$34,999

Research Catalyst (RC) grants

PI's	Dept.	College	Project	Co-PIs	Amount
Jared Legako	NDFS	Agriculture and Applied Sciences	Impacts of Bovine Maternal Nutrition on Progeny Gene Expression and Skeletal Muscle Ultrastructure During the Feedlot Growth Phase	Kara Thornton, Charles Carpenter, Kerry Rood	$20,000
Brennan Thompson	HPER	Emma Eccles Jones College of Education and Human Services	Physiological Workload Characteristics and the Associated Identification of Fatigue Markers as a Potential Tool for Fatigue Management in Nurses Performing a Rigorous, Compressed Work Schedule		$17,194
Ryan Seedall	FCHD	Emma Eccles Jones College of Education and Human Services	Decreasing Mental Health Disparities by Developing Culturally Adapted Measurement Protocols	Melanie Domenech Rodriguez	$19,982
Brittan Barker	COMD	Emma Eccles Jones College of Education and Human Services	Understanding the Role of Talker Variability in Spoken Word Learning by Preschoolers With and Without Hearing Loss		$19,046
Rick Cruz	PSYCH	Emma Eccles Jones College of Education and Human Services	Investigating Self-Regulation as a Mechanism Linking Socioecological Factors with Latino Youth Risk Behaviors, Zuri Garcia, Ginger Lockhart		$19,985
Wade Goodridge	EED	College of Engineering	An Investigation of the Need for Professional Development of Science Educators: A Response to the Next Generation Science Standards Movement to Adopt Engineering	Kurt Becker	$19,646
Douglas Hunsaker	MAE	College of Engineering	Development of a Propeller Model Based on Lifting-Line Theory		$19,902
Christopher Conte	HIST	College of Humanities and Social Sciences	Knowledge and Landscape in Rural Africa: A Collaborative History		$19,792

PI's	Dept.	College	Project	Co-PIs	Amount
Scott Bernhardt	BIOL	College of Science	Estimating Methoprene Insecticide Resistance in Culex Pipiens Mosquito Populations in the Western United States	Zachariah Gompert	$19,997
Susannah French	BIOL	College of Science	The Effects of Tourism and Feeding on an Endangered Iguana: An Integrative Investigation of Stress Across a Variable Landscape	Chuck Knapp, Karen Kapheim	$19,970
Alan Savitzky	BIOL	College of Science	Uptake, Transport, and Physiological Consequences of Dietary Toxins in Toad-eating		$19,856
Alexis Ault	GEOL	College of Science	CO Release at the MitochondriaNew approaches to deciphering billion-year tectonic histories from zircon (U-Th)/He thermochronology		$20,000

RGS Capital Equipment Grants selected for funding in 2015

PI(s)	Dept.	College	Equipment	RGS Match
John Stark	Biology	College of Agriculture and Applied Sciences	Dual Carbon Isotope Analyzer	$62,766.00
Johanna Rigas	Animal, Dairy and Veterinary Sciences	College of Agriculture and Applied Sciences	Hemostasis Analyzer	$15,262.50
Clay Isom	Animal, Dairy and Veterinary Sciences	College of Agriculture and Applied Sciences	Inverted Microscope & Stereomicroscope	$15,000.00
Robert Ward	Animal, Dairy and Veterinary Sciences	College of Agriculture and Applied Sciences	PTV/OCI for Gas Chromatograph	$7,341.50
Jennifer MacAdam		College of Agriculture and Applied Sciences	Spectrophotometer	$12,000.00
Silvana Martini	Nutrition, Dietetics and Food Sciences	College of Agriculture and Applied Sciences	Phosphorus-NMR	$41,000.00
Todd Hayes	Art and Design	Caine College of the Arts	Deairing Mixer	$2,841.00

PI(s)	Dept.	College	Equipment	RGS Match
Bruce Duerden	Art and Design	Caine College of the Arts	Digital Cinema Camera	$4,039.50
Jeffery Larsen	Communicative Disorders and Deaf Communiation	Emma Eccles Jones College of Education and Human Services	VNG/ENG System	$20,500.00
Bedri Cetiner	Electrical and Computer Engineering	College of Engineering	Thermal & E-Beam Evaporator System	$100,000.00
Karen Mock	Wildland Resources	SJ and Jess E. Quinney College of Natural Resources	Quantitative PCR	$ 9,750.00
TC Shen	Physics	College of Science	Backside Alignment System	$5,540.00
Andrew Lonero (geol)	Geology	College of Science	Gamma Ray Spectrometer	$6,140.50
Alvan Hengge	Chemistry and Biochemistry	College of Science	Nitrogen Generator	$14,160.50
Susannah French	Biology	College of Science	Respirometry System	$46,681.00
Sean Johnson (Chem)	Chemistry and Biochemistry	College of Science	UV Imager	$37,000.00

Presidential Doctoral Research Fellow allocations

Total PDRF expenditures, by RGS, in FY16 was $1,026,476. A total of 51 slots have been allocated to the college, with 42 active PDRF students and nine slots being recruited.

College	Active fellows	Slots to recruit	Total PDRFs
College of Agriculture and Applied Sciences	5	0	5
Emma Eccles Jones College of Education and Human Services	8	3	11
College of Engineering	8	3	11
College of Humanities and Social Sciences	3	0	3
S.J. and Jessie E. Quinney College of Natural Resources	5	0	5
College of Science	8	3	11
RGS at-large	5	0	5
TOTAL	**42**	**9**	**51**

Facilities and Administration (F&A) Allocation

(all amounts in thousands of dollars)

F&A Revenues	2016 Budget	2016 Actual
USU-Eastern revenues (100% returned)	$135.3	$165.1
30% to USU colleges/depts/PIs	$3,919.9	$3,577.6
Electric Vehicle Research Facility (100% bond payment and O&M)	$150.0	$123.4
70% to central F&A pool	$9,146.4	$8,347.7
Total F&A revenues	**$13,351.6**	**$12,213.8**

Funds Available for Distribution by RGS	2016 Budget	2016 Actual
F&A revenues in central pool (70%)	$9,146.4	$8,347.7
Unused prior period allocations returned to central pool	-	$184.2
Carry forward	$11.7	$11.7
Electric Vehicle Research Facility (100% bond payment and O&M)	$150.0	$123.4
Total funds available for distribution	**$9,308.1**	**$8,667.1**

Office of Research and Graduate Studies allocations from central pool (70% of central F&A pool)	2016 Budget	% of total allocation	2016 Actual	% of total allocation
Direct college support	$2,780.6	29.9%	$2,776.0	32.0%
Support for commercialization	$2,592.2	27.8%	$2,592.9	29.9%
Core/central laboratories	$1,123.3	12.1%	$1,035.9	12.0%
Support for central administration functions	$905.4	9.7%	$908.6	10.5%
Direct student support	$692.3	7.4%	$692.3	8.0%
Support for research services and programs	$552.4	5.9%	$500.0	5.8%
Compliance personnel support	$304.8	3.3%	$240.0	2.8%
Support for education and training	$246.1	2.6%	$246.1	2.8%
TOTAL ALLOCATIONS	**$9,197.1**	**98.8%**	**$8,991.7**	**103.7%**
FY16 (over)/under allocated	$111.0	1.25	$(324.6)	-3.5%

Chapter 4:
RGS division reports

Environmental Health and Safety

Biosafety, Industrial Hygiene, Occupational Safety

Select agent program renewal

USU underwent a select agent program compliance inspection. The inspection was conducted by two USDA inspectors. The program review lasted four days and included select agent facilities, review of all select agent documentation and interviews with select agent personnel. The inspection was closed out with full compliance status after a few questions were addressed.

Successful LARC and USTAR select agent lab shutdowns

The USTAR building was shut down in November 2015 and the LARC was shut down in May 2016. The shutdown included conducting refresher training for all select agent personnel, plan specific exercises, certification of all equipment and HEPA filters, and maintenance of all building mechanical, plumbing and electrical systems.

Each lab was re-certified by World BioHazTec. This certification included HVAC system failure testing which is required by the select agent program.

During the LARC shutdown the security system was upgraded to new thumb readers on the shower room doors and anteroom door. Two independent number pad locks were replaced by two prox-card readers that communicate through the USU i-net system.

Biosafety level 2 & 3 oversight

EHS conducted inspections of BSL-2 & 3 labs and provided BSL-2 & 3B Blood Borne Pathogens training for approximately 225 faculty, staff and students.

USU Eastern environmental health and safety program

Frequent trips were made to the USU Eastern Campus to provide safety training, establish OSHA safety programs and address safety concerns. Safety training was conducted on Blood Borne Pathogens, Hazard Communication, Lock Out/

Tag Out, Fork Lift Operations, Aerial (Scissor) Lift Operations, Confined Space Entry, Respiratory Protection and Ergonomics. There have been approximately 150 people trained these areas.

Oversight has been provided to establish a LO/TO Program, Confined Space Program, Hazard Communication Program, Aerial Lift Operator Program and Fork Lift Operator Program.

Several Safety Concerns were raised by a few USU Eastern Employees. These concerns were investigated and addressed with the individuals and the appropriate USU Eastern administration.

Asbestos, hazardous material projects

Building renovations and demolitions require identification and removal of hazardous materials.

EHS has been involved in over 50 hazardous material projects of varying sizes in last 12 months. These projects have been on the Logan Campus, USU Eastern Campus and Tooele Campus. This averages approximately one project every week. These projects include identifying the material and the location of the material; scheduling and conducting a bid walk with contractors for the project; and overseeing the removal (abatement) of the hazardous material.

Ongoing occupational safety oversight for facilities, Housing, Food Services, Regional Campuses

There was continued oversight and training for OHSA required occupational safety programs. Training was conducted in forklift operation, LOTO, Confined Space, Electrical Safety.

Additional EHS officers

Two additional Environmental Health and Safety Officers will be hired. One will be located at the Logan Campus and a second located at USU Easter Campus.

Radiation safety

Continued application of radioactive waste volume reduction resulted in reducing the amount

of waste to ship off-site for disposal by 128 pounds.

Environmental management

Hazardous Waste
1,566 containers totaling 77,894 pounds received, half the waste received last year.

Administration
EHS continued to complete general administrative duties including a yearly supply assessment and purchasing, attendance at the College and University Hazardous Waste Conference, improving On-Site Systems to improve waste pick up, developed a plan to deal with Nitric acid release in EL203 and a waste management plan specific for the UWRL. EHS completed and submitted the Biennial Report for Disposal of Hazardous Waste including summation of all waste generated by USU. Notably, USU had a successful Air Quality Inspection by Utah DAQ.

Shipping dangerous goods
- Dangerous goods shipments to New Jersey for the Anti-Viral Group
- Developed a plan for a 500-gallon waste water sample transported from Mississippi to USU for remediation studies
- Working with the University of Utah to develop a Program for controlling the shipping of Dangerous Goods across campus

Emergency response/clean ups
- Accidental explosive neutralization of Nitric Acid/KOH in EL203
- Diesel fuel spill at the Fine Arts Building
- Repairs to the silver recovery units in the Fine arts
- "Unknown" spill at Veterinary Science

Phase I site assessments
- Blanding Campus Building Trades Lots
- Caine Dairy
- Blanding Heavy Equipment
- New Science Building in Tooele for Hazardous Waste Management

GIS/IT/Emergency Management
- Created 241 specialty maps
- Created 26 evacuation plans
- Created 16 assembly point maps
- Created 127 computer fixes
- Created 30 asbestos abatement drawings
- Went "live" with the new Emergency Response Information submittal website
- Assisted/trained the Facilities Department in creating a GIS project/database for "Building Insurance Policies" for all USU buildings in the State of Utah
- Attended 2 EOC training classes

Chemical hygiene training
EHS personnel provided safety training for 1,080 people in 25 safety training course offerings, as well as were involved in responding to numerous indoor air quality (IAQ) concerns throughout the campus community. Most issues were identified and dealt with at the time of the call. A few of the issues were not immediately obvious and more intensive investigation was conducted.

APLU National Laboratory Safety Task Force
Mark McLellan, vice president and dean of graduate studies, sat as the co-chair of the APLU National Laboratory Safety Task Force on which Steve Bilbao participated. Over the course of more than a year the task force developed "A guide to implement a safety culture in our universities." The document included 20 recommendations for a safety culture drawn from expertise from many resources, along with tools and resources for implementation. As a result, Mark was awarded CSHEMA's top safety award for administration, the "Administrator Who Cares" award.

USU safety and health policy #337
EHS worked with Mark McLellan, Jeff Broadbent, and other campus leaders and faculty to revise USU Policy #337. This was approved by the Board of Trustees in May 2016. Primary changes included specific responsibilities for all levels of the campus community from the President to laboratory worker. Reorganized university committee structure to improve communication channels for safety related concerns.

Institutional Review Board

Landmark year for protocols reviewed

The 2015-2016 academic year was a landmark year for the Institutional Review Board. More research applications (protocols) were submitted and reviewed than any year in the IRB's history – 1,181 total reviews took place. Along with the increase in protocols came an increase in the complexity of USU's human subjects research portfolio, with more than 30 protocols filed for research to be conducted in international locations.

IRB receives grant to translate informed consent documents

Both abroad and at home, USU researchers are working with an increasingly diverse participant population. Not surprisingly, this has resulted in a growing need for high-quality translations of informed consent documents. In April 2016, the IRB Director was awarded an internal grant to assist researchers in defraying the cost of obtaining certified translations. Awarded by the Utah State University Diversity Council, the terms of the grant allow for the translation of up to two pages of consent documents if 1) the document will receive a relatively wide distribution; 2) the population also receives an advertisement or information about a service or organization that is relevant to the population of study; and 3) the study is not otherwise funded or supported. This initiative aligns with the strong social justice values that the Utah State University IRB incorporates in each of its protocol reviews.

The USU IRB hopes that in addition to learning something of value about the population of study, researchers can work to provide support and information that is relevant to the day-to-day lives of the individuals giving their time to the research project. For example, a study seeking Hispanic and Latino teenagers as participants might provide information about college scholarships directed toward Latino youth along with a translated consent form, so that parents receiving the form will also learn about a potential opportunity for their children.

Maintaining AAHRP accreditation

In March of 2016, the IRB worked with the Office of Compliance Assistance to finalize the AAHRPP accreditation narrative for the second reaccreditation of USU's Human Research Protection Program. Accreditation by the Association for the Accreditation of Human Research Protection Programs (AAHRPP) is an assurance to the research community, participants included, that USU units diligently work to maximize protections to human participants in research. Among the initiatives highlighted in the reaccreditation narrative are USU's new Institutional Conflict of Interest policy, the increase in staffing levels to the IRB, and changed Standard Operating Procedures to better effectuate human subjects research protections.

IRB now fully staffed

The IRB received feedback from researchers during the last academic year that one of the biggest hurdles faced by researchers included long review times. The USU IRB finally achieved full staffing in November 2015, with the addition of Johanna Phelps-Hillen as IRB Coordinator. Phelps-Hillen is a Ph.D. candidate at the University of South Florida whose technical communication coursework focuses on public policy; specifically, how IRBs effectuate the human subjects research protections laid out in federal regulations. Her addition to the IRB office has contributed expertise in qualitative research, in-depth knowledge of regulatory policy, and increased efficiency in protocol review. With full and expert staffing, the IRB has been able to decrease exempt and expedite protocol review timeframes by ten days from the previous reporting year.

Looking ahead

During the upcoming academic year, IRB staff look forward to wrapping up development of a new online protocol management system with Kuali to replace the current Protis system. The USU IRB also expects to significantly revise its policies and procedures in alignment with release of a Final Rule for the Protection of Human Subjects in

Research by the Department of Health and Human Services and fifteen other federal departments and agencies. The Rule, expected to be released this fall, contains substantial changes to the regulatory framework governing human subjects protections and is intended to decrease administrative burden while strengthening protections for research participants.

Laboratory Animal Research Center and Institutional Animal Care and Use Committee

Transition in rates for animal care

Following final approval from the Office of Naval Research, the LARC has completed a transition in the method of charging per diem rates for animal care. Consistent with the majority of academic research institutions, the LARC now charges animal care fees on a per cage rather than per animal basis for most species. The transition was successful and smooth due to the support and cooperation from the LARC staff, Administrative Staff within the Office of Research and Graduate Studies, and from the University researchers.

Funding for additional equipment

The LARC Director has received a Facilities Improvement Grant from the National Institutes of Health to purchase and install an additional autoclave in the 650 Bioinnovations building to support the infectious disease research facilities housed there. This autoclave will be in addition to existing decontamination equipment and will expand the capabilities of the facility to ensure ongoing safe operation of vital infectious disease research activities at USU.

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 the Association for the Assessment and Accreditation for Laboratory Animal Care International (AAALAC). The site visit is a vital component of maintaining accreditation of the animal care program with AAALAC. The site visitors identified areas in which they believed USU could improve its program. The LARC is currently acting on those recommendations and remains committed to maintaining AAALAC accreditation and excellence in laboratory animal care.

LARC director receives national recognition

In 2015 Dr. Aaron Olsen, the LARC Director, was appointed as the chair of the Animal Handling and Welfare Review Panel with the United States Department of Agriculture Agricultural Research Services (USDA-ARS). The panel was established in response to a news article alleging abuse and misuse of animals at a USDA-ARS research facility. The review panel visited multiple USDA-ARS research sites and provided feedback and recommendations to the USDA on animal use and welfare oversight practices at its research facilities. The panel submitted a final report to the USDA in July 2015. Subsequent to the panel's efforts it has been selected to receive the Abraham Lincoln Honor Award from the USDA. This award will be formally presented to the panel members by the Secretary of Agriculture in a ceremony in Washington D. C. in September 2016.

Research Development

New Research Development staff

In FY16, Research Development (RD) partnered with Extension to hire a proposal development specialist. This individual began working with Extension faculty and staff in December 2015.

Additionally, a proposal development specialist was hired into the College of Science. This individual will begin working with Science faculty in July 2016.

The RD Division now consists of a director, a part-time program assistant, and 5 proposal development specialists (Agriculture, Education, Engineering, Extension, Science).

Grantsmanship Training Program

Faculty
The grant writing seminar tailored specifically to faculty and focused on "writing to the review process" was offered once in the FY16:

- 1 seminar—fall semester
- 49 faculty and research staff attended

In addition, a grant writing seminar specifically tailored to the arts and humanities faculty was offered in FY16:

- 1 seminar—fall semester
- 12 faculty attended

Graduate Students
Grant writing seminars tailored specially to the needs of graduate students were offered twice in FY16:

- 1 seminar—fall semester
- 1 seminar—spring semester
- 159 graduate students and/or postdocs attended

All seminars were presented by Grant Writers' Seminars and Workshops (www.grantcentral.com). Research and Graduate Studies covered all seminar expenses for participants, including material costs, lunch, and breaks.

Proposal Writing Institute

The Proposal Writing Institute completed training its eighth cohort in FY16. Twelve 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 98 faculty over the years. At the end of FY16, those faculty submitted 109 proposals worth $62 million that can be tied directly to the projects worked on during the Institute. Of those submitted proposals, Institute faculty have received 21 awards worth $9 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. There are currently 517 newsletter subscribers (450 faculty, 46 staff, 21 graduate students).

RGS seed grant program

The Grant-writing Experience through Mentorship (GEM) program provides funding to enhance the professional development of new investigators through one-on-one research and grant-writing interactions with successful research mentors. The purpose of this program is to build USU's research capability and increase extramural funding for

scholarly activities by enhancing the proposal development skills of newly hired USU researchers.

The Research Catalyst (RC) program provides funding to help applicants develop new initiatives or directions in their discipline that will lead to new externally funded grants. The purpose of this program is to build USU's research capability and increase external funding for scholarly activities from government agencies and private sources. The Seed Program to Advance Research Collaborations (SPARC) program provides funding to catalyze development of interdisciplinary research teams and projects that involve scholarly research in more than one department, research center, college, or institution. Successful SPARC proposals require mutual effort by researchers from multiple disciplines. They must also provide outcomes that enhance USU faculty success in securing new,

large-scale, interdisciplinary, externally-funded grants.

GEM, RC, and SPARC awardees are required to develop and submit at least one proposal to an external funding agency within three months of project completion. Because proposal submission deadlines vary widely among different agencies, funding for RGS seed grant programs is offered twice yearly, with start dates of January 1 or July 1.

For FY16, the RGS seed grant program received 29 applications and made 18 awards through its biannual competition cycles:

- GEM—3 applicants, 2 awards
- RC—21 applicants, 12 awards
- SPARC—5 applicants, 4 awards

Research Integrity and Compliance

Response to regulations

During FY16 Research Integrity & Compliance (RIC) responded to five regulatory actions.

1. The Office of Management & Budget promulgated Uniform Guidance which combines eight circulars into one document. This has had some impact on USU's systems, and RIC plays a coordinating role among administrative units to make sure internal control systems are responsive to the new guidance. During the coming year, additional elements of the regulations will be implemented, and RIC will continue to monitor USU's progress.

2. 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.

3. The Export Control regulations overseen within the Departments of Commerce and State have been under review for the last several years. During FY16, a major effort to harmonize the two sets of regulations came to fruition, and USU has been developing training and internal controls to achieve compliance with the harmonized rule. We have established a partnership with Sponsored Programs to identify and negotiate terms and conditions that are related to export control regulations, and we provide support in meeting requirements under the regulations and monitoring compliance with teams conducting export controlled projects.

4. 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 been developing policy, procedures and systems to respond to data sharing requirements. RIC has been playing a collaborative role in developing a new Research Data policy, which will likely be adopted in the coming year.

5. 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 also manages several systems that support research compliance activities. The following compliance systems developed and implemented by RIC are now overseen and maintained by the division:

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. In addition to RCR training for students, RIC also coordinates an annual New Faculty Mentoring Workshop to help incoming faculty establish mentoring practices that integrate RCR topics.

Conflicts of Interest (COI)

Responsibility for disclosure and management of conflicts of interest resides with RIC. We maintain a system known as iComply to support faculty members in disclosing financial interests that may represent conflicts of interest, and we assess whether disclosed interest give rise to COIs that require management, reduction or elimination. During FY16, we also developed and prepared to implement a system for identification of potential institutional conflicts of interest (ICOI). 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. This new system is being implemented during FY17.

Sponsored Programs

New centralized granting processing system

Beginning in Fall 2016, a new centralized granting system, Kuali Research, will be utilized by the campus community. Sponsored Programs implemented Kuali Researcher in October and has been using the module internally. Sponsored Programs staff have been training with Kuali Researcher, developing training materials, and conducting focus groups in preparation of a campus-wide roll out.

Kuali Researcher offers campus-wide authentication and routing. Using Kuali, researchers will be able to complete proposal applications and all required proposal materials electronically, replacing the need for paper copies of the Proposal Approval Form (SP-01) and budget template.

Proposals and awards

Sponsored Programs staff continued to work with faculty on proposal preparation, proposal review, proposal submission, award set up, award monitoring, and award close out. During FY16, Sponsored Programs processed 1080 award actions for $98.5 million in award funding and submitted 1157 proposals in FY16 for $261.7 million.

Expanding Sponsored Programs presence

Sponsored Programs staff represented Utah State University at over 9 regional or national research administration meetings during FY16. Two Sponsored Programs staff received certification from the Research Administrators Certification Council, the highest certification in research administration.

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