

**Application for 2016 University of California
Larry L. Sautter Award for Innovation in Information Technology**

Submitter's name, title, and contact information

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Project leader(s), team members, and deployment timeline

Phase I: Deployed August, 2013

Kassie Obelleiro	Funding Opportunities Project Coordinator, Office of Research
Dung Phung	Lead Developer, UC Risk and Safety Solutions
Tim Holmes	Developer, UC Risk and Safety Solutions
Colin Aiken	Developer, UC Risk and Safety Solutions
Rachel Aurand	Developer, UC Risk and Safety Solutions
Jessica Eisner	Quality Assurance Analyst, UC Risk and Safety Solutions
Michael Benning	Scrum Master, UC Risk and Safety Solutions

Phase II: Deployed March 30, 2015

Kassie Obelleiro	Funding Opportunities Project Coordinator, Office of Research
Ed Storm	IT Development Manager, Office of Research
Tim Holmes	Lead Developer, Office of Research
Jackson Lee	Quality Assurance Analyst, Office of Research

Note: Responsibility for maintaining the application migrated from UC Risk and Safety Solutions to the Office of Research in November, 2013. Phase II began in August, 2014.

Functional Advisors for Phase II

Whitney Cheung	Analyst, Interdisciplinary Research Support & Strategic Initiatives, Office of Research
Gina Durante	Venture Catalyst Analyst, Office of Research
Joshua Woods	Associate Director, BGI@UC Davis

The Significance of the Research Funding Application: Broad Positive Change

The Research Funding system – an online application developed at UC Davis – is a tool that streamlines the review and selection of limited submissions applications and applications to other intramural sponsored programs. It also is used to collect and disseminate information on funding opportunities to the campus research community.

Federal and private sponsors have greatly increased the number of funding opportunities for which a campus is limited in the number of applications they may submit, known as “limited submissions” programs. By limiting the number of applications allowed, sponsors shift the burden of reviewing and selecting the most competitive grant proposals to the campuses themselves. This increases the workload of staff on university campuses who not only have to identify and advertise such opportunities, but also manage the review process for an increasing number of internal applications and reviews. It increases the workload of faculty who must first submit an “internal” proposal for campus-level selection and then a fully developed proposal to the sponsor. The process increases the workload for administrators and executives who must review and select the most competitive applications. It also places universities at risk for non-compliance and in some cases a missed opportunity for funding if the universities mistakenly submit more than the allowable number of applications and all applications are therefore ineligible. The importance of this issue has been highlighted by national organizations in research administration (e.g. NCURA) and research development (e.g., NORDP) for several years. Finding a system that adequately addresses these needs is the subject of much discussion in these groups (for example see <http://slideplayer.com/slide/9253537/> and <http://www.nordp.org/assets/RDConf2013/presentations/nordp-2013-outofmany.pdf>).

Developing a streamlined system for advertising limited submissions opportunities, as well as collecting, and reviewing applications, benefits thousands of individuals at UC Davis at all levels of the organization. The Research Funding system has greatly minimized the burden for faculty and administrators and vastly reduced the number of times ineligible applications were submitted to a sponsor. The system has the secondary benefits of being used (1) for intramural funding programs – numerous programs at UC Davis that offer seed funding or other competitive and coordinated review processes have used the on-line tool for organizing their competitions, and (2) to advertise other funding opportunities of special interest to the campus investigators.

The Innovation of the Research Funding System: Efficiency and Collaboration

The Research Funding application streamlines the process for identifying and applying to certain very significant funding opportunities. This efficiency saves time and reduces frustration for our campus researchers, administrators and executives (decision-makers). It impacts programs that are of high risk to the university (our university would be ineligible to apply for certain funding opportunities if we submitted more than the sponsor's limited number of applications, and therefore miss out on millions of dollars of research funding) and enables our campus units to efficiently conduct competitions for internal sources of funding (many of which are for high-risk, high-reward projects, or projects that are not fundable through traditional mechanisms). In this way it benefits UC, the State of California, and society in general by supporting researchers in their search for extramural and intramural funding. It does this by:

- Providing a streamlined way for the campus Funding Opportunities Coordinator to advertise funding opportunities of special interest to campus researchers including those that require internal coordination (e.g. limited submissions programs) or those that are not advertised through standard mechanisms (e.g. philanthropic organizations)
 - User-friendly interface allows administrator to enter key information on relevant funding opportunities into the system and flag the opportunities by type (limited submissions, coordinated submissions, funding opportunity of special interest and UC Davis Administered Programs).
 - Software allows administrator to generate emails for distribution, or website code, that contain information about funding opportunities identified each week
- Allowing PIs to submit applications for internally coordinated programs (limited submissions, coordinated submissions, and UC Davis-administered programs) via an on-line, Keberos-protected interface.
 - An administrator can customize the information that applicants are required to submit and generate review criteria for the applications
 - The on-line application is a combination of form fields (some of which pre-populate with PI information) and uploaded documents
 - Applicants can save work in progress and view previously submitted applications
- Permitting the on-line review and selection of applications through a multi-tiered process
 - Reviewers can assemble review committees and provide review access to committee members
 - Reviewers and administrators can provide both numerical scores and comments on each application
 - The administrator can generate a matrix of review scores so that the decision-makers can quickly see the rankings and comments
 - Administrators can customize the amount of feedback provided to the applicants

Overall, the program includes myriad aspects of design flexibility to accommodate current and future funding programs. It provides on-line, real-time reports (as PDF and/or Excel documents for further distribution and data manipulation) to aid in administration, management, and decision-making. Numerous features allow for administrators to over-ride certain functions; this allows them to accommodate special cases with minimal intervention by IT staff and further customize the functionality of the system.

Specifications: RF is a single page application utilizing Backbone.js, Underscore.js, Handlebars templates and Twitter Bootstrap with an SQL Server backend and a Java/Spring/Hibernate/Tomcat technology stack.

URL: <https://researchfunding.ucdavis.edu/>

Examples of the functionality of the Research Funding System

1. Dissemination of Funding Opportunities

The Research Funding system gives the Funding Opportunities Coordinator in the Office of Research (the program administrator) a means to advertise hundreds of funding opportunities to UC Davis researchers and

staff including limited submissions, coordinated submissions, and funding opportunities of special interest. The system serves as a database of program sponsor, title, funding areas, and relevant due dates. The system gives the administrator a means to re-advertise programs that recur on a regular basis

For convenience, PI's and their staff have the option to subscribe to one or more email list serves that bring funding opportunities to directly to them. Each PI can subscribe to any of three email distributions based on area of interest. The Funding Opportunities Coordinator can customize which opportunities are included on which list serve. The emails are generated weekly and include only the opportunities that were added that week.

The associated website includes a comprehensive collection of all funding opportunities (see Fig. 1). PIs are able to use sophisticated search and filtering capabilities that help them to quickly identify funding opportunities that relate to their areas of expertise. Programs for which the deadline has passed (or that are in review) can also be accessed. With the click of a button researchers can “express interest” in a funding opportunity to receive updates or changes to the program, learn about information sessions, and find collaborators for those programs. For limited or coordinated submissions programs, researchers can begin the on-line application process from the same screen on which they view the program information.

Limited Submissions Update email? kobelleiro@ucdavis.edu

Identified by the Office of Research.

Search for program name: Search by Announcement Name Open

Select announcement status: Open

Select year of sponsor deadline: All Years

Sponsor	Announcement	Internal Deadline	Deadline	Status
National Institutes of Health (NIH)	Developing and Improving Institutional Animal Resources (G20)	Apr 21, 2015	Aug 03, 2015	Open
The Conservation, Food & Health Foundation	The Conservation, Food & Health Foundation Grants	Apr 14, 2015	Sep 01, 2015	Open
National Science Foundation (NSF)	Collections in Support of Biological Research (CSBR)	Apr 14, 2015	Jul 31, 2015	Open
National Institutes of Health (NIH)	Centers for AIDS Research (CFAR) and Developmental Centers for AIDS Research (D-CFAR) (P30)	Apr 14, 2015	Jul 28, 2015	Open
National Institutes of Health (NIH)	Science Education Partnership Award (SEPA) (R25)	Apr 07, 2015	Jul 21, 2015	Open
National Institutes of Health (NIH)	Nutrition Obesity Research Centers (P30)	Mar 31, 2015	Jun 18, 2015	Open
National Institutes of Health (NIH)	Eunice Kennedy Shriver NICHD Maternal-Fetal Medicine Units (MFMU) Network (UG1)	Mar 31, 2015	Jun 23, 2015	Open

Search Tags

- Agricultural
- Animal Science
- Arts
- Autism (ASD)
- Biological Sciences**
- Biomedical
- Climate Change
- Clinical Trials
- Computing
- Developing Countries
- Diabetes
- Economic Development
- Education**
- Energy
- Engineering
- Environmental
- Equipment
- Genomic-Genetic
- Health Sciences
- Humanities
- Interdisciplinary
- International
- Junior Investigators
- Law
- Mathematical & Physical Sciences
- Medical-Medicine**
- Medicine-Medical
- Nutrition
- Private Foundation
- Psychology
- Social-Sciences**
- Technology
- Training
- Veterinary Medicine

Figure 1. Screen shot of the list of open limited submissions opportunities at UC Davis

2. Streamlined Proposal Submissions

The Research Funding system serves as both a database of funding programs for administrators, and a proposal submission system for applicants. The application process is streamlined because certain fields are pre-populated based on log-in information, applicants can view and copy past applications if desired, and applicants can designate a proxy to submit applications on their behalf. It is streamlined for both administrators and applicants because required application materials can be easily and dynamically customized for each program by the administrator in order to collect the minimum amount of information necessary to conduct a fair review. The inherent flexibility of the Research Funding system allows applicants to submit multiple proposals – presumably on different topics – for a single program.

3. Sophisticated and Collaborative Proposal Reviews

The Research Funding system also greatly reduces the time it takes reviewers (typically faculty and university executives) to conduct proposal reviews and provide feedback.

Some of the features of the RF review process include:

- Identification of review panels (primary reviewers) and review criteria that can be assigned to individual proposals. Each proposal can have more than one panel of reviewers for different review criteria (such as research methodology versus societal impact). See Figure2.
- Reviewers can numerically score and provide written comments on-line for each proposal.
- Primary reviewers can invite secondary reviewers (e.g. subject matter experts) to score and comment on proposals. Secondary reviewers' scores and comments are only viewable by the primary reviewer and can be used by them to finalize their own review of the proposal.
- Individual review criteria can be weighted to allow for more relevant final scores.
- In addition to providing individual scores on review criteria, reviewers are able to rank proposals relative to each other to reflect intangibles that may not be reflected in their finalized weighted scores.
- PDF documents attached with the proposal are merged into one document in the same order for each applicant for simplified analysis by the reviewers.

Research Funding - Development Home Committee Review **Management** Reports Spoof FAQ Timothy Holmes

Home Announcement Program Sponsor Email User

Review Panel Assignments Announcement: Kassie's Test AP Program Published: 03/01/2016 Status: Hibernate Approver: Sheryl Soucy-Lubell

[Review Panel Details](#) [View Panel Definitions](#) [Print Program Summary](#) Review structure is up to date. Last updated: February 22 2016 3:34 PM

Review Panel	Subject Area	Reviewers	Review Category & Criteria
Panel 1	Agriculture	M Saiful Islam (More...)	Commercial Potential: How well has the competitive landscape been explored or described? (More...)
Panel 2	Life Sciences	Daniel Cox (More...)	Budget, Milestones and Proof-of-Concept: Are potential problems, milestones, and deliverables clearly presented? (More...)

Review Panel Assignments

Proposal Title	Investigator	Department	Add/Remove Panel	Assigned Panels
Testing AP reports	Anthony Wexler	MECHANICAL & AEROSPACE ENGR	Select Panel	Panel 1
Testing AP reports - Tan	Cheemeng Tan	BIOMEDICAL ENGINEERING	Select Panel	Panel 1 Panel 2

Figure 2. Screen shot of the Review Panel summary view for the Program Administrator, demonstrating the flexibility of assigning different subject matter panels to different proposals

4. Support for UC Davis-administered Funding Programs

Various units at UC Davis offer internal (intramural) funding and/or coordinate the review process for external funding programs. These units include those within the Office of Research, such as the Technology Management and Corporate Relations (TMCR) group and the Core Facilities Program, as well as in the academic units such as the Innovation Institute for Food & Health and the NIEHS Core Center for Environmental Health Sciences. The recent phase II release of the Research Funding system now serves as a resource across campus for coordinating the application, review and selection process for UC Davis Administered Funding Programs. Supporting these programs is a new function for the Office of Research and has developed a new synergy between this central administration unit and the academic divisions. The intramural funding programs have disparate program structures. As such, the development team consulted an advisory panel throughout the development of the application to ensure that the Research Funding system remained flexible enough to not only support existing programs but those that will come in the future.

Improvements to operational efficiency and usability

One goal of the Phase II rollout was to add functionality to the system to improve the efficiency of program management and lower institutional risk of sponsor non-compliance. These improvements came by adding reporting functions, and making improvements to program status features and user roles.

Phase II of the RF project introduced seven management reports. These reports allow (1) individual program managers to analyze reviews in multiple dimensions (see Figure 2); (2) the Research Funding system administrator to view the status of all programs currently being run through the system; (3) the Sponsored Programs Unit to see ongoing funding programs, review status, and nominated applicants, thereby minimizing the chance that the Sponsored Programs Office would submit a limited submissions proposal to a sponsor without institutional approval.

In Phase II the developers introduced a “hibernate” status into the funding announcement lifecycle. Prior the phase II deployment a funding program would automatically be directed from “Open,” i.e., available for application submission, to “In Review,” in which reviewers were able to begin their reviews. The “hibernate” status allows the Program Manager the ability to take the program “offline” so that s/he can finalize the review structure including panel selection and review questions. Particularly for intramural programs, this feature helps ensure a smooth transition and a comprehensive review process.

For most programs administered in the Research Funding system, final decisions are often made by campus executives, such as an associate vice chancellor, executive director, or dean. In order to reduce the amount of time individuals at this level need to be in the system, Phase II introduced an executive role that presents a consolidated view and review summary. The view provides links to more information with return links to return to their standard view.

Collaboration and Feedback

An underlying philosophy of the Phase II development was to allow for continuous improvement and process transparency by providing the means for user groups (applicants, reviewers, and program managers) to provide input and feedback while a funding program is being administered. This feedback can be visible to the applicant or may be between specific user groups. Here are a few examples of inherent transparency and user input in the Proposal Review Function:

- Functionality that allows for the identification of a review committee chairperson, who is given additional administrative rights such as providing overall review comments
- Permitting reviewers to provide comments to the committee chairperson or project manager that are not viewable to the applicant
- Allowing program managers to provide review summaries to applicants in lieu of or in addition to individual reviewer comments
- Allowing reviewers to designate sub-reviewers of their choice to aid in proposal review

We also receive feedback through regular and informal communications with applicants, reviewers, executives, and program managers. This occurs via email or phone calls while programs are running, during regularly scheduled meetings (e.g. in-person review committee meetings), or during ad hoc meetings to assess progress. We publish a list of FAQs (<https://researchfunding.ucdavis.edu/#faq>) and a user guide (http://research.ucdavis.edu/wp-content/uploads/User-Guide_Phase2_Final.pdf) for the system to respond to the most common questions or concerns from our research community.

Shareability: An eye towards implementation at other UC campuses

Specific features are inherent in the Research Funding system that may permit implementation at other UC locations

- The UC-wide universal identifier (EPPN) as well as UCNID is captured when users access the Research Funding system. This information is also captured if a pre-existing user accesses the system. These identifiers will ease the transition of the system into a UC-wide application and/or provide it a means to interface with other UC-wide data stores.
- If another UC campus implements the Research Funding system and has its own source to identify someone as an eligible applicant, they can easily configure the system to access this resource and assign eligibility, avoiding the need for this to be performed manually.