

# Development of an Open Source Research Process Assistance Template that Supports CTSA and Research Initiatives

University of Utah

Spencer S. Eccles Health Sciences Library

Principal Investigator:

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June 18, 2010

## **B. Project Narrative**

### **1. Abstract**

An open source, locally customizable research process template, MyRA, will be developed to outline the steps of research, and provide tools, needed forms, experts, resources and concepts that support each step. This tool will be built so that other institutions can easily plug local information into the template to provide the same central assistance to their institutions. Development and promotion of the online research support template should be achievable within 8 months, starting June 15, 2010. Researchers will have a one-stop-shop approach to understanding and identifying what research-related resources are at their disposal, what expertise is available to discuss their research, and what procedures need to be followed in order to meet research requirements. As the template is developed, it will be vetted through the MyRA Planning Team, the other two MCR CTSA institutions, and refinements will be made based on feedback received. The MyRA template will be shared via presentations at professional meetings and through a professional publication. Uptake by others of the MyRA template will be assessed through feedback from the national CTSA award institutions, NN/LM, MCR regional medical libraries and AAHSL association members.

### **2. Introduction and Background**

A needs assessment conducted at the University of Utah (full report available upon request), confirmed that many researchers, especially new, junior faculty and fellows, are aware they need and want to conduct research but are not sure of the procedures, protocols, sources of information, processes, etc. Other studies have reported similar findings. "Researchers appear to have a limited awareness of the range of information services and resources available to them, and the number that they report using seems surprisingly small. They also show loyalty to particular resources or services that they like or trust or that supply them with what they need." (1)

Researchers would like a one-stop-shop approach to understanding and identifying what resources are at their disposal, what expertise is available to discuss their research, and what procedures need to be followed in order to meet University research requirements.

#### REFERENCE

(1) Research Information Network and the British Library. *Patterns of information use and exchange: case studies of researchers in the life sciences*. November 2009.

### **3. Identification and Description of Population and Geographic Area Covered**

The University of Utah's Spencer S. Eccles Health Sciences Library, in partnership with the U of U Biomedical Informatics Department of the School of Medicine, will design an open source web-based template to primarily support researchers associated with the University of Utah's CTSA. However, this

research support tool will be available to all University of Utah personnel and to other University of Utah CTSA institutional partners. The template will be designed so others can substitute their local information to create customized versions for their institutions. The template will be able to be used by others in the MCR, the nation and even internationally.

#### **4. Identification of Need**

It has been recommended as a result of the needs assessment findings (a copy of the complete needs assessment is available upon request), that a virtual and physical research support center be created to facilitate information discovery related to research as well as to level the playing field among all researchers so that what is needed to conduct research is readily available and conveniently located in one place. This concept of a virtual central repository of needed research support information is fondly being called MyRA – for My Research Assistant. A physical counterpart of the online MyRA is being planned as part of the Spencer S. Eccles Health Sciences Library.

The March 2010 Evidence Based Scholarly Communications Symposium held in Albuquerque, NM, also confirmed the MyRA concept. Attendees wanted a place to collect best practices and to share ideas that support research within their institutions.

#### **5. Project Objectives**

To develop an open source, locally customizable research process template, MyRA, which outlines the steps of research, and provides tools, needed forms, experts, resources and concepts that support each step. This tool will be built so that other institutions can easily plug local information into the template to provide the same central assistance at their institutions.

TEMPLATE COMPONENTS: The template would allow visitors at different stages of their careers, as well as the community, to more easily find any available information about the research process, including the following critical information:

- How to develop a research project
- Where to find forms and information about grant applications and IRB approval
- Search for funding opportunities and collaborators
- How to get access to, and help with, clinical data
- How to get information about clinical trials
- How to reach out to the community
- Orientation information
- Ongoing training

#### **MyRA MISSION and VISION**

##### **Mission**

MyRA (My Research Assistant) is a Utah statewide web research portal that provides resources and tools for and about research.

## **Vision**

MyRA is the central place where researchers go to explore, manage, initiate, and direct their research. It provides information and guidance at every step of the research process. MyRA answers questions, pushes relevant information to the user on a regular basis, invites exploration or directly supports rapid decision-making. It supports collaboration among various participants in the research process (e.g., senior or junior researcher, clinician, student, patient, and interested public). MyRA is the electronic entr   to FURTheR and other developed or collected tools, and is supplemented by a physical space that specifically assists researchers throughout their research processes.

As far as we know, there is no other template like this available to customize. We will share the template with others, especially other CTSA awardees.

## **6. Methodology**

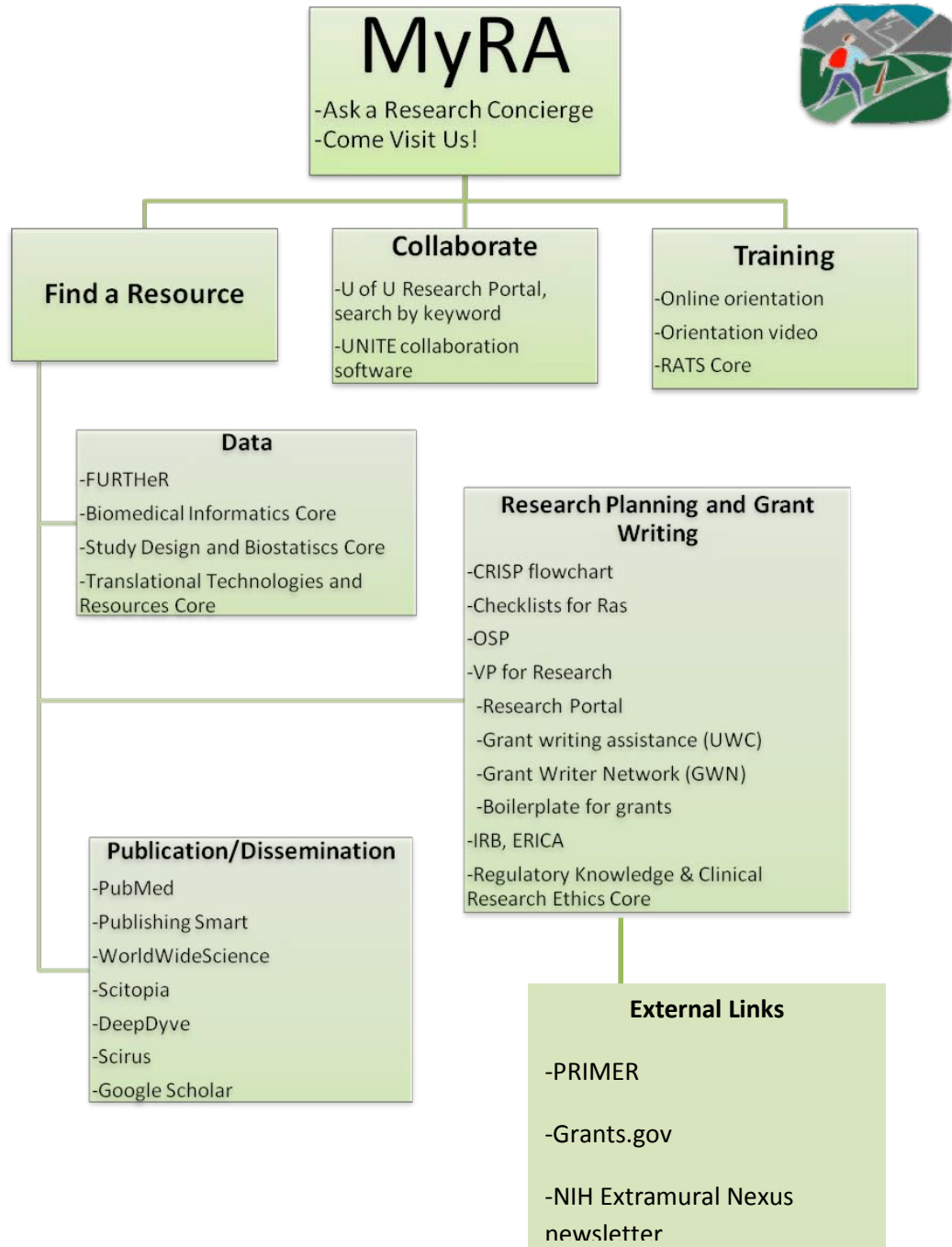
A team of multi-institutional librarians, informaticians, research and community support faculty from the University of Utah CTSA Cores has worked with a consultant to conduct interviews and surveys with various personas of research individuals – from students to senior researchers. In February 2010, a Needs Assessment document, developed through the use of interviews, survey and focus group data, the outcomes of a MyRA strategic planning meeting, and research on other CTSA awardees' activities, verified the sense that there were barriers to (1) using the rich stores of clinical data available; (2) finding information about grant application procedures; (3) finding and using statistical and technical resources effectively; and (4) finding collaborators and mentors.

Development and promotion of the online research support template should be achievable within 8 months, starting June 15, 2010.

STEPS: The following is a summary of the steps that will be taken to build the online research support template:

- Identify and hire a .4 FTE BMI programmer hosted at the University of Utah to develop the template in conjunction with the Eccles Library Director, with MCRML as the source of funds;
- Review the MyRA needs assessment and recommendation white paper to determine elements needed for the template;
- Work with the MyRA Implement Task Force and Co-chairs to vet components of the template to create the first iteration of the tool;
- Test the first version of the template with local researchers at the U of Utah;
- Revise the v.1 template based on feedback received;
- Develop v.2 of the template with plug-and-play functionality;
- Share the template with the two other CTSA awards in the region – U of Colorado and Washington University for their deployment and feedback;
- Create v. 3 of the template based upon feedback received; and
- Deploy the template for use and gather feedback through a focus group of key users.

# Proposed MyRA Template Structure



## 7. Evaluation Plan

While creating the template, the following assessments will be conducted:

- Test the first version of the template with local researchers at the U of Utah;
- Revise the v.1 template based on feedback received;
- Develop v.2 of the template with plug-and-play functionality;
- Share the template with the two other CTSA awards in the region – U of Colorado and Washington University for their deployment and feedback;
- Create v. 3 of the template based upon feedback received; and
- Deploy the template for use and gather feedback through a forum of key users.

After the template is distributed, we will monitor uptake of the use of the U of Utah research process template tool by others through a:

- CTSA Awardee listserv questionnaire
- AAHSL mini-questionnaire
- MCR questionnaire

## 8. Publicity/Promotion

We will share our project progress and results with the region through news articles, social media venues, Breezin' Along sessions, conference posters and presentations, and professional publications. The template will be included in the health sciences librarian repository developed by the University of Colorado in Year 5 of the MCRML contract and will also be deposited in the MLA Core Database as well as shared with CTSA national and regional consortia.

We will include the following statement of funding credit: "This project has been funded in whole or in part with Federal funds from the National Library of Medicine, National Institutes of Health, Department of Health and Human Services, under Contract No. NO1-LM-6-3504 with the University of Utah."

## 9. Identify all project personnel.

The .4 FTE programmer will be Randy Madsen, Computer Professional, currently a staff member in the Biomedical Informatics (BMI) Department of the University of Utah School of Medicine, (801) 213-3245, [randy.madsen@hsc.utah.edu](mailto:randy.madsen@hsc.utah.edu). His resume is attached.

Jean P. Shipman, Eccles Library director, and Scott Narus, BMI Department, Co-chairs of the MyRA Planning Team, will provide Randy with template content guidance. Ms. Shipman has the following grants and contract experience:

- 2009-2010 National Library of Medicine Associate Fellowship, Host Institution
- 2008- N01-LM-6-3504, Jean Shipman (PI) 05/01/2006-04/30/2011  
NIH National Library Of Medicine (NLM)  
National Network Of Libraries Of Medicine (NN/LM) Service
- 2008- 5415-S-JB349, Jean Shipman, Joan Stoddart (PIs) 08/14/2007-04/30/2011 University  
Of California Los Angeles, UCLA Project
- 2006-2008 National Library of Medicine, “MLA Health Information Literacy Research Project,”  
Unsolicited Contract - \$250,000 (Co-Principal Investigator)
- 2006-2008 National Library of Medicine Informationist Fellowship
- 2005-2006 National Library of Medicine Associate Fellowship, Host Institution
- 2005-2006 National Library of Medicine, “VCU Information Rx Evaluation Project”, Unsolicited  
Contract, - \$35,000 (Principal Investigator); #N01-LM-1-3522
- 2005 Reviewer, NLM Review Meeting for IADL and Information System Grants, February 11,  
2005.
- 2004 Reviewer, NLM Review Meeting for IADL and Information System Grants, July 9, 2004.
- 2004 Reviewer, NN/LM SE/A Access to Electronic Health Information contracts, June  
2004
- 2004-2006 National Library of Medicine, “COIN: Community Outreach Information Network”,  
Community Outreach Partnership Project, - \$49,995 (Co-Principal Investigator)
- 2003-2004 NLM Associate Fellowship, Host Institution
- 2003-2004 National Library of Medicine, “COIN: Community Outreach Information Network”,  
Planning Grant, - \$20,000 (Co-Principal Investigator)
- 2001-2004 National Library of Medicine, Specialized Information Services Division, “Women’s  
Health Network for Minority Consumer Health Outreach: Where Knowledge Empowers  
People” - \$49,990 (Co-Principal Investigator)

## **10. Facilities/Institutional Support**

The Spencer S. Eccles Health Sciences Library and its many partners, offer a mission-based academic health sciences information and university learning environment rich with advanced informatics opportunities. Eccles Library faculty are nationally renowned for their ability to creatively apply technologies to library services, education and research support. Located at the foothills of the Wasatch Mountains in Salt Lake City, Utah, the Eccles Library is the only academic health sciences library in the state. It services the School of Medicine, and the Colleges of Nursing, Pharmacy, and Health. It

also serves as the library, along with its Hope Fox Eccles Clinical Library, for University Health Care, the Huntsman Cancer Institute, the Moran Eye Center and Research Park. The Library supports vigorous and innovative information programs including advanced virtual services, comprehensive digital collections, a dynamic and a curricular-integrated information management educational program. It also has created multiple information subject portals and educational web-based instructional programs including Neuro-Ophthalmology Virtual Education Library (NOVEL) (<http://library.med.utah.edu/NOVEL/>), Utahealthnet (<http://Utahealthnet.org>), Utah Womens Health Information Network - UWIN (<http://library.med.utah.edu/uwin/>) and Health Education Assets Library (HEAL) (<http://www.healcentral.org/>). In addition, Eccles Library was the home for Slice of Life (<http://slice.utah.edu/sol/aboutus/index.html/>).

A letter of commitment from the University of Utah’s Senior Vice President for Health Sciences, Executive Dean, School of Medicine and CEO University Health is attached. This is the person to whom both the Eccles Library director and the BMI director, Dr. Joyce Mitchell report to administratively.

**11. Continuation of Activities after Project Completion**

Funding for future template support for the University of Utah will come from the CTSA Award and/or the Office of Sponsored Programs. The MyRA Planning Team has met with the University of Utah’s Office of Research to discuss joint development of other research related support tools and also the sustainability of the developed MyRA template. There is university-wide recognition of the value of the MyRA template and also the physical facility within the Eccles Health Sciences Library. After completion of funded activities, each regional or national installation will be responsible for sustaining its template.

**A. Budget Form**

See budget form provided (Attachment 1).

**B. Budget Narrative**

Provide a detailed cost breakdown and justification for each of the categories listed below.

1. Personnel

To design MyRA template	
.4FTE of \$65,205 programmer – Randy Madsen	
salary for 8 months	\$17,388
Benefits @ 41.5%	\$7,216

Jean Shipman and Scott Narus’ time will be contributed in kind.

2. Equipment

Contributed In kind.

3. Communications

Contributed In kind.

4. Reproduction

Poster will be presented at MLA 2011 and MCMLA 2011 if accepted.

Also, poster can be given at CTSA meetings

Poster printing for template publicity	\$200
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5. Other Costs

a. Forum attendee incentives

to encourage participation	\$300
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b. Travel to professional meetings	\$1200
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c. F&A Costs (32.7%)	<u>\$8,602</u>
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Total Costs	\$34,905
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# Attachment 1

## Budget Form

Submitted by: \_\_\_\_\_ Jean P. Shipman \_\_\_\_\_

Date Submitted: \_\_\_\_\_ 6/18/10 \_\_\_\_\_

Period Covered: \_\_\_\_\_ 6/15/10-2/15/11 \_\_\_\_\_

<b>EXPENDITURE CATEGORY</b>	<b>AMOUNT</b>
Personnel	\$24,604
Equipment	\$0
Supplies	\$0
Communications	\$0
Reproduction	\$200
Other Costs	\$1500
F&A (IDC)	\$8,602
<b>TOTAL</b>	<b>\$34,905</b>



# Randy Madsen

IT Management, Software Developer and Project Manager

Randy Madsen

801.971.4393

[rkm@mac.com](mailto:rkm@mac.com)

## Skills

Project Management/Software Architecture

Business Process Design

IT Management

Event Presentation Communications, Video Production

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Software Engineering/Web Applications:

PHP/Perl/MySQL/Apache/Eclipse - Developer/Architect

HTML/CSS Standards Based Design

Data Modeling, Relational database design/SQL

Business Object Abstraction

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Systems Administration

12 years Mac OS, UNIX and Windows Support, Administration

RedHat Enterprise Linux, VMware ESX Server

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Digital Media Management and Production:

Adobe Design Applications

Photo and Graphics Production for Print and Web

Video/Audio production, recording, editing, encoding and delivery (Final Cut Pro)

Effective writing for broadcast and web communication

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Live Event Production:

Microsoft PowerPoint and Apple Keynote Presentation Design

Audio and video technical direction

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Distance Education Technology:

ClearOne audio conferencing configuration

Traditional and web video conferencing technology



## Employment

### **Computer Professional - IT Manager, 2/2007- Present**

#### **University of Utah School of Medicine, Biomedical Informatics, Salt Lake City**

Web application developer and software architect. IT management for daily operations of the department. Management of virtualized servers (VMWare ESX/Red Hat Linux) and implementation of distance education technology for department curriculum.

Chair of enterprise Information management and architecture committee. Committee charged to evaluate and develop University wide standards and best practices for data management, business process management and software architecture. Evaluation of internal business process and data access deficiencies, resulting committee recommendations and roadmap for service orientation (SOA), business process abstraction and standard data ontology. Recommendations presented to and approved by the University of Utah Information Technology Council in April 2009.

### **Computer Professional (additional support contract)**

#### **Project Manager - HUMIS project, 8/2006- Present University of Utah, Salt Lake City**

Lead software architect and support for in-house CMS solution currently deployed to multiple departments and colleges thorough out the University of Utah.

### **Computer Professional - Software Engineer & Multi-Media Specialist, 7/2003-1/2007**

#### **University of Utah College of Humanities, Salt Lake City**

Project manager and project architect for enterprise resource management system. Implementation/maintenance of over 30,000 lines of code to maintain data infrastructure and web content management. Used by multiple Colleges including 30 departments and programs. Managed contract employees, project constraints, business analysis for end users, and created overall taxonomies for data objects.

Manager for integrating new communications technology to raise the public profile of the College of Humanities.

Produced College of Humanities public and internal events and presentations. Built key presentations in marketing and donor relation campaigns.

Managed digital media content for College of Humanities marketing/communications. (Projects include print, web, audio, video and still images.)

Designed and implemented 18 seat video conferencing classroom for high speed internet2 real-time video collaboration. Managed construction timeline and installation contractors. Managed bid process for equipment purchase and grant auditing.

Randy Madsen  
801.971.4393  
[rkm@mac.com](mailto:rkm@mac.com)



**Computer Professional - Student Computer Lab Manager , 8/2000 - 6/2003**

**University of Utah College of Humanities, Salt Lake City, Utah**

Maintained College of Humanities student computing labs consisting of 150 mixed Macintosh, Windows systems. Provide senior level support for all Macintosh computers used by faculty, staff and students.

Assisted faculty and staff in production of instructional digital media content.

Provided multi-media and web programming support to College Marketing and Communications.

Randy Madsen  
801.971.4393  
[rkm@mac.com](mailto:rkm@mac.com)

**Computer Professional, IT Manager 10/1998 - 8/2000**

**University of Utah College of Fine Arts - Salt Lake City, Utah**

IT manager for College network, desktop systems, and web, file and database servers. Provided technical support for all faculty/staff and student lab users. Network management for 4 buildings and their integration with overall campus network infrastructure. Tracked and maintained inventory listing of all supported hardware in the College. Provided development support for Departmental web sites and authoring.

Managed purchases of computer and computer peripheral devices for all departments in the College. Assisted in the planning and development of technology infrastructure of the College and Departments. Responsible for scheduling of and task assignment for 30 hr./wk assistant position.

**Sales Associate, 10/1998 - 3/1999**

**Musician's Friend - Salt Lake City, Utah**

Computer system design and consulting. Sales position specializing in recording and computer aided audio production. Maintained store displays and equipment; consisting of a working recording studio and live production stage. Position required customer service to all levels of inquiries from patrons in the recording and professional sound reinforcement field.

**Computer Technical Assistant, 9/1997 - 12/1999**

**University of Utah Music Department - Salt Lake City, Utah**

Coordinated interdisciplinary computer audio/music conference. Represented areas included music, science, and health care, music industry and k-12 education. Provided technical assistance for introductory electro-acoustic music course. Provided proposals for new audio hardware and software for main electro-acoustic music lab. Maintained all equipment in undergraduate and graduate music laboratories.



Randy Madsen  
801.971.4393  
[rkm@mac.com](mailto:rkm@mac.com)

## **Contract Experience**

### **SpectrumDNA, Inc. Park City, Ut. 08/2006-11/2006**

Database, application programming, IT consulting.

### **Freelance Television Audio Field Engineer, Salt Lake City, 12/2003-Present**

Production Credits:

"Inside Edition" - King World Productions

"Golf Make-Over" - Golf Channel

"Designer's Challenge" - Home and Garden Network

"It's A Miracle" - PAX Television Network"

### **Course Instructor (Contract), 3/2001 - 8/2001**

#### **University of Utah Educational Technology - Salt Lake City, Utah**

Created and instructed a course in audio design for digital media as part of the IMDC (Internet Multimedia Design Certificate) at the University of Utah. Course was taught in Spring and Summer semester 2001.

### **Editing, Camera Work, Post Production, Stage Productions**

Demo video for multi-screen digital billboard - Media Stream Data

College of Humanities, University of Utah: "Voices of Humanities", "An Evening of Conscience", "From the Arctic to the Red Rock, An Evening of Environmental Humanities"

Promotional Videos for University of Utah Departments of Communication,

History, Languages & Literature, Linguistics. International Studies Program, and Latin

American Studies Program.

## **Education**

University of Utah

Salt Lake City, Utah

Communication - B.S. Electronic Journalism 2006 - Emphasis in Television Journalism

## **Compositions**

"Homage to Freedom" by Randy Madsen - A work for Jazz Orchestra - Premiered at Nova Concert Series 1997 by the University of Utah Jazz Ensemble One.

"Wake" by Peter Spruance Arr. by Randy Madsen - Premiered by the University of Utah Jazz Ensemble One, broadcast live 1997 on KEUR FM 90.

## **Awards**

Recipient of Sally Rich Burbidge Scholarship Award 1997-98 as a member of the Ute Marching Band 1994-1998.



The University of Utah

Office of the Senior Vice President  
for Health Sciences

A. Lorris Betz, M.D., Ph.D.  
*Senior Vice President for Health Sciences  
Executive Dean, School of Medicine  
CEO, University Health Care*

June 17, 2010

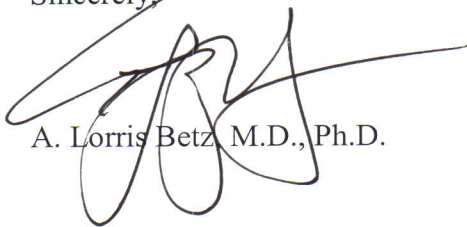
Jean P. Shipman  
Director  
Spencer S. Eccles Health Sciences Library  
10 North 1900 East, Building 589  
Salt Lake City, UT 84112-5890

Dear Ms. Shipman:

It is my pleasure on behalf of the University of Utah Health Sciences Center to endorse your proposal to the National Network of Libraries of Medicine, Midcontinental Region entitled "Development of an Open Source Research Process Assistance Template that Supports CTSA and Research Initiatives". This open source template will assist our Clinical and Translational Science Research (CTSA) award personnel, as well as any University of Utah researcher, in that research support tools, forms, policies and procedures will be located in one place with easy access via the Internet from any site. The designed template will also be available to other CTSA awardees, universities as well as other health sciences libraries to customize for their local needs.

I offer my total support for your proposal and look forward to your continued partnership with the National Library of Medicine through its national network of libraries.

Sincerely,



A. Lorris Betz, M.D., Ph.D.

ALB/amb

**Review of Development of an Open Source Research Process Assistance Template that Supports CTSA  
and Research Initiatives**  
**University of Utah, Spencer S. Eccles Health Sciences Library, Salt Lake City UT**

*Responses prepared by Jean P. Shipman  
6/23/10*

1. The project will be shared with medical librarians; however, the PI does not indicate how this project will be shared with the research community. Please explain.

At the University of Utah, the developed template will become the main feature of our MyRA web site which will be part of the CTSA Award web site. We will announce its availability through our University newsletter, our Eccles Library Facebook, Twitter and Blog as well as our website, and through the CTSA newsletters (national as well as local). We also will have our Office of Research, Office of Sponsored Programs and Grants & Contract Office help to disseminate its availability to our researchers. With the travel funds requested, we hope to also present the template at either a regional or national CTSA meeting.

Our assumption is that other universities and libraries that adopt the template and tailor it to their local needs will use their own internal communication mechanisms to announce its availability to their researchers.

2. P. 9, Budget Narrative, Other Costs: Please explain a. Forum attendee incentives to encourage participation. There was a mention of 'feedback forum' under 'STEPS' in the initial pilot submission. That same step appears to say 'focus group of key users.' Please Clarify this step and the budget reference.

All reference to this evaluation method should have stated "Feedback Forum" versus "focus group" since we realize we will need to do this more on a one-to-one basis than in a true focus group setting. We do hope to talk with several users of the template to assess their reaction to it and to obtain valuable feedback. We want to issue an incentive, such as a gift certificate or university logo merchandise, to encourage this evaluation method participation.

3. On page 5, 'Proposed MyRA Template Structure,' under 'Publication/Dissemination,' PubMed is mentioned, but not PubMed Central. Publication results should be submitted to PMC. Please explain.

This report was prepared by a consultant for the University of Utah CTSA. She meant to say PubMedCentral. It was an error. However, we would hope that the citation for the publication would also appear in PubMed and be discoverable via that mechanism. To be completely accurate then, the MyRA Template should point to both PubMed and PubMedCentral.