

2018 Fondren Fellow Project Opportunities

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1. Developing a Marketing Plan for Library Publishing Services

Key Tasks for Fondren Fellow

Rice University has a robust scholarly publishing culture that includes not only faculty but undergraduate and graduate students. In addition to publishing a large number of journal articles and monographs, groups across campus are actively engaged in the creation and support of journals, scholarly blogs, podcasts, etc.--illustrating the unlimited and creative publishing options computers and the Internet have made possible.

Over the past several years, Fondren Library's Digital Scholarship Services department (DSS) has explored ways to support scholarly publishing activities on campus and has developed services such as Digital Object Identifier (DOI creation) and consultation on a wide variety of issues, including publishing data, copyright and Creative Commons, and search engine optimization. In addition, the department continues to support and promote the use of the Rice Digital Scholarship Archive as a scholarly publishing and preservation platform. Unfortunately, the team has struggled to identify the best way to effectively market these services to potential users.

This project, inspired by similar activities at other academic libraries, proposes to leverage the creativity and research skills of a Rice student to develop a marketing plan for the department's publishing services. Rice students have unique insight into the best ways to reach not only their fellow students but other members of the Rice community.

During the course of this project, the student's research skills will be honed/applied as they learn about trends in library marketing and communication. The student will evaluate market research models and develop a brief study to help identify the best ways to reach targeted members of the Rice community and will then develop an appropriate

marketing plan. They will coordinate with Fondren's Committee for Marketing and Customer Service (C-MACS) and Social Media Team to ensure that the final deliverables align with library outreach initiatives. The student will be encouraged to think "outside the box" and will be encouraged to take advantage of library resources such as the Digital Media Center (DMC) to develop/strengthen competencies in design software. By the end of the project (achievable in a semester or during the summer), the student will produce several deliverables, including a detailed marketing plan and related visual material, if applicable (e.g., handouts, posters, webpage mock-up).

It is expected that this project will benefit both the student and the library. The student will have an opportunity to leverage their background/interest in design and/or marketing to further develop research, design software, and project development/planning competencies. The library will benefit from increased awareness of library resources/services via the creation of a marketing plan and related resources that are both grounded in library literature and communications/marketing best practices and meet the unique cultural needs of the Rice campus. The information collected about how to effectively target key user groups (e.g., students) may also help to inform future library outreach efforts on a wide variety of issues.

Key Tasks for Fondren Fellow

- 1) Become familiar with Fondren publishing support resources and services; identify potential campus user groups for each
- 2) Briefly, research trends in academic library marketing; identify trends that may be relevant to Fondren/Rice
- 3) Research and design market research study to identify best way to reach targeted Rice communities
- 4) Meet with relevant library committees: C-MACS (meet twice, once to learn about the committee and again towards the end of the project to get feedback before submitting marketing plan) and, if appropriate, the Social Media Team
- 5) Using results of market research, develop written marketing plan, with recommendations for implementation
- 6) If relevant, create visual material (e.g., handouts, posters, webpage mock-up) that supports marketing plan; pursue relevant training in graphic software, if needed, via the DMC or other venues

Desired Qualifications

- Creativity
- Interest in design and/or marketing

- Experience using software such as InDesign, Photoshop, Illustrator, etc., OR a willingness to learn

What would students learn through their participation in this project?

- 1) Current issues and trends in academic libraries, including scholarly communication and outreach/marketing
- 2) Research and information seeking skills
- 3) Methods in market research
- 4) Project planning and management
- 5) Use of relevant graphic software (e.g., InDesign, Photoshop, Illustrator)

Timeframe for the project

Spring, Summer or Fall of 2018

2. Data Seeking Data: Needs Assessment and Plan for Data Collections at Fondren Library

From economics to the environment, sociology and urban planning, research data is a key component to understanding our world. Digital works that may be numeric, geographic, audio, video, in addition to text, are recognized as integral to the scholarly landscape. As compared to print collections, Fondren does not currently have a policy for collecting non-textual digital content, nor a storage and delivery plan. There is a need for Fondren to identify the needs for data collections to support ongoing campus research and teaching initiatives.

This project will examine published data from governmental, open and subscription/commercial sources as well as locally created data. This Fondren Fellow will perform an assessment of the current data collections and needs and construct preliminary plans for the collecting and delivery of data across the disciplines.

Key Tasks for Fondren Fellow

- 1) A collection assessment of current library held or hosted open, government and subscription data and digital media collections, including how they are stored and delivered.
- 2) A literature review to scope current trends in this area.
- 3) A scan of comparative libraries data collecting, storage and delivery strategies.
- 4) Create a draft plan for obtaining data desired by faculty or students (including details of how it may be obtained).

Desired Qualifications

- 1) Strong verbal and written communication skills.
- 2) Existing knowledge of literature review techniques, bolstered by a willingness to expand this knowledge.

3) An interest in data collections across many disciplines.

What would students learn through their participation in this project?

- 1) Strengthened literature review skills.
- 2) Time and project management techniques
- 3) Options for data hosting and access
- 4) An increased understanding of the breadth of available data across the disciplines
- 5) Understanding of how intellectual property constrains access to content while honoring the work of creators

Timeframe for the project

Spring 2018+

3. Motion Tracking Small Organisms

There is an opportunity for Fondren Library to fund a student to conduct a research project in the effective collection and processing of video for motion tracking a small organism. Thomas Ye has been photographing hydra, a small 5-15mm organism and tracking its motion over time. Two specific challenges of his research will be solved with the guidance and resources of the DMC under the Fondren Fellows program.

The first challenge applies to the collection of data. Currently, the hydra organism has been photographed at 1fps by a humble webcam using open source surveillance software. In order to have the most effective tracking data, the resolution and pixel quality of the subject must be of the highest quality at this initial step. These two factors rely upon the hardware of the camera and lighting. Under the mentorship of Jane Zhao and Mario Norton and with the equipment checkout of the DMC, the most effective lighting conditions, camera and lens type will be determined to photograph the hydra effectively.^[2]

The second challenge applies to the processing of the data. This challenge can be further divided into two steps. The first step is to clean and prepare the footage for tracking. This involves removing noise and preening the hydra to ensure its prominence relative to the background. The DMC has expertise and software for making batch edits to the master footage. The second part of the processing challenge is to track the hydra as they expand and contract. There are libraries of computer vision code specific to commonly tracked organisms as well as 2D and 3D tracking techniques. Thomas' current method of acquiring footage is the simplified 2D technique which doesn't require fluorescent dyes and is unique in that it relies on Adobe System's compositing software After Effects. This software allows someone without a programming background access to a user-friendly GUI interface to extract 2D movement data. Due to the higher-level controls and

familiarity, the time intensive task of tracking large amounts of footage can be offloaded to a much broader community. Part of the research project would be to investigate the tradeoffs of using After Effects compared to task specific code. This could be done by comparing customized code and After Effects precision against an absolute. Findings would then be given to an expert in the field such as a Rice professor and the professor would be interviewed for their feedback and suggestions.

This research project would benefit Fondren Library by highlighting the free equipment checkout and video/graphics solutions offered by the DMC. The results of this research would provide an alternative way of monitoring small organisms without the use of programming knowledge. Although this workflow would benefit non-programmers and more interdisciplinary projects, the findings will avail the programming community by offering a context by which to code.

Once an established method has been developed for shooting and tracking these organisms, the same methodology will be adapted for similar organisms and scientific video at this particular scale. By building upon scientific experience, the DMC will offer greater support to the scientific community in both experience and resources. The scholarly community would be given an example of a practical application to tracking video which could be reproduced and improved upon. Tracking macro organisms in this way would also generate interest in emerging technologies related to computer vision.

Qualifications

Experience Required:

- any experience related to graphics or video editing software
- basic photography experience

Experience Preferred:

- scripting knowledge in any language is a plus
- experience with Adobe programs such as Photoshop and Premiere Pro is a plus

Skills Required:

- well organized
- must document procedures
- willing to do repetitive work
- troubleshooting

Key Tasks for Fondren Fellow

- Setup and understanding of proper lighting, camera lens, focal length and depth of field for photographing a small organism
- cleaning up video footage and preparing it for motion tracking
- utilize proper motion tracking techniques for speed and accuracy.
- investigate whether Adobe After Effects is an effective alternative to customized code for motion tracking hydra

What would students learn through their participation in this project?

- principles of photography
- video editing, motion tracking workflows
- how to interact with software to leverage its motion tracking capabilities and use in monitoring small organisms

Timeframe for the project

Spring 2018, Summer 2018, or Fall 2018 (preferably spring)

4. Developing a Website to Assist Rice Faculty to Incorporate Media Assignments to Courses

Fondren Library's Digital Media Commons (DMC) has a mission to support media projects across the Rice campus. In particular, each semester DMC supports a few class media assignments that have given students valuable experiences of using and creating media. DMC really wants to see more faculty incorporate media assignments into their courses and more students have that media experience. A good approach to better support faculty to initiate and continue a class media assignment could be a website that covers all the aspects of what it takes to have a class media assignment.

Therefore, the DMC proposes to develop a website that serves as one stop shopping point for faculty who want to learn why to have visual assignments, who to consult to begin, what it takes to have visual assignments, how to assess visual assignments, which faculty has done it before, what resources and services are available on campus and beyond, and any sample assignment sheets and rubrics used from the Rice community in the past. A Fondren fellow student could really work on the project to help make it happen! For the materials the DMC staff gathered already, the Fondren fellow student just needs to contact the right person to get permission of using them, sort them out and present them properly on the website. Certainly, there are some materials yet to be researched and collected.

The project is the right size for Fondren Fellows Program, very manageable. Once the website goes live, the DMC could make a guest post on CTE's blog, advertise it to the department coordinators and ask them to spread out the words to faculty, reach out directly to instructors such as those who teach FWIS courses, and promote it in the upcoming faculty workshops.

In the long run, the DMC staff could continue to work on it to keep it up to date after it launches. The DMC staff could refer to it conveniently when promoting DMC services and resources to faculty or encouraging them to incorporate media assignments into their courses.

Key Tasks for Fondren Fellow

- Guided research work on the science of visual communication (i.e. why visual communication works) and pedagogical use of media (i.e. benefits of having media assignments)
- Consolidate on-campus resources and services in terms of media support
- Showcase class media works done from previous semesters
- Highlight sample visual assignments
- Research on how to assess visual assignments (rubric used in higher education)
- Research on further resources for class media assignments such as tips and tricks from other peer facilities

Desired Qualifications

- Passion on digital media and visual communication
- Some media experiences including website creation, audio and video editing, and graphics manipulation.
- Good communication skills

What would students learn through their participation in this project?

- Website creation
- Media production process
- Support media projects
- Project management skills
- Communication with different groups of people

Timeframe for the project

Spring 2018, Summer 2018, or Fall 2018

5. Harvey Memories Project

The Fondren Fellow will have an opportunity to help shape the digital archive space which will document the Hurricane Harvey experience in Texas. Activities of the Fondren Fellow will be driven by applicant skills and project needs, and may include participating in scanning and oral history events and training in Omeka, the platform that will be the archive home. The project is expected to be ongoing, so the fellowship will lay foundations for future work.

The Harvey Memories Project is a community-driven digital archive that collects stories, images, audio, and video about Hurricane Harvey and its aftermath. By enabling people to share their stories and artifacts, the Harvey Memories Project aims to help the public make sense of the event and to support researchers and students in seeking to understand the hurricane's impact.

Key Tasks for Fondren Fellow

- Training in the Omeka web-publishing platform for use as the platform for the archive
- Participate in public scanning events to gather materials for the archive
- Participate in social media presence of the archive
- May participate in the gathering/processing of oral histories and digital memory objects
- May train in GIS data gathering for the geolocation component of the project

Desired Qualifications

- Outreach skills, including the ability to communicate with people sharing their experiences and artifacts related to the event
- Technical skills, including a comfort level with working in html and an interest in learning digital humanities platforms
- Interest in current events, in creating an online environment to document community experience during Hurricane Harvey and recovery from the storm

What would students learn through their participation in this project?

Depending on project needs and the skills of the applicant, students may learn how to work with the public to capture experiences for the archive, become familiar with the

Omeka platform, and learn how to create digital exhibits that capture the experience of the community during Hurricane Harvey.

Timeframe for the project

Spring 2018, Summer 2018, or Fall 2018

6. Evaluating Engineering Databases: A Pilot Project

The subject librarians continue to receive requests from faculty about new databases. However, the situation we face is we have to cancel some of our current databases to cover the cost for new subscriptions. In order to make sure the library's collection meets the current needs of our faculty, it is critical for us to evaluate current databases.

Our current Fondren Fellow (spring and fall 2017) is working on evaluating engineering journals (the project's name is "Conducting a Faculty-centered Information Needs and Resource Assessment"). We reached out to six science and engineering departments. Through the project, we have saved \$50,758.18 from cancellations and will use this savings to subscribe to new journals to meet faculty needs.

Based on successful experiences that our current Fondren Fellow (spring and fall 2017) had, we will evaluate a different type of resource – engineering databases – for this new project. The work will serve as a pilot project and the Fondren Fellow will be responsible for part of the project. We will focus on evaluating faculty needs and current engineering databases.

We will work with the acquisitions department to get the last three years' usage data for current engineering databases. The acquisitions department will provide the engineering databases list. Depending on how many engineering databases we have, the acquisitions department will provide the last three years' usage data for current engineering databases, or they will provide the following support:

- communication with vendors;
- access instruction/passwords for pulling usage data; troubleshooting
- consulting

The acquisitions department will finish their tasks before the end of January 2018.

Then we will conduct interviews and surveys to know faculty needs from spring 2018; we will make recommendations regarding purchases and cancellations.

This project is suitable for the Fondren Fellows Program because the Fondren Fellow can learn research methods, survey and analysis skills.

Key Tasks for Fondren Fellow

- Conducting a literature review
- Working with the advisor to conduct interviews and surveys to know faculty needs
- Writing a report (based on the usage data, faculty feedback and survey results)

Desired Qualifications

- Excellent communication skills
- Excellent research skills
- Excellent writing skills

What would students learn through their participation in this project?

- How to frame a real-world research project
- How to do a literature review
- How to conduct interviews and surveys

Timeframe for the project

Spring and Fall of 2018

Contact Lisa Spiro with any questions about the Fondren Fellows program: lspiro@rice.edu.