

## ABSTRACT

The objective of this proposal is to further scholarship and practice in the area of scholarly communication by integrating practical experience in the library with the research and classroom experiences that comprise the traditional education of doctoral students.

Libraries lie at the heart of transformations in the scholarly communication environment. Libraries and librarians are consumers, producers, and disseminators of scholarly products. Due to their centrality in this environment and the costs they bear to act in these roles, librarians have been early adopters of changes such as open access. However, although librarians are intimately aware of these changes, scholarly communication is an oft-neglected part of the MLS and doctoral curricula in ALA-accredited programs. This results in future practitioners and faculty members being woefully unaware of the realities of scholarly communication and the role the library plays in this realm.

We seek to recruit a diverse cohort of doctoral students and train them with the practical and theoretical knowledge necessary to become leaders in scholarly communication research and practice. Fellows will be provided with intensive mentoring, wide-ranging opportunities to conduct research in scholarly communication, and comprehensive training in pedagogy, curricular development, and in-class instruction. Our efforts are motivated by an awareness of the complex transformations of library roles in the scholarly communication environment and the increasing need to educate future LIS faculty with an integrated understanding of research and practice so as to meet the needs of future MLS students.

Twelve students (four doctoral, four Master's, and four undergraduate) will be directly supported through this proposal. The grant will provide funding for two cohorts of two doctoral students, each funded for three years. This will provide sufficient funding for the students to finish their coursework in the doctoral program. Master's and undergraduate students will have the opportunity to themselves gain practical experience in addressing scholarly communication issues through unique, paid internships in the IU Libraries and Office of Scholarly Publishing. Direct benefits will also be gained by the project team and other supervisors in the department and library who have the opportunity to work with supported Fellows, as well as by those students who have the opportunity of being taught by the Fellows. Extended and sustained benefits are anticipated through the construction of course modules for the MLS curriculum, published research, tutorials, the construction of new tools and practices for academic libraries, and from the cooperation engendered between the library and department.

The project team includes three faculty members from ILS with emphases in scientometrics and doctoral education, knowledge representation and organization, and digital libraries and digital humanities. The team from the library includes the Associate Dean for Collection Development and Scholarly Communications, the Executive Associate Dean of the IU Libraries and Executive Director of the Office for Scholarly Publishing, and the Science Data Management Librarian. These individuals bring the requisite expertise in order to provide high quality training and opportunities for the students who will be supported through this grant.

This is a time of systemic change in how institutions create, sustain, and provide access to information, and libraries and LIS professionals are uniquely situated to influence the direction of this change. This project will educate future leaders who will be uniquely suited to guide the evolution of scholarly communication. The project will graduate doctoral students who are not only familiar with issues of scholarly communication but will also, as leaders in the field, understand scholarly communication from the varying perspectives of practice, education, and research. Finally, while this project will establish a strong relationship between IUB's Office of Scholarly Publishing and ILS, allowing ILS students to gain practical experience in all manner of scholarly communication issues, it has the opportunity to fundamentally influence the ongoing functions of the OSP, which will provide primary support for all manner of faculty scholarly publishing initiatives and potentially serve as a model for other U.S. institutions of higher learning.

## NARRATIVE

### STATEMENT OF NEED

The primary objective of this proposal is to further scholarship and practice in the area of scholarly communication by integrating practical experience in the library with the research and classroom experiences that comprise the traditional education of doctoral students. The specific goals of the project are to:

- 1. Recruit a diverse cohort of doctoral students whose interests and background demonstrate the aptitude and desire to contribute to research, teaching, and practice in the field of Library and Information Science (LIS);*
- 2. Provide students with an understanding of and experience in scholarly communication with training that integrates research, teaching, and practice;*
- 3. Create opportunities for students to develop new practices and tools that contribute to the library's role in scholarly communication;*
- 4. Enhance the core curricula of Masters of Library Science (MLS) programs by developing pedagogical materials that can be integrated into MLS curricula;*
- 5. Contribute to the scholarly literature by encouraging student research conducted both independently and in collaboration with practitioners and faculty members;*
- 6. Provide students with the requisite skills and opportunities to become leaders in the field of LIS; and*
- 7. Facilitate greater cooperation between librarians, LIS faculty, and students.*

Libraries serve a critical role in support of scholarly communication. From the conception of an idea through research supported by materials found in campus libraries to the management and preservation of research data in institutional repositories, academic libraries are critical to the process of scholarly communication. However, opportunities for many LIS students to gain exposure to scholarly communication practices in libraries are limited. Students are frequently taught skills and theories related to scholarly communication but are unable to gain hands-on experience in libraries. This means that doctoral students—future LIS faculty—often lack the integration of education and experience that should inform their instruction of future MLS students. This project proposes to “train the trainers” by educating a diverse group of students in scholarly communication concepts and their application. The experience and perspective that doctoral students will acquire through integration of research, practice, and teaching will have a ripple effect that will benefit MLS students for years to come. Indiana University Bloomington is particularly well-situated to support this proposal given its campus-wide focus on issues of scholarly communication as well as the strengths of both the Indiana University Bloomington Libraries and the Department of Information and Library Science.

### ***Why scholarly communication?***

Librarians are essential to the practice of scholarly communication. In their role as curators and disseminators of information, “librarians act as gatekeepers of knowledge for countless students, researchers, and professors” (Sugimoto et al., 2014) (For references see Supportingdoc6). Recent developments have expanded librarians' role in scholarly communication, reflecting Borgman's (2000, p.425) conviction that “libraries remain central to the structure of scholarly communication, whether as physical, digital or gateway libraries”. Emerging technologies have produced a situation in which not only the definition of “library” but also the nature of scholarly communication and the boundaries between them are in flux (Lewis, 2007; Malenfant, 2010).

Given the “changing landscape of research, open access, and managing information and intellectual property rights” (Carpenter, Graybill, Offord, & Piorun, 2011, p. 678), knowledge of scholarly communication practices is essential for academic librarians, who are expected to “actively contribut[e]...to the evolution of scholarly communication, a paradigm shift from the traditional to a more practical and enriched institutional landscape” (Buehler & Boateng, 2005, p. 295). These contributions often extend beyond participation in the scholarly communication process. For example, libraries have been instrumental in the development of new forms of scholarly communication through sponsorship of digital humanities projects and initiatives such as the Scholar's Lab of the University of Virginia Library <<http://www.scholarslab.org>> and the Digital Humanities Center of Columbia University Libraries <<http://library.columbia.edu/locations/dhc.html>>, and championing of open access by academic libraries is threatening the pre-digital model of publishing (Carpenter, Graybill,

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Offord, & Piorun, 2011, p. 660). Additionally, academic libraries generally have strong connections with their university presses (Ball, 2004), but some are now taking on the role of publisher (Park & Shim, 2011; Wittenberg, 2004). Thus, Michigan Publishing, an initiative of the University of Michigan Library, is publishing "scholarly and educational materials in a range of formats for wide dissemination and permanent preservation" <<http://www.publishing.umich.edu/about/>>.

The expanding role of academic libraries has caused "the line between...libraries and publishers to blur" (Atkinson, 1996, p. 240) and has generated new responsibilities for academic librarians. Because libraries are increasingly involved in the publication of scholarly materials as well as their dissemination and preservation, a working knowledge of the scholarly communication process must be an essential component in the education of academic librarians. In 2005, Davis and Moran argued that "new graduates entering academic libraries [should] have a solid grounding in the scholarly communication process" (p. 24). In the intervening years, the need to educate students on emerging issues in scholarly communication has become even more important. Too often, libraries initiating scholarly communications programs find their librarians require extensive training and must expend valuable resources on issues that should have been covered in the MLS education (Malenfant, 2010).

Knowledge of scholarly communication and awareness of relevant concepts and issues are essential for academic librarians and should be included in MLS curricula. However, there is evidence of an inability "to talk about the resources and translate the concepts into practices" (Ho & Lee, 2010, p. 83), even among librarians who are conversant with scholarly communication. This means that library patrons may not benefit from the librarian's expertise. Davis and Moran (2005) point out that "One of the tried and true ways that students are able to blend theory with practice is through field experiences, internships, or graduate assistantships that allow a student to experience what he or she has been learning in the classroom." By including hands-on application of scholarly communication principles as an essential component of the MLS education—by integrating instruction in scholarly communication with practical experience of the mechanisms of scholarly communication in the education of future LIS faculty—librarians will be better equipped to share their knowledge with users from a variety of populations and backgrounds.

### ***Why doctoral education?***

Because many librarians conduct research, it is imperative not only to instruct MLS students in the workings of scholarly communication but also to assure that the individuals who will be instructing MLS students have appropriate training in the area. This is particularly important when one considers that, in recent years, doctoral education in LIS has increasingly eschewed the practical aspects of librarianship (Lariviere, Sugimoto, & Cronin, 2012). There are few dissertations that focus on librarianship from a practitioner's perspective even though it is the practical side of librarianship that attracts many students to LIS programs (Finlay, Sugimoto, Li, & Russell, 2012; Sugimoto, Li, Russell, Finlay, & Ding, 2011). This may be due, in part, to the fact that a decreasing number of LIS faculty members have actually received doctoral degrees in LIS (Sugimoto, Ni, Russell, & Bychowski, 2011). If this trend continues, future LIS faculty will be ill-prepared to instruct degree-seekers who are studying to become librarians. For this reason, a new model of integrated, applied, and sustainable education is needed, especially when it comes to issues of scholarly communication.

The growth of a discipline depends on the production of doctoral students who are equipped to train the next generation of scholars. Doctoral education not only plays a pivotal role in shaping the careers of future scholars but also influences future knowledge creation. While original research and scholarly communication are key aspects of any doctoral program, LIS also requires that students be familiar with the methods and skills necessary for practitioners in the field. The proposed project will provide doctoral students with traditional opportunities to conduct research and acquire pedagogical experience in the classroom; but, just as importantly, it will require future scholars to work hand-in-hand with practitioners to gain first-hand knowledge of library practices. Students funded by this grant will benefit directly from the project, but the impact that these students will have on the LIS landscape in general and LIS education in particular will benefit the entire LIS community.

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### ***Why Indiana University Bloomington (IUB)?***

Indiana University Bloomington's Herman B Wells Library has been on the cutting edge of many initiatives related to scholarly communication, including development by the IU Digital Library Program of award-winning digital humanities projects (e.g., Open Folklore <<http://openfolklore.org/>>, Variations Digital Music Library <<http://www.dml.indiana.edu/>>); building infrastructure for new media preservation and dissemination; administering an open access institutional repository and journal publishing system for faculty and graduate students; and spearheading advocacy efforts related to copyright/IP, open access and researcher rights. In 2010, IUB Libraries received the prestigious "Excellence In Academic Libraries Award" from ACRL, in part for their support of a variety of projects related to scholarly communication. More recently, IUB Provost Lauren Robel identified IUB Libraries as a key component in the new Office of Scholarly Publishing (OSP) and recognized the study of scholarly publishing as a key element in strategic planning for the IUB campus <<http://www.indiana.edu/~provost/docs/IUB-SP-Kickoff-ProvostPPT.pdf>>. The mission of OSP is to build a shared publishing infrastructure that will leverage expertise, encourage innovation, and integrate productive resources to maintain a responsive, diverse, and collaborative publishing environment that serves both the university community and the broader academic community; its scope will include support for traditional and emerging publishing practices within the IU Press and IU Libraries as well as faculty authored e-textbooks. The OSP may also include a campus Copyright Information Center, allowing students to work with the IUB Copyright Librarian on copyright and IP issues related to scholarly publishing. Doctoral students funded under this proposal would be part of this innovative and dynamic scholarly publishing environment.

The Department of Information and Library Science (ILS; formerly the School of Library and Information Science) has offered degrees in library science since 1949 and has graduated more than 8,000 students. The department is regularly ranked in the top ten programs by U.S. News & World Report and was recently ranked seventh among digital librarianship programs <<http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-library-information-science-programs/>>.

The ILS faculty is among the most productive and highly cited in the field (Persson & Astrom, 2005; Budd, 2000; Adkins & Budd, 2006). Furthermore, the project team includes three faculty members from ILS with emphases in scientometrics and doctoral education (Sugimoto), knowledge representation and organization (Jacob), and digital libraries and digital humanities (Walsh). These individuals will bring differing perspectives to the project and will be able to recruit and mentor students with a diverse array of interests in scholarly communication. Several ILS faculty members have relevant interests. Blaise Cronin, former Dean and current Professor in ILS, is a renowned expert in scholarly communication issues and has authored numerous publications on the subject. Cronin was recently awarded the prestigious Derek de Solla Price Award for his work on quantitative studies of science. Katy Börner, Professor in ILS, studies the development of cyberinfrastructure and the visualization of scientific entities and was recently inducted into the American Association for the Advancement of Science for her innovative work in visualization. Other faculty conducting research relevant to scholarly communication include Stasa Milojevic (network analysis), Ying Ding (semantic web), Xiaozhong Liu (text mining), and Susan Herring (computer-mediated communication).

### **IMPACT**

Because issues in scholarly communication such as open access are increasingly important for libraries (Harris, 2012; Palmer, Dill, & Christie, 2009; Potvin, 2013; Schonfeld & Housewright, 2013), a workforce and faculty well-versed in all aspects of scholarly communication is critical for libraries and LIS programs. Furthermore, many entry-level library positions require work experience in addition to the MLS, and students must have a knowledge base that integrates practical experience with traditional classroom education. The approach proposed here engenders greater collaboration between libraries, librarians and LIS programs by preparing doctoral students to incorporate and emphasize practical experience in classroom education, thereby providing a more practical orientation when teaching MLS students.

***Doctoral education.*** This approach to doctoral education will increase awareness of the expertise of practitioners and the practical application of scholarly communication concepts, which doctoral students can

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then draw upon in their teaching. It will also expand opportunities for doctoral research by encouraging students to establish collaborative relationships with librarians. Four doctoral Fellows will be supported by this project for three years each, and ILS is committed to offering continued teaching opportunities for doctoral Fellows for the remainder of their education, allowing many MLS students to benefit from the project. Other doctoral students will also benefit from participation in collaborative research projects, from a doctoral seminar in scholarly communication to be offered in the first two years of the grant, and from interaction with Fellows participating in the project.

***MLS education.*** MLS students will benefit from the integration of scholarly communication modules into core and specialized courses at IUB and from a masters-level course in scholarly communication to be offered in years three and four of the grant. Course materials will be created in partnership with doctoral Fellows and will be made available on the project website and in the institutional repository. These pedagogical materials will be promoted widely on listservs and at professional conferences and will be freely available for adoption by scholarly communication educators in other MLS-granting programs. It is hoped that this project will have a ripple effect leading to more practical, hands-on experiences being incorporated into MLS curricula.

***MLS and undergraduate internships.*** Four second-year masters students and four undergraduate students will benefit directly from summer research internships provided by the grant. While including MLS and undergraduate students in a doctoral project is unusual, the intent is to acquaint doctoral Fellows with the perspective of these students and to expose these students to issues of scholarly communication in the hope that they will develop an abiding interest in this area. Funding summer internships for masters and undergraduate students is a relatively inexpensive piece of the grant that will provide these students with hands-on experiences and encourage broader interest in issues of scholarly communication.

***Partnerships.*** Partnerships between libraries and LIS faculty have generally been informal, and relatively few have resulted in published research (Finlay, Ni, Tsou, & Sugimoto, 2013). The proposed partnership between IUB Libraries and ILS faculty will contribute to development of a cooperative framework that may serve as a model for future collaborations between libraries and LIS faculty. We will disseminate information about the successes and challenges of this collaboration so that other collaborative efforts will be able to build on our experiences.

Although academic librarians have been involved with scholarly communication for more than a century (Cullen & Chawner, 2011), at no previous time have librarians had greater likelihood of influencing the evolution of scholarly communication. Given issues associated with open access, electronic publishing, and other digital initiatives, the scholarly communication process is challenged by wide-ranging changes, and the librarians and doctoral Fellows involved in this project will have the opportunity to influence not only the evolution of scholarly communication but also the ongoing development of MLS education.

## **RESEARCH DESIGN**

The goals of the project and the ways in which they will be achieved and evaluated are discussed below.

**1. Recruit a diverse cohort of doctoral students whose interests and backgrounds demonstrate the aptitude and desire to contribute to research, teaching, and practice in the field of LIS.** Two cohorts of two students will be recruited and funded for a total of three years each. Recruitment will target students currently in MLS and related graduate programs as well as individuals working as information professionals (Supportingdoc1). Recruitment will be carried out by e-mailing student service officers at ALA-accredited schools, by posting information to relevant listservs and other social media platforms, and through discussions with colleagues and students at conferences. Recruitment will begin upon notification that the grant has been awarded, with the goal of matriculating the first cohort of doctoral students in Fall 2014. The second cohort would begin in Fall 2015. If there is insufficient time to recruit students in the grant's first year, all four students will be recruited for Fall 2015, and the timeline will be adjusted accordingly. A sample award letter is provided as Supportingdoc2.

To ensure that students have the requisite background knowledge for practice, research, and teaching in LIS, applicants will be required to have (or be in the process of completing) an MLS or related graduate degree.

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Previous library experience will be preferred. Applicants must meet the admission criteria set by the ILS Doctoral Steering Committee (DSC) and must complete required admission materials, including completion of the GRE and payment of the application fee. They will also be required to submit an essay describing their interests in scholarly communication. The PI, Co-PIs, and Project Managers on the grant will serve as the selection committee, in collaboration with the DSC, which must approve admission to the doctoral program but will not have the authority to select Fellows. Although Fellows will be chosen on the basis of merit and demonstration of interests related to scholarly communication, we will strive for diversity in terms of both demographics and specialized interests within scholarly communication. Potential topics of interest include intellectual property, metadata, altmetrics, university presses, data curation, digital libraries, digital humanities, scholarly publishing, institutional repositories, and copyright.

**Evaluation.** The successful outcome of this goal will be measured by the matriculation of four high-quality and diverse doctoral Fellows. The quality of students will be measured by academic credentials, previous experience, and knowledge of LIS. Diversity will be measured in terms of demographic qualities (e.g., gender, race, age) and area of interest in scholarly communication.

**2. Provide students with an understanding of and experience in scholarly communication through training that integrates research, teaching, and practice.** This grant focuses on the education of doctoral students. However, masters and undergraduate students will also be included in the project to provide doctoral Fellows with the opportunity to mentor students pursuing careers as librarians and to generate interest in the study of scholarly communication among these students. Doctoral Fellows will be embedded in library practice and given opportunities for collaborative and independent research. They will also be mentored in classroom pedagogical techniques. Masters and undergraduate students will have summer internships in the library and will be given opportunities for research. Because this project will introduce scholarly communication into the MLS curriculum, Masters students will also benefit from studying scholarly communication in the classroom. Figure 1 (see Schedule of Completion) indicates weekly hours of student engagement in each activity.

The PI, Co-PIs and the Project Manager from IUB Libraries will coordinate library activities. We anticipate that Fellows will work with library-related initiatives in OSP. However, all librarians in the IUB Libraries will be invited to suggest relevant projects, which may place a student in another department (e.g., Digital Collection Services, Area Studies). Student placements in the library will be made after reviewing each student's skills and interests as well as the needs of the library. The Project Manager from IUB Libraries will be responsible for monitoring student placements, which may rotate based on the needs of the library or the interests of Fellows.

Fellows will not conduct research in the first year of the project but will undertake directed readings under faculty supervision. Placement of Fellows with faculty supervisors will be coordinated and monitored by the PI. Students will also enroll in the doctoral seminar in Scholarly Communication in their second semester (Curriculum). These activities will familiarize Fellows with theoretical and empirical research in scholarly communication. Fellows will begin directed research under the supervision of a faculty member in the first summer of their fellowship, and they will be encouraged to integrate this research with their work in the library. In subsequent years, time spent on research will increase, and Fellows will be encouraged to work with various faculty supervisors to gain broad experience in research methods.

In the third year of the program, each Fellow will serve as a Teaching Assistant for a core MLS course or a specialized course related to scholarly communication. In addition, each Fellow will be asked to present a guest classroom lecture at least once during the third year. Fellows will create pedagogical materials that can be used in a core MLS course (e.g., reference, collection development, representation), which will help prepare them to teach that course in their fourth year, after completing coursework. ILS will continue support for each Fellow beyond the timeframe of the grant by providing a teaching position if a classroom position is available. Renewal of support will be based on merit and available funding.

In March of each year, students who have completed the first year of the MLS program will be recruited for summer internships in scholarly communication (Supportingdoc3). A masters-level course in scholarly

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communication will be offered each year and will serve as a means for recruiting summer interns. A recruitment email will also be sent via the departmental listserv. The internship will be for three months (May-August) and will involve working 10 hours a week under the supervision of a librarian or 10 hours a week under the supervision of an ILS faculty member. Interns will work with doctoral students, librarians, and faculty on integrated projects that provide practical as well as theoretical knowledge, prepare them for research as a practitioner, and encourage them to pursue doctoral work.

Four undergraduates will be recruited from underrepresented populations to complete internships as part of the project (Supportingdoc4). Both ILS and the IUB Libraries have strong partnerships with campus multicultural centers and will engage them in recruitment efforts via listservs and advertisements in centers that have a physical presence on the IUB campus. Undergraduate internships will allow students to gain hands-on experience by supporting publishing in Area Studies, contributing to the development of digital scholarship tools or resources, or researching and writing briefs related to intellectual property and copyright. In order to encourage students to enter an MLS program after graduation, each intern will work under the direct supervision of an IUB librarian or ILS faculty member who has selected the intern based on career or educational goals.

**Evaluation.** The success of this goal will be measured by evaluation of the placements of the four doctoral Fellows, four masters, and four undergraduate students in the library, the completion of research experiences, and of each Fellow's performance in teaching assistantships, guest lectures, and course development. At the conclusion of each semester, students and supervisors will be asked to complete a survey on their experiences, and these surveys will be provided to the PI, who will use the responses to improve the project in future semesters and to enhance communication between the PI, the students, and the supervisors (an example of this and other surveys can be found in Supportingdoc4). The success of undergraduate internships will be measured by the diversity of interns, both in demographics and research interests, by their performance in the library departments in which they have been placed, and by whether or not interns apply to MLS programs after graduation.

**3. Create opportunities for students to develop new practices and tools that contribute to the library's role in scholarly communication.** Fellows will be expected to contribute to innovations in scholarly communication practices that extend library services for researchers and increase their value and impact. Based on their research and practical experiences, Fellows working under the supervision of librarians will be encouraged to generate proposals that are of value both to librarians and to the scholars who use library services. Reports on best practices will be created by Fellows and disseminated on the project website. Fellows will also be invited to meetings with stakeholders in the University and the IUB Libraries to gain understanding of the complex relationships that exist between administrators, faculty and publishers.

**Evaluation.** The success of this goal will be measured by surveys completed by library supervisors, the Project Manager, and co-PIs, who will review the students' work and best practices reports and interact regularly with students in stakeholder meetings. Student-created practices and tools that are incorporated into core library and OSP initiatives will also serve to prove success in this area, as will their uptake by other libraries and library-based publishing programs.

**4. Enhance the core curricula of MLS programs by developing pedagogical materials integrating scholarly communication into MLS curricula.** Doctoral Fellows will serve as TAs in their third year and will develop pedagogical materials as modules that can be integrated into core courses (e.g., reference, collection development) as well as specialized courses, including digital libraries, digital humanities, and metadata. Fellows will also use these materials when teaching for ILS and all pedagogical materials will be made available on the project website and in the institutional repository for potential adoption in other MLS programs. Each resource will include a permanent identifier and suggested citation for tracking their use.

**Evaluation.** The success of this goal will be measured by the use of the pedagogical materials in ILS courses and in courses at other institutions. To ascertain familiarity with course modules and evaluate their use in other MLS programs, a brief survey will be conducted to determine if faculty in other institutions are aware

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of the materials and if the materials have been used in instruction. Use of materials will also be tracked through automated searches of permanent identifiers and the suggested citations. The utility of these materials will also be evaluated by reviewing end-of-semester student evaluations of relevant courses.

**5. Contribute to the scholarly literature by encouraging student research that is conducted both independently and in collaboration with practitioners and faculty members.** Fellows will be encouraged to conduct and disseminate research in multiple forms throughout their participation in the fellowship program. Research will be conducted independently or, where appropriate, in collaboration with supervising librarians and faculty. Fellows will also be encouraged to include Masters interns and other doctoral students in their collaborations. Research products can include traditional formats (e.g., journal articles, conference presentations) and novel modes of dissemination (e.g., digital projects, blogs). All products, including preprints, will be made available on the project website and through IUScholarWorks, and open access publication in appropriate venues will be encouraged.

*Evaluation.* The success of this goal will be measured through traditional bibliometric measures of productivity and impact (e.g., number of citations) as well as social media impact measures such as numbers of tweets, downloads, and reads.

**6. Provide students with the requisite skills and opportunities to become leaders in the field of LIS.** Fellows will be expected to graduate and, upon graduation, to obtain positions as leaders in the field of LIS, whether as library administrators, faculty, or information professionals, all of which require a holistic understanding of the relationships among various aspects of scholarship. Experiences in teaching, research, and practice provided through this project will prepare Fellows for these careers. To introduce Fellows to the professional community, funding is requested for attendance at professional meetings where Fellows can meet leaders in the field. In addition, each Fellow will be expected to obtain at least one professional service position (e.g., committee membership, conference volunteer) before completing the fellowship.

*Evaluation.* All doctoral students in ILS are required to complete annual progress reports, which will be used to assess involvement of Fellows in professional organizations. The success of this goal will be measured through post-graduate surveys conducted after completion of the project: Fellows will be interviewed one year after graduation and their careers will be followed as an ongoing part of the project. Stories about placement of Fellows will be available on the project website, which will be maintained beyond the timeframe of the project.

**7. Facilitate greater cooperation between librarians, LIS faculty, and students.** Fellows, interns, librarians, and faculty involved in the project will meet at least once each semester to evaluate progress and discuss future directions. This will facilitate communication among project stakeholders and ensure integration of research, teaching, and practice while encouraging the formation of long-term relationships among all participants. This will extend and adapt the long-standing collaboration that has been established between the library and the ILS department through teaching and placement of students in internships and part-time positions.

*Evaluation.* The success of this goal will be measured by interviews conducted by the PI at the end of each work experience. Evidence of sustainable success will be measured following completion of the grant by the degree to which students, librarians, and faculty continue to collaborate. These and other evaluation components are depicted in Supportingdoc5.

## **PROJECT RESOURCES: PERSONNEL, TIME, BUDGET**

**Personnel.** The project team is comprised of highly productive and innovative faculty from IUB Libraries and the Department of Information and Library Science (ILS).

*Dr. Cassidy R. Sugimoto* is an Assistant Professor in ILS and will serve as the Project PI. In this capacity, she will oversee all aspects of the grant, including recruitment and mentoring of students, placement of students in research and practical experiences, evaluation of the success of these experiences, and financial and administrative management of the grant. Sugimoto has published extensively in the areas of scholarly communication and doctoral education, with a particular focus on the doctoral education of students in library and information science. Her work makes her uniquely suited to lead this project. In addition, she has



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experience leading large interdisciplinary and international grant-funded projects. She will devote 1.5 weeks of summer and will dedicate 5% of her academic year to this project.

**Dr. Elin K. Jacob** is an Associate Professor in ILS. During her tenure at ILS, she has served as Director of the Doctoral Program (2007-2011), chair of the Doctoral Steering Committee (2007-2011), and chair of the Curriculum Steering Committee (2001-2006). She received IU's Teaching Excellence Recognition Award in 1999, 2000 and 2009 and has taught the introductory doctoral seminar as well as courses in representation and organization, metadata, ontologies, and the philosophy of information. She has worked extensively with doctoral students. She will assist in recruitment and mentoring of students as well as placement of students in research experiences, committing 2% of her academic year to this project.

**Dr. John A. Walsh** is an Associate Professor in ILS. From 1996–2006, he worked as a project manager and librarian in IU's Digital Library Program. He is an editor of open access digital scholarly editions, including the Algernon Charles Swinburne Project <<http://swinburneproject.org>> and the Chymistry of Isaac Newton <<http://chymistry.org>> and Technical Editor of the open access journal *Digital Humanities Quarterly* <<http://digitalhumanities.org/dhq/>>. Through his work with NINES <<http://nines.org>>, he has contributed to establishment of a peer review framework for digital scholarship. He directs the Digital Libraries specialization for the MLS and MIS degrees and teaches courses on digital humanities and digital libraries. Walsh will serve as a Co-PI, assisting in recruitment and selection of Fellows and supervising research and practical activities related to digital libraries and digital humanities and integrating students into his existing collaborative projects between the department and the library. He will commit 2% of his academic year to this project.

**Julie Bobay** is the Associate Dean for Collection Development and Scholarly Communications. She will serve as project Co-PI and will be the primary lead for the project from IUB Libraries. In this role, she will oversee placement of students in library internships. She will also identify opportunities and encourage librarians to participate in the project. She will devote 2% of her annual time to this project.

**Carolyn Walters** is Executive Associate Dean of the IU Libraries and Executive Director of OSP. She will coordinate student placement within OSP, which includes the IU Press and the proposed Copyright Information Center as well as open access publishing and outreach to faculty. Walters will serve as a Co-PI. In this capacity, she will help masters and doctoral students placed in OSP gain experience working with the OSP Editorial Advisory Board, which includes IUB faculty from a variety of disciplines. She will devote 2% of her annual time to this project.

**Stacy Konkiel** is the Science Data Management Librarian for IUB. She works primarily in the area of library services for research data management. She has published on research data management and the use of altmetrics in institutional repositories. Konkiel will serve as a Project Manager for the project and as liaison between the library and the PI. She will coordinate logistics and will be responsible for monitoring student placements in the library; for supervising student interns interested in research data curation; for directing an orientation experience for student interns and advising supervising librarians; for maintaining the project's website and presence on the IUScholarWorks institutional repository; for managing project reports and documentation; and meeting deadlines. Konkiel will commit 5% of her annual time to this project.

Other faculty and staff from the IUB Libraries and ILS will be encouraged to participate as project supervisors for doctoral Fellows, masters students, and undergraduate interns. These individuals will report directly to the PI (within ILS) and the library Project Manager (Konkiel); they will support the diverse interests of doctoral Fellows and contribute to the scope of inquiry within scholarly communication.

IU and ILS have staff dedicated to the management of grant finances. These individuals have worked with millions of dollars of federal funds and are well-situated to manage project finances in consultation with the PI. The PI has experience working with the staff on large, federally-funded grants.

**Timeline.** The activities of all students involved in the project are detailed in Figure 1 (see Schedule of Completion). Figure 2 (see Schedule of Completion) lists administrative duties and indicates when these will be managed, assuming positive confirmation of receipt of the grant no later than March 2014. If confirmation is later, the plan will be adjusted accordingly. Recruitment will be managed primarily by Sugimoto, with consultation with the rest of the project team. Selection decisions will be made after discussions involving all

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team members. Placement of students will be coordinated between Sugimoto and Konkiel with consultation with other team members. Evaluation will be an ongoing process overseen by Sugimoto and involving all team members and collaborating personnel.

**Budget.** The amount requested from IMLS is \$500,000. IUB will provide \$150,521 to cover the cost of faculty salary and benefits. \$359,660 is requested from IMLS for support of Fellows, including competitive stipends, tuition remission, and travel. Health insurance cost for Fellows is calculated at \$56,238. We are also requesting funding for one open access publication for Fellows for each year (\$5,400). This fellowship package has been designed to be competitively attractive to focus recruitment on those with a terminal degree in LIS who may be leaving the workforce to return to school. \$9,600 is budgeted to support summer internships for masters and undergraduate students. For complete budget information, see the IMLS Budget Form and Budget Justification.

## **DIVERSITY PLAN**

We believe that diversity is crucial to this project because of the different perspectives that diverse backgrounds add to debates on scholarly communication. A student's background will shape his or her beliefs regarding open access, intellectual property, and the economics underpinning scholarly publishing, influencing how scholarly communication issues are presented in the classroom and adopted in the workplace. We will also seek diversity among applicants in terms of interests (e.g., data curation, digital humanities, copyright), wanting to engage students who are serious about a variety of issues within scholarly communication.

ILS has a long history of commitment to educating students from underrepresented backgrounds, including first-generation students and the physically challenged. This is evident in its strong ties to multicultural centers on campus and the successful IMLS-funded Librarians Leading in Diversity project (2008-2012). ILS works closely with IUB's minority support advisors to recruit and retain students from minority and underrepresented backgrounds; and multicultural alumni from ILS assist in recruitment, retention, and career placement of students from underrepresented backgrounds.

The ILS doctoral program encourages cultural diversity among doctoral students. This project will continue efforts to promote diversity by recruiting Fellows who represent a broad range of socioeconomic, educational, racial and ethnic backgrounds. We will advertise this project widely to other LIS programs and through professional venues. Financial support provided by this project will "level the playing field" for students from economically disadvantaged backgrounds who may otherwise not consider pursuing a PhD.

## **COMMUNICATION PLAN**

The activities and materials produced under the auspices of this grant, including published research and pedagogical materials, will be widely disseminated through the curation of an active website.

**Recruitment.** Publicity about the grant will be coordinated with ILS staff who will ensure that the grant is broadly publicized via ILS/SOIC channels. Recruitment materials for doctoral Fellows will be developed by the project team and distributed through professional listservs and conference venues as well as social media venues (e.g., Twitter, Facebook). Recruitment materials for Masters internships will be distributed on student listservs and announced in classrooms by project members and affiliated faculty. To target diverse communities, recruitment materials for undergraduate internships will be distributed through campus groups that serve underrepresented groups, including multicultural centers, Hudson Scholars, and the Groups Scholars Program.

**Ongoing communication.** A project website will be constructed during the recruitment phase to provide information about the program. The website will be the primary vehicle for online communication throughout the project and will provide photos and biographical information for all Fellows, interns and project team members. It will also provide access to all tools and pedagogical materials created during the grant as well as technical reports and preprints of all published research. The website will use the approved IMLS logo and provide information on IMLS with a link to IMLS resources. A Twitter account will also be used to highlight activities during the period of the grant, and we will follow relevant Twitter streams, including @US\_IMLS.

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**Published research.** Research and other materials produced by Fellows and project team members will be disseminated widely. A broad range of library-oriented conferences will be targeted for promotion of project materials, including the SPARC Open Access bi-annual meeting, the Digital Library Federation Forum, and the Public Knowledge Project (PKP) Scholarly Publishing Conference. Fellows will also be encouraged to present at the iConference, at ASIST, and at ALISE. Publications will be submitted to journals such as *Journal of Librarianship and Scholarly Communication* and *Journal of Scholarly Publishing*, which focus on issues of scholarly communication; and Fellows will be encouraged to publish in major LIS journals such as *JASIST*, *Library and Information Science Research*, *Journal of Academic Librarianship*, *College and Research Libraries*, *JELIS*, and *portal*. The PI has extensive experience publishing in these venues and is therefore in a position to mentor Fellows on submitting publications. Co-PI Walsh has extensive experience with digital scholarship and can mentor students wishing to present research as a digital project. When publications are not in open access venues, they will be made available through preprints posted on the website and through repositories such as arXiv and SSRN. IMLS support will be acknowledged in all published materials.

**Webinar.** To promote project results, team members will develop a webinar addressing issues related to the integration of scholarly communication in the MLS curriculum. The webinar will focus on opportunities for and challenges to integrating scholarly communication in the curriculum and will highlight pedagogical materials created over the course of the grant. Fellows will participate in the webinar, which will be held at the conclusion of the project and will be hosted through ASIST or another professional society.

## **SUSTAINABILITY PLAN**

Because the average time to degree exceeds the duration of this grant project, assurances have been secured that will provide support for students beyond the grant's timeframe. ILS has committed to support Fellows as instructors in the years following their grant support.

Activities and products will be well-documented across the course of the project. They will be made available on the project website and in the IUScholarWorks institutional repository to ensure long-term preservation and access for all project materials. IUScholarWorks is backed up to the Indiana University Scholarly Data Archive <<https://pti.iu.edu/storage/sda>>, a distributed storage service centrally supported by mirrored tape silos in Bloomington and Indianapolis. All materials uploaded to the repository will be made freely available for others to access, reuse, share, and incorporate into their own curricula or library service structures. All files will be licensed under the Creative Commons Attribution-Non-Commercial 3.0 license <<http://creativecommons.org/licenses/by-nc/3.0/us/>> to ensure that free access is maintained over time.

The creation of strong collaborative ties and open lines of communication between the IUB Libraries and the ILS faculty will be an important and lasting outcome of this project. Students working on scholarly communication projects in the library will help to establish working relationships between library staff and ILS faculty. These strengthened ties will promote future collaborations, enhance opportunities for student research and internships, and improve the quality of education, research, and library practices at IUB.

This is a time of systemic change in how institutions create, sustain, and provide access to information, and libraries and LIS professionals are uniquely situated to influence the direction of this change. This project will educate future leaders who will be uniquely suited to guide the evolution of scholarly communication: The project will graduate doctoral students who are not only familiar with issues of scholarly communication but also, as leaders in the field, will understand scholarly communication from the varying perspectives of practice, education, and research. Finally, while this project will establish a strong relationship between IUB's Office of Scholarly Publishing and ILS, allowing ILS students to gain practical experience in all manner of scholarly communication issues, it has the opportunity to fundamentally influence the ongoing functions of the OSP, which will provide primary support for all manner of faculty scholarly publishing initiatives and potentially serve as a model for academia.

