

## Retooling the Librarian Workforce: Innovative Post-Master's Certificate Program for Developing IPI

Simmons University, along with partners UCLA, Harvard, Stanford, Boston Univ, Tufts, UCSF, and MCPHS, is requesting \$452,446 (\$318,118 in cost share) to fund "Retooling the Librarian Workforce: Innovative Post-Master's Certificate Program for Developing Inter-Professional Informationists (IPI)," a Laura Bush 21<sup>st</sup> Century Librarian Program project. This "Community Anchor" project proposes a post-Master's certificate program to bridge the gap between traditional and emergent skills in health sciences librarianship, to increase the diversity in the IPI workforce, and to enrich innovative partnerships among communities of scientific researchers and clinical teams. The successful development of IPI curriculum will be an education model for information professionals seeking retooling and advanced employment in a dynamic inter-professional field.

**Overview.** The current LIS marketplace recognizes a significant gap in expertise among recent and past graduates. Employers from varying information service fields increasingly demand new skillsets (e.g., inter-professional collaboration, data science/management) beyond those provided in conventional LIS programs. This proposed project has three aims: (1) develop a unique bicoastal partnership between seven academic health sciences libraries (AHSLs henceforth) across the country and two LIS programs; (2) develop an IPI conceptual framework bridging the gap between traditional and emergent skills in health sciences librarianship through a post-master's certificate program focusing on retooling librarians in the workforce; (3) recommend extending the framework to STEM, social sciences, and the humanities where there is a similar gap.

This proposal is unique and innovative in bringing interdisciplinary and diverse partners together for the first time to create a groundbreaking IPI framework. It targets information professionals of diverse ethnic backgrounds and a wide age range, who have worked for a minimum of two years, and who might have limited opportunities to leave the workforce to retool themselves. The inclusion of nine bicoastal partners will enable the fostering of a varied and diverse applicant pool. Subsequently, one of the primary IPI program outcomes will enhance the diversity of LIS professionals working in STEMM. IPI adopts embedded library services and the informationist approach to enhance biomedical scientific research. Embedded librarianship requires subject knowledge, research skills, leadership, teamwork, and competencies in technology and statistical analysis. An Informationist utilizes the skills and expertise of embedded librarianship. An IPI is a team member contributing to the advancement of scientific scholarship and clinical practices.

**National Need.** A recent informal review (performed by a student assistant of Prof. Rong Tang) of close to 60 ALA accredited LIS programs revealed there are no dedicated courses in embedded librarianship and limited offerings in biomedical or health sciences informatics. Employers in AHSLs hold vacancies in IPI positions and have difficulties hiring qualified LIS graduates. In a special issue of JeSLIB, a number of informationists cited their lack of academic preparation, field experience, and subject knowledge in embedded librarianship and in the scientific research process as obstacles to their success (JeSLIB 2013, 2 (1)). Results from a regional survey of AHSLs "confirmed that libraries lack personnel with the technical skills needed for management and curation of data, and there is a need for continuing education programs emphasizing best practices for RDS" (JeSLIB 2015, 4(1)). An ongoing conversation with partnering library directors also reinforced the strong need for existing professionals to acquire skills for retooling themselves for these emergent roles. The directors indicated a significant gap in LIS curricula to meet these needs and the missing options for alternative modes of continuing education beyond the formal PhD program.

The ten librarians of the inaugural class cohort of the proposed IPI program will initiate a community of practice of diverse IPI bicoastal leaders thus redefining research relationships and clinical roles. These librarians may either hold an MLIS or an advanced degree in STEMM. The assessment of the effectiveness of the IPI program will inform future LIS education and respond to the evolving job market without requiring students to leave the workforce to be retrained.

**Project Design.** The proposed project will meet the three stated aims by:

1. Coordinating and building robust bicoastal institutional partnerships
2. Developing and identifying core skills and knowledge related to IPI
3. Establishing and offering curriculum in IPI using a team of multi-school LIS faculty and practitioners
4. Providing practical experience in IPI at collaborative research and clinical sites across the country

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5. Assessing the effectiveness of the IPI curriculum model to inform future LIS education and practice
6. Disseminating findings through presentations and publications to facilitate adoption of the IPI conceptual framework in STEM, social sciences, and the humanities

The role of institutional partnerships includes not only project design and delivery but also cohort selection, curriculum development, and capstone site administration. A literature review and interviews with informationists, employers, and researchers will outline IPI core skills and knowledge that will form the basis for course content. Our bicoastal partner institutions will identify and connect students with researchers or clinical teams who will supervise students during their capstone experience.

We propose seven to nine courses over the span of an academic year (including summer): Foundations to IPI; Health Sciences and Biomedical Informatics; Collaboration and Leadership; Research Methods; Scientific Research Data Management; Applied Statistics; and Capstone. A summative evaluation of the project will be performed in Year 2. Findings will be disseminated through reports and presentations at conferences or forums. This two-year project features planning, student recruitment, three-semester/quarter course offering, and the remaining period for evaluation, recommendation, solidifying IPI framework, and dissemination.

Months	Activity
1-3	Planning, Course development, & Recruitment (recruit 10 students, 5 each from East & West Coasts)
4-8	Semester/Quarter 1
9-12	Semester/Quarters 2&3
13-15	Summer Semester/Quarter: Capstone/Field Experience (Options for research and clinical tracks)
16-24	Evaluation, Curriculum recommendation, Sustainability Plan, IPI conceptual framework, Dissemination

There will be five project deliverables: (1) Community of practice for post-graduate students, (2) Conceptual framework of IPI, (3) IPI Curriculum, (4) Assessment document, and analysis of lessons learned and recommendations for other disciplines, and (5) Project reports and presentations.

**National Impact.** As a pilot program, the successful development of IPI curriculum will become an education model for information professionals seeking retooling and/or advanced employment in a dynamic and diverse inter-professional field of biomedical informatics and data management. Such a model will also have a national impact in the broader area of LIS education by bridging the gap between theory and professional practice. A cohort of IPI leaders will initiate a community of practice of diverse professionals to redefine and enhance scientific research and clinical approaches. An advisory board including key stakeholders -- Carol Tenopir (Univ. of Tennessee), Joyce Backus (NLM), Keith Cogdill (NIH), and others -- will be formed.

#### **Project Personnel and Partners.**

Principal Investigators	Project Staff	Sites	Advisory Board
<ul style="list-style-type: none"> <li>• Rong Tang, Simmons Univ. SLIS</li> <li>• Elaine Martin, Harvard Medical School</li> <li>• Jonathan Furner, UCLA Dept of Info Studies</li> <li>• Heidi Heilemann, Stanford Medical Center</li> </ul>	<p><b>Manager (1):</b> Rong Tang, Simmons Univ.</p> <p><b>Student assistant (1):</b> LIS student from Simmons Univ.</p>	<ul style="list-style-type: none"> <li>• Harvard Medical School</li> <li>• Tufts Health Sciences</li> <li>• MCPHS University Library</li> <li>• BU School of Medicine</li> <li>• Stanford School of Medicine</li> <li>• UCSF Library</li> <li>• UCLA Biomedical Library</li> </ul>	<p>6 members including:</p> <ul style="list-style-type: none"> <li>• Faculty</li> <li>• Scientists/Clinicians</li> <li>• Informationists</li> </ul>

**Budget.** The funds requested for this project total \$452,446, with student support costing \$145,872. The total cost share from Simmons University and partner institutions is \$318,118. Non-student support costs requested include personnel \$70,999, travel \$5,150, and sub-awards \$168,848. Requested indirect costs are \$35,249; cost shared indirect costs are \$31,348. Simmons University's HHS negotiated rate is 58.7% of salaries and wages base.