

## **The GALILEO Knowledge Repository: Advancing the Access and Management of Scholarly Digital Content**

### **1) Assessment of Need**

In 2003, Clifford A. Lynch published his influential essay “Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age,” arguing that, through institutional repositories (IRs), universities hold the potential to “permanently change the landscape of scholarly communication.” Lynch’s paper was a response to MIT’s launch of its DSpace repository and SPARC’s position paper advocating IR development, both in 2002. These events suggested the promise of IRs to increase the visibility of scholarship, provide stewardship of the least permanent element of an institution’s intellectual output, and demonstrate institutional effectiveness. They would promote collaboration, provide a valuable resource for the public, create an outlet for digital scholarship, and promote sharing of learning objects to enhance teaching. By 2009, 229 IRs have been established in the U.S., and scores of thinkers have generated papers and presentations about them. Organizations such as the Association of Research Libraries (ARL) and the Association of College and Research Libraries support IRs as part of their efforts to reform scholarly communication and achieve open access to publicly funded research.<sup>1</sup>

Despite this surge in interest and their potential benefits, IRs have yet to create the far-reaching changes to scholarly communication that Lynch’s paper envisions. Hindered by a lack of resources and expertise, only three percent of colleges and universities in the U.S. host an IR. Among public institutions, access to IRs tracks closely with library funding: seventy-eight percent of IRs are hosted by universities with ARL membership. Yet ARL institutions represent only three percent of public post-secondary schools and ten percent of four-year institutions. A majority of respondents to the 2007 IR census by Karen Markey, et al. had no plans for establishing an IR, although they reported a “sleeping beast of demand” at their institutions. Masters and baccalaureate institutions in particular, cite insufficient resources and expertise to launch and maintain a repository. Only one public historically black college or university in the U.S. has an IR, and the potential of digital repository services for two-year colleges is virtually unexplored.<sup>2</sup>

The IR disparity holds true for the thirty-five institutions in the University System of Georgia (USG), where only Georgia Tech (GT), Georgia State University (GSU), University of Georgia (UGA), and Valdosta State University (VSU) have IRs or e-theses and dissertations (ETD) sites. Lack of resources, rather than of interest, is the cause for the disparity. In November 2007, USG representatives participated in a statewide stakeholder meeting to discuss the prospect of repositories at their campuses. They indicated high interest in a systemwide IR service, with 100% rating central hosting and meta-searching services as highly important (Appendix 1).

Collaboration is the key to addressing the financial and technical barriers confronting IR adoption. Institutions already have banded together to generate efficiencies to digitize library holdings, preserve digital information, achieve consortial pricing on licensed content, catalog materials, and host integrated library systems. The few groups that have worked to build collaborative IR programs also have had significant results. With IMLS support, the Texas Digital Library has built a substantial repository of ETDs from five universities. The California eScholarship repository holds more than 26,000 papers from the University of California’s ten campuses, with 7.5 million downloads since inception. The Ohio Digital Resource Commons is developing centrally hosted repositories for universities and colleges in the state. NITLE offers a paid service to regional institutions for inclusion in a single, multi-institution repository (Appendix 2). These programs are exceptional, however, in that most states lack collaborative strategies for promoting open access to scholarly information.

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<sup>1</sup> Clifford A. Lynch "Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age" ARL, no. 226 (Feb. 2003): 1-7. <http://www.arl.org/resources/pubs/br/br226/br226ir.shtml>; Raym Crow, “The Case for Institutional Repositories: A SPARC Position Paper” (Aug. 2002). <http://www.arl.org/sparc/publications/papers.html>; Directory of Open Access Repositories – OpenDOAR, University of Nottingham <http://www.opendoar.org>

<sup>2</sup>OpenDOAR; “2007-8 Almanac,” *Chronicle of Higher Ed.* 54 (2007): 3, 34; K. Markey, et al., *Census of Institutional Repositories in the U.S.: MIRACLE Project Research Findings* (Wash., D.C.: CLIR, 2007) <http://www.clir.org/pubs/reports/pub140/contents.html>

One principal distinction between Georgia's GALILEO Knowledge Repository (GKR) and existing repository programs is GKR's emphasis on promoting consortial IR work in other states. Building, testing, and launching a replicable, collaborative IR model during the first two years, participants will dedicate the final year to disseminating the results of the GKR initiative nationally. GKR participants will host a national symposium on statewide and consortial repositories, create instructional materials, conduct consortial IR training, and offer consulting services. The desired outcome of the initiative is to advance the state of scholarly communication nationally by positioning consortia for success in implementing their network of institutional repositories. Meeting the needs of GKR's in-state stakeholders is a natural product of achieving this outcome.

## **2) National Impact**

Across the spectrum of higher education, institutions need tools to address significant changes in the way that faculty and students work. Much of a university's intellectual product never appears in permanent printed form; instead, it exists as a largely uncontrolled body of digital objects held in personal computers, Web servers, or on removable storage media. These digital objects may include theses and dissertations, audio/video files, technical and research reports, pre-print research, working and conference papers, data sets, or other research data. They represent a vital part of an institution's output; yet, they also are in the most danger of being lost, or are the least visible to the scholarly community. The fact that IRs have not reached their potential for improving scholarly communication is an issue of national significance. Gains made in other areas of digital library activity indicate that collaboration is the most viable approach for extending IR services to more institutions. The GKR initiative will advance IR collaboration nationally, first by building, testing, and launching a replicable model in Georgia, then by aggressively disseminating the results to help other states achieve similar success within their contexts.

The current disparity of access to IR services serves the nation poorly. While the largest universities may produce the highest volume of research, each institution has its unique scholarly contribution. Georgia is an appropriate test case for addressing the disparity problem, based on the heterogeneous nature of its public university system. The University System of Georgia encompasses thirty-five institutions, including four research universities, fifteen state and regional universities, seven four-year colleges, nine two-year colleges, and a stand-alone research center. Among these institutions are a medical university, three historically black universities, an agricultural college, and an oceanography institute. The GKR will explore services for a pilot group of these institutions that is not yet served by IR programs. Albany State University, a historically black institution in southwest Georgia, will lead GKR in exploring the opportunities associated with HBCUs. GKR will work with the College of Coastal Georgia (Brunswick) to understand ways in which institutions with two-year programs may benefit from IR services. Participation by the Medical College of Georgia (Augusta) reveals unique needs related to healthcare research. Georgia Southern University (Statesboro) helps GKR consider IR services for regional universities, and Valdosta State University—with its recently accredited MLIS program—suggests opportunities to advance LIS education while leveraging student effort to benefit GKR partners.

The GKR's national merit lies in its replicable practices, technology solutions, and intensive dissemination program. GKR will provide IR hosting and meta-searching services using open source software, along with IR-related services that include metadata and content submission, digital preservation, rights management, partner training, and content digitization. The GKR offers a new, open source repository collection mapping tool to create a common discipline-based taxonomy across repositories with dissimilar vocabularies and structural frameworks. With this open source tool, the GKR addresses a central challenge for statewide repositories -- joining content from partner institutions into a common system, which users can both browse and search centrally. The GKR Mapping Tool allows partners to map entire repository collections to discipline-based collections in the central repository, using just a Web browser. The resulting mapping data will be used when ingesting partners' metadata to bring together their disparate content under a common taxonomy.

The GKR will offer a statewide and consortial repositories symposium and workshop designed for a national audience. Activities will include: 1) a collaborative IR symposium and workshop inviting professionals from

institutions with existing and planned consortial repositories; 2) instructional materials compiled in the *Guide to Statewide and Consortial Repositories*; 3) a consultation service for U.S. consortia and states; and 4) a web site to disseminate instructional materials and related information. During the symposium and workshop, repository professionals will identify successful practices and disseminate knowledge on consortial IRs nationally.

Academic researchers have yet to embrace IRs en masse. Thus, the GKR seeks a sophisticated understanding of how scholars perceive IRs and why some are reluctant to participate in content submission. A USG systemwide study is generating an improved understanding of potential submitters, gauging their perceptions of open access approaches, identifying barriers to participation, and targeting interested faculty. The study will present a survey instrument, focus group methods, and results that other consortia can use in their environments (Appendix 3).

### 3) Project Design and Evaluation Plan

**History and Progress to Date:** The GALILEO Knowledge Repository (GKR) is a five-year old initiative with representatives from many USG institutions who work together effectively, despite being geographically dispersed. The project partners established four committees both to implement the statewide repository, and to develop a best practices dissemination program for other consortia:

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|-------------------------------|---|
| <b>August 2004:</b>           | Regents Academic Committee on Libraries approves planning for the GKR                     |
| <b>September 2004:</b>        | GKR Steering Committee begins meeting   |
| <b>Oct. 2004 - Aug. 2005:</b> | GKR Metadata Committee creates metadata guidelines (Appendix 4)                           |
| <b>Dec. 2005 - present:</b>   | GKR Technical Committee creates technical specifications (Appendix 5)                     |
| <b>August 2007:</b>           | GKR Conceptual Model produced <a href="http://gkr.gatech.edu/">http://gkr.gatech.edu/</a> |
| <b>August 2008:</b>           | Test version of the open source repository collection mapping tool developed              |

**Project Plan and Deliverables:** The three-year GKR project will finalize several deliverables toward establishing a comprehensive statewide repository. The Project total cost is \$1,787,447 with \$878,457 in IMLS funding and \$908,990 in cost share. The project components and deliverables are described below:

- A) Partner with Dr. Jennifer Campbell-Meier of North Georgia College and State University to conduct a survey and focus groups of the USG faculty's usage and perceptions of IRs
- B) Build a central repository of standardized metadata, featuring the repository collection mapping tool, that is harvested from the eight IRs in the USG (four existing IRs, and four new IRs to be hosted by the GKR)
- C) Establish a service to host individual IRs for four participating USG institutions  
(Medical College of Georgia, Georgia Southern, Albany State, College of Coastal Georgia)
- D) Establish IR-related services: rights assistance, digitization, content submission, and digital preservation
- E) Develop and implement the Statewide and Consortial Repositories Symposium and Workshop for other states and consortia considering the establishment of IR services

**A) Survey and Focus Groups on USG Faculty's Use and Knowledge of Institutional Repositories:** As a pre-grant activity, the GKR will sponsor a USG faculty survey with focus group interviews to assess perceptions and experiences with IR use, author's rights issues, and Open Access publishing activity. Local librarians will conduct the faculty focus groups at the eight GKR campuses. The questions will be constructed by Dr. Jennifer Campbell-Meier, Coordinator of Information Literacy & Distance Education, North Georgia College & State University Library (NGCSU), who has completed a doctoral dissertation on IRs at the University of Hawaii. Dr. Campbell-Meier and the GKR Outreach and Evaluation Committee, will analyze the focus group feedback. GKR project staff will use the analysis to improve and promote GKR services (Appendix 3). Few surveys and interviews on IR use at a statewide level exist. Therefore, this activity will not only inform the GKR's development, but will also serve as a model for surveying other university systems. In the project's workshop (Year 3), participants will learn how to conduct IR-related surveys and focus groups. **Schedule:** Survey and focus groups: Feb. 2009 – Sept. 2009. Analysis of findings and incorporating into GKR: Oct. 2009 – Jan. 2010.

**Review criteria:** Survey and Focus Groups on USG Faculty's Use and Knowledge of Institutional Repositories.

The GKR Steering Committee will ensure that the survey and focus groups were properly administered to a representative sample of USG faculty, and that measurable and verifiable data have been collected. The main outcome will be an analysis of the data by Dr. Campbell-Meier, and a set of recommendations by the GKR Steering Committee regarding improvements to the GKR program.

**B) Create the GKR Metadata Repository and Collection Mapping Tool:** A cornerstone of the GKR is the central metadata repository that contains metadata harvested via the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). With this repository, the user is able to both search and browse all USG repository content from a central location. Initially, the GKR will harvest eight IRs: four existing IRs (Georgia Tech, University of Georgia, Georgia State, and Valdosta State) and four newly hosted IRs (institutions listed in project deliverable #3 above). The Georgia Tech Library will maintain the GKR metadata repository, hosted on a server with 3.5 terabytes of storage. All metadata repository technologies are open source tools, making this approach affordable and replicable by others. The technologies include: Lucene – searching; Manakin (now part of DSpace 1.5) – user interface; PostgreSQL – database; OAI-PMH – harvesting protocol; and Dublin Core – metadata scheme. Additionally, the GKR's open source repository collection mapping software will be an essential part of the harvested model. With its unique discipline-based taxonomy, it brings together the scholarly works of similar academic units at the eight GKR institutions into shared academic collections in the metadata repository. Because the metadata is arranged by discipline, it is easy to browse similar content across institutions. As part of the workshop curriculum (Year 3), attendees will learn how to implement the open source collection mapping tool to create a central, searchable and browsable metadata repository.

The GKR project will make the mapping tool available as open source software on sourceforge.net. The University of Georgia and Georgia Tech libraries' technology staff will maintain it. The GT Library technology staff will implement the metadata repository with assistance from the GKR Technical Committee. **Schedule:** The GKR metadata repository will perform an initial harvest of metadata from the four existing IRs during April-June 2010 and from the four GKR-hosted IRs during April-June 2011.

**Review Criteria:** GKR Metadata Repository and Collection Mapping Tool. The Steering Committee will ascertain that the metadata repository effectively harvests all metadata, provides central metadata searching and browsing in a user-friendly manner, and produces successful search results for users. Heather Jeffcoat, GT Library Web Program Manager, will lead the GKR metadata repository's user assessment with selected faculty and students. The results will be shared with interested parties, and will help improve the GKR's development.

**C) Implement IR Hosting Service:** The GKR will provide an IR software hosting service to four participating USG institutions: Medical College of Georgia, Georgia Southern University, Albany State University (a HBU), and College of Coastal Georgia. The GT Library will provide individual, hosted repositories with the DSpace software, currently used by Georgia Tech, Univ. of Georgia, Georgia State, and Valdosta State. Each institution will retain a measure of control over its IR interface for branding purposes. A DSpace Developer and Graduate Research Assistant (IMLS-funded) at Georgia Tech will work with the GKR sites' staff to build their IRs' front-end, including user interfaces, style sheets, and institutional branding graphics. Each hosted site maintains control of the community/collection architecture and administration of its repository, and has a distinct URL.

Maintenance of the Metadata Repository and Hosted DSpace Sites: Once the hosted IRs and central metadata repository are implemented, all hardware and software will be maintained by GT Library staff, including five members of the Systems and Digital Library Development departments. They will fulfill systems administration duties, troubleshoot technical problems, download and apply patches, assist with stylesheet design, and perform upgrades of new versions of DSpace and other software. Members of this senior team of IT professionals have been involved in DSpace administration since 2003, supporting the over 23,000 items in the Georgia Tech institutional repository, SMARTech, one of the oldest, largest, and most actively used DSpace IRs in the U.S.

The project staff will document the operational components -- hardware, software, staff skills, financial costs, and organizational issues -- of the GKR central metadata repository and IR hosting service. This documentation will serve as the basis of instruction in the Statewide and Consortial Repositories Symposium and Workshop. Lessons learned from building the technologies and managing the services will be documented and integrated into the workshop as well. **Schedule:** The four hosted DSpace sites will be installed Dec. 2009-Feb. 2010; interface design will take place Feb.-Sept. 2010. Content submission will occur Sept. 2010-Sept. 2012.

**Review Criteria: IR Hosting Service.** The GKR Steering Committee will determine that the four hosted IRs: 1) function properly with the DSpace software ; 2) have user interfaces designed to meet local user needs; 3) contain successfully ingested metadata and source content; and 4) that training and instruction have been provided to the local campus by the GKR Manager. Each GKR-hosted site, with the support of Heather Jeffcoat, will conduct usability assessments with a small group of faculty and students to further determine the user-centered success of the implementation. The assessment results will inform further development of the GKR-hosted IRs, and will be shared with interested parties.

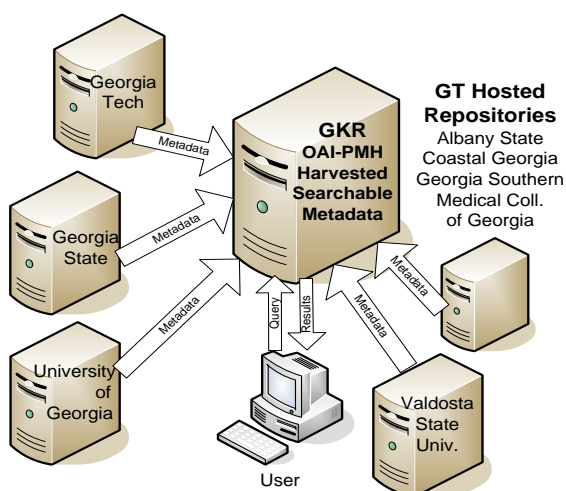


Figure 1: Metadata is harvested from repositories using OAI-PMH, then a user searches across the metadata

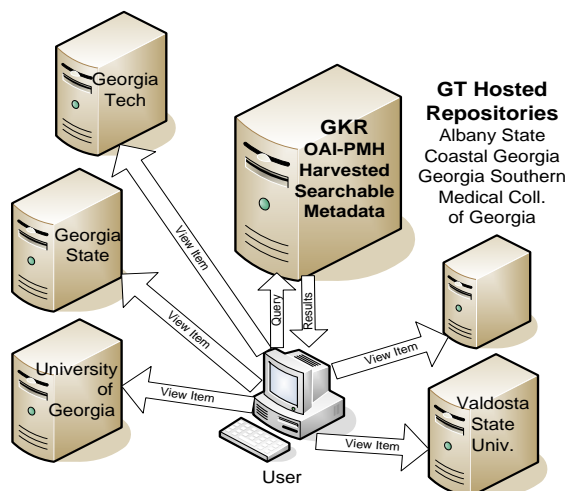


Figure 2: Once a user receives results, viewing an item will take them to the repository where the object resides

**D) Establish and Provide IR Related Services:** The first two project deliverables provide individually hosted IRs and a discipline-based central metadata repository for searching and browsing all content from the USG repository network. While these are essential steps in building the GKR, other services are necessary to recruit content. Four services are under development to gather USG faculty’s scholarly works: 1) rights assistance; 2) digitization; 3) content submission; and 4) digital preservation. These services are based upon feedback from the USG-wide GKR stakeholder meeting of November 30, 2007, with Web and phone access across the state. Staff and managers of each IR-related service will document the required infrastructure, necessary skills and labor, financial costs, and project experiences as they relate to building IR content. The lessons learned from managing these services will be included in the Statewide and Consortial Repositories Workshop’s curriculum. Instructional materials will be derived from the documentation gathered.

**D.1) Rights Assistance Service:** A central challenge to IR content submissions is knowledge concerning authors’ copyright permissions. Hence, a rights assistance service helping GKR partners in clarifying rights issues, like copyright, is essential. Through the Scholarly Communication and Digital Services Department, the GT Library provides rights management advice to members of the GT community. They will extend their advisory services to the other GKR campuses via the partner library’s liaison. The service will be a contributed cost match of staff time. **Schedule:** This service will take place April 2010-Sept. 2012.



**D.2) Digitization Service:** A multitude of scholarly works are “locked up” in print, which makes it difficult for GKR partner sites to disseminate them digitally. Scholarly materials like theses and dissertations, research reports, working papers, and research data are not easily accessed in print. The Digital Library of Georgia (DLG) has extensive experience in digitizing collections. Student assistants (IMLS funded) and existing DLG staff will carry out digitization. The GKR Content and Metadata Committee will conduct an approval process for digitization requests, as well as determine priorities for digitization efforts. **Schedule:** Establish service by January 2010 and continue to Sept. 2012.

**D.3) Content Submission Service:** Each GKR partner site has final responsibility for collecting, submitting, and organizing their IR content; however, many do not have the appropriate staff or training to do this work. The GKR project team has created and approved the *Metadata Guidelines for the Galileo Knowledge Repository*, a DSpace enabled, modified version of Dublin Core. The GKR Content and Metadata Committee maintains the *Guidelines*, reviews all content submission and metadata issues, and with the GKR Manager, will provide guidance to the Content Submission Service. Funds from IMLS are budgeted at \$10,000 per year for the GT and UGA libraries to provide services to the other GKR sites needing assistance. Services include interpreting and applying the *Guidelines*, resolving submission issues, and submitting content and metadata. The GT Library will manage the funds and disperse them at the rate of \$20/hour to other GKR partner libraries providing metadata and content submission services. These library staff also will interact with the Valdosta State University (VSU) Master of Library and Information Science program, which will provide 2-4 student interns to serve as content submitters for GKR sites. Dr. Fatih Oguz, VSU assistant professor specializing in digital libraries, will train and supervise the student interns. Further training will come from the GKR Manager and Content and Metadata Committee members. Each student will earn three credit hours in the MLIS program and gain valuable professional work experience. VSU pledges to maintain this service indefinitely beyond the grant period. VSU expects the number of interns will increase as their digital library education program matures. **Schedule:** The service will be conducted Sept. 2010 -- Sept. 2012.

**D.4) Digital Preservation Service:** While digital content will be easily accessed via the GKR, the challenge of preserving it exists. Fortunately, an early digital preservation solution is available to Georgia cultural institutions. The MetaArchive Cooperative (<http://metaarchive.org>) is a partner in the Library of Congress National Digital Preservation and Information Infrastructure Program. In 2004, the libraries at Emory, Georgia Tech, and four other universities developed a distributed digital preservation network based on the open source LOCKSS software. The MetaArchive Cooperative is a membership organization. A “Content Contributor” member deposits copies of their digital content to the MetaArchive Preservation Network (MPN). The negotiated cost between the GKR and the MetaArchive Cooperative is \$7,000 for three years (\$2/GB x 3.5TBs = \$7,000). After three years, the GKR institutions will pay the costs of the service. Georgia Tech will provide assistance in ingesting content into the MPN; it has experience with this process, having been a founding MetaArchive partner since 2004. This approach leverages a leading national digital preservation initiative, combining repositories with the emerging practice of distributed digital preservation. See Appendix 6 for additional MetaArchive information. **Schedule:** Establish service by January 2012.

**Review Criteria: IR-Related Services.** The GKR Steering Committee will ensure that the IR services have satisfactorily responded to all requests from the GKR sites. Quantitative measures of service output will be reviewed (e.g., amount of requests for copyright research met, amount of items/collections digitized, amount of items submitted, amount of items preserved). These measures will aid in the assessment of the services’ success and in the decision regarding requests for additional funding to continue them beyond the grant period.

**E) Dissemination of Practices: Develop and Implement a Statewide and Consortial Repositories Symposium and Workshop.** By October Oct. 2011, the GKR’s services will be in operation. Very few states have established statewide repositories due to challenges in technical, financial, and human resources, as well as political or governance challenges. Therefore, the GKR project will move into a new phase to document

successful practices and to assist organizations in establishing consortially-operated repositories. The GKR will address these challenges by producing and hosting a national symposium on statewide and consortial repositories, with a corresponding two-day workshop. Georgia Tech will host these events; the GT Library has experience creating symposia and conferences, including the 2009 International Conference on Open Repositories (with over 400 international attendees expected), and the Electronic Resources and Libraries Conference, 2006-08. Through the symposium and workshop, repository professionals will gather and disseminate knowledge on consortial implementations. The experience of the GKR program will contribute substantially to both of these events. With each major GKR project deliverable – centrally searchable metadata repository; hosted IR service; IR-related services; partner training – the project staff will analyze and record: 1) the technology approaches and requirements; 2) the staffing and skill set needs; 3) the financial investments; and 4) the governance and organizational issues. Technical specifications for all GKR technologies and metadata are available already for public consultation. **Schedule:** Developing and implementing the symposium and workshop will be carried out during Year 3 (Oct. 2011-Sept. 2012).

The Symposium and Workshop Committee, comprised of GKR staff, will work with a technical writer skilled in instructional materials (IMLS-funded, nine months), and lead the program's development in four parts:

1) Workshop instructional materials will be created and published in the *Guide to Statewide and Consortial Repositories*, which will be available freely on the GKR Web site. These materials will address the four areas identified above as being the core components to building statewide and consortial repositories. The committee will work with the technical writer to complete the publication of the *Guide*. **Schedule:** The *Guide* and its instructional materials will be created Oct. 2011 - June 2012.

2) The **Statewide and Consortial Repositories Symposium and Workshop** will be offered toward the project's end. The symposium will convene professionals from many of the consortial projects previously mentioned, and any others actively pursuing consortial repositories. One such additional state is Indiana, where Purdue and Indiana universities are planning a consortial repository network. The sessions will focus on identifying and sharing best practices. The workshop will address the four core areas identified above, and will teach attendees how to implement the repository collection mapping tool. The *Guide to Statewide and Consortial Repositories* will contain the core set of instructional materials. **Workshop Scholarships.** The GKR will offer up to ten \$800 scholarships (IMLS-funded, \$8,000 total) to facilitate new consortial repositories and staff training. The Symposium and Workshop Committee will create an application process and will review applications based upon the advanced nature and status of the consortium's planning process, the status of project communications, and the resources allocated to date. One scholarship will be offered to Indiana and Purdue each, both are early partners in the GKR's symposium and workshop discussions. **Schedule:** The symposium and workshop will be offered by August 2012.

3) **Consultations** with the GKR Manager and project staff will be made available freely for interested consortia during Project Year 3. Consultations will consist of phone and e-mail communications, or visits made to GKR project staff. **Schedule:** Consultation availability will be advertised via the GKR project Web site and made available Oct. 2011 – Sept. 2012. It will continue in the post-grant period as a fee-based service.

4) The **GKR Project Web site** will be the dissemination point for instructional materials and information about the symposium, workshop, consultation offerings, and a downloadable version of the *Guide to Statewide and Consortial Repositories*. The GT Library's Web developers with the technical writer, will revise the GKR site to optimize its usability as a resource for IR instruction and learning. The GKR will also share its meeting agendas, minutes, standards, scope and planning documents through its Web site.

**Review Criteria:** *Symposium and Workshop.* The GKR Steering Committee will verify that all documentation has been completed on the GKR's technologies, organizational models, services, and resources. The *Guide to*

*Statewide and Consortial Repositories* and the symposium and workshop's completed evaluation forms will be reviewed to ascertain their effectiveness. The documentation on consultations and the Project Web site's user studies will be reviewed to ensure that all consultation requests have been met and that the Web site has been designed for optimal usage. These reviews will further inform later improvements made to these components.

**Other Dissemination Activities:** 1) project documents archived in the Georgia Tech IR, SMARTech <http://www.smartech.gatech.edu>; 2) GKR training sessions for partner site staff; 3) registration with IMLS union database; 4) registration with OpenDOAR; 5) use of ARL and ASERL digital initiatives registries; 6) promotion via the GALILEO Web site, which in 2006 logged nearly 35 million searches across Georgia; 7) press releases for state and national media; 8) presentations at conferences such as ALA, CNI, and EDUCAUSE; and 9) publication in journals such as *D-Lib Magazine* and *College and Research Libraries*; 10) publicity via brochures, email, and campus visits to faculty and librarians at USG institutions; 11) access to GKR content through search engines such as Google Scholar and the OAI harvesting service, OAIster.

**Outcomes Based Evaluation (OBE):** The Project's managers will employ OBE to measure success in achieving goals. In doing so, they will benefit from the OBE training program provided by IMLS. The project co-PI, Dr. P. Toby Graham has attended this training. The budget includes funding for attendance by other participants as well. A completed Outcomes Logic Model is provided as Appendix 7, and summarized below:

**Outcome 1: Expand the use of IRs to more colleges and universities in the U.S.** First, this outcome will be realized by creating four new IRs in the USG at Albany State., College of Coastal Georgia, Georgia Southern, and Medical College of Georgia. They will be documented through project reports and by registering the IRs in OpenDOAR, the international directory of open access repositories at <http://www.opendoar.org>. Second, a statewide repository model will be created that is replicable by consortia. Measurement of its adoption will take place largely in the post-grant period, but can be evidenced through new IRs being registered in OpenDOAR. GKR staff will survey workshop attendees and other consortial repository programs about their awareness and/or adoption of the GKR model. Survey information will be accessible via the GKR Project Web site.

**Outcome 2: Expand library professionals' knowledge of consortial IR models, technologies, and practices in the U.S.** This outcome will be realized by conducting the Statewide and Consortial Repositories Symposium and Workshop, offering consultation services, publishing the *Guide to Statewide and Consortial Repositories*, and providing a project Web site. Success will be measured by the number of attendees in the workshop and the number of consortial IRs developed (which will occur in the post-grant period), by the number of downloads of the *Guide* from the Web site, and the number of consulting interactions with the GKR Manager and staff.

**Outcome 3: Multiply the impact of USG scholarship.** Success will be measured by recording the use of USG content through collecting repository statistics, indicating the number of searches, user hits on item records, and the number of downloads through the network of GKR-harvested IRs. The amount of submissions to the GKR-harvested IRs will also be recorded. Repository statistics will indicate the number and frequency of submissions during the project and afterward. The target is to achieve 30,000 GKR-harvested items during the grant.

#### **4) Project Resources: Budget, Personnel, and Management Plan**

**Budget Statement:** IMLS funds support specific staff positions, a server for the GKR metadata repository and four hosted IRs, five PCs, travel, and services. IMLS-funded positions include the GKR Manager, DSpace Developer, Graduate Research Assistant, student assistants, technical writer, and summer intern supervisor. These positions are complimented by about thirty-five vested positions at USG institutions, which illustrate the project's large and ongoing investment. The server and PCs cost \$27,500. The MetaArchive's preservation services will cost \$7,000. Travel to IMLS-designated and GKR meetings are budgeted at \$20,200 total, \$16,200 for GT, \$3,000 for UGA, and \$1,000 for VSU. A project coordinator with the USG Board of Regents' Office



will assist the GKR with project management and coordination, meeting scheduling, technology arrangements, communications, project progress benchmarking and documentation, and other related duties (\$30,000, UGA). Metadata services for small GKR institutions will be available by the GT and UGA libraries (\$20,000).

**Personnel and Management Plan:** The GKR Steering Committee will manage the project; several of its members have worked together for five years and have successfully managed action plans and timelines. Four working committees -- Technical, Content and Metadata, Outreach and Evaluation, and Symposium and Workshop (see “Key Project Staff” list for descriptions) – will produce the project deliverables. The working committees will communicate bi-weekly via Horizon/Wimba shared desktop/VOIP software to discuss operations, project progress, and reporting. The Steering Committee will hold monthly conference calls with the four working committees’ chairs and meet in person bi-annually to assess project progress and outcomes (see Appendix 7 for “Outcomes Logic Model” and the “Review Criteria” section of each project deliverable). All staff will use Web and collaborative tools, such as the GKR Project Web site, blog, and shared desktop/VOIP.

**GKR Partner Training:** A well designed program for training new GKR partners in IR practices is needed. Training will be provided to GKR partner staff regarding: 1) collecting and recruiting scholarly content; 2) reviewing author copyrights; 3) creating metadata and submitting content; 4) searching in DSpace and the GKR metadata repository; and 5) marketing IR services to faculty. The training program will be created with the guidance of the GKR Steering Committee. All training sessions will be conducted by the GKR Manager, with assistance by members of the GKR committees. These sessions will be a mix of on-site and online training. The goal of the training sessions is to build local institutional capacity among the partners to support IR programs and ensure their long-term success.

The GKR Steering Committee members are as follows:

**Tyler O. Walters** is Associate Director, Technology and Resource Services, GT Library. He is the lead PI and directs scholarly communication, digital library, information technologies, and collections management programs. He is a PI on the Library of Congress’s NDDIP Program / MetaArchive partnership, a consortium of distributed digital preservation networks. Mr. Walters holds an M.A.L.I.S. from the Univ. of Arizona, M.A. in History and Archival Management, North Carolina State Univ., and B.A. in History, Northern Illinois Univ.

**Dr. Patterson Toby Graham** is Director, Digital Library of Georgia, a collaborative digitization program for Georgia history and life collections. Dr. Graham will serve as co-PI and has co-chaired the GKR metadata and technical groups. Based at the Univ. of Georgia, the DLG is an initiative of GALILEO, Georgia’s virtual library. He authored three successful IMLS NLG proposals and is the PI of the IMLS-supported Civil Rights Digital Library. He holds a Ph.D. in LIS studies, M.L.S., and M.A. in history from the University of Alabama.

**Ray Calvert** is Director, Learning Resource Services, College of Coastal Georgia (CCG) and will lead the participation for CCG. Mr. Calvert has served as the chair, GALILEO Steering Committee. Mr. Calvert holds an M.S.L.S., Florida State University, and M.Ed., University of South Florida.

**Dr. Wallace Koehler** is Professor and Director of the Master of Library and Information Science Program at Valdosta State University and will lead the participation for VSU. He holds a PhD in Government from Cornell Univ. and an MS in Information Science from the Univ. of Tennessee.

**LaVerne L. McLaughlin** is Director of Library and Associate Professor, Albany State University and will lead the participation for ASU. She serves as a mentor for the HBCU Leadership Institute Project and serves on the DLG’s Civil Rights Digital Library Steering Committee. Dr. McLaughlin holds a B.A. from Spelman College; M.S.L.S. from Atlanta University., and Ph.D. in Public Administration from Kennedy-Western University.

**W. Bede Mitchell** is Dean and University Librarian at Georgia Southern University and will lead the participation for Georgia Southern. Dr. Mitchell became Dean in 1999. He recently has served as President of ALA's Library Administration and Management Association. Dr. Mitchell holds an Ed.D. in Higher Education from Montana State Univ., and M.A.L.S. and B.A. in Philosophy from the University of Michigan.

**Susan Parham** is Head, Digital Library Development, Georgia Tech Library and leads information systems development for e-publishing, repositories and digital collections. Ms. Parham has a B.A. in English Literature, Univ. of Virginia, and an M.L.I.S., Univ. of Illinois. She served as a 2006-2007 IMLS Digital Libraries Education Fellow at the Univ. of Illinois and will receive a C.A.S. in Digital Libraries in 2009.

**Tammy Sugarman** is Associate University Librarian for Research Services, Georgia State University Library and will lead participation for GSU. She has been with the GSU Library since 1998 and holds an M.S., Information, 1998, University of Michigan and an M.A., History, 1996, The Citadel.

**Karen Tschanz** is Chair, Content Management, Medical College of Georgia Library. She manages Document Delivery/ILL, Archives, E-Resource Management and Technology. She holds an M.L.S., Syracuse Univ., M.B.A., Indiana Univ., M.S. Organization Development, Loyola Univ. of Chicago, and B.A., Cornell Univ.

The **GKR Manager** will be responsible for project management and development. S/he will work with the PIs, partner liaisons, and GKR committees. The manager will perform promotion, outreach, training, and instruction for depositing and searching GKR content. These activities will be targeted to groups of USG faculty and librarians at the GKR partner sites. The Manager will be a resource for others interested in operating consortial repositories. See the Key Project Staff and Committee Membership List for project personnel and their duties.

**5. Dissemination:** See Project Deliverable E (Year 3) for the dissemination program's activities.

**6. Sustainability:** The GKR will expand use to the entire USG. The project team is committed to sustaining the program, managed by the GKR partners, under the aegis of GALILEO. Funds to sustain core technology, services and positions are being sought. The national symposium and workshop will be continued at Georgia Tech through registration fees as long as the repository community supports them. The following steps are being taken to ensure GKR program sustainability:

- The GKR partner training program will aid in building the institutional capacity for the continued success of each campus IR program after the grant period.
- The GKR is interested in growing a community of statewide repositories. The widespread adoption of consortial models and practices and continuing the symposium/workshop will promote the community.
- Any resulting software will be available through an open source license, including the metadata collection mapping software that uses a discipline-based taxonomy.
- Georgia Tech is home to SMARTech, one of the most robust IRs in the U.S. Planners have aligned GKR's technical and service approaches with those of SMARTech to benefit from GT's IR investments.
- The GT Library has committed to maintaining the GKR metadata repository, the hosted IR service, and rights management assistance after the IMLS project ends.
- The Digital Library of Georgia will continue digitizing selected resources for the GKR.
- Valdosta State University will continue to provide MLIS student interns for GKR content submission.
- The MetaArchive operates on the open source LOCKSS software, maintained by the LOCKSS Alliance. Both have received funding from the Mellon Foundation, Library of Congress, U.S. National Archives, and their dues-paying members. Their ongoing support evidences major commitments to sustainability.
- GALILEO has a thirteen-year record of collaboratively managing digital resources and services, funded by the USG Board of Regents. It will continue to provide strategic oversight to the GKR program.