

North Carolina State University Libraries
Annual Report, 2013/2014

I. Programs: Changes in scope of activities, volume of activities, special achievements of significance, and special program reviews, studies, or plans

Use of the Libraries' spaces and collections reached all-time highs in 2013/14, as we welcomed 2,398,255 patrons through our doors and facilitated 12,937,919 uses of our collections. And, with the opening of the James B. Hunt Jr. Library, we have become a multiple award-winning, international model for innovation and creativity among academic libraries. In 2013/14, there were 9,152 visitors who attended formal tours in the Hunt Library. Many of the more than 23,000 visitors we have hosted since the library opened, have been from other universities, including the University of Illinois, Purdue University, and the University of Texas at Austin, looking to the Hunt Library for inspiration and vision as they plan for the future of their own libraries.

Over 330 articles about the Hunt Library have appeared in prominent publications such as *The Chronicle of Higher Education*, *Scientific American*, *Time*, the *Boston Globe*, the *San Francisco Chronicle*, the *Wall Street Journal* and *Slate.com*, significantly raising the university's profile. The Hunt Library was quickly embraced in the formal recruitment and collaborative work of faculty and graduate students, including the Chancellor's Faculty Excellence clusters. Hunt's innovative features have also informed several important, cost-effective renovation projects at the D. H. Hill Library. By creating these physical and digital environments for the campus—environments that inspire learning, experimentation, collaboration, and greater research productivity—the Libraries has extended the significant competitive advantage that it provides for NC State.

The library is critical to success in building and increasing NC State's research capacity and competitiveness. Once considered mediocre, the Libraries' collection now serves as a major asset to researchers, providing online access to the latest research findings. Access to such important resources enhances grant applications and drives research productivity. Over the past decade, full-text journal article downloads have

increased from 890,000 in 2004 to over 3,300,000 in 2014, an increase of 271%. Recent investments in research data make thousands of scientific, medical, and social science research data sets accessible online. Even in the face of declining resources and buying power, the Libraries has sustained a collection that serves as a major engine for research and learning at NC State, generating more than 12.9 million total uses in 2013/14.

II. Major Initiatives

Enabling Student Success

- Building on the enthusiastic response to the **Graduate Student Commons** at the **Hunt Library**, the Libraries planned and opened a new **Graduate Student Commons** in the **D. H. Hill Library**, adding 74 study seats to help address an ongoing deficit, in addition to providing a refuge and quiet research space.
- Library high-tech spaces and programs play a key role in supporting the university **Quality Enhancement Plan on Critical and Creative Thinking**. Early projects in these spaces include a high-visibility collaborative student project involving seven units on campus that produced the animatronic Timber Wolf, the Improversion “unconference” that graduate Design students hosted for colleagues around the nation in the **Creativity Studio**, and THATCamp workshops introducing students to **Arduino** and other inventor kits.
- The **Hunt Library’s Game Lab** enabled the Disney Imagineering networking event to bring together student teams who could enter the competition in 2013.
- Our **Technology Lending Service** places emerging innovations, such as wearable computing devices, into students’ hands for learning and experimentation. We were selected to receive a **Google Glass™**, allowing advanced students to begin projects that capitalize on this potentially revolutionary human/computer interface. Computer Science Ph. D. students used Glass™ to further develop accessibility applications for the visually impaired.
- This year the Libraries released **three new, “Big Picture” on-demand learning videos**, exposing students to search tools and the process by which researchers develop their topics. These videos are available on mobile devices and are viewable

on the Libraries' website and YouTube. All Big Picture Videos were accessed more than 131,000 times in 2013/14.

- Student entrepreneurs are using the **Hunt Library's Makerspace** to prototype inventions. One product designed by students in the Engineering Entrepreneurs Program, and prototyped in the Hunt Makerspace, is "**Jar with a Twist**," which received national press coverage. The Mechanical Engineering students who created a 4-foot **animatronic wolf** as their capstone honors project (instrumental in winning one a job at Universal Studios) began the project by laser-scanning a 3-inch toy wolf to serve as the digital basis for creating the project's designs.
- The Libraries designed a **Makerspace** at the **D. H. Hill Library**, larger than the one at Hunt, and **raised a total of \$50,000 in private funds** for operations and equipment. But, after unavoidable delays in the design process, these funds could be in jeopardy if the Libraries' budget cannot sustain the construction costs.
- The Libraries is a partner in a funded **IMLS National Leadership Grant**, "Supporting Making in Libraries and Museums," to develop best practices in designing effective maker spaces that enable learning and discovery and position libraries and museums as "innovation hubs."

Developing and Providing Access to Digital Resources

- The NCSU Libraries is a leader in contributing to national, collaborative efforts to effectively curate unique digital scholarly content and provide access to it for our researchers. The unique digital assets being created by NC State scholars are at risk of being lost, not only to future generations, but to additional future use by the very scholars and institutions producing those assets. The Libraries is engaged in two groundbreaking efforts to provide cost-effective, fail-safe ways to preserve and use the digital scholarly record.
- As part of a national strategy for long-term preservation, the Libraries is a founding member of the Academic Preservation Trust (APTrust)—a "node" of the national Digital Preservation Network (DPN). The APTrust repository will

provide digital infrastructure to help preserve, manage, and re-use the unique institutional research assets produced by NC State researchers.

- The HathiTrust digital library is a digital preservation repository and highly functional access platform that now includes over 11 million digitized volumes accessible to all NC State researchers as individual works and as a corpus for text-mining and large-scale computational analysis.
- The NCSU Libraries is actively engaged in the **Shared Access Research Ecosystem** (SHARE) initiative, a higher education and research community effort to ensure the preservation of, access to, and reuse of research outputs. The **Association of Research Libraries** (ARL), the **Association of American Universities** (AAU), and the **Association of Public and Land-grant Universities** (APLU) have partnered to develop SHARE, with significant input from the three associations' member institutions and their broader stakeholder communities.

Enabling Faculty and Research Success

- The **Chancellor's Faculty Excellence Program** has emphasized the need for collaborative, faculty-only space at both main libraries. This year, we designed a **Faculty Research Commons** in the west wing of **D. H. Hill**, which includes eight new bookable workrooms, two open seating areas, and 56 new user seats. This project has been delayed because of additional sprinkler requirements—a significant cost. In the meantime, we are planning two temporary spaces for faculty use in the east wing, including a new collaborative classroom with 14 seats, two bookable workrooms, and an open seating area.
- Researchers in the **Computational Multi-Physics Lab** produced a model of the human respiratory tract from a wax model using the **NextEngine 3D Scanner** in Hunt Library's **Makerspace**. They now can use the digital model to run computer simulations of airflow in the respiratory tract, to study how inhaled particles (either toxic or therapeutic) flow and where they are deposited in the body. This research has broad applications for toxicology, public health, and pharmaceuticals.

- The Hunt Library's **Teaching & Visualization Lab** facilitated the growth of NC State's digital humanities community through development and installation of the **Virtual Paul's Cross** project, an immersive simulation of John Donne's Gunpowder Day sermon in the courtyard of St. Paul's Cathedral in 1622. The Libraries also seeded expertise in humanities data curation (especially in medieval studies), through a post-doctoral fellow sponsored by the Council on Library and Information Resources.
- Lunches for new faculty in the **Chancellor's Faculty Excellence Program** have highlighted the ongoing formal and informal use of the **Faculty Research Commons** in the **Hunt Library** as a gathering, meeting, and collaborative space. The use of this space by the cluster faculty, along with their collaboration with designated liaison librarians, continues to increase.
- Librarians are moving into new areas of work to reflect the **changing demands of research support**. Subject specialist librarians are required to and have engaged in formal courses and other training and development activities to build knowledge and skills to support data visualization, management, and analysis. Outreach and relationship building with faculty in these areas are ongoing.

Realizing the Library of the Future

- As an iconic, very visible representation of NC State's commitment to supporting our faculty and graduate students, the **Hunt Library** has **garnered many prestigious awards** and has significantly raised the university's profile. Because of its technology-rich research infrastructure and its study and collaboration spaces, prospective graduate students and faculty members—including candidates for cluster hires—are routinely given a tour of the library.
- The **Hunt Library** was the sole recipient of the prestigious **2014 Stanford Prize for Innovation in Research Libraries** and was cited as "an exemplar of how research libraries could contribute to an innovative infrastructure and be an essential research platform for the campus" with "a 'think big' attitude makes this a model study for university libraries."

- In Fall 2013 alone, the **Hunt Library's high-tech spaces hosted over 85 sessions for faculty and graduate student projects**, including work by the NSF Nanosystems Engineering Research Center (NERC) for Advanced Self-Powered Systems of Integrated Sensors and Technologies (ASSIST), the Analytical Instrumentation Facility, and faculty from the College of Veterinary Medicine.
- Space for big-data visualization and collaboration has been an unmet need across campus. The new **Visualization Studio** in the **D. H. Hill Library** gives faculty, students, and researchers on North Campus an accessible space with the ability to display and analyze data and images in 360 degrees across four walls. In creating the Visualization Studio and renovating adjacent areas, the Libraries added 52 new study seats.

III. Diversity: Initiatives and Progress

- In 2013/2014, made 23.10% of new appointments to permanent positions (EPA/SPA) to persons from underrepresented populations.
- Diversity Committee conducted diversity-focused events and new staff orientation presentations, and helped to open a Lactation room in the D. H. Hill Library, developing standardizing signage and reservation protocols for those rooms at both the Hunt Library and D.H. Hill libraries.
- In collaboration with the African American Cultural Center, again offered the very popular *Red, White & Black* walking tour, which highlights places on campus that have had significant impact upon the lives and experiences of African American students and the larger community. A self-guided tour is also available through a web app.
- Hosted a screening of the documentary SHE++, followed by a panel discussion, about the need for women in the computer science field.
- Hosted Trans 101 Training Event.
- Hosted Hispanic Student Perspectives Event.
- Invited OIED to present at the October 2013 Diversity Committee Meeting.

IV. Community and Professional Service Activities

- The **Hunt Library “Powered By”** program generated \$2M in cash and in-kind technology donations and currently includes 14 high-tech companies and organizations—including **Cisco, Dell, EMC**, and the **U. S. Navy**—to realize the technology vision for that library as a research platform.
- The NCSU Libraries hosted over 300 participants at the **Second Annual Designing Libraries for the 21st Century** conference at the **Hunt Library** in October 2013. The conference speakers addressed the future of academic libraries' support for researchers, collaborative learning spaces, and technology.
- The **Triangle Research Libraries Network (TRLN)** continues to generate significant value in providing access to the over 16 million items available from the combined member libraries. In addition to the hundreds of research journal titles from UNC-CH and Duke made available online to NC State researchers and students, TRLN libraries delivered 2,866 articles and 6,234 books to members of the NC State community, 38 percent of our total interlibrary borrowing.
- The NCSU Libraries is a sustaining partner in the community source software project, **Kuali OLE**, to develop a next-generation library management system.
- The NCSU Libraries is a lead institution on a collaborative project with Kuali OLE and the Jisc in the UK on an open data project for libraries, **Global Open Knowledgebase (GOKb)**.
- Hailed as “Best Festival ever” by the Archivist of the United States, the **Hunt Library** hosted the **2014 North Carolina Literary Festival**—a collaboration between the Libraries and the **College of Education, College of Sciences**, various partners in the **College of Humanities and Social Sciences**, and many other university and community organizations. Over 8,000 attendees came to programs featuring **Pulitzer Prize** winners, **National Book Award** winners, and the entire faculty in NC State’s prominent creative writing program.

V. Staff

Major Appointments: Bertha Chang, Research Librarian for Engineering; Brendan O’Connell, NCSU Libraries Fellow; Charlie Morris, User Experience Development Librarian; Eric Hanson, Electronic Resources Librarian; Jason Evans Groth, NCSU Libraries Fellow;

Jennifer Garrett, Research Librarian for Management, Education and Social Sciences; Matt Davis, Data Curation Fellow; Mike Nutt, Digital Media Librarian; Joey Jenkins, Systems Programmer/Analyst; Trevor Thornton, Business and Technology Applications Analyst .

Honors, Awards, Recognitions: *In 2014 the Hunt Library received mention in 330 local, national and international venues. Among the most prominent were: the San Francisco Chronicle/listed Hunt among “the most spectacular libraries in the word”; the *Business Insider*/included Hunt in “The 16 Coolest College Libraries in the Country”, the “Best Value Schools” website/ranked Hunt 14th of the world’s 50 most beautiful libraries, Complex magazine’s *Art&Design* website/ranked Hunt as one of the “25 coolest college libraries” in the world, the *Boston Globe*’s “Travel” section/chose Hunt as one of the nation’s “5 novel libraries”, the Wall Street Journal/reported that the New York Public library’s renovation of its landmark Fifth Avenue branch will be strongly influenced by the Hunt Library, and State.com/concluded that “the high-tech future of libraries might lie in buildings like the Hunt Library.” *The Hunt Library has received the American Institute of Architects/Education Facility Design Award, the American Library Association/Library Interior Design Award, the American Library Association H.W. Wilson/John Cotton Dana Library Public Relations Award, the American Library Association/Cutting-Edge Library Service Award, the Gale/Cengage Learning/“Your Beautiful Library” Photo Contest: “Most Modern Architecture” category, the North Carolina Chapter of the American Society of Landscape Architects/Professional Awards Program – State Design Award, and the Stanford Prize for Innovation in Research Libraries . *Best uses of social media related to Hunt Library received a gold award in the CASE Circle of Excellence Awards competition. *Catherine Bishir has received the American Institute of Architects/Isosceles Award, the Preservation North Carolina Gertrude S. Carraway Award of Merit and the Southeastern Society of Architectural Historians Publication Award; and Adam Rogers the NCSU Friends of the Library Staff Award for Advancement. *Patrick Deaton was selected to attend the Association of Research Libraries/Research Library Leadership Fellows Program, *Maurice York to attend the CLIR/EDUCASUE Leading Change Institute, *Honora Eskridge to attend the UCLA Senior Fellow Program, *Jennifer Garrett to attend the Minnesota Training Institute for Early Career Librarians from Traditionally Under-Represented Groups, *and

Jason Casden, Bertha Change, Mike Kastellec, and David Woodbury to attend the TRLN Management Academy. *Bret Davidson received the Digital Library Federation/Forum Fellowship for Librarians New to the Profession.

VI. Recommendations and Concerns for the Future

- The Libraries' quest for excellence depends upon a staff that has educational backgrounds in the STEM disciplines, expertise with technologies, and a national reputation for innovation. These qualities make staff members attractive targets for recruiting efforts, and the Libraries has limited resources to make counteroffers.
- The collection that has become a strength and competitive advantage for the university over the past 20 years is severely at risk. The Libraries once ranked #40 in total collections expenditures among the 125 ARL libraries, but has now fallen to #59. Of even greater concern, the Libraries' collections expenditures have fallen well behind that of our closest peers, ranking thirteenth in overall collections budget and fifteenth in collections budget per faculty member. Our collections expenditures in 2010 were \$1,682,476 below the average of our peer group—we are now \$3,058,151 below that average.
- Projected budget reductions from the university, combined with expected inflation for journals and databases of \$550,000 (at a 7% annual inflation rate), necessitated preparations for cutting approximately 625 journal titles. This community-driven process resulted in 1,183 participants submitting over 10,000 rankings of journals and hundreds of emails advocating for the retention of important research titles. Faculty have expressed well-founded concerns about the loss of important resources in their disciplines and the negative impact on research from such cuts. The loss of core research journals on which they depend will negatively impact research productivity and volume, in similar ways as would inadequate laboratory space, grant support, or technical infrastructure.
- With the significant budget reductions in 2013/14, the Libraries' staff size is smaller now than it was even before the Hunt Library opened, as our permanent staff positions were reduced by 10%. Having to operate with such a reduced staff

forced us to reduce hours in the branch libraries and to develop a plan to reduce overnight hours in the D. H. Hill and the Hunt Libraries beginning in Fall 2014. The reduction also diminished library services, as we had to close the reference desk at D.H. Hill and delay document delivery, course reserves, and collections processing. Five administrative support positions were also eliminated.

- The State Construction Office informed us in March 2014 of the requirement to install a sprinkler system in the D. H. Hill Library's west wing before any additional renovations can take place. We have been told that there are no Repair & Renovation funds available for the sprinkler project. None of the planned and currently funded renovations in the west wing, such as the Faculty Research Commons, can proceed until this is completed.

The popularity of the Hunt Library as a destination for visitors and tours from outside the university makes maintaining quiet study space for students there a challenge. In the coming year, it may be necessary to restrict library access to NC State affiliates only during more of Hunt's operating hours.

Volume of Activities: NCSU Libraries Statistics
(13/14, 12/13, 08/09, 03/04)

Collection Statistics

Year	Volumes in Library	Volumes Added (Gross)	Serial Subscriptions (a)	E-Resources Owned/Leased (a)
13/14	4,919,705	71,880	69,062	826,954
12/13	4,858,743	328,548	68,300	691,418
08/09	4,158,190	126,853	63,271	460,884
03/04	3,389,517	160,830	54,799	267,172

Library Services

Year	User Visits to Library	Total Circulations (b)	Instructional Sessions/Students	Reference Transactions (c)	Laptop/Device Loans
13/14	2,398,255	762,226	749/20,260	37,428	108,447/182,403
12/13	2,247,315	628,754	666/17,982	41,625	71,387/72,871
08/09	1,706,897	635,540	417/11,092	32,585	72,186/42,793
03/04	1,644,136	848,910	562/16,236	63,275	30,200/NA

Library Services (continued), Expenditures, and ARL Ranking

Year	Items Loaned to External Organizations	Items Borrowed from External Organizations	Expenditures on Library Materials (\$)	Total Library Expenditures (\$) (d)	Association of Research Libraries (ARL) Ranking (e)
13/14	14,854	28,722	10,679,211	31,879,442	UA
12/13	15,370	23,758	11,091,415	36,764,177	29
08/09	19,495	27,229	9,676,210	28,483,805	46
03/04	13,374	22,402	9,709,194	25,042,984	27

- a) E-books, e-journals, and e-databases; includes NC LIVE resources, starting in 2000/01. In 2006/07, ARL began collecting data for the number of currently received serial titles rather than the number of subscriptions. Since the NCSU Libraries has largely eliminated multiple subscriptions, the number of current titles is only slightly less than the number of current subscriptions.
- b) Includes circulation of reserve materials, both print and (beginning in 1998/99) electronic.
- c) With the growth of the internet over the past decade, all libraries have experienced decreases in the numbers of routine reference questions. The numbers of in-depth research consultations, however, have remained relatively constant.
- d) Excludes benefits.
- e) Membership criteria index (through 04/05) and investment index (05/06–present); currently ARL’s membership includes 115 academic libraries.