

NC DOCKS: The Institutional Repository for The University of North Carolina at Greensboro

By: Stephen Dew

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Article:

NC DOCKS (North Carolina Digital Online Collection of Knowledge & Scholarship available at <http://libres.uncg.edu/ir/>) is an open-access database for collecting, preserving, and disseminating the scholarly and creative works produced by the faculty of the University of North Carolina at Greensboro (UNCG), and in addition, it provides open access to the electronic theses and dissertations written by UNCG graduate students. When UNCG was considering the possibility of creating an institutional repository, we decided not to use any of the software packages then available (such as *DSpace*, *Eprints*, *Digital Commons*, etc.), and instead, the software for *NC DOCKS* was developed in-house by the Libraries' information technology staff. As we prepared to develop our institutional repository, we communicated with our sister institutions within the University of North Carolina System, and four of the sixteen other universities agreed to contribute to the development of the repository as a consortium. The four other universities involved in *NC DOCKS* are Appalachian State University, East Carolina University, the University of North Carolina at Wilmington, and the University of North Carolina at Pembroke.

NC DOCKS was launched in November 2008, followed by a promotional campaign to our faculty during the spring of 2009. *NC DOCKS* is based on voluntary contributions; there is no mandate. Although most works in *NC DOCKS* are peer-reviewed journal articles, the repository also includes technical and government reports, conference papers, book reviews, book chapters, editorials, educational documents, audio, video, and more. Most journal publishers allow authors to archive articles in institutional repositories, but usually there is an embargo period of one year to eighteen months, in order to protect subscriptions (see also http://library.uncg.edu/services/scholarly_communication/ncdocks.aspx).

At UNCG, faculty members voluntarily send lists of their publications to the libraries, and library staff are responsible for the copyright-verification process, ensuring that open access archiving in institutional repositories is permitted by the publisher. This can be a time-consuming process that requires attention to detail. For every citation, one must discover who published the work and whether or not they allow open-access archiving. This can involve searching the title in the *Serials Directory*, *Google*, and *WorldCat*, checking the publisher on the *SHERPA RoMEO* Web site (<http://www.sherpa.ac.uk/romeo/>) or on our in-house list of publishers (those we have contacted previously), and in many cases, the process involves sending an email to the publisher or editor to verify whether or not the publisher allows authors to archive their works in a repository (and this communication often includes follow-up emails). When possible, electronic copies of the works are obtained from the author, and if the author has no electronic copy, other methods are used (scanning of print copies, interlibrary loan for an electronic copy, etc.). In addition, whenever possible, we process each work using Optical Character Recognition (OCR), in order to make each work full-text searchable and discoverable

through Internet search engines, like *Google* and *Google Scholar*. Although a few publishers allow the final publisher PDF to be archived, most only allow the author's final text that was accepted for publication. Most publishers require that a citation for and a link to the original work be placed on the archived work (which UNCG does for all works in *NC DOCKS*), while some publishers also require that specific copyright statements or other phrases accompany each archived text. At UNCG, we follow the publishers' policies, archiving what they allow and adding any phrases, notifications, or links that they require. To assist in our record keeping, the Libraries created a special database for preserving the emails that we receive from editors and publishers when they notify us about their policies.

When a faculty member agrees to archive his or her works in *NC DOCKS*, we set up an "author's page" within *NC DOCKS* for that faculty member, and it includes his/her name, department, contact information, research interests, a brief biographical statement, a photograph, and a list of all of his/her works that are archived in the repository. Currently, over 200 faculty members have archived their works in *NC DOCKS* (over 20 percent of the faculty), and they have contributed over 3,000 works to the repository. In addition, there are about 1,000 electronic theses and dissertations (ETDs—the only student works included), and ETDs are automatically added at the end of each semester. Since January 2009, the 4,000 documents in *NC DOCKS* have been viewed or downloaded over 100,000 times. Statistics that show how often each work has been viewed are automatically generated each day, and the statistics for each work are posted next to the citation as it is listed on the author's page in *NC DOCKS*. Currently, the most viewed article, "A Descriptive Model for Managerial Effectiveness," is by Dianne Welsh, Distinguished Professor of Entrepreneurship, and it has been viewed approximately 700 times (see <http://libres.uncg.edu/ir/uncg/clist.aspx?id=1948>)

There are many ways that faculty will benefit by posting their works in *NC DOCKS*. Since researchers worldwide will have continuous and perpetual access to their publications, authors with works in *NC DOCKS* will enjoy a larger community of readers. The primary benefit to faculty who post their works in *NC DOCKS* is the dramatic increase in the discoverability of their works. Although *NC DOCKS* has its own searching interface (searchable by author, department, title, and keyword), most researchers will use an Internet search engine, such as *Google* or *Google Scholar*, to discover works archived in the repository. Importantly, *Google* and other Internet search engines are primary discovery tools for a vast number of researchers throughout the world. Search engines "crawl" repositories for new material, provide full-text keyword access, and give preferential treatment to such works. In a keyword *Google* search, works in *NC DOCKS* tend to fall out early in the results list, which greatly increases discoverability. Studies show that, across all disciplines, open-access articles, such as those in *NC DOCKS*, have greater research impact than traditional publications—when works are discovered more, it naturally follows that they also are read more and cited more (see <http://eprints.ecs.soton.ac.uk/18516/>).

Traditionally, in order to discover scholarly articles on any subject, a researcher would need to have access to scholarly databases, indexes, and other discovery tools, such as *Web of Science*, *Biological Abstracts*, *MLA International Bibliography*, etc. , which would be paid for by the institution where the researcher worked. Institutional repositories like *NC DOCKS* will not replace these valuable resources, so researchers who have access to and use these databases should continue to enjoy the special and thorough coverage that they provide to the various

disciplines. However, not everyone has access to these databases, indexes, and special discovery tools. In fact, there is a world full of researchers, practitioners, and other individuals who would be interested in our faculty's research, but they do not have access to the databases and indexes typically provided by a university or other research institution. However, anyone in the world with a computer and an Internet connection has access to *Google* and other search engines, and they can discover our faculty's works through simple keyword searches. *NC DOCKS* opens our faculty's research to the world—anyone with a computer can discover their works, not just those who work at institutions that can pay for special databases and indexes.

For example, if you go to *Google* and do a keyword search on the two words “athletes” and “pain,” you get a lot of information, as you would expect—over 14 million hits. Hey, as popular saying among American athletes reports, “No pain, no gain.” Even though the results for this keyword search exceeds 14 million, you do not have to go far through the results list in order to discover a work from *NC DOCKS*. On the fifth page of the results list, you would find a citation and link to a work entitled, “Pain and Ethnicity in Athletes” (<http://libres.uncg.edu/ir/listing.aspx?id=433>), written by our Provost at UNCG. If you added just one more keyword to the search, “threshold,” the results list narrows to over 80 thousand hits, and second citation on the results list is the same article from *NC DOCKS*. In this case “athletes” and “pain” are title words, but “threshold” is an abstract word. Importantly, this example highlights the fact that the vast majority of works in *NC DOCKS* are full-text searchable and that *Google* has given a significant amount of preference to works in *NC DOCKS* so that they fall out high in any results list. And of course, that is the great benefit that *NC DOCKS* brings to our faculty—it makes their works significantly more discoverable. And when works are discovered more, it just follows naturally that they will be read more and cited more.

CONCLUSIONS

Whenever I discuss *NC DOCKS* with faculty members, I note that archiving a work in *NC DOCKS* dramatically increases that work's discoverability, that most publishers allow archiving in institutional repositories, and that archiving in *NC DOCKS* is easy to do for faculty members, especially since the library does all of the work verifying publishers' policies and preparing faculty works for archiving. Over 200 faculty members have archived their works thus far, and as that number continues to grow steadily, the statistics show that faculty works in *NC DOCKS* are being discovered by significant numbers of researchers using Internet search engines. For University of North Carolina at Greensboro, the statistics that show our faculty's works being viewed and downloaded is prime proof that *NC DOCKS* is succeeding in fulfilling its primary purpose—to showcase our faculty's works to the world and make them more discoverable.