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# adobe medicus 2016 5 September-December

UNM HSLIC

*UNM Health Sciences Library and Informatics Center*

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*And much more!*

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# adobe medicus

BIMONTHLY BULLETIN OF THE HEALTH SCIENCES LIBRARY AND INFORMATICS CENTER

## From HSLIC's Executive Director

This is the fifth article in my series focusing on changes in the library since its founding.

In 2001, the name of the Health Sciences Center Library was changed to Health Sciences Library and Informatics Center. This change was the result of recommendations made by the Association of American Medical Colleges in the 1982 Cooper & Matheson report, which recommended newly expanded roles for libraries in academic health sciences centers. The resulting grant program by the National Library of Medicine (NLM) became both a catalyst and an enabler for the UNM Health Sciences Center to expand this library's role to include informatics. Fred Hashimoto and I submitted UNM's original grant proposal in 1998, and it was finally funded in 2000 as "IAIMS Planning for the University of New Mexico." The name change was followed by development of a post-doctoral training program in informatics.

NLM defines health informatics as "the interdisciplinary study of the design, development, adoption and application of IT-based innovations in healthcare services delivery, management and planning." Randy Stewart, MD, became the program's first fellow in 2003. Philip Kroth, MD, was recruited in 2004 as our first full-time faculty member, and our second faculty member is Stuart Nelson, MD, formerly of NLM. The informatics program expanded again in 2016 with ACGME's approval of a fellowship in clinical informatics. That program's first fellow, Vipul Bodar, MD, will begin working with us this November.

**Holly Shipp Buchanan, MLn, MBA, EdD, FMLA, AHIP**  
Executive Director, HSLIC  
Professor, UNM School of Medicine

## BioMISS lecture season kicks off with "deep learning" talk



Susan R. Atlas, PhD, delivered the kickoff presentation for the library's BioMISS lecture series.

On Sept. 15th, Susan R. Atlas, PhD, kicked off HSLIC's 2016 Biomedical Informatics Seminar Series (BioMISS) with her talk, "Deep Learning for Drug Discovery and Personalized Medicine."

Atlas is the outgoing director of the Center for Advanced Research Computing and a research professor in the UNM Physics and Astronomy Department. This lecture was her last "gig" at UNM.

During her opening remarks, Atlas announced that she was leaving that afternoon for a one-year sabbatical to conduct research for the National Science Foundation in Washington, D.C.

*(Continued on p. 2)*

BioMISS season kicks off with “deep learning” talk (Continued from p. 1)

Atlas’ talk explored machine learning, which is a set of methodologies rooted in computer science and statistics that is used to make sense of very large and complex datasets built on principled mathematical tools. The methodologies allow the data to speak to the researcher (and reveal underlying patterns in the data) without introducing any external preconception or bias. She explained that one of the challenges in machine learning is to identify the critical features of a dataset that can be used in applying the mathematical model for pattern recognition.

“Frequently, there is considerable intrinsic noise in large datasets, especially those arising in biology or biomedicine,” she says. “Deep learning is a new set of techniques that allows the dataset itself to reveal these critical features, providing insight into the intrinsic structure of the dataset, as well as improving the fidelity of standard machine-learning techniques for pattern recognition.”

Fourteen BioMISS lectures will be presented through May 2017. They are held on Thursdays from 10 to 11 a.m. in room 228 of the library. Visit [http://hslc.unm.edu/about-hslc/brochures/BioMISS\\_Schedule\\_2016-17.pdf](http://hslc.unm.edu/about-hslc/brochures/BioMISS_Schedule_2016-17.pdf) to see the complete schedule.

2016 READ poster features Dean Nancy Ridenour



To celebrate National Medical Librarians Month in October, the library has printed “READ” posters that feature a photo of Nancy Ridenour, PhD, RN, APRN, BC, FAAN, Dean, UNM College of Nursing.

In the photo, she is shown with her favorite book, *Letters from Egypt: A Journey on the Nile, 1849–1850*, by Florence Nightingale, the founder of modern nursing. On a recent trip to Africa and Egypt, Dean Ridenour visited some of the places described in the book. The posters are on display throughout the Health Sciences Center (HSC) campus.

You can see the poster on HSLIC’s home page at <http://hslc.unm.edu>.

The American Library Association launched the READ campaign in 1985 to promote literacy nationwide. Each READ poster features a celebrity holding his or her favorite book. Bette Midler was the first celebrity to participate in ALA’s national campaign.

HSLIC began the annual READ campaign in 2013. Our HSC celebrities for past posters are as follows:

- 2015:** Lynda Welage, PharmD, Dean and Professor, UNM College of Pharmacy
- 2014:** Richard Larson, MD, PhD, Executive Vice Chancellor and Vice Chancellor for Research for UNM’s Health Sciences Center
- 2013:** Paul B. Roth, MD, Chancellor for Health Sciences and Dean, UNM School of Medicine

GO Bond B will fund New Mexico libraries if passed on Nov. 8

This November, voters will vote on General Obligation (GO) Bond B, which will provide more than \$10 million to fund New Mexico libraries. No tax increases are associated with these bonds.

Of that total, \$3,250,000 would be allocated to academic libraries. Public libraries and school libraries would receive \$3 million each, and tribal libraries would receive \$750,000. If the bond passes, UNM’s University Libraries will receive \$797,637.



In November 2014, New Mexico voters approved General Obligation Bonds B and C, which made possible the construction of the third phase of the Domenici Center for Health Sciences Education, called the Health Education Building Phase III. General Obligation bonds come before the voters of New Mexico every two years. Voters also will decide whether to approve GO Bond C, which allocates funds for projects at each of UNM’s four branches in Gallup, Los Alamos, Taos and Valencia County. It also allocates \$27 million to plan, design, construct, equip and furnish a Physics and Astronomy Interdisciplinary Science (PAIS) building on UNM’s main campus.

This photo taken on Sept. 15, 2016, shows the continued construction in the area west of the Domenici Center. This expansion of the Domenici Center was made possible by GO Bond B, which New Mexico voters approved in 2014.

HSLIC has 150+ interviews with New Mexico physicians and nurses

Laura Hall — Division Head, Resources, Archives and Discovery



Dr. William Minear conducting surgery at Carrie Tingley Hospital for Crippled Children in Hot Springs (TorC), circa 1950.

The American Library Association has launched an initiative called “Libraries Transform” to “ensure that there is one clear, energetic voice for our profession.”

New Mexico libraries transform the way we look at our state’s history. For example, HSLIC is documenting the history of health care in New Mexico with a rich collection of oral histories. The interviews provide insight into the work experiences, individual perspectives and collectively a broader insight into the state’s history.

The interviews were conducted mostly during the 1980s and ’90s and feature some of New Mexico’s longest-practicing medical doctors, public health nurses and other health care professionals.

More than 150 transcribed interviews are available through the New Mexico Digital Collections portal at <http://econtent.unm.edu/cdm/landingpage/collection/nmhhc>.



## HSLIC Data Management Planning service continues to serve the HSC

Steve Stockdale — Deputy Director for Operations



Lori Sloane (l) of HSLIC discusses a data management plan with Joe Hoover, Ph.D., and Miranda Cajero of the UNM Community Environmental Health Program.

- Worked with a research faculty member on visually representing research results for a poster presentation. Rather than rely on a simple table, the researcher incorporated some suggestions to sort the results, highlight the key discriminants with color, and then use a word cloud to illustrate relative significance.
- Developed a new data management training curriculum as an introduction for units to begin the process of assessing their data management needs and initiating potential data management initiatives.

On the subject of data management, HSLIC has acquired a new book by Kristin Briney titled *Data Management for Researchers*. The author focuses on the research process and outlines how researchers acquire, analyze and manage their information throughout the data life cycle. We recommend this book as a well-organized and relatively quick read that provides a thorough introduction to data management considerations that apply to virtually all research or administrative data initiatives.

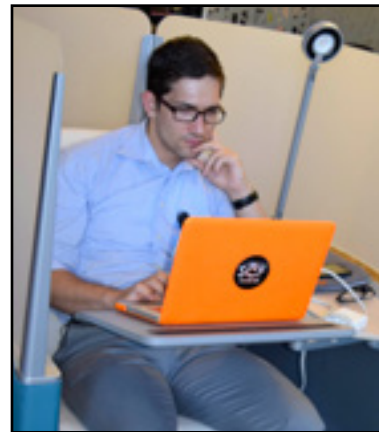
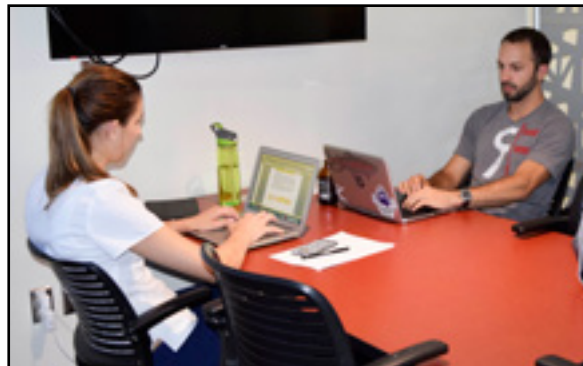
Please contact Lori Sloane at (505) 272-1062 or [LSloane@salud.unm.edu](mailto:LSloane@salud.unm.edu) if you have questions or needs related to data management.

## New third-floor study area named “PODS”

The new study area on the third floor of HSLIC has been named “PODS” (Place of Downtime and Study), with input from faculty, staff and students.

In the photo at right, Alyx Brannock (l) and Nathan Widner study together. They are both nursing students, Level 5. In the far-right photo, Ioan Belovarshi, MS-IV, studies in one of the new “pods” in the study area. He will graduate from the UNM School of Medicine in 2017.

In addition to group and individual study areas, the new PODS includes a chess table and a coloring station.



## Is cooperative computation dead?

Stuart Nelson, MD, FACP, FACMI — Visiting Professor

In the 1970s, visionaries thought the Day of Artificial Intelligence (AI) was arriving. They envisioned a world in which human thought would be modeled and then replaced by computers. All types of thought, including medical diagnosis, were believed to be simple processes that would be accomplished by “teaching” the computer, with engineers modeling the reasoning process and knowledge of domain experts. In 1952, Kurt Vonnegut explored the social implications of a world like this in his classic science fiction book *Player Piano*.

In opposition to the visionaries, philosophers such as John Searle argued that computers were not a realistic model of the human brain and that symbol manipulation, however sophisticated, would not approximate human understanding. The debate raged on, but the lack of workable results from the strong AI community led to a readjustment of perceptions and goals.

A few years later, Marsden S. Blois, one of the fathers of medical informatics, came up with the notion of “cooperative computation.” Learning from some of the observations of cognitive psychology, he noted that machines were particularly good at recall, something humans do not do well, but were poor in pattern recognition, something humans do well. Combining the two — letting machines do best what they do best and letting humans do best what they do best — was the model of cooperative computation. Humans could use machines capable of things not easily done, such as recalling all the different causes of hypercalcemia, and humans would use their judgment and pattern-recognition skills to recognize the helpful from the not-so-helpful pieces of information retrieved.

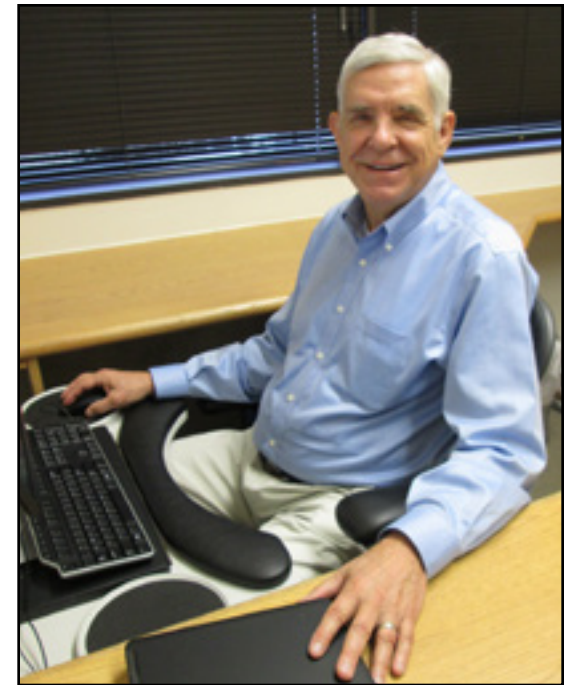
More recent models of AI have focused more on simulating intelligent behavior by a combination of heuristics, algorithms and decision trees, combined with rapid data processing. Some functional aspects of modern technology, such as giving a user a set of limited choices for a function, are an indication that the innovations from this approach are still in effect.

Lately, however, massive volumes of data can now support remarkably good predictions, and they appear highly intelligent. Analysis by traditional means seems less and less important with larger volumes of data. A lecture by Peter Norvig, a director of research at Google, demonstrates the capabilities of large volumes of data. (It is on YouTube and is titled “The Unreasonable Effectiveness of Data.”)

At the same time, “deep learning,” or using machine learning to develop its own algorithms and means of deciding a situation, has become highly advanced. IBM’s Watson project proved that the computer, with enough background information, could beat any human opponent at *Jeopardy*. Recently a computer came up with a completely novel winning strategy in playing Go, an Oriental game of strategy.

So it might appear that our model of cooperative computation — letting machines do best what they do best and letting humans do best what they do best — might no longer be a reasonable approach. However, the limits to what can be accomplished using large amounts of data are still to be established. There may well be situations in which there will never be enough data to support deep learning or analytic techniques.

My own view is that, no matter what developments occur, there will still be something essential that only humans can appreciate. Even when a computer can beat me at chess, and show me a better way to treat a patient, only humans can appreciate the meaning and significance of that kind of accomplishment. In that way, the computer is still the machine; but my ways of dealing with it have changed. Cooperative computation, when it implies that there are cognitive tasks that I can do better than the machine, may have indeed seen its heyday, but a human still must recognize and interpret the importance of what the machine is doing.



Stuart Nelson, MD, Visiting Professor



Movin’ in/movin’ up

In September, **Sarah Morley, PhD, MLS, AHIP**, accepted the new role of Division Head, Education, Consultation, and Reference Services. This new HSLIC unit includes **Ingrid Hendrix, MILS, AHIP**, Nursing Services Librarian; **Patricia Bradley, MLS, AHIP**, Native and Distance Services Librarian; and brand-new HSLIC employee **Michelle Green, MLIS**, Instructional Services Librarian. Patricia has just been promoted to the rank of Principal Lecturer III.

As HSLIC’s Instructional Services Librarian, Michelle Green will assist patrons and fellow faculty and staff members, provide research and instruction support through classroom sessions and individual consultations, and help ensure that Health Sciences Center students, faculty and staff are “information-literate.”

Before joining HSLIC, Green was a graduate assistant at the Schusterman Library on the Tulsa campus of the University of Oklahoma. Her main responsibilities were to assist patrons with research and technical questions and participate in library projects like collection management, assessment of the library’s patron usage and development of learning tools and resources. During her internship at Oral Roberts University, she had even more in-depth research assistance experience. She developed some LibGuides and updated the collection.

Michelle has two dogs. She grew up in Kansas and Oklahoma and lived in Tulsa for the previous 15 years. She moved to New Mexico to begin her career at HSLIC. She has a BS degree in communications and an MA in theological/historical studies from Oral Roberts University and an MLIS from the University of Oklahoma. She is American Library Association-certified and plans to achieve her AHIP certification in the near future. Outside of work, Michelle loves to write poetry, read voraciously, spend time with her dogs and go on Netflix binges.

HSLIC faculty speak at conference, record podcast and publish

On Oct. 27, **Philip J. Kroth, MD**, will speak at the first annual users’ conference of the Health Information Exchange for All New Mexicans. Kroth, HSLIC’s Director, Biomedical Informatics Research, Training and Scholarship, will deliver a talk titled “Poor Institutional Interoperability Is a Cause of Physician Stress and Burnout Tendency: Results from the MS-Squared Study.” The New Mexico Health Information Collaborative (NMHIC) launched this conference to host meaningful presentations and thoughtful discussions about the benefits, challenges and solutions for interoperability and exchange of health information in New Mexico and surrounding communities.

In September, an interview with **Kroth** was featured in a podcast on The Curbsiders website ([thecurbsiders.com](http://thecurbsiders.com)), launched by three internists. In the interview, Kroth discussed his research team’s work on the MS-Squared study (Minimizing Stress, Maximizing Success from Health Information and Communications Technologies). He noted that 54 percent of physicians report at least one symptom of burnout and suggested strategies for avoiding burnout, such as accessing electronic health records after hours only when there is no other choice. The research is funded by a grant from the Agency for Healthcare Research and Quality.

**Sarah Morley, PhD, MLS, AHIP**, co-published an article in the August 11, 2016, issue of *Disaster Medicine and Public Health Preparedness* with physicians from UNM’s Internal Medicine and Emergency Medicine Departments. Residents of long-term care facilities who experience a disaster are especially likely to suffer adverse health effects. This review looked for evidence to guide recommendations for improving disaster preparedness and response for these facilities.



The new Education, Consultation and Reference Services team. In front is Ingrid Hendrix. In the back row, from left to right, are Michelle Green, Sarah Morley and Pat Bradley.

Promoting Open Access: A column about scholarly communications

Jacob Nash — Resource Management Librarian



Open Access Citation Advantage: Fact or Fiction?

Open Access advocates have long touted a citation advantage when publishing Open Access, meaning, briefly, that if you publish your work in an open access journal, that article will be cited more than if it were published in a “toll access” journal.

Elsevier Connect, Elsevier’s blog, recently posted a review that highlights some recent research in the Open Access Citation Advantage literature. It concludes that previous studies claiming an advantage did not control for variables that may impact cites to a paper, such as funding or article quality. So we don’t yet know whether there truly is a citation advantage or not.

Another source from SPARC Europe is The Open Access Citation Advantage Service, which maintains a bibliography of all studies investigating the citation advantage. Of the 70 studies, 46 found a citation advantage, 17 found no advantage and 7 reported inconclusive results.

Finally, one of the best-controlled studies, a Randomized Controlled Trial conducted by Phil Davis in 2011, found no citation advantage between open access articles and toll access articles within the same journal. However, Davis found that the open access articles had nearly 100 percent more downloads than their toll-access counterparts. This intuitively makes sense, but the impact of higher readership is almost always considered small potatoes when being compared to citations. Still, that’s an interesting metric to consider.

I expect more fascinating research on the Open Access Citation Advantage to come out as time goes on, and hopefully better controlled studies will give us better answers.

Do you have a scholarly communications question? Would you like to see more information on copyright or publishing? Send your questions to me at [jlhash@salud.unm.edu](mailto:jlhash@salud.unm.edu).

**HSLIC Executive Director:**  
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**Do you have ideas for how we could improve this publication? Please send us your feedback:**

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Friday 7 a.m. – 6 p.m.  
Saturday 9:30 a.m. – 6 p.m.  
Sunday Noon – 11 p.m.

Holiday and break closures will be posted in the library.



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## Library and UNMH offered free PubMed searches in October

To recognize Health Literacy Month in October, the UNMH Health Literacy Office and HSLIC partnered to offer PubMed search results on health literacy topics for health care professionals. The PubMed searches are in the Announcements section of HSLIC's home page (<http://hslic.unm.edu>).

Patricia Bradley, Native and Distance Services Librarian for HSLIC, is a member of the Health Literacy Task Force. She collaborated with Kathryn "Kath" Anderson and Sarah Leister from the UNMH Health Literacy Office to provide these searches. This team of specialists offered PubMed searches in these areas:

- Health literacy and readmissions
- Health literacy and discharge instructions
- "Teach back" and patient outcomes
- Plain language" and health
- Cultural competency and health literacy

Individuals with limited health literacy skills are more likely to delay getting care, make medication mistakes, be



Left to right: Patricia Bradley, Sarah Leister and Kath Anderson

hospitalized (twice as likely) and use the emergency department. They are less likely to ask questions, follow a treatment plan and understand how to manage chronic conditions.

That is why health care organizations like UNMH are increasingly attuned to incorporating health literacy strategies into daily practice.

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