

Bradley Mark Hemminger, Ph.D.

Curriculum Vitae

Associate Professor
School of Information and Library Science
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Faculty member of the
Carolina Center for Genome Sciences
and
Adjunct Associate Professor
Department of Radiology
School of Medicine

Born: Jan 28th 1960, San Diego CA
Married: with Pam, four children

I. Educational Experience

Doctorate, Computer Science, 2001.
University of Utrecht, Utrecht, Netherlands.

Master of Science, Computer Science, 1985.
University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Bachelor of Science, Mathematics and Computer Science, magna cum laude, 1982.
Vanderbilt University, Nashville, Tennessee.

II. Professional Experience

2007-present **Associate Professor:** School of Information and Library Science,
University of North Carolina at Chapel Hill.

2001-2007 **Assistant Professor:** School of Information and Library Science,
University of North Carolina at Chapel Hill.

1985-2001 **Research Associate:** Department of Radiology, University of North
Carolina at Chapel Hill.

Consultant

- 2000-2003 Hologic: Consultant for the overall architecture and user interface design for their next generation of digital x-ray products.
- 1999-2002 Dome Imaging: Consultant for image display technology and products.
- 1998-2004 OTech: Consultant, and Lecturer. Through OTech serve as consultant for companies; also give half and full day courses on image quality and display.
- 1998-2002 Cedara: Consultant for workstation, user interface and PACS design, for digital mammography and 3D visualization products.
- 1998-2002 CADX: Consultant for workstation and user interface design, for incorporating computer aided detection of breast cancer into digital mammography.

- 1997-2000 Fischer Imaging: Consultant, designed and oversaw initial implementation of their digital mammography review station.
- 1982-1985 **Research Assistant:** Departments of Computer Science and Radiology, University of North Carolina at Chapel Hill.
- 1980-1981 **Research Assistant:** Department of Computer Science, Vanderbilt University.

III. Honors

- 2005 American Society for Information Science and Technology (ASIS&T) Certificate of Appreciation for Enhancing Communication Opportunities
- 2005 American College of Radiology (ACR) Distinguished Committee Service Award
- 2003 Certificate of Merit for scientific poster in Radiology Society of North America (RSNA) 2003 conference
- 2000 Honorable Mention: Best Scientific Exhibit, RSNA 2000 conference.
- 2000 Invited to present to Swedish Institute for Standards on international standards for electronic image display, Stockholm.
- 1999 Honorable Mention: Best Scientific Exhibit, RSNA 1999 conference.
- 1998 Certificate of Merit for RSNA poster, RSNA 1998 conference.
- 1998-2003 Appointed as ACR representative to DICOM WG 17, Three Dimensional Imaging Representation and Visualization.
- 1998-2003 Appointed as the DICOM representative to American Association of Physicists in Medicine (AAPM) Task Group 18 (Electronic Display of Medical Images).
- 1997-2002 Appointed as ACR representative to DICOM WG 15, Digital Mammography and Computer Aided Detection (CAD).
- 1997 Award, Honorable Mention, Best Poster, SPIE Medical Imaging Conference 1997.
- 1996-present Appointed as ACR representative to Digital Imaging and Communications in Medicine (DICOM) international standards group, Working Group (WG) 11 Display.
- 1996-present Appointment to the American College of Radiology (ACR) Standards and Accreditation Committee.
- 1995 Honorable Mention: Best Scientific Exhibit, Radiology Society of North America (RSNA) 1995 conference.

IV. Publications

Books

Hemminger BM, Digital Display of Radiological Images, Ponsen & Looijen, Amsterdam Netherlands, 2001.

Book Chapters

Pizer SM, Hemminger BM, Johnston RE, "Chapter 5: Display, Including Enhancement of Two-Dimensional Images", Image Processing Techniques for Tumor Detection, editor Strickland RN, Marcel-Decker, New York, 2002, pp101-130.

Behlen FM, Hemminger BM, Horri SC, "Chapter 10: Displays," SPIE Medical Imaging Handbook: PACS, editor Horri SC, Bellingham WA, SPIE, pp403-440, 2000.

Hemminger BM, Mukherji SK, "3D Visualization of the Extracranial Head and Neck," in Modern Head and Neck Imaging, Mukherji SK, Castelijns JA (eds), Heidelberg Springer-Verlag, 1998: 193-200.

Mukherji, SK, Shelton C, Hemminger BM, Harnsberger RH, "Advances in Temporal Bone Imaging," Advances in Otolaryngology Head and Neck Surgery, 1997.

Refereed Journal Publications

Hemminger, BM; TerMaat, J (2014), Annotating for the world: Attitudes toward sharing scholarly annotations, Journal of the American Society for Information Science and Technology (JASIST). 65, pp2278-2292.

Niu, X., Hemminger, B. M. (2014). Analyzing the Interaction patterns in a Faceted Search Interfaces. Journal of the American Society for Information Science and Technology (JASIST). 65.

Priem J and Hemminger BM (2012) Decoupling the scholarly journal. Front. Comput. Neurosci. 6:19. doi: 10.3389/fncom.2012.00019, (http://www.frontiersin.org/Computational_Neuroscience/10.3389/fncom.2012.00019/abstract).

Niu, X., Hemminger, B. M. (2012). A Study of Factors that Affect the Information Seeking Behavior of Academic Scientists. Journal of the American Society for Information Science and Technology (JASIST), 53:2,pp336-353, DOI: 10.1002/asi.21669.

Ramdeen S, Hemminger BM (2012), A tale of two interfaces: How Facets affect the library catalog search experience, JASIST 63:4,pp702-715. DOI: 10.1002/asi.21689.

Kampov-Polevoi J, Hemminger BM, A curricula-based comparison of biomedical and health informatics programs in the USA, J Am Med Inform Assoc (2011). doi:10.1136/jamia.2010.004259.

- Xi Niu, Bradley M. Hemminger, A Method for Visualizing Transaction Logs of a Faceted OPAC, Code4Lib Journal, Issue 12, 2010-12-21.
- Laura Haak Marcial, Bradley M. Hemminger, Scientific data repositories on the Web: An initial survey, JASIST, Volume 61, Issue 10, pages 2029–2048, October 2010, DOI: 10.1002/asi.21339.
- Priem J, Hemminger BM, "[Scientometrics 2.0: Toward new metrics of scholarly impact on the social Web](#)", First Monday, July 2010, Volume 15, number 7.
- Niu X, Hemminger BM, Lown C, Adams S, Brown C, Level C, McLure M, Powers A, Tennant MR, Cataldo T, National study of information seeking behavior of academic researchers in the United States, JASIST 61(5):p869-890, 2010, DOI: 10.1002/asi.21307.
- Julia Kampov-Polevoi, Hemminger BM, Survey of biomedical and health care informatics programs in the United States, Journal of the Medical Library Association, 04/2010; 98(2):178-81.
- Baker NC, Hemminger BM, Mining connections between chemicals, proteins, and diseases extracted from Medline annotations. J Biomed Inform, 2010 Mar 27.
- Maier CW, Long JG, Hemminger BM, Giddings MC, "Ultra-Structure database design methodology for managing systems biology data and analyses", *BMC Bioinformatics* 2009, **10**:254, doi:10.1186/1471-2105-10-254.
- Lown C, Hemminger BM, "Extracting User Interaction Information from the Transaction Logs of a Faceted Navigation OPAC", code{4}lib Journal, Issue 7, 2009-06-26.
- Hemminger BM, "NeoNote: Suggestions for a Global Shared Scholarly Annotation System", D-LIB, 15:5/6, 2009.
- Hemminger BM, Bauers A, Yang J, "Comparison of Navigation Techniques for Large Digital Images", J Digit Imaging. Oct;21 Suppl 1:S13-38, doi: 10.1007/s10278-008-9133-0, 2008.
- Hemminger BM, Lu D, Vaughan KTL, Adam SJ, "Information Seeking Behavior of Academic Scientists", JASIST 58(14): 2205-2225 (2007).
- Hemminger BM, Saelim B, Sullivan PF, Vision TJ, "Comparison of Full-text Searching to Metadata Searching for Genes in Two Biomedical Literature Cohorts", JASIST, 58(14):2341–2352, 2007
- Hemminger BM, Long T, Saelim B, "Comparison of Visualization Techniques for Displaying Medication History to Older Adults", UNC SILS TR 2006-04.
- Hemminger BM, Saelim B, and Sullivan PF, "TAMAL: an integrated approach to choosing SNPs for genetic studies of human complex traits", DOI 10.1093/bioinformatics/btk025, *Bioinformatics* 22: 626-627, 2006.
- Hemminger BM, Losi T, Bauers A, "Survey of Bioinformatics Programs in the United States", JASIST, Vol 56, No 5: 529-537 2005.

Hemminger BM, Molina PL, Egan, TM, Detterbeck RC, Muller KE, Coffey C, Lee JKT, "Assessment of Real-Time 3D Visualization for Cardiothoracic Diagnostic Evaluation and Surgery Planning", Journal of Digital Imaging, Vol 18, No 2, pp145-153, 2005.

Hemminger BM, Gerald Bolas, Doug Schiff, "Capturing Content for Virtual Museums: from Pieces to Exhibits", Journal of Digital Information, Vol 6, Issue 1, Article No. 313, p1-14, March 2005.

Samei, E., Badano, A., Chakraborty, D., Compton, K., Cornelius, C., Corrigan, K., Flynn, M.J., Hemminger, B., Hangiandreou, N., Johnson, J., Moxley-Stevens, D.M., Pavlicek, W., Roehrig, H., Rutz, L., Samei, E., Shepard, J., Uzenoff, R.A., Wang, J., Willis, C.E.. Assessment of display performance for medical imaging systems: Executive summary of AAPM TG18 report. Medical Physics, 32(4), 1205-1225, 2005.

Hemminger B.M. Softcopy Display Requirements for Digital Mammography. Journal of Digital Imaging, Sep;16(3):292-305, 2003.

Pisano ED, Cole EB, Kistner EO, Muller KE, Hemminger BM, Brown ML, Johnston RE, Kuzmiak CM, Braeuning MP, Freimanis RI, Soo MS, Baker JA, Walsh R., "Interpretation of Digital Mammograms: A Comparison of Speed and Accuracy of Soft-Copy Versus Printed-Film Display. Radiology, 2002; 223: 483-488.

Hemminger BM, Zong S, Muller KE, Coffey CS, DeLuca MC, Johnston RE, Pisano ED, "Improving the Detection of Simulated Masses in Mammograms through two Different Image-Processing Techniques", Academic Radiology, 2001; 8:845-855.

Pisano ED, Cole EB, Major S, Zong S, Hemminger BM, Muller KE, Johnston RE, Walsh R, Conant E, Fajardo LL, Feig SA, Nishikawa RM, Yaffe MJ, Williams MB, Aylward SR, Braeuning MP, McLelland R, Pizer SM, Brown ME, Rosen E, Soo MS, Williford M, Niklason LT, Maidment ADA, Vermont A, Kornguth PJ, Kopans DB, Moore RH, Chakraborty D, Jong R, Shumak R, Staiger M, Plewes DB, "Radiologists' Preferences for Digital Mammographic Display," Radiology, 2000: 216 (3): 820-830.

Pisano ED, Cole EB, Hemminger BM, Yaffe MJ, etal, "Image Processing Algorithms for Digital Mammography: A Pictorial Essay," Radiographics 20:1479-1491, May 2000.

Pisano ED, Yaffe M, Hemminger BM, Hendrick E, Niklason L, etal, "Current Status of Full-Field Digital Mammography," Academic Radiology, 7:266-280, March 2000.

Hemminger BM, Dillon AW, Johnston RE, Muller KE, Deluca MC, Coffey CS, Pisano ED, "Effect of display luminance on the feature detection rates of masses in mammograms," Medical Physics, 26 (11), Nov 1999, pp 2266-2272.

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of simulated spiculations in dense mammograms,” *Journal of Digital Imaging*, 11(4):193-200, 1998 Nov.

Pisano ED, Chandramouli J, Hemminger BM, Glueck D, Johnston RE, Muller K, Braeuning MP, Puff D, Garrett W, Pizer S, “The effect of intensity windowing on the detection of simulated masses embedded in dense portions of digitized mammograms in a laboratory setting,” *Journal of Digital Imaging*, 10(4):174-82, 1997 Nov.

Blume H, Hemminger BM, “Image Presentation in Digital Radiology: Perspectives on the Emerging DICOM Display Function Standard and Its Application,” *Radiographics*, Vol 17, No 3, pp 769-777, May 1997.

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Beard DV, Hemminger BM, Remote ultrasound using cooperative video: a field study. *Journal of Behaviour and Information Technology*. Vol 17, No 3, pp 10-17, January 1, 1998.

Beard DV, Molina PL, Muller KE, Denelsbeck KM, Hemminger BM, Perry JR, Braeuning MP, Glueck DH, Bidgood WD Jr, Mauro M, et al., “Interpretation time of serial chest CT examinations with stacked-metaphor workstation versus film alternator,” *Radiology*, 197(3):753-8, 1995 Dec.

Hemminger BM, Johnston RE, Rolland JR, Muller KE, “Introduction to Perceptual Linearization for Video Display Systems for Medical Image Presentation,” *Journal of Digital Imaging*, Vol 8, No 1, Feb. 1995, pp:21-34.

Puff DT, Pisano ED, Muller KE, Johnston RE, Hemminger BM, Burbeck CA, McLelland R, Pizer SM, “A Method for Determination of Optimal Image Enhancement for the Detection of Mammographic Abnormalities,” *Journal of Digital Imaging*: 161-171 Nov 1994.

Beard DV, Hemminger BM, Pisano ED, Denelsbeck KM, Warshauer DM, Mauro MA, Keefe B, McCartney WH, Wilcox CB, “Computed tomography interpretations with a low-cost workstation: a timing study,” *Journal of Digital Imaging*, 7(3):133-9, 1994 Aug.

Beard DV, Hemminger BM, Denelsbeck KM, Johnston RE, “How many screens does a CT workstation need?,” *Journal of Digital Imaging*, 7(2):69-76, 1994 May.

Beard DV, Hemminger BM, Keefe B, Mittelstaedt C, Pisano ED, Lee JK, “Real-time radiologist review of remote ultrasound using low-cost video and voice,” *Investigative Radiology*, 28(8):732-4, 1993 Aug.

Beard DV, Hemminger BM, Perry JR, Mauro MA, Muller KE, Warshauer DM, Smith MA, Zito AJ, “Interpretation of CT studies: single-screen workstation versus film alternator,” *Radiology* 187(2):565-9, 1993 May.

Hemminger BM, Johnston RE, Rolland JR, Muller KE, “Introduction to Perceptual Linearization for Video Display Systems for Medical Image Presentation,” *Journal of Digital Imaging*, Vol 8, No 1, Feb. 1995, pp:21-34.

Puff DT, Pisano ED, Muller KE, Johnston RE, Hemminger BM, Burbeck CA, McLelland R, Pizer SM, "A Method for Determination of Optimal Image Enhancement for the Detection of Mammographic Abnormalities," *Journal of Digital Imaging*: 161-171 Nov 1994.

Beard DV, Hemminger BM, Pisano ED, Denelsbeck KM, Warshauer DM, Mauro MA, Keefe B, McCartney WH, Wilcox CB, "Computed tomography interpretations with a low-cost workstation: a timing study," *Journal of Digital Imaging*, 7(3):133-9, 1994 Aug.

Beard DV, Hemminger BM, Denelsbeck KM, Johnston RE, "How many screens does a CT workstation need?," *Journal of Digital Imaging*, 7(2):69-76, 1994 May.

Beard DV, Hemminger BM, Keefe B, Mittelstaedt C, Pisano ED, Lee JK, "Real-time radiologist review of remote ultrasound using low-cost video and voice," *Investigative Radiology*, 28(8):732-4, 1993 Aug.

Beard DV, Hemminger BM, Perry JR, Mauro MA, Muller KE, Warshauer DM, Smith MA, Zito AJ, "Interpretation of CT studies: single-screen workstation versus film alternator," *Radiology* 187(2):565-9, 1993 May.

Refereed Papers in Conference Proceedings

"For Telling" the Present: Using the Delphi Method to Understand Personal Information Management Practices, William Jones, Robert Capra, Anne Diekema, Jaime Teevan, Manuel Pérez-Quñones, Jesse David Dinneen, Bradley Hemminger, SIG-CHI 2015.

Shin G, Graves N, Gray K, Head M, Hemminger BM, Makowski L, Troester M. Breast Cancer Puzzle: Using Electronic Media to Communicate Breast Cancer Risk Information to Young African American Women, Annual Meeting of the American Public Health Association, New Orleans, LA. 11/17/2014. (poster)

Graves N, Gray K, Hemminger BM, Head M, Makowski L, Shin G, Troester M. Understanding How to Communicate Breast Cancer Risk Information to Young African American Women. Annual Meeting of the American Public Health Association, New Orleans, LA. 11/18/2014.

Graves N, Gray K, Hemminger BM, Head M, Makowski L, Shin G, Troester M. My Breast Cancer Risk: Using Technology to Enhance the Environmental Health Literacy of Young Black Women. Annual Meeting of the NIEHS Breast Cancer and the Environment Research Program, San Francisco, CA. 11/20/2014.

Graves N, Gray K, Haine D, Hemminger BM, Head M, Makowski L, Shin G, Troester. Enhancing the Environmental Health Literacy of Broad Audiences to Inform about Cancer Risk. Annual Meeting of the American Public Health Association, San Francisco, CA. 11/20/2014. (poster)

Graves N, Makowski L, Gray K, Head M, Hemminger BM, Shin G, Troester M. Using Electronic Media to Communicate Breast Cancer Risk Information to Young African American Women, Annual Meeting of the NIEHS Breast Cancer and the Environment Research Program, Madison, WI. 11/7/2013. (poster)

Marcial LH, Fuemmeler BF, Hemminger BM, Blatt J, Gold S, Wood W, “Adolescent Young Adult Cancer Survivor Technology Use Survey”, April 2012, Society for Behavioral Research Conference, New Orleans LA. {add poster to website}

Niu, X. and Hemminger, B. M. (2011), Effectiveness of real-time query expansion in a library catalog. *Proc. Am. Soc. Info. Sci. Tech.*, 48: 1–5. doi: 10.1002/meet.2011.14504801165

Milojević, S., Hemminger, B. M., Priem, J., Chen, C., Leydesdorff, L. and Weingart, S. B. (2012), Information visualization state of the art and future directions. *Proc. Am. Soc. Info. Sci. Tech.*, 49: 1–3. doi: 10.1002/meet.14504901155

Xi Niu, Hemminger BM, (2012). ALISE, XXX, Dallas, TX.

Marcial, LH, Hemminger BM (2012). Search Experience Across Devices: The impact of screen size, interaction style and fixed versus flexible format. ALISE, Dallas, TX.

Niu, X., Hemminger, B. M. (2010). Library Homepage vs. Google: Interface Preference of Academic Researchers. In *Proceedings of the 8th Information Seeking in Context Conference (ISIC 2010)*. Murcia, Spain, September 18-October 2, 2010.

Priem, J., Piwowar, H., & Hemminger, B. (2011). Altmetrics in the wild: An exploratory study of impact metrics based on social media. Presented at the Metrics 2011: Symposium on Informetric and Scientometric Research, New Orleans, LA, USA.

Marcial, LH and Hemminger, BM (2011). [Scrolling and Pagination for Within Document Searching: The Impact of Screen Size and Interaction Style](#). ASIS&T Annual Meeting, New Orleans, LA.

Laura Marcial, Bradley Hemminger, [Scrolling and Pagination for Within Document Searching: The Impact of Screen Size and Interaction Style](#). ASIST 2011 Conference, Poster Presentation, New Orleans, LA, USA, October 12.

Xi Niu, Bradley Hemminger, [Effectiveness of Real-Time Query Expansion in a Library Catalog](#). In *Proceedings of the 74th ASIS&T Annual Meeting*, Vol 48, New Orleans, LA, USA, October 19-13, 2011.

Priem, J., Piwowar, H., & Hemminger, B. (2011). Altmetrics in the wild: An exploratory study of impact metrics based on social media. Presented at Metrics 2011: Symposium on Informetric and Scientometric Research. New Orleans, LA, USA, October 12.

Niu, X., Hemminger, B. M. (2010). Beyond Text Querying and Ranking Lists: How People Are Searching through Faceted Catalogs in Two Library Environments. In *Proceedings of the 73rd ASIS&T Annual Meeting*, Vol 47. Pittsburg, PA, October 22-27, 2010.

Niu, X., Hemminger, B. M. (2010). Tactics for Information Search in a Public and an Academic Library Catalog with Faceted Interfaces. In *Proceedings of the 4th Workshop on Human-Computer Interaction and Information Retrieval (HCIR'10)*, 83-86. New Brunswick, NJ, August 22, 2010.

Niu, X., Lown, C., & Hemminger, B. M. (2009). Log Based Analysis of How Faceted and Text Based Search Interact in a Library Catalog Interface. In *Proceedings of the 3rd Workshop on*

Human-Computer Interaction and Information Retrieval (HCIR'09), 62-65. Washington. D.C., October 23, 2009.

Niu, X., Hemminger, B. (2009). Information Resources Used by Academic Professors of the United States in the Electronic Age. In *Proceedings of the 4th Annual iSchools Conference (iConference'09)*. Chapel Hill, NC, February 8-11, 2009.

Hemminger BM, Fox J, Ni M, "Improving the ETD submission process through automated author self contribution using DSpace", Electronic Theses and Dissertations 2004 conference, Lexington KY, published by NDLTD, <http://hdl.handle.net/2340/213>, 2004.

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Hemminger BM, Dillon A, Johnston RE, "Evaluation of the Effect of Display Luminance on the Feature Detection of Simulated Masses in Mammograms," Proc SPIE Medical Imaging: Image Perception, Vol 3036-12, 1997.

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David V. Beard, David H. Eberly, Bradley M. Hemminger, Stephen M. Pizer, R. E. Faith, Charles Kurak, Mark Livingston, "Interacting with image hierarchies for fast and accurate object segmentation", Proc. SPIE Vol. 2167, p. 10-17, Medical Imaging 1994: Image Processing; Murray H. Loew; Ed.

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Hemminger BM, Johnston RE, Rolland JR, Muller KE, "Perceptual Linearization of Video Display Monitors for Medical Image Presentation," Proceedings SPIE Vol 2164, Medical Imaging: Image Capture, Formatting and Display, p. 222-240, 1994.

Hemminger BM, "Isoluminance: A Color Technique for Visualizing Multivariable Medical Image Data," Proceedings SPIE Vol 1896, Medical Imaging VII: Image Capture, Formatting and Display, pp 325-335, Feb 1993.

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Beard DV, Brown P, Hemminger BM, Misra R, "Scrolling Radiologic Images: Requirements, Designs, and Analyses," Computer Assisted Radiology (CAR), pg. 636-641, Berlin July 3-6, 1991.

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Thompson BG, Hemminger BM, "ACR-NEMA Implementation from Prototypes to the Clinic," SPIE Proceedings, Vol. 717, Medical Imaging Part II, Feb 1988.

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Johnston RE, Rogers DC, Creasy JL, Beard DV, Hemminger BM, Perry JR, Pizer SM, "How to Evaluate a Medical Imaging Display Workstation," SPIE Proceedings, Vol 767 Medical Imaging, pg. 616-621, Feb 1987.

Hemminger BM, Thompson BG, Stancil PE, "Implementation of the ACRNEMA standard and Building Towards an ACRNEMA Test Facility at the University of North Carolina," SPIE Proceedings, Vol. 767 Medical Imaging, Part II, Feb 1987.

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Rogers DC, Johnston RE, Hemminger BM, Pizer SM, "Development of and Experience with a Prototype Medical Image Display," Proceedings of the Farwest Image Perception Conference, Albuquerque, New Mexico, July 17-19, 1986.

Creasy JL, Loendorf D, Hemminger BM, "Initial Experience with a Prototype Archival System at the University of North Carolina," SPIE Proceedings, Vol. 626 Medical Imaging, Feb 1986.

Johnston RE, Rogers DC, Hemminger BM, Pizer SM, Creasy JL, Perry JR, Staab EV, Curnes JT, Parker LA, "A Multiscreen Multiple Image Display Console," SPIE Proceedings, Vol 626 Medical Imaging Part II, pp 447-450, February 1986.

Refereed Unpublished Oral Presentations or Abstracts

Stasa Milojevic, Chaomei Chen, Loet Leydesdorff, Jason Priem, Bradley M. Hemminger, Scott B. Weingart, "Information Visualization State of the Art and Future Directions", ASIST 2012, Baltimore MD, Oct 2012.

Bartlett J, Hemminger BM, MacMullen JW, Julia Kampov-Polevoi, "Evolving Curricula in LIS-Focused Bioinformatics Programs", ASIST 2009, Vancouver CA, Nov 2009.

Hemminger, BM, "Blogs and Wikis: How They Can Improve Conference Communications", Workshop Presentation at 2006 American Society of Information Science and Technology conference, Austin Texas, Nov 2006.

Hemminger, BM, "Information Seeking Behavior of Scientists", Panel Presentation at 2005 American Society of Information Science and Technology conference, Charlotte, NC, Nov 2005.

Hemminger, BM, "Scientific Data Preservation and Access Needs: Looking Forward", 2005 American Society of Information Science and Technology conference, Charlotte, NC, Nov 2005.

Hemminger BM, Gerald Bolus, Doug Schiff, "Visiting Virtual Reality Museum Exhibits", Joint Conference on Digital Libraries 2004, Tucson AZ.

Roehrig H, Gaskill JW, Blume H, Fan J, Hemminger BM, "Image Quality Control and Image Quality Measurements for Display Systems", Scientific Exhibit, RSNA 89th Scientific Assembly, 2003.

Hemminger BM, "Scholarly Communications in an Electronic Age", 2003 American Society of Information Science and Technology conference, Long Beach CA, Nov 2003.

MacMullen WJ, Moore ME, Vaughan KTL, Jenkins CG, Hemminger BM, "Planning bioinformatics education and information services in an academic Health sciences center library". 2003 Medical Library Association Annual Meeting, May 3-7, 2003.

Hemminger BM, "Survey of Bioinformatics Programs", panel presentation, 2002 American Society of Information Science and Technology conference, Philadelphia PA, Nov 2002.

Hemminger BM, "Image Quality on CRT and Flat Panel Displays," InfoRad Scientific Exhibit, RSNA 2001.

Hemminger BM, "Calibration of CRT Monitors According to the DICOM Grayscale Display Function," InfoRad Scientific Exhibit, RSNA 2000. (Certificate of Merit).

Hemminger BM, Shaphit S, Pisano ED, "Demonstration of a Softcopy Display System for Digital Mammography with CAD," InfoRad Scientific Exhibit, RSNA 1999.

Hemminger BM, "Softcopy Display Calibration," Invited InfoRad Scientific Exhibit, RSNA 1999.

DICOM, ACR, NEMA, OTech, Hemminger BM, etal, "Softcopy and Hardcopy Display Consistency and DICOM standards," Invited InfoRad Scientific Exhibit, RSNA 1999.

Oosterwijk H, Eichelberg M, Riesmeier J, Hemminger BM, et al, "Demonstration of DICOM Display Standards," European Congress of Radiology, 1999.

Hemminger BM, Shaphit S, Pisano ED, Johnston RE, "Demonstration of a Softcopy Display System for Digital Mammography," InfoRad Scientific Exhibit, RSNA 1998.

Hemminger BM, Dillon AW, Pisano ED, Johnston RE, "Demonstration of a Softcopy Display System for Digital Mammography," InfoRad Scientific Exhibit, RSNA 1997.

Roehrig H, Blume H, Hemminger BM, "Image Quality Control and Image Quality Measurements for Display Systems," InfoRad Scientific Exhibit, continued educational series, RSNA 1996, RSNA 1997, RSNA 1998, RSNA 1999 (Certificate of Merit), RSNA 2000.

Hemminger BM, Blume H, Roehrig H, Johnston RE, "Demonstration of Display System Measurement and Conformance to the Proposed ACR/NEMA Working Group XI Display Function Standard," InfoRad Scientific Exhibit, RSNA 1996.

Hemminger BM, Molina PL, Egan MT, Detterbeck F, "Real-time, Interactive 3D Visualization for Transplant Surgery," InfoRad Scientific Exhibit, RSNA 1996.

Pisano ED, Hemminger BM, Garrett W, Johnston RE, Zong S, Glueck D, Muller K, Braeuning MP, Puff D, Pizer S, "Does CLAHE image processing improve the detection of simulated spiculations in dense breasts in a laboratory setting?," AUR, 1996.

Pisano ED, Hemminger BM, Garrett W, Johnston RE, Chandramouli J, Glueck D, Muller KE, Braeuning MP, Puff D, Pizer S, "Does CLAHE image processing improve the detection of simulated masses in dense breasts in a laboratory setting?," AUR, 1996.

Pisano ED, Chandramouli J, Hemminger BM, Johnston RE, Muller KE, Pizer SM, "The utility of intensity windowing in improved detection of simulated masses in mammograms of dense breasts," Scientific Paper Presentation, RSNA 1995.

Mukherji S, Hemminger BM, Bernard EJ, Carrasco V, "Virtual Reality Imaging of the Extracranial Head and Neck," Scientific Poster Exhibit, RSNA 1995.

Molina PL, Hemminger BM, Egan T, Detterbeck F, "Real-time 3D Visualization of Spiral CT Studies: Assessment of Clinical Utility in the Preoperative Thoracic Surgical Evaluation," Scientific Paper Presentation, RSNA 1995.

Hemminger BM, Roehrig H, Blume H, Channin D, Prior F, Johnston RE, "Demonstration of image quality and display system standardization for high quality softcopy video display systems," InfoRad Scientific Exhibit, RSNA 1995. (Certificate of Merit)

Hemminger BM, Molina PL, Braeuning MP, Pisano ED, Mukherji S, Beard DV, "Real-time, Interactive 3D Visualization for Pre-operative Diagnostic Evaluation and Surgical Planning," InfoRad Scientific Exhibit, RSNA 1995.

Braeuning MP, Hemminger BM, Pisano ED, et al, "3D MRI of the Breast," Roetgen Ray 1995.

Hemminger BM, North MJ, Molina PL, Pisano ED, David M. Warshauer, Beard DV, "3D Real-time, Interactive Visualization at UNC Radiology," InfoRad Scientific Exhibit, RSNA 1994.

Johnston RE, Hemminger BM, Blume H, "Visual Perception Based Image Display Standard," InfoRad Scientific Exhibit, RSNA 1995.

Beard DV, Hemminger BM, "Radiology Workstations," InfoRad Scientific Exhibit, RSNA 1992.

Beard DV, Hemminger BM, Mauro MA, Perry JR, "A speed and accuracy comparison of film vs. electronic display," AUR 1992.

Beard DV, Hemminger BM, Keefe B, Mittelstaedt CA, "Remote ultrasound: a pilot study," AUR 1992.

National and International Standards (as major contributing author or editor)

DICOM 3.1 Segmentation Storage, 2006

DICOM 3.1 Deformable Spatial Registration Storage, 2006

DICOM 3.1 Hanging Protocols, 2004

DICOM 3.1 Color Softcopy Presentation State Storage, 2004

American Association of Physicists in Medicine (AAPM) Task Group 18 Assessment of Display Performance for Medical Imaging Systems 2003

DICOM 3.0 Breast Imaging Report, 2003

DICOM 3.0 Patient Clinical History, 2002

DICOM 3.0 Mammography Computer Aided Detection, 2001

DICOM 3.0 Grayscale Softcopy Presentation State Storage, 2000

DICOM 3.0 Digital X-ray, 1999

DICOM 3.0 Grayscale Standard Display Function, 1998

Unrefereed Publications

Priem, J, Piowar HA, Hemminger BM (2012), "Altmetrics in the wild: Using social media to explore scholarly impact", arXiv:1203:4745.

Vaughan KTL, Hemminger BM, Pulley M, "Scientists Comment on Their Libraries: Successes, Shortcomings, and Dreams for the Future", DLIST 2528, <http://dlist.sir.arizona.edu/2528/>, 2008.

Hemminger, Bradley M.; Long, Trisha; and Saelim, Billy, Comparison of Visualization Techniques for Displaying Medication History to Older Adults, UNC Chapel Hill School of Information and Library Science Technical Report TR-2006-04 (2006).

Hemminger BM, Cullip T, North, MJ, "Real-time 3D Visualization for Medical Image display," University of North Carolina at Chapel Hill, Dept of Computer Science, Technical Report TR94-027, 1994.

Hemminger BM, "Minimum Perceptual Error Calculation for Perceptual Linearization," University of North Carolina at Chapel Hill, Dept of Computer Science, Technical Report TR94-032, 1994.

Creasy JL, Thompson BG, Hemminger BM, Parrish DM, Johnston RE, Scatliff JH, "The ACRNEMA testbed at UNC," Magnetic Resonance Image Center Conference, Department of Radiology, University of North Carolina, Feb 1987.

Unrefereed Web-based Scholarly Resource Publications

<http://mybcrisk.org/> Educational resource developed by BCERP grant to help educate and effect behavior change for women at risk for breast cancer (specifically targeting young African American women but applicable to all women). Available in mobile and desktop versions.

Hemminger BM, Kampov-Polevoi J, Survey of Informatics Programs in the US, http://ils.unc.edu/informatics_programs/, 2008.

Hemminger BM, Losi T, Whisler A, Pulley M, Survey of Informatics Programs in the US, http://ils.unc.edu/informatics_programs/, 2006.

Hemminger BM, University of North Carolina at Chapel Hill Electronic Theses and Dissertations Program, <http://etd.ils.unc.edu/campus/>, 2006

Hemminger, BM, Handler L, Gregg L, Environmental Protection Agency Carolina Environmental Bioinformatics Research Center portal, <http://bioivlab.ils.unc.edu/CEBRC/index.html>, 2006.

Hemminger BM, Sullivan PF, Saelim B, TAMAL: web based tool for suggesting likely SNPs for genetic evaluation, <http://neoref.ils.unc.edu/tamal/>, 2005.

Hemminger, BM, Fox J, Center for Research and Development of Digital Libraries (CRADLE) Wiki, <http://ils.unc.edu/cradle/>, 2004.

Hemminger, BM, Fox, J, University of North Carolina at Chapel Hill School of Information and Library Science Digital Library for Masters Papers, <http://etd.ils.unc.edu/dspace/>, 2004.

Hemminger, BM, Virtuals Museums (Virseum), <http://ils.unc.edu/bmh/virseum/>, 2004.

Hemminger, BM, MacMullen J, Bioinformatics, <http://www.ils.unc.edu/bioinfo/>, 2003.

Hemminger, BM, Neoref—Searching Scholarly Literature, <http://neoref.ils.unc.edu/>, 2002.

Book Reviews

Hemminger BM, Beard DV, book review, “3D Imaging in Medicine,” Academic Radiology, Sept 1994.

Journal Guest Editor

Journal of the American Society for Information Science and Technology, Guest editor, JASIST Special Topic Issue: Bioinformatics, Vol 56, No 5, 2005.

V. Teaching Record

Spring 2014

INLS 541 Information Visualization (25 students, including two auditing)
BCB 712 Information Science for Bioinformatics (12 students)
INLS 696 Independent Study (5)
INLS 992 Masters Papers (3)

Fall 2013

INLS 623 Database II (20 students)
INLS 992 Masters Papers (2)
INLS 690-109 (INLS 700) Scholarly Communications (3)
INLS 696 Independent Study (1)
INLS 992 Masters Papers (1)

Spring 2014

INLS 541 (21 students)
INLS 706 Bioinformatics Research Review (3 students)
BCB 712 Information Science for Bioinformatics (12 students)
INLS 696 Independent Study (2)
INLS 992 Masters Papers (8)
INLS 994 Dissertation (1)

Fall 2013

INLS 623 Database I (15 students)
INLS 992 Masters Papers (2)
INLS 994 Dissertation (2)

Spring 2013

INLS 541 (24 students)
BCB 712 Information Science for Bioinformatics (17)
INLS 992 Masters Papers (6)
INLS 994 Dissertation (1)

Fall 2012

INLS 623 Database I (17 students)
INLS 706 Bioinformatics Research Review (4 students)
INLS 889 Teaching Practicum (2)
INLS 992 Masters Papers (1)
INLS 994 Dissertation (1)

Spring 2012

INLS 490 (26 students)
INLS 706 Bioinformatics Research Review (3 students)
BCB 712 Information Science for Bioinformatics (13)
Independent study INLS 300/696 (0), Field Experience (1)

Fall 2011

INLS 623 Database I (10 students)
INLS 706 Bioinformatics Research Review (4 students)
Independent study INLS 300/696 (2), Field Experience (0)

Spring 2011

INLS 623 Database I (6 students)
INLS 706 Bioinformatics Research Review (5 students)
Honors Theses Supervised (1)
Independent study INLS 300/696 (2), Field Experience (1)

Fall 2010

INLS 623 Database I (15 students)
INLS 706 Bioinformatics Research Review (3 students)
GNET 712 Information Science for Bioinformatics (18)
Honors Theses Supervised (0)
Independent study INLS 300/696 (3), Field Experience (1)

Spring 2010

INLS 490-109 Information Visualization (16 students)
INLS 706 Bioinformatics Research Review (0 students)
Honors Theses Supervised (0)
Independent study INLS 300/696 (3), Field Experience (3)

Fall 2009

INLS 623 Database I (15 students)
INLS 706 Bioinformatics Research Review (5 students)
GNET 712 Information Science for Bioinformatics (8)
Honors Theses Supervised (0)
Independent study INLS 300/696 (3), Field Experience (1)

Spring 2009

INLS 623 Database II (15 students)
INLS 706 Bioinformatics Research Review (4 students)
Honors Theses Supervised (?)
Independent study INLS 300/696 (?), Field Experience (?)

Fall 2008

INLS 623 Database II (10 students)
INLS 706 Bioinformatics Research Review (5 students)
GNET 712 Information Science for Bioinformatics (10)
Honors Theses Supervised (?)
Independent study INLS 300/696 (?), Field Experience (?)

Spring 2008

INLS 157 (623) Database I (11 students)
INLS 279 (706) Bioinformatics Research Review (3 students)
Honors Theses Supervised (0)
Independent study INLS 300/696 (1), Field Experience (0)

Fall 2007

INLS 157 (623) Database I (14 students)
INLS 279 (706) Bioinformatics Research Review (5 students)
GNET 211 Information Science for Bioinformatics (10)
Honors Theses Supervised (0)
Independent study INLS 300/696 (1), Field Experience (1)

Spring 2007

INLS 157 (623) Database I (12 students)
INLS 279 (706) Bioinformatics Research Review (5 students)
GNET 211 Information Science for Bioinformatics (11)
Independent study INLS 300 (3)*, Field Experience (2)*
*note some of these completed later

Fall 2006

INLS 157 (623) Database I (16 students)
INLS 279 (706) Bioinformatics Research Review (3 students)
Independent study INLS 300 (2), Field Experience (1)

Spring 2006

INLS 157 Database I (24 students)
INLS 279 Bioinformatics Research Review (4 students)
GNET 211 Information Science for Bioinformatics (9)
Independent study INLS 300 (1)

Fall 2005

Pre-Tenure Academic Leave
Independent study INLS 300 (3), Field Experience (1)

Spring 2005

INLS 157 Database I (24 students)
INLS 279 Bioinformatics Research Review (4 students)
Independent study INLS 300 (1)

Fall 2004

INLS 157 Database I (10 students)
INLS 279 Bioinformatics Research Review (5 students)
GNET 211 Information Science for Bioinformatics (3)
Field Experience (2)

Spring 2004

INLS 256 Introduction to Databases (26 students)

INLS 279 Bioinformatics Research Review (5 students)
 Independent study INLS 300 (1)

Fall 2003
 INLS 256 Introduction to Databases (24 students)
 INLS 279 Bioinformatics Research Review (5 students)
 GNET 211 Information Science for Bioinformatics (10)
 Independent study INLS 300 (2), Doctoral Research INLS 399 (1)

Spring 2003
 INLS 256 Introduction to Databases (28 students)
 INLS 310-109 Special Topics—Bioinformatics (4 students)
 Independent study INLS 300 (1), Doctoral Research INLS 399 (2), Field Experience (1)

Fall 2002
 INLS 256 Introduction to Databases (21 students)
 INLS 310-109 Special Topics—Bioinformatics (4 students)
 Independent study INLS 300 (1), Doctoral Research INLS 399 (2)

Spring 2002
 INLS 256 Introduction to Databases (15 students)
 Independent study INLS 300 (1)

I also supervise doctoral student independent study credit hours on a regular basis, and I have taught short modules for courses in other departments, for instance a module on medical image display for BME 141 (Medical Imaging).

The following section is a summary of my supervision of graduates students, for complete details see *Documentation of Teaching*, Notebook Section 5, of my tenure portfolio.

Papers co-authored with students: (29)

Papers independently authored by my doctoral students: (20)

Doctoral students supervised: (8) Completed John MacMullen, Nancy Baker, Xi Niu, Laura Marcial. Currently supervising Jason Priem, Jeff Calculterra, Danny Nguyen, Elliot Hauser, Shenmeng Xu, Grace Shin.

Doctoral dissertations, serving as advisor

- John MacMullen, Contextual Analysis of Variation and Quality in Human-curated Gene Ontology Annotations, 2007, (co-advisor with Gary Marchionini)
- Nancy Baker, Methods in Literature-based Drug Discovery, 2010
- Xi Niu, Beyond Text Queries and Ranked Lists: Faceted Search in Library Catalogs, May 2012

- Laura Marcial, “Moving Beyond the Desktop: Searching for Information with Limited Display Size”, 2012

Doctoral dissertation committees (not serving as advisor)

- Erik Mitchell, Metadata Literacy: An Analysis of Metadata Awareness in College Students, Fall 2009.
- Yaxiao Song, Summer 2010.
- Laura Sheble, Spring 2014

Independent Studies supervised (30)

Supervised Field Experiences: (19)

Masters' papers (31)

- Mary Parmalee, Design For Change: Ontology-Driven Knowledgebase Applications For Dynamic Biological Domains, 2002.
- Anne Bauers, Interaction Techniques for Large Digital Images: A Comparative Study, 2003
- Jian Yang, Extending Eprints archive to improve access to scholarly materials, 2003
- Robert Speck, The Effect of Peer-to-Peer File Sharing on Independent Record Labels, 2004
- Kali Lewis, TRANS-CONTIG: Transcription factors and their corresponding contigs, a web database, 2004
- Mao Ni, Automatic Extraction of Author Self Contributed Metadata for Electronic Theses and Dissertations, 2004
- Patrick Chen, Closing the Information Gap: PIRE, a portable, open source information retrieval tool, 2004
- Clifton Barnett, XHTML as an Emerging Innovation for the World Wide Web, 2005
- Jackson Fox, A Survey of Electronic Note-Taking Behavior in Information and Library Science Student, 2005
- Stephen Barbe, UNC Departmental Profiles Project: Designing an Online Database Retrieval and Reporting System for the UNC Department of Institutional Research and Assessment, 2005
- Christophier Maier, CORE576: An Exploration of the Ultra-Structure Notational System for Systems Biology Research, 2006
- Isaac Huffman, Online Questionnaire Software Advantages / Disadvantages, 2006
- Wenyang Yi, An analysis of Wiki website for scholarly communication for academic conferences, 2006.
- Scott Martin, Barriers to sharing health records between healthcare institutions, 2007.
- Meredith Pulley, XXX, Spring 2007.
- Noel Fiser, CSS Spa: A System for Parsing & Aggregation of Cascading Style Sheets, 2007.
- Scott Martin, Barriers to sharing health records between healthcare institutions, Summer 2007.
- Amit Kumar, Digital Library of Dental Radiographs Fall 2007.

Cory Lown, A Transaction Log Analysis of NCSU's Faceted Navigation OPAC
Spring 2008.

Peiwen Zhu, Web Annotation Systems: A Literature Review and Case Study,
Spring 2008.

Jane Bahnsen, A Survey of the Attitudes of Public Library Patrons on Submitting
a Personal DNA Sample for Genetic Research, Fall 2009.

Tracy Boyer, An Analysis of Retention Rates and Satisfaction Levels in Passive
vs. Interactive Multimedia, Spring 2010.

Jessica Lin, "Commerce To Go": How Are Mobile Versions of E-Commerce
Homepages Different?, Fall 2010

Ryan Greenway, Faceted Interface for Human Resource Management in the
College of Arts and Sciences, Spring 2011

Julia Termaat, Shared Annotations: Attitudes and Behaviors of Scholars, Spring
2011

Abigail Wickes, Challenges in Image Cataloging : A Case Study of the Image
Database at the North Carolina Biotechnology Center, Spring 2012

Michelle Lopez, "Privacy Notice Readership on the Web", Fall 2012.

Yuanyuan Feng, "The Mobile Version of the University of North Carolina at
Chapel Hill Library Catalog and Its Users", Spring 2013.

Martina Gargard, "XXX", Spring 2013.

Liu Xiaolu, "M-Libraries: a survey of university library mobile website", Spring
2013.

Daphne Zaborowski, "Resource type and catalog search", Spring 2013

Bin Zhang, "The Interaction of Information Searching on Seven-inch Displays",
Spring 2013.

Xin Zhang, "Comparison of Cloud Storage", Spring 2013.

Chester Wells, CLOUD PROVIDERS & IMPLICATIONS WHEN STORING
HIPAA REGULATED DATA, Fall 2013.

Molly O'Dwyer, WHAT'S THAT BUILDING? THE USE OF APP INVENTOR
TO CREATE AN INTERACTIVE MOBILE APPLICATION CAMPUS
TOUR, Fall 2013.

Shumeng Gu, THE IMPACT OF SCREEN SIZE: A USABILITY
EVALUATION OF MOBILE DEVICES FOR SCHOLARLY READING,
Spring 2014.

Alexander Harding, COMIC BOOK METADATA AND DATABASE DESIGN,
Spring 2014.

Amanda Joiner, A COMPARISON OF ADHERENCE TO ACCESSIBILITY
STANDARDS OF LOCAL AND NATIONAL NEWS SITES, Spring 2014.

Gregory Lawson, MOBILE DEVICE INTERFACES: THE ALMIGHTY APP
VS. THE WEB BROWSER, Spring 2014.

Yida Li, USABILITY TESTING FOR WEB BROWSER: A CASE STUDY OF
COMPARING CHROME, FIREFOX, AND INTERNET EXPLORER, Spring
2014.

Laura Pavlech, A BIBLIOMETRIC ANALYSIS OF ARTICLES PUBLISHED IN
THE JOURNAL OF VETERINARY INTERNAL MEDICINE FROM 1998
TO 2013, Spring 2014.

Yan Zhao, A USABILITY EVALUATION OF PERSONAL TASK-MANAGING APPLICATIONS IN ONE-HANDED THUMB TOUCHING MOBILE INTERFACES, Spring 2014.

Mengze Zhou, IMPACT OF CULTURAL MARKERS ON LOCALIZED WEBSITE USABILITY: A CASE STUDY ON CHINESE AND AMERICAN VERSIONS OF MULTILINGUAL WEBSITES OF MSN AND AIR CHINA, Spring 2014.

Jayasurya Somasunder, DESIGNING AND CREATING A DATABASE FOR EFFECTIVE STORAGE AND RETRIEVAL OF PEDIATRIC DRUGS, Fall 2014

Brian Burns, XXX, Spring 2015.

Luke Schenkel, XXX, Spring 2015.

Yu Yonghao, XXX, Spring 2015.

Undergraduate Honors Theses (1)

Christie L. McDaniel, The Effects of Stress on the Gender Gap in Information Technology, 2005.

VI. Sponsored Research (Grants)

- 2013-2014 NIH, extension to parent grant “UNC Breast Cancer and Environment Research Program”, “The Breast Cancer Puzzle: Using Interactive Media to Help Younger African American Women Understand and Reduce Risks for Breast Cancer, Investigator, (\$80,000).
- 2012-2015 Ochiltree Foundation, “New Models for Scholarly Communications and Annotations”, Principal Investigator, (\$120,000).
- 2009-2012 Ochiltree Foundation, “New Models for Scholarly Communications”, Principal Investigator, (\$120,000).
- 2000-2010 American Society of Hematology 2009 Alternative Pathways Training Grant, “Transition of Care for Adolescents and Young Adult Survivors of Childhood Cancer and Blood Disorders”, PI Thomas Shea, Investigator, (\$50,000).
- 2006-2009 Ochiltree Foundation, “National Survey of the Information Seeking Behavior of Bioinformatics Scientists”, Principal Investigator, (\$120,000).
- 2005-2006 NIH, “Evidence Base for Personal Health Record Usability”, Investigator (lead investigator on Medication History subproject), PI Marchionini (\$150,000).
- 2005-2009 EPA Grant, “Carolina Environmental Bioinformatics Research Center”, Investigator and Project Leader (responsible for project with \$478,000 budget), PI Wright, (\$4,500,000).
- 2005-2008 North Carolina Office of the President Grant, “UNC-CH Graduate Training Program in Bioinformatics and Computational Biology”, Investigator, PI Tropsha, (\$450,000).
- 2004-2008 NIGMS RO1 grant, “UNC-CH Research Training Program in Bioinformatics and Computational Biology”, Investigator, PI Tropsha, (\$2,300,000).
- 2004-2007 NIH P20 planning grant, “Carolina Center for Exploratory Genetic Analysis”, Investigator and Project Leader (responsible for project with budget of \$450,000), PI Reed, (\$1,700,000).
- 2003-2006 National Cancer Institute Center for Bioinformatics “caBIG Participation: UNC Lineberger Comprehensive Cancer Center”, Investigator on original proposal, scope of grant reduced so project and role cut, PI Earp.
- 2002-2005 NC Office of the President, “UNC Training Program in Bioinformatics”, Investigator, PI Tropsha (\$450,000)
- 2000-2003 Hologic, “Development of a User Interface for Screening Mammography Review Station, and Workflow for PACS”, Principal Investigator, (\$85,000)
- 2001 CADX/Qualia, “Demonstration of Computer Aided Detection in Screening Mammography”, Principal Investigator, (\$23,000)
- 1999-2001 Qualia “Phase II: Application of Computer Aided Detection to Digital Mammography”, Principal Investigator 75% (\$118,000)
- 1999-2001 DOD “Multi-Center Clinical Trial of Digital Mammography”, Investigator 20%, PI Pisano (subcontract from Univ of Virginia, amount \$500,000)

1999-2001 NCI "Women's Health Initiative: HRT and changes in Mammographic Density", Investigator 5%, PI Hulka (\$876,000)

1998-1999 Qualia "Phase I: Application of Computer Aided Detection to Digital Mammography", Co-Principal Investigator 50%, (\$51,000)

1998-2000 Fischer "Development of Digital Mammography Softcopy Display", Principal Investigator 50% (\$45,000)

1998-2001 NCI "Medical Image Presentation Program Project Grant: Core Tools", Investigator 10%, PI Pizer, (program \$2,000,000)

1997-2001 Vital Images "Collaboration for Development of Realtime Volume Visualization Tool for Medical Imaging", Principal Investigator (\$100,000)

1997-1999 Fischer "Development of Digital Mammography", Investigator 20%, PI Pisano (\$200,000)

1997-1999 Health and Human Services (Office of Women's Health) "Multi-Center Clinical Evaluation of Digital Mammography", Investigator 35%, PI Pisano (\$524,000)

1995-1999 DOD Army "Development of Softcopy Display for Digital Mammography", Investigator 30%, PI Pisano (\$560,000)

1994-1999 DOD (US Army) "Development of a Common Database for Digital Mammography Research", Investigator 25%, PI Beard (subcontract from University of Chicago, total award \$500,000)

1993-1999 NIH "Image Processing in Digital Mammography", Investigator 30%, PI Pisano (\$500,000)

1994-1997 NIH "Medical Image Presentation Program Project Grant: Three Dimensional Medical Image Display", Investigator 75%, PI Johnston, (project award \$200,000)

1993-1995 GE "Development of Video Monitor Calibration Methods", Investigator 15%, PI Johnston.

1993-1995 Siemens "Effects of Inter/Intra Observer Variations", Investigator 10%, PI Johnston.

1991-1994 NIH "Medical Image Presentation: Program Project Grant", Investigator 45%, PI Pizer.

1991-1994 NIH "New Visualizations for Medical Image Workstation", Investigator 40%, PI Beard, (project part of P01 was \$413,000)

1988-1991 NIH "Medical Image Presentation: Program Project Grant", Investigator 45%, PI Pizer.

1986-1989 NIH "Electronic Presentation and Interaction in Medical Imaging", Research Associate 50%, PI Johnston.

1985-1988 NIH "Optimization and Standardization in Medical Image Display", Research Assistant 35%, PI Johnston.

1985-1988 3M "PACS Image Display and Image Archive Integration", Research Assistant 75%, PI Thompson.

Since joining SILS, my research grants have directly funded many SILS students including: Anne Bauers, Trish Losi, Jian Yang, Mao Ni, Dihui Lu, John MacMullen, Nancy Baker, Jackson Fox, Billy Saelim, Stephanie Adams, Kaye Balke, Ellen Whisler, Meredith Pulley, Wenyang Yi, Lara Handler, Jie Jin, Cory Lown, Liz Greg, Vedana Vaidhyathan, and Trish Long. Additionally I have created three programs that annually fund students through training or fellowship positions (EPA Carolina Environmental Bioinformatics Research Center, Biomedical Informatics Research, Service, and Training Program with the CCGS and HSL, and the Center for Developmental of Research in Digital Libraries). Further funding and training of doctoral students is provided for in our campus wide Bioinformatics and Computational Biology Training Program, which I helped establish in conjunction with three other UNC faculty (Morgan Giddings, Alex Tropsha and Todd Vision), which funds 6-8 students per year.

VII. Professional Service

School of Information and Library Science

Developed and funded a training program for library science students in the area of environmental bioinformatics in conjunction with the EPA Library. (2005-present)

Developed and manage the SILS digital library for electronic theses.
(<http://etd.ils.unc.edu/dspace/>, 2004)

Developed a Certificate of Specialization in Bioinformatics program associated with the School of Information and Library Science Masters degree. (2003-present)

Developed new course: Bioinformatics Research Review (INLS 279) formalized in 2002. (2002-present).

Started NeoRef digital archive for housing scholarly materials in electronic form. (2002-present)

Founded and direct the SILS Bioinformatics Group (<http://ils.unc.edu/bioinfo>) (2001-present).

Founded and direct the Informatics and Visualization laboratory (IVlab).
(<http://www.ils.unc.edu/bmh/ivlab/>, 2001-present)

Member of the Information and Design Laboratory (IDL). (2001-present)

Oversaw and contributed financially to funding of the renovation of the 4th floor stack (2002), research lab in 300, and the Manning Hall building renovation to create additional office, laboratory, and research space (2004). (2001-2004)

Faculty Committee Membership

2013-2014 Undergraduate Committee (chair)

2013-2014 Personnel Committee

2012-2013 Masters Committee (Chair), Health Informatics Search Committee

2011-2012 Masters Committee, Chaired Lecturer Search Committee

2010-2011 Personnel Committee, Ad-hoc Building Renovation Committee

2009-2010 Research and Doctoral Committee (chair), Informatics Program (co-chair)

2008-2009 Research and Doctoral Committee, Informatics Program (co-chair)

2007-2008 Information Resources and Technology Committee (chair)

2006-2007 Information Resources and Technology Committee, New Building Committee, BRIC Faculty Search Committee

2005-2006 Personnel Committee

2004-2005 Master's Committee

2003-2004 Ad-hoc Space Committee (chair)

2002-2003 Ad-hoc Space Committee (chair), Undergraduate Committee

2001-2002 Undergraduate Committee, Information Resources and Technology Committee

Student Advising: averages about 15 students annually

UNC Campus

FITAC (Faculty Information Technology Advisory Committee), 2014-present

Founder and Chair of Carolina Open Education Resources committee, 2012-present

Member of the Provost's Task Force to Re-imagine the CCI Program, 2012-present

Faculty Representative to the UNC Faculty Information Technology Advisory Council, 2011-present

Proposed, Developed and co-taught course for Center for Faculty Excellence, "Effective Collaborative Writing Projects: Wikis are Easier than you Think", Spring 2009.

Faculty Board of Advisers for Morehead Planetarium and Science Center, 2008-present.

Co-Chairman of the University of North Carolina Scholarly Communications Committee, 2006-until conclusion of committee in 2008.

Member of the campus steering committee which oversees the University of North Carolina at Chapel Hill Institutional Repositories Committee and the Scholarly Communications Committee.

Founded and direct the Biomedical Informatics Research, Service and Training Program in the Carolina Center for Genome Sciences, which is co-sponsored by the Health Sciences library. I established a training program in conjunction with this, which annually funds a SILS masters students in an internship program in biomedical informatics at the Health Sciences library.

Member of the Biomedical Research and Imaging Center Faculty (2005-present).

Co-founded, serve on the executive board, and manage the Center for Research and Development of Digital Libraries (CRADLE). (<http://ils.unc.edu/cradle>, 2003-present)

Chairman of the campus Electronic Theses and Dissertation (ETD) committee. Initiated the effort to develop ETDs at UNC, was appointed chairman of campus ETD committee by the Provost and Graduate School Dean. Oversaw the development and successful implementation of the ETD program at UNC, with the first electronic theses and dissertations being accepted in the spring of 2006. (2003-present)

Developed and teach a new course as part of the Bioinformatics and Computational Biology curriculum for the Carolina Center for Genome Sciences (GNET 211, Information Science for Bioinformatics). (2003-present).

With Alex Trospha (Pharmacy), Morgan Giddings (BME), and Todd Vision (Biology) initially developed the Bioinformatics and Computational Biology (BCB) program at UNC, and created the PhD Certificate in Bioinformatics (earned in conjunction with PhD from existing departments) for the campus. I have served on the BCB executive committee, and currently serve on the BCB admissions committee. (2002-present)

Member of the Carolina Center for Genome Sciences Faculty (2001-present).

National and International

Founded and direct the National Survey of the Information Seeking Behavior of Scientists in the US, which involves 20 universities conducting a very large scale survey study, hosted by my research laboratory.

(http://bioivlab.ils.unc.edu/sandbox/ISB_national_survey/index.php/Main_Page, 2006)

Proposed, Developed and Managed the American Society for Information Science and Technology Conference Wiki, for ASIST 2005 through ASIST 2008 conferences.

Guest editor for JASIST special issue on Bioinformatics (2005)

Co-hosted the international conference, Medical Image Perception Society X, and served on program committee. (2003)

Hosted a Special Exhibition on State of the Art Medical Image Display Research at UNC, an interactive presentation for attendees of the MIPS X conference. (2003).

Survey of Informatics Programs in the US. I maintain the most comprehensive, and one of the most highly used reference sources on bioinformatics programs in the US (presented initially in 2002 and published in 2004 in JASIST), which I have extended in 2006 to be a comprehensive list of all US based academic informatics programs. The information is published online, and is maintained and updated by me annually.

(http://ils.unc.edu/informatics_programs/, 2002-present).

DICOM Pixel Display Workshop: Gave invited presentation on Medical Image Display and the DICOM standard. (2001).

Invited Presentation for Swedish Institute for Standards on international standards for electronic image display, Stockholm. (2000).

AAPM standards committee. Served on Task Group 18 to develop AAPM Guidelines for Assessment of Display Performance for Medical Imaging Systems 2003 (1999-2003).

SPIE conference (Image Perception) program committee (1999-2004)

Course on Image Quality for Medical Imaging (presented at many sites including SPIE Medical Imaging conferences, IWDM conference, AAPM conference, and Mayo Clinic (Rochester)). (1999-2004).

NIH Working Group on Digital Mammography: Digital Displays and Workstation Design (panel workshop) (1999).

DICOM Standards Committee Working Group 17. Three Dimensional Imaging Representation and Visualization.. Developing Standards on multidimensional object representation, registration and visualization. (1998-present)

Workshop on Psychovisual Issues in Workstation Design at SPIE Medical Imaging conference 1998.

DICOM Standards Committee Working Group 15. Digital Mammography and Computer Aided Detection (CAD). Developed Standards Digital X-ray, Mammography Computer Aided Detection, Patient Clinical History, Breast Imaging Report. (1997-2003)

American College of Radiology (ACR) Standards and Accreditation Committee (1997-present).

DICOM Standards Committee Working Group 11. Developed Standards Grayscale Standard Display Function, Grayscale Softcopy Presentation State. Member since 1993, chair since 1997. (1993-2005)

FDA invited presentation on Medical Image Display Standardization (1995).

I have also moderated sessions, participated in panel sessions and given many talks and demonstrations at conferences, in particular at JASIST, JCDL, SPIE, and RSNA conferences.

Reviewer

- 2014-present Scientometrics
- 2013-present Journal of Information Science
- 2012-present IP&M journal reviewer
- 2012-present UIST conference reviewer
- 2012-present AMIA conference reviewer
- 2012-present SIGCHI reviewer
- 2009-present ARIST reviewer
- 2006-present ASIST conference program reviewer
- 2006-present Joint Conference on Digital Libraries, program committee.
- 2005 International Journal of Digital Libraries
- 2004-present Bioinformatics Journal.
- 2004 European Conference for Digital Libraries.
- 2004 Decision Support Systems Journal.
- 2004-present Reviewer, National Institutes for Health.
- 2003 Program committee, Medical Image Perception Society X 2003 conference.
- 2002-present Reviewer, Journal of American Society for Information Science and Technology.
- 2002-present Reviewer, National Science Foundation.
- 1999-2004 Program committee, SPIE Image Perception Conference
- 1999-2001 Reviewer, ACM SIGGRAPH Conference papers/courses.
- 1995-2002 Reviewer, IEEE Transactions on Medical Imaging.
- 1994-2002 Reviewer, Academic Radiology.
- 1993-present Reviewer, Journal of Digital Imaging.

Professional Membership

- 2005-present American Medical Informatics Association

- 2001-present American Society for Information Science and Technology
- 1998-present American Association of Physicists in Medicine (AAPM)
- 1997-present Medical Image Perception Society (MIPS)
- 1996-present American College of Radiology (ACR).
- 1985-present International Society for Optical Engineering (SPIE)
- 1982-present Institute of Electrical and Electronics Engineers (IEEE) and Computer Society.
- 1982-present Association of Computing Machinery, including special interest groups Computer Human Interaction (SIGCHI), and Graphics (SIGGRAPH).