

EDWARD A. FOX

PERSONAL INFORMATION:

- **HOME:** 203 Craig Dr., Blacksburg, VA 24060, +1-540-552-8667
- **WORK:** 114 McBryde Hall, Dept. of Computer Science, M/C 0106, Virginia Tech, Blacksburg, VA 24061 USA; +1-540-231-5113 [direct], x6931 [dept.], x6075 [FAX]; Digital Library Research Lab, x3615 (2030 Torgersen Hall)
- **CITIZENSHIP:** USA
- Skype, Twitter ID: edwardafox; LinkedIn: [Edward Fox](#); Facebook: [Edward Alan Fox](#)
- Google Scholar [Edward Fox](#); ORCID: [0000-0003-1447-6870](#)

EDUCATION:

- 8/83 Ph.D. Computer Science, Cornell University
Area: information storage and retrieval
Minor: linguistics; Advisor: Gerard Salton
Title: Extending the Boolean and Vector Space Models of Information Retrieval with P-Norm Queries and Multiple Concept Types
- 1/81 M.S. Computer Science, Cornell University
- 2/72 B.S. Electrical Engineering (Computer Science Option), M.I.T.
Advisor: J.C.R. Licklider (Director of Project MAC)
Thesis advisor: Michael M. Kessler (Asst. Director of Library)

RECENT EMPLOYMENT:

- 2/2016- Professor (by courtesy), Dept. of Electrical and Computer Engineering, Virginia Tech
- 4/95- Professor, Dept. of Computer Science, Virginia Tech (VPI&SU)
- 1/98- Director, Digital Library Research Laboratory (Virginia Tech)
- 6/90-6/2014 Associate Director for Research, VPI&SU Computing Center; evolving into position of Faculty Advisor to Information Technology
- 5/88-4/95 Associate Professor, Dept. of Computer Science, VPI&SU
- 9/83-5/88 Assistant Professor, Dept. of Computer Science, Virginia Polytechnic Institute & State Univ. (Virginia Tech) Blacksburg VA 24061-0106
- 8/82-4/83 Manager of Information Systems, International Inst. of Tropical Agriculture, P.M.B. 5320, Ibadan, Nigeria
- 9/78-8/82 Instructor, Research Assistant, Teaching Assistant, Dept. of Computer Science, Cornell Univ., Ithaca NY 14853
- 9/72-8/78 Data Processing Manager, Vulcraft, Div. of NUCOR Corporation, Florence, SC 29501
- 9/71-6/72 Data Processing Instructor, Florence Darlington Technical College, Florence, SC 29501

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

- Association for Information Science & Technology (ASIS&T) and SIGDL
- ACM (Fellow starting 2017, Member since 1967) and SIGIR, SIGCSE
- IEEE (Fellow starting 2017, Senior Member since 2004), IEEE-CS, and Technical Committees on Digital Libraries (including on Executive Committee) + Multimedia Computing
- Sigma Xi (Assoc. Member 7/1/1972, Full Member 7/1/1985)
- Upsilon Pi Epsilon

HONORS AND AWARDS:

- While at VPI&SU
 - 2017 ACM Fellow, cited for contributions in information retrieval and digital libraries
 - 2017 IEEE Fellow, cited for leadership in digital libraries and information retrieval
 - Albert Nelson Marquis Lifetime Achievement Award by Marquis Who's Who, October 2017
 - XCaliber Award 2016 "for extraordinary contributions to technology-enriched learning activities" for project "Enhanced problem-based learning connecting big data research with classes", with students: Mohamed Farag, Richard Gruss, Tarek Kanan, Sunshin Lee, Xuan Zhang
 - Research Impact in Human-Computer Interaction, conferred by VT Center for HCI, October 16, 2015
 - Honeywell (2nd) Best Student Paper Award at IEEE BTAS 2012 for Robust Feature Extraction in Fingerprint Images Using Ridge Model Tracking: Nathaniel Short, Lynn Abbott, Michael Hsiao, Edward Fox
 - Virginia Tech Scholar of the Week, recognized by the Office of the Vice President for Research, for weeks of Dec. 10, 17, and 24, 2007
 - College of Engineering Dean's Award for Excellence in Service, April 2005
 - 1st Annual NDLTD Leadership Award, May 2004
 - Best Student Paper Award (as supervisor and 2nd author) at JCDL 2004: M. A. Goncalves, E. A. Fox, A. Krowne, P. Calado, A. Laender, A. S. da Silva, and B. Ribeiro-Neto. The Effectiveness of Automatically Structured Queries in Digital Libraries. pp. 98-107
 - First Prize Winner for Track 3, for presentation "Open Digital Libraries", \$1500 prize, based in part on doctoral work of Hussein Suleman, AOL-CIT Finding Common Ground University Research Day, Nov. 6, 2002, Herndon, VA
 - Honorable Mention, Poster, MARIAN - Next Generation Digital Library System Built on 5S, \$100 prize, with M. Goncalves, W. Richardson, and M. Luo, AOL-CIT Finding Common Ground University Research Day, Nov. 6, 2002, Herndon, VA
 - ACM Recognition of Service Award, 2018, for Program Co-chair, ACM/IEEE Joint Conference on Digital Libraries 2018
 - ACM Recognition of Service Award, 2012, for Associate Editor, ACM J. of Computing and Cultural Heritage (JOCCH) 2006-2012
 - ACM Recognition of Service Award, 1999, for Program Chair Digital Libraries '99
 - ACM Recognition of Service Award, 1996, for Program Chair Digital Libraries '96
 - ACM Recognition of Service Award, 1995, for SIGIR Chair 1991-1995
 - ACM Recognition of Service Award, 1995, for Program Chair SIGIR '95
 - ACM Recognition of Service Award, 1991, for Editor-in-Chief, ACM Press Database and Electronic Products
 - Awards for GeoSim: A GIS-Based Simulation Laboratory for Introductory Geography, L.W. Carstensen, Jr., C.A. Shaffer, R.W. Morrill, E.A. Fox:
 1. Computational Science award, Ames Lab., U.S. Dept. of Energy, 9/16/94;
 2. Best Article Related to Teaching in a University or College in National Council for Geographic Education's J. of Geography, May '92 - April '94.
 - Choice (Current Reviews for College Libraries) selection as one of 1989-90 Outstanding Academic Books and Nonprint Materials for "Hypertext on Hypertext" which I proposed, coordinated, and served as editor for ACM
 - Election to Phi Beta Delta (Honor Society for International Scholars), March 1999, <http://www.vt.edu:10021/international/PhiBetaDelta/index.html>
 - Election to Upsilon Pi Epsilon computing sciences honor society 3/17/98
 - Election to Sigma Xi (full member)
 - International Directory of Distinguished Leadership, Who's Who in the South and Southwest, Who's Who of Emerging Leaders in America, Who's Who in America, Who's Who in Science and Engineering, Who's Who in American Education, Young Community Leaders of America
- While at M.I.T.

- William Stewart Award (founding and serving as first president of the ACM student chapter, founding and serving as first chairman of the Student Information Processing Board (still operating; see <https://sipb.mit.edu/>), serving as instructor and head of the engineering department of the student-run Saturday program for high school students)
- Election to Sigma Xi (associate member)

PROFESSIONAL SERVICE:

CURRENT - major responsibilities:

1. 2018- Member, ACM Publications Board, and Co-chair, Digital Library Committee
2. 1996- Executive Director, Chairman of the Board, and Founder, Networked Digital Library of Theses and Dissertations (NDLTD, incorporated 5/2003), <http://www.ndltd.org>

CURRENT - Editor / Editorial Board Member:

1. 2017- IEEE Thesaurus Editorial Board
2. 2014- PeerJ Computer Science, launched 2/3/15, <https://peerj.com/computer-science/>
3. 2012- Editorial Advisory Board, Thailand's National Institute of Development Administration (NIDA) Development Journal
4. 2012- Editorial Advisory Board, Thailand's National Institute of Development Administration (NIDA) International Journal of Development Administration
5. 2008- Editorial board, Journal of Intelligent Information Systems (JIIS)
6. 2004- Editorial board, International Journal on Digital Libraries (www.dljournal.org)
7. 1994- Editorial board, Multimedia Tools and Applications (Kluwer)
8. 1994- Foundation Editor, The Journal for Universal Computer Science (Springer)
9. 1990- Editorial board, Journal of Educational Multimedia and Hypermedia (AACE)

CURRENT - conferences/workshops (selected):

1. Member, Steering Committee, Joint Conference on Digital Libraries (JCDL), member since 2003, chair from 2010 to 9/2014
2. Member, International Advisory Committee, International Conference of Asian Digital Libraries (ICADL)
3. Member, Program Committee, ICEDEG 2019, Sixth International Conference on eDemocracy & eGovernment, 24-26 April 2019, Quito-Ecuador

CURRENT - other (selected):

1. Group manager of Web 2.0 services: LinkedIn groups on: Digital Libraries, VT Computer Science, ...

CONFERENCES/WORKSHOPS CHAIRED:

1. Program Chair, ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL 2018), Fort Worth, Texas, with co-chairs Vivien Petras and Min-Yen Kan
2. Co-chair, Web Archiving and Digital Libraries (WADL 2018), held with JCDL 2018, with co-chair Zhiwu Xie and chair Martin Klein
3. Chair, Web Archiving and Digital Libraries (WADL 2017), held with JCDL 2017, with co-chairs Zhiwu Xie and Martin Klein
4. Chair, Web Archiving and Digital Libraries (WADL 2016), held with JCDL, Rutgers Univ., Newark, NJ, June 19-23, 2016, with co-chairs Zhiwu Xie and Martin Klein

5. Chair, Web Archiving and Digital Libraries (WADL 2015), held with JCDL, June 24-24, 2015, Knoxville, TN
6. Chair, Web Archiving and Digital Libraries (WADL 2013), workshop at JCDL 2013, Indianapolis, July 25-26
7. Co-chair, Webinar on Emergency Informatics and Digital Libraries, July 24, 2012, <http://www.ctnnet.net/webinars> (with S. Sheetz as Chair)
8. Chair, Digital Libraries and Education, 1/2 day workshop at JCDL/ICADL 2010, June 21-25, Gold Coast, Australia
9. Chair, Development and Adoption of Computational Thinking Curricular Guidelines Across Disciplines, Living In the KnowlEdge Society (LIKES) Workshop 6 (<http://www.likes.org.vt.edu/?q=node/203>), Feb. 24-26, 2010, Durham, NC, workshop for the NSF-funded LIKES project, <http://www.livingknowledgesociety.org>
10. Chair, Curricular Guidelines Connecting Computing with Other Disciplines, Living In the KnowlEdge Society (LIKES) Workshop 5 (<http://www.likes.org.vt.edu/?q=node/196>), Nov. 12-13, 2009, Virginia Tech, Blacksburg, VA, workshop for the NSF-funded LIKES project, <http://www.livingknowledgesociety.org>
11. Co-Chairs Edward A. Fox, Seungwon Yang, Steve Sheetz, Christopher Zobel, and Patrick Fan. Coordinating FDI Track E: About LIKES - Living In the KnowlEdge Society, July 21-23, 2009, Virginia Tech
12. PC chair of the Information Retrieval track, ACM CIKM 2006 (<http://sa1.sice.umkc.edu/cikm2006/>), Arlington, VA, Nov. 6-11, 2006
13. Co-chair, Program Committee, 8th International Conference of Asian Digital Libraries (ICADL 2005), Bangkok, Thailand, Dec. 12-15, 2005
14. Co-Chairs Steve Edwards, Dwight Barnette, and Edward Fox: JETT (JAVA Engagement for Teacher Training) Workshop, supported by IBM ECLIPSE, Virginia Tech, Blacksburg, VA, July 21-22, 2004
15. Chair: Digital Libraries: Global Reach and Impact, JCDL 2004 workshop, June 10-11, 2004, Tucson, AZ, co-chair: Ching-chih Chen
16. Co-organizers/coordinators Manuel A. Perez-Quinones, Lillian Cassel, Edward Fox, John Impagliazzo, J.A.N. Lee, C. Lee Giles: Using the NSF Digital Library to Enhance Your Teaching, workshop 8 at ACM SIGCSE 2004, Norfolk, VA, March 3-7, p. 503
17. Chair: Indo-US Workshop on Open Digital Libraries and Interoperability, Arlington, VA, June 23-25, 2003, 39 participants from the United States and India, sponsored by Indo-US Science and Technology Forum and CIT, <http://fox.cs.vt.edu/IndoUSdl>
18. Chair: Open Source Roadshow, Case Study: Mozilla Project, Virginia Tech, October 24, 2002, assisted by Netscape/AOL/Mozilla and CIT, <http://fox.cs.vt.edu/opensource.htm>
19. Co-organizer: Project Kaleidoscope (PKAL) 2002 Summer Institute Cluster II (DL and CS), <http://www.pkal.org/siplanning/index.html>, June 2-5, 2002, Williamsburg, VA
20. Chair: NDLTD and OAI: A Case Study of a Worldwide Community Sharing (Multilingual, Multimedia) Electronic Theses and Dissertations through the Open Archives Initiative, CNI Spring Meeting session, 4/15/2002, Washington, D.C.
21. Chair: Open Archives: Communities, Interoperability, and Services; Workshop for 24th Annual International SIGIR Conference on Research and Development in Information Retrieval, New Orleans, ULA, Sept. 13, 2001, Proceedings (w. H. Suleman): <http://purl.org/net/oaissept01>
22. Chair: First ACM/IEEE-CS Joint Conference on Digital Libraries, JCDL'2001, Hotel Roanoke and Conference Center, Roanoke, VA, June 24-28, 2001, www.jcdl.org (and helped run PC mtg at UCLA, March 2-5, 2001)
23. Chair: Electronic Theses and Dissertations Standards Meeting. OCLC, Dublin, Ohio, Jan. 9-10, 2001.
24. Chair: Expanding the Information and Data Management (IDM) Research and Education Community, NSF-funded workshop, Hotel Roanoke and Conf. Center, Roanoke, VA, Oct. 2-4, 2000. <http://fox.cs.vt.edu/IDM/>
25. Chair: Extending Interoperability of Digital Libraries: Building on the Open Archives Initiative. ECDL Workshop, Lisbon, Portugal, Sept. 21, 2000. <http://purl.org/net/oaissept00>

26. Chair: US-Korea Joint Workshop on Digital Libraries: Removing Barriers to International Collaboration on Research and Education through Digital Libraries, Aug. 10-11, 2000, San Diego Supercomputer Center, San Diego, CA. <http://fox.cs.vt.edu/UKJWDL/>
27. Chair: Extending Interoperability of Digital Libraries: Building on the Open Archives Initiative. Workshop for ACM Hypertext'2000 and ACM Digital Libraries'2000. San Antonio, TX, June 3, 2000 <http://purl.org/net/oaijune00>
28. Chair, Steering Committee meetings of NDLTD on 3/15/2000, 9/15/2000, 3/21/2001, 10/26/2001
29. Program Chair: Virginia Internet Technology Week (VIT'99), Virginia Tech, Blacksburg, VA, September 13-17, 1999 (<http://manta.cs.vt.edu/vit/>)
30. Program Chair: ACM Digital Libraries '99, Berkeley, CA, Aug. 11-14, 1999
31. Co-Chair: 1999 NSF Information and Data Management Workshop: Research Agenda for the 21st Century - IDM'99, UCLA, March 7-9, 1999, <http://www.cs.ucla.edu/csd/IDM99/index.html>
32. Chair: Multimedia Education, workshop at ACM Multimedia'98, Bristol, England, Sept. 12, 1998 (with R. Heller, GWU).
33. Co-Chair: ETD/NTLTD Workshop, MECCA Conf., Memphis, TN, June 10-11, 1998, <http://www.mecca.org/mecca-itec-conf/conftopics.html>
34. Chair: IBM Renaissance Meeting, Oct. 20-22, 1997, Virginia Tech, Blacksburg, VA
35. Chair: Education and Curriculum Development for Multimedia, Hypertext, and Information Access: Focus on Digital Libraries and Information Retrieval workshop, sponsored by both ACM Digital Libraries'97 and ACM SIGIR'97, July 23, 1997, Philadelphia.
36. Chair: Interactive Learning with a Digital Library in Computer Science workshop, June 15-21, 1997, Virginia Tech, Blacksburg, VA funded in part by NSF (as supplement to EI grant 1993-97)
37. Chair: Courseware, Education and Curriculum in Multimedia workshop, held with ICMCS'97, IEEE International Conference on Multimedia Computing and Systems, June 6, 1997, Ottawa, Canada
38. Chair: Joining the National Digital Library of Theses and Dissertations, half-day pre-conference seminar for CAUSE/CNI regional conference, Univ. of Del., May 21, 1997
39. Chair: Courseware, Training and Curriculum in Multimedia workshop, held with ACM Multimedia'96, Boston, MA, Nov. 19, 1996
40. Chair: Courseware, Training and Curriculum in Information Retrieval workshop, held after ACM SIGIR'96, Zurich, Switzerland, Aug. 22, 1996.
41. Chair: Workshop on Electronic Theses and Dissertations in the Southeast, sponsored by SURA, hosted by UNC Charlotte, Charlotte, NC, Aug. 1-2, 1996.
42. Program Chair: Digital Libraries'96, First ACM International Conference on Digital Libraries, March 20-23, 1996, Bethesda, MD
43. Chair: Workshop for Working Group on Theses, Technical Reports, and Dissertations, in Monticello Electronic Library Initiative, sponsored by SURA and SOLINET, Aug. 12-13, 1994, Virginia Tech, Blacksburg, VA
44. Conference chair: Workshop on Information Retrieval and Genomics, sponsored by ACM SIGIR and SIGBIO, Lister Hill National Center for Biomedical Communications, National Library of Medicine, Bethesda, MD, May 2-4, 1994
45. Chair: Workshop on Information Access and the Networks, IANET'93, held in conjunction with ACM SIGIR '93, July 1, 1993
46. Program chair: 18th Intern'l Conf. on R & D in Information Retrieval, SIGIR '95, July, 1995, Seattle, WA

EARLIER (major responsibilities):

1. 2013-2016 Editor, ACM Book Series section on Information Retrieval and Digital Libraries (with Morgan and Claypool Publishers)
2. 1987-2014 Editorial board, Information Processing & Management (Elsevier)
3. 2010-2013 Member, CRA Board, and Member, CRA-E (Computing Research Association Committee on Education); Member, Review Committee, Outstanding Undergraduate Research Awards 2011;

- Member, Scholarly Publications Group; Co-chair (July 1, 2011 to June 30, 2013) of Membership Committee
4. 2002-2011 (and 1989-1993) Editorial board, ACM Transactions on Information Systems (TOIS)
 5. 2005-2009 Member, Advisory Group for Programmes on Digital Repositories and on Digital Asset Management and Preservation (assisting JISC, the NSF-equivalent in UK, including attending London meeting on 25 July 2006)
 6. 2004-2008 Chairman, IEEE-CS Technical Committee on Digital Libraries
 7. 2004-2008 Member, Advisory Board, DELOS Network of Excellence on Digital Libraries (<http://www.delos.info/>), funded by the European Union's 6th Framework Programme, first meeting December 9, 2004 in Athens, second meeting December 7-8, 2005 in Sophia-Antipolis, France, third meeting January 14-15, 2007 in Rome, fourth meeting Dec. 7, 2007 in Italy
 8. 1995-2008 Editor, Morgan Kaufmann Publishers, Inc. Series on Multimedia Information and Systems. Books in series include:
 1. How to Build a Digital Library - by Witten and Bainbridge
 2. Digital Watermarking - by Cox, Miller, and Bloom
 3. Readings in Multimedia Computing and Networking - edited by Jeffay and Zhang
 4. Introduction to Data Compression, Second Edition - by Sayood
 5. Multimedia Servers: Applications, Environments, and Design - by Sitaram and Dan
 6. Managing Gigabytes: Compressing and Indexing Documents and Images, Second Edition - by Witten, Moffat, and Bell
 7. Digital Compression for Multimedia: Principles and Standards - by Gibson, Berger, Lookabaugh, Lindbergh, and Baker
 8. Practical Digital Libraries: Books, Bytes, and Bucks - by Lesk
 9. Readings in Information Retrieval - by Jones and Willett
 9. 2005-2007 Member, Computational and Informational Sciences Directorate Review Committee, Pacific Northwest National Laboratory (PNNL), Richland, WA
 10. 2001-2006 Director, Computing and Information Technology Interactive Digital Educational Library (CITIDEL), www.citidel.org
 11. 2000-2006 Co-editor-in-chief, ACM Journal of Education Resources In Computing (JERIC - and lead proposer 1998-2000), <http://www.acm.org/pubs/jeric/>
 12. 2000-2006 Member, ACM SIG Multimedia Executive Board
 13. 1999-2006 Member, Steering Committee, Open Archives Initiative <http://www.openarchives.org>
 14. 2004-2005 Member, Advisory Board, Development of a Distributed Digital Library Training Certificate Program, University of North Carolina at Chapel Hill
 15. 2002-2005 Member, Policy Committee, NSDL, National Science Digital Library, old long name: National STEM (Science, Technology, Engineering, and Mathematics) education Digital Library, www.nsdl.org (the steering committee of an initiative with over \$150M NSF funding, to transform education throughout the USA at all levels in STEM areas), chair 1/2002 - 5/2003
 16. 2001-2005 Advisory board, IMEJ of Computer-Enhanced Learning (<http://imej.wfu.edu>)
 17. 1997-2005 Editor, Computer Science Teaching Center (CSTC, www.cst.org)
 18. 1998-2004 Member, Governing Board, Internet Technology Innovation Center <http://www.internettic.org>
 19. 2000-2003 Executive Editor, TICtalk Newsletter, a monthly publication of Internet Technology Innovation Center
 20. 1997-2003 Editorial board, IEEE Multimedia (IEEE-CS)
 21. 1992-2001 Editorial board, Multimedia Systems (ACM/Springer-Verlag)
 22. 1995-2001 Member, NCSTRL (Networked CS Tech. Report Library) working group (part of D-Lib working group program)
 23. 1997-2000 Member, Steering Committee, ACM Preprint Database (and CoRR, Computing Research Repository, <http://xxx.lanl.gov/archive/cs/intro.html>)
 24. 1995-2000 Co-chair, ACM SIGMM Education Committee
 25. 1994-99 Editorial board, Electronic Publishing - Origination, Dissemination and Design Journal (Wiley)
 26. 1996-98 Chair, Steering Committee, ACM Digital Libraries conf. series

27. 1994-95 Past Chair, member ACM Multimedia Conferences Steering/Advisory Committee
28. 1991-95 Chairman, ACM SIGIR (Special Interest Group on Information Retrieval)
29. 1992-94 Chair and Founder, ACM Multimedia Conferences Steering/Advisory Committee
30. 1989-93 Associate editor, ACM Transactions on Information Systems
31. 1988-92 Member ACM Publications Board
32. 1988-91 Editor-in-chief ACM Press Database and Electronic Products. Responsible for electronic publishing plans, products, and services. Publications include "Hypertext on Hypertext;" the "Resources in Computing" book series; CD-ROMs in the DALibrary and Computer Archive products; a videotape documentary, etc.
33. 1987-91 Vice chairman ACM SIGIR (Special Interest Group on Information Retrieval)
34. 1987-91 Editor ACM Press Books Database Products
35. 1985-89 Editor, mailing list maintainer, and founder of IRList, an electronic digest on information retrieval and related topics.
36. 1985-87 Co-editor for ACM SIGIR Forum, the newsletter for SIGIR

EARLIER (other):

1. Member, 2018 IEEE CS Fellows Evaluation Committee
2. Meta-reviewer, Program Committee Member, TPDL 2018, 22nd International Conference on Theory and Practice of Digital Libraries, Porto, Portugal, 10-13 Sept.
3. Member, Program Committee, BIR@ECIR 2018, Grenoble, France, March 26-29
4. Member, Program Committee, 5th International Conference on eDemocracy & eGovernment (ICEDEG), 4-6 April 2018, Ambato-Ecuador
5. Member, Program Committee, CIKM 2018, International Conference on Information and Knowledge Management, Lingotto, Turin, Italy, 22-26 Oct.
6. Member, Program Committee, MEDA 2018, Workshop on Curative Power of MEDical DATA, held with JCDL 2018, <https://profs.info.uaic.ro/~meda/>
7. Member, Program Committee, SIGIR 2018 (human factors and interfaces track), Ann Arbor, Michigan, 8-12 July
8. 1999-2017 Member, Advisory Board for D-Lib Forum, www.dlib.org
9. Reviewer, NSF, 2017, and review panels in spring and fall 2017
10. Member, Program Committee, ICADL 2017 (19th International Conference on Asia-Pacific Digital Libraries), Chulalongkorn University, Bangkok, Thailand, November 13-15, 2017
11. Member, Program Committee, CIKM 2017, ACM Conference on Information and Knowledge Management, Singapore, November 6-10, 2017
12. Member, Program Committee, BIRNDL 2017, 2nd Joint Workshop on Bibliometric-enhanced IR and NLP for Digital Libraries, with SIGIR 2017, Tokyo, Japan
13. Meta-reviewer, Senior Program Committee, ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL 2017, <http://2017.jcdl.org/>), Toronto, Canada, 19-23 June 2017
14. Member, Program Committee, TPDL 2017 (21st International Conference on Theory and Practice of Digital Libraries, Thessaloniki, Greece, September 18-21, 2017)
15. Member, Program Committee, BIR 2017 (5th International Workshop on Bibliometric-enhanced Information Retrieval, at ECIR 2017, 39th European Conference on Information Retrieval, Aberdeen, Scotland, 8-13 April 2017)
16. Member, NSF review panel, fall 2016
17. Member, Nominating Committee for IEEE TCDL Chair for term 2016-2017
18. Member, Program Committee, BIR 2016 (3rd International Workshop on Bibliometric-enhanced Information Retrieval), with ECIR 2016
19. Meta-reviewer, Program Committee, ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL 2016, <http://www.jcdl2016.org/>), Rutgers Univ., Newark, NJ, June 19-23, 2016
20. Member, Program Committee, BIRNDL 2016, Bibliometric-enhanced Information Retrieval and Natural Language Processing for Digital Libraries, a workshop federating the 4th Bibliometric-enhanced

- Information Retrieval (BIR) and the 2nd Workshop on text and citation analysis for scholarly digital libraries (NLPIR4DL), at JCDL, Rutgers Univ., Newark, NJ, June 19-23, 2016
21. Member, Program Committee, TPD 2016, 20th International Conference on Theory and Practice of Digital Libraries, September 5-9, 2016, Hannover, Germany
 22. Member, Program Committee, CERI 2016 Teaching IR Track, 4th Spanish Conf. in Information Retrieval, <http://www.ugr.es/~ceri16/ss.php>
 23. Chair for plenary session 3, Open Access, 19th International Symposium on Electronic Theses and Dissertations, ETD 2016 "Data and Dissertations", 11-13 July 2016, Lille (France)
 24. Editorial board, IEEE-TCDL Special Issue on Data Curation, V. 12, No. 1, May 2016, <http://www.ieee-tcdl.org/Bulletin/v12n1/>
 25. Meta-reviewer, Program Committee Member, 19th International Conference on Theory and Practice of Digital Libraries, TPD 2015, Sept. 14-18, 2015, Poznan, Poland
 26. Member, Program Committee, 2015 NSF Workshop on Curricular Development for Computing in Context, CIC15, May 13, 2015, Stetson U., Deland FL, <http://cbia.stetson.edu/cic>
 27. Meta-reviewer, Program Committee Member, JCDL 2015, June 21-25, 2015, Knoxville, TN
 28. Member, Program Committee, Knowledge Maps and Information Retrieval (KMIR), workshop at JCDL2015, June 24-25, 2015, Knoxville, TN
 29. Meta Reviewer, Digital Libraries 2014, conjoined conference for Joint Conference on Digital Libraries (JCDL) and Theory and Practice of Digital Libraries (TPDL) Conference> Reviewer, NSF, 2017
 30. Member, Program Committee, Knowledge Maps and Information Retrieval (KMIR), workshop at DL 2014, London, 11 Sept. 2014
 31. Member, Program Committee, ECIR 2015 workshop "Bibliometric-enhanced Information Retrieval", part of the 37th European Conference on Information Retrieval (ECIR), March 29, 2015, Vienna, <http://www.gesis.org/en/events/events-archive/conferences/ecirworkshop2015/>
 32. 2013 Editorial board, The Open Information Science Journal (TOISJ)
 33. Senior Program Committee Member, TPD 2013, and TPD Workshops Program Committee Member
 34. Senior Program Committee Member, JCDL 2013
 35. Member, Organizing Committee, Contemplative Practices for a Technological Society, April 11-13, 2013, Blacksburg, VA
 36. Invited Attendee, Scholarly Communications Workshop, U. Pittsburgh, Jan. 13-15, 2013
 37. Reviewer for ISCRAM 2013
 38. 2006-2012 Editorial board, ACM Journal on Computers and Cultural Heritage (JOCCH), and serving 2008-2009 on search committee for next editor-in-chief
 39. 2011 Editorial board, ACM Computers in Entertainment (CiE)
 40. Member, Program Committee, ICADL2012, International Conference on Asia-Pacific Digital Libraries, Taipei, Taiwan, 12-15 Nov., <http://www.icadl2012.org/>
 41. Member, Program Committee, 16th International Conference on the Theory and Practice of Digital Libraries (TPD 2012 -- <http://www.tpd2012.org/>), Cyprus, September 23-27, 2012
 42. Member, Workshop Committee, 16th International Conference on the Theory and Practice of Digital Libraries (TPD 2012 -- <http://www.tpd2012.org/>), Cyprus, September 23-27, 2012
 43. Senior Member, Program Committee, JCDL 2012, Washington, D.C., June 10-14
 44. Member, Steering Committee, NSF-funded CCC Vision Workshop on Computing for Disaster Management, Washington, D.C., April 24-25, 2012 (including work on report to NSF due in June)
 45. Member, Program Committee, 34th European Conference on Information Retrieval (ECIR 2012), Barcelona, Spain, 1-5 April 2012 (<http://ecir2012.upf.edu>)
 46. Member, Program Committee, ACM SIGCSE 2012, Feb. 29 - March 3
 47. Member, Program Committee, Personal Information Management 2012, workshop at CSCW, Seattle, Feb. 11-12, 2012
 48. 2011-2 Member, CS2013 Committee for Knowledge Areas: Computational Science, Information Management
 49. Member, Program Committee, ACM Multimedia 2011, Scottsdale, AZ, Nov. 28 - Dec. 1, 2011
 50. Member, Program Committee, ICADL2011, International Conference on Asia-Pacific Digital Libraries, Beijing, China, 24-27 Oct., <http://www.icadl2011.org/>

51. Member, Program Committee, Information and Data Management Track, 26th Brazilian Symposium on Databases, SBBD, Florianopolis, Brazil, Oct. 3-6, 2011
52. Senior Program Committee Member, International Conference on Theory and Practice of Digital Libraries, TPD, Berlin, Germany, September 25-29, 2011 (<http://www.tpd2011.org/>)
53. Area Chair, Program Committee, 34th ACM International Conference on Research and Development in Information Retrieval (SIGIR 2011 -- <http://www.sigir2011.org/>) Beijing, China, July 24-28, 2011
54. Invited Attendee, Microsoft Research Faculty Summit, Redmond, WA, July 18-20, 2011
55. Member, Program Committee, 19th International Symposium on Methodologies for Intelligent Systems, ISMIS 2011, June 28-30, Warsaw, Poland, <http://ismis2011.ii.pw.edu.pl/>
56. Member, Program Committee (and attending PC meeting), Joint Conference on Digital Libraries (JCDL 2011), June 13-17, Ottawa, www.jcdl2011.org.
57. Member, Programme Committee, European Conference on Information Retrieval (ECIR) 2011, 18-21 April, Dublin, Ireland
58. 2009-2011, Member, DL.org (EU funded organization for digital libraries) Working Group on Functionality, meeting in Greece June 2009 and in Rome May 2010, along with periodic online meetings
59. 2009-2010, Chair, Working Group on Interdisciplinary Computing Curricula, at the 2009 Rebooting Computing Summit and following up into the future
60. Member, Program Committee, Information Retrieval track, 25th Brazilian Symposium on Databases (SBBD 2010), Belo Horizonte, Brazil, Oct. 5-8
61. Senior Program Committee Member, ECDL 2010, 14th European Conference on Digital Libraries, Glasgow, September 6-10, 2010, <http://www.ecdl2010.org/>
62. Member, Program Committee, Fourth Annual Workshop on Human Computer Interaction and Information Retrieval (HCIR 2010), New Brunswick, NJ, August 22, 2010
63. Senior Program Committee Member and Area Chair (Applications), SIGIR 2010, 33rd ACM International Conference on Research and Development in Information Retrieval, Geneva, Switzerland, July 18-23, 2010
64. Member, Program Committee, CRA Biennial Conference at Snowbird, 2010, Cliff Lodge, Snowbird Resort, Utah, July 18-20
65. Attendee, Media Computation Workshop, Virginia Tech, July 7-9, 2010
66. Member, Program Committee, ITiCSE 2010, The 15th Annual Conf. on Innovation and Technology in Computer Science Education, Bilkent, Ankara, Turkey, June 26-30, 2010, <http://iticse2010.bilkent.edu.tr/>
67. Member, Program Committee, JCDL 2010, Joint Conference on Digital Libraries, Gold Coast, Australia, June 21-25, 2010
68. Member, Program Committee, ICADL2010, International Conference on Asia-Pacific Digital Libraries, Brisbane, Australia, 21-25 June 2010, <http://www.jcdl-icadl2010.org/>
69. Member, Program Committee, Doctoral Consortium, JCDL/ICADL 2010, June 21-25, Gold Coast, Australia
70. Member, Program Committee, ETD 2010, June 16-18, Austin, TX
71. Member, Paper Review Committee, 4th International Symposium on Information Technology 2010, ITSIM 2010, Kuala Lumpur, June 15-17, <http://www.itsim.org/>
72. Member, Programme Committee, 32nd European Conference on Information Retrieval (ECIR 2010), The Open University in Milton Keynes, UK, March 28-31, <http://kmi.open.ac.uk/events/ecir2010/>
73. Member, Program Committee, ACM SIGCSE 2010, Milwaukee, March 10-13
74. 2008-2009, Co-editor of ACM TOMCCAP special issue, led by Christoph Rensing, <http://tomccap.acm.org/special2009.html>
75. Member, Program Committee, ECDL 2009, Sep. 27 - Oct. 2, 2009, Corfu
76. Member, Program Committee, ISMIS'09, Prague, Czech Republic, September 14-17, 2009
77. Area Chair (AC, Senior Program Committee member) for IR Applications, 32nd ACM International Conference on Research and Development in Information Retrieval, SIGIR 2009, <http://www.sigir2009.org>, Boston, July 19-23, 2009
78. Mentor for SIGIR 2009
79. Member, Program Committee, ITiCSE 2009, July 6-8, 2009, Paris

80. Member, Program Committee, JCDL 2009, Austin, TX, June 15-19, 2009
81. Member, Program Committee, 12th Intl. Symposium on Electronic Theses and Dissertations (ETD 2009), Pittsburgh, PA, June 10-13
82. Reviewer, DigCCurr2009: Digital Curation Practice, Promise, and Prospects, Chapel Hill, NC, April 1-3, 2009
83. Member, Program Committee, ECIR'09: 31st European Conference on Information Retrieval, April 2009
84. 2001-2008 Member, NCSTRL (Networked Computer Science Technical Reference Library, www.ncstrl.org) Committee
85. Member, Program Committee, 11th International Conference on Asian Digital Libraries, ICADL 2008, Bali, Indonesia, Dec. 2-5, 2008
86. Member, Steering Committee, 2008 NSF CISE Pathways to Revitalized Undergraduate Computing Education, CPATH 2008, Arlington, VA, Nov. 12-14, 2008
87. Member, Program Committee, SPIRE 2008, 15th String Processing and Information Retrieval Symposium, Melbourne Australia, November 10-12, 2008
88. Member, Program Committee, HCIR 2008, Workshop on Human-Computer Interaction and Information Retrieval, October 23, Microsoft Research, Redmond, Washington
89. Member, Program Committee, Brazilian Symposium on Databases (SBBD), Campinas, Brazil, October 13-15, 2008
90. Member, Program Committee, European Conference on Research and Advanced Technology for Digital Libraries: Towards the European Digital Library, ECDL2008, Aarhus, Denmark, September 14 - 19, 2008
91. Senior Member, Program Committee, SIGIR 2008, July 20-24, 2008, Singapore
92. Member, Program Committee, JCDL 2008, June 15-20, 2008, Pittsburgh
93. Member, Program Committee, ISMIS 2008, May 20-23, 2008, Toronto
94. 2007 Editorial board, The Open Information Systems Journal (TOIJ)
95. Co-chair, Panels, ECDL 2007, Budapest, September 2007
96. Senior PC member, ACM SIGIR 2007, attending PC meeting March 29-30, 2007 in Delft, Netherlands, 30th Annual International ACM SIGIR Conference, 23-27 July 2007, Amsterdam
97. Co-chair (with Donatella Castelli), JCDL 2007 Workshop 2: 1st Workshop on Digital Library Foundations, with 2007 Joint Conference on Digital Libraries, June 23, 2007, Vancouver
98. Co-chair (with Geneva Henry) standing in for Chair Nadia Caidi who could not attend, JCDL 2007 Doctoral Consortium, with 2007 Joint Conference on Digital Libraries, June 19, 2007, Vancouver
99. Member (of 6), Organizing Committee, JCDL 2007 Workshop 1: Developing a Digital Libraries Education Program, with 2007 Joint Conference on Digital Libraries, June 18, 2007, Vancouver
100. Member, Program Committee, JCDL 2007, 2007 Joint Conference on Digital Libraries, June 17-23, 2007, Vancouver
101. Member, Program Committee, ETD 2007, 10th International Symposium on Electronic Theses and Dissertations, Uppsala, Sweden, June 13-16, 2007, <http://epc.ub.uu.se/etd2007/>
102. Member, Program Committee, MUE 2007, 26-28 April 2007, Seoul, Korea
103. Member, Program Committee, 29th European Conference on Information Retrieval (ECIR 2007), Rome, April 2-5, <http://ecir2007.fub.it>
104. Invited IMA workshop attendee, The Evolution of Mathematical Communication in the Age of Digital Libraries, Dec. 8-9, 2006, hosted by the Institute for Mathematics and its Applications (IMA), Minneapolis, <http://www.ima.umn.edu/2006-2007/SW12.8-9.06/index.html>
105. Member, Program Committee, ICADL 2006, Kyoto, Japan, Nov. 2006, <http://www.icadl.org/>
106. Member, Program Committee, SPIRE 2006, 13th ed. Symposium on String Processing and Information Retrieval (<http://www.cis.strath.ac.uk/external/spire06/>), 11-13 Oct. 2006, Glasgow
107. Member, Program Committee, ECDL 2006, Alicante, Spain, 17-22 Sept. 2006, <http://www.ecdl2006.org/>, and Accompanying Professor, Doctoral Consortium
108. Co-organizer, ETANA Workshop, Vanderbilt University, Nashville, Sept. 8-9, 2006

109. Member, Program Committee, SIGIR 2006 Workshop "Evaluating Exploratory Search Systems" (<http://www.sigir2006.org/>), Aug. 6-11, Seattle; Area Coordinator (AC) for ACM SIGIR 2006, for Web IR and Digital Libraries, coordinating the work of the reviewers in that area
110. Member, JCDL 2006 program committee, June 11-15, 2006, Chapel Hill, NC
111. Accompanying Professor, Doctoral Consortium, JCDL 2006, June 11-15, 2006, Chapel Hill, NC, <http://www.jcdl2006.org/>
112. Member, Program Committee, ETD 2006, 9th International Symposium on Electronic Theses & Dissertations, June 7-10, 2006, Quebec City, <http://www6.bibl.ulaval.ca:8080/etd2006/>
113. Member, Program Committee, Southeast Workshop on Data and Information Management, Raleigh, NC, March 30-31, 2006
114. Member, Program Committee, 10th International Conference on Extending DataBase Technology (EDBT 2006), Munich, GE, March 27-31, 2006
115. Member, Program Committee, ACM Conference on Information and Knowledge Management (CIKM) 2005 (<http://www.tzi.de/CIKM2005/>), Bremen, Germany, October 31 - November 5
116. Member, Program Committee, ETD 2005, 8th International Symposium on Electronic Theses & Dissertations, Sydney, Australia, Sept. 28-30, 2005
117. Member, Organizing Committee and Co-chair for Panels, European Conference on Digital Libraries, ECDL 2005, Vienna, September 18-23, 2005, <http://www.ecdl2005.org>
118. Reviewer, SIGIR 2005, 28th Annual International ACM SIGIR Conference, Salvador, Brazil, August 15-19, 2005
119. Member, Program Committee, Fifth Joint Conference on Digital Libraries, JCDL 2005, June 7-11, 2005, Denver, Colorado
120. Member, Program Committee, 8th International Workshop of the DELOS Network of Excellence on Digital Libraries on Future Digital Library Management Systems (System Architecture & Information Access), Schloss Dagstuhl, Germany, March 29 - April 1st, 2005
121. 2001-2005 Member, Institutional Asset Submission Programme Steering Group (assisting JISC, the NSF-equivalent in UK, for FAIR program), including March 14, 2002 teleconference review panel
122. 2003-2004 Member, Energy Sciences & Technology Directorate Review Committee, Pacific Northwest National Laboratory (PNNL), Richland, WA
123. 2001-2004, Member, National Visiting Committee, "Web-Network Technology Curriculum Development" NSF grant to Erie Community College, SUNY Buffalo, ...; attending meetings in Buffalo, NY on 11/7/2001; June 11-13, 2002; June 18-19, 2003; June 15-16, 2004
124. Co-chair, Program Committee, ICADL 2004, 7th International Conference of Asian Digital Libraries, Shanghai, China, Dec. 13-17, 2004
125. Member, Program Committee, CIKM 2004, 13th Conference on Information and Knowledge Management, Nov. 8-13, 2004, Washington, D.C.
126. Member, Program Committee, SCCC'04, XXIV International Conference of the Chilean Computer Science Society, Nov. 11-12, 2004, Arica, Chile
127. Member, Program Committee, AIRS 2004, Asia Information Retrieval Symposium, Beijing, Oct. 14-16, 2004
128. Moderator, Discussion group on Information Integration, NSF IDM PI Workshop, Oct. 10-12, 2004, Cambridge, MA
129. Member, Program Committee, SPIRE 2004, String Processing and Information Retrieval Symposium, Padova, Italy, Oct. 5-8
130. Member, Program Committee, SIGIR 2004, 27th Annual International ACM SIGIR Conference, University of Sheffield, UK, July 25-29, 2004
131. Member, Program Committee, ELPUB 2004, ICCC 8th International Conference on Electronic Publishing, University of Brasilia, Brazil, June 23 - 26, 2004
132. Member, Program Committee, ISI-2004, 2nd Symposium on Intelligence and Security Informatics, Tucson, Arizona, June 10-11, 2004
133. Member, Program Committee, JCDL 2004, ACM/IEEE-CS Joint Conference on Digital Libraries, Tucson, Arizona, June 7-11, 2004

134. Member, Program Committee, ETD 2004, The 7th International Symposium on Electronic Theses & Dissertations: Distributing knowledge worldwide through better scholarly communication, Lexington, KY, June 3-5, 2004
135. Member, Program Committee, DLKC'04, International Symposium on Digital Libraries and Knowledge Communities in Networked Information Society, March 2-5, 2004, University of Tsukuba, Japan
136. Member, Program Committee, CIKM'2003, New Orleans, LA, Nov. 2-8, 2003
137. Member, Program Committee, SPIRE-2003, String Processing and Information Retrieval Symposium, Manaus, Brazil, October 8-10, 2003
138. Member, Program Committee, ENC 2003, Encuentro, biannual conf. of Mexican Computer Society (SMCC), Sept. 8-12, Apizaco, Mexico
139. Member, Program Committee, ECDL'2003, Trondheim, Norway, Aug. 17-22, 2003
140. Member, Program Committee, SIGIR'2003, Toronto, July 28-Aug.1, 2003
141. Member, Program Committee, Elpub 2003, 7th International Conference on Electronic Publishing, June 25-28, 2003, Guimaraes, Portugal
142. Member, Program Committee, The First NSF/NIJ Symposium on Intelligence and Security Informatics (ISI 2003), June 2-3, 2003, Tucson, AZ, <http://ecom.arizona.edu/ISI/>
143. Member, Program Committee, JCDL'2003, Houston, May 27-31, 2003
144. 2001-2 Program Co-Chair, ICADL'2002, Singapore, Dec. 17-20, 2002, <http://www.cais.ntu.edu.sg:8000/icadl02>
145. Member, Program Committee, ECDL'2002 (and co-chair, demos and posters), Rome, Sep. 16-18, 2002
146. Member, Program Committee, SPIRE'2002, Lisbon, Portugal, Sep. 11-13
147. Member, Program Committee, JCDL'2002, Portland, July 14-18, 2002 (attending PC meeting March 8-10, 2002, Chapel Hill, NC)
148. Member, Int'l Program Committee, 2002 Workshop on Multimedia Information Retrieval and Management, June 5, 2002, Hong Kong Poly. U.
149. Member, Organizing Committee, OCKHAM (Open Community Knowledge Hypermedia Administration and Metadata), May 3, 2002, Atlanta, GA (sponsored by Digital Library Federation)
150. 2002 Co-organizer: Deborah Knox, Lillian Cassel, John Impagliazzo, Edward Fox, JAN Lee, Manuel Perez, and C. Lee Giles. "Submission, Evaluation, and Refinement of Resources to CITIDEL". Full day workshop (scheduled but cancelled due to attendance, attended only by co-PIs) at ACM SIGCSE Symposium 2002, <http://www.cs.cofc.edu/sigcse2002/>, in Proc. of the 33rd SIGCSE Technical Symposium on Computer Science Education, Feb. 27 - March 3, 2002, Covington, KY, p. 421
151. 2002 Invited participant, NIMD'2002 Workshop, Jan. 7-9, 2002, Arlington, VA (Novel Intelligence from Massive Data program of ARDA)
152. Member, Program Committee, ICADL 2001, Dec. 10-12, 2001, Bangalore, India, 4th Int'l Conf. of Asian Digital Libraries
153. Member, Program Committee and Area Coordinator, 24th Annual International SIGIR Conference on Research and Development in Information Retrieval, New Orleans, LA, Sept. 2001 (and attending PC meeting 3/23-25/2000)
154. Member, Program Committee, ECDL 2001, 5th European Conference on Research and Advanced Technology for Digital Libraries, September 4-8 2001, Darmstadt, Germany, <http://www.ecdl2001.org>
155. Member, Program Committee, SPIRE'2001 - String Processing and Information RETrieval, Laguna de San Rafael, Chile, Nov. 13-15, 2001
156. 2001 Invited participant, SMETE.ORG workshop, PKAL Summer Institute, July 15-18, 2001, Snowbird, Utah
157. 2001 Invited participant, brainstorming meeting on "Digital Libraries: Future Directions for a European Research Programme", organized by the DELOS Network of Excellence on Digital Libraries, in cooperation with the Cultural Heritage Applications Unit of the 5th FP IST programme, 13-15 June 2001, S. Cassiano, Italy, Brainstorming Report ERCIM-02-W02, <http://delos-noe.org/>
158. 2001 Member, Steering Committee, NSF IDM'2001, April 29 - May 1, 2001, Fort Worth, Texas, <http://itlab.uta.edu/idm01/>
159. 2001 Member, Review team for UMBC CS program, April 16, 2001, Baltimore

160. 2000-01 Member, Program Committee, WWW10 Conference, 10th International World Wide Web Conference, Hong Kong, June 2001, <http://www.www10.org>
161. 1999-01 Member, ACM Content Steering Committee (w. John White, charge at <http://www.cs.arizona.edu/people/rts/Portal/hidden/steering.charge>)
162. 1998-01 Member, Curriculum 2001 (CC2001) Review Committee (and member of focus group on Information Management)
163. 1998-01 Member, Ad Hoc Committee on Being a Scholar in the Digital Age, that helped to prepare "Issues for Science and Engineering Researchers in the Digital Age", National Research Council, ISBN 0-309-07417-7, Washington, D.C.: National Academy Press, 2001, 57 pages
164. 2000 Member, Board of Experts for NCLIS
165. 2000 Member, Program Committee, MMM 2000, November, 13-15, 2000, Nagano Japan, <http://www.phys.waseda.ac.jp/shalab/mmm2000/>
166. 2000 Member, Program Committee for The Ninth International Conference on Information and Knowledge Management (CIKM'2000), Nov. 6-11, 2000, Washington, DC, <http://www.csee.umbc.edu/cikm/2000/>
167. 2000 Member, Organizing Committee (OC) for the International Conference on Information Society in the 21 Century: Emerging Technologies and New Challenges (IS2000), November 5-8, 2000, The University of Aizu, Aizu-Wakamatsu City, Fukushima, Japan
168. 2000 Member, review panels, NSF, Jan. 12-13, 2000 and May 22-25, 2000
169. 1999-2000 Member, Committee for National Research Council to prepare "On Being a Researcher in the Digital Age", for booklet published by NRC/NAS
170. 1999-2000 Member, Program Committee, ACM Multimedia 2000, Los Angeles, Oct. 30 - Nov. 3, 2000, <http://www.acm.org/sigs/sigmm/MM2000/>
171. 1999-2000 Member of the International Program Committee, SIGIR 2000, Athens, July 25-28, 2000
172. 1999-2000 Member, Coordination Group (led by R. Steinmetz, with W. Effelsberg and N. Georganas), "Multimedia for Multimedia: Learning and Teaching in the Next Decade", Dagstuhl seminar, Castle Dagstuhl, Germany, June 11-16, 2000
173. 1999-2000 Member, Program Committee, ACM Digital Libraries '2000, San Antonio, TX, June 2-7, 2000, <http://www.dl00.org/>
174. 1999-2000 Member, Program Committee, Web9 Conference, 9th International World Wide Web Conference, The Web: The Next Generation, Amsterdam, May 15-19, 2000, <http://www.www9.org>
175. 1999-2000 Member, Steering Committee, NSF IDM'2000, Chicago, March 5-7, 2000, <http://boston.cwru.edu/idm00/>
176. 1999-2000 Member, Program Committee, ICDE'2000, 16th International Conf. on Data Engineering, San Diego, CA, Feb. 28-March 3, 2000 <http://research.microsoft.com/icde2000/>
177. 1999 Member, Program Committee, 5th International Computer Science Conference (ICSC '99), Hong Kong, December 15-17, 1999
178. 1999 Participant, 7th Dublin Core Metadata Workshop, Die Deutsche Bibliothek, Frankfurt, October 25-27, 1999 (and presenter at Discussion Group - Dissertation Online - Oct. 27)
179. 1999 Invited participant and presenter, Workshop on an international project of electronic dissemination of theses and dissertations, UNESCO, Paris, Sep.27-28, 1999
180. 1999 Chair, Steering Committee meeting of NDLTD, 9/24/99, Washington
181. 1999 Member, Program Committee, 5th Eurographics Workshop on Multimedia Media Convergence: Models, Technologies and Applications, EG Multimedia'99, Milan, Italy, Sep. 7-8, 1999 <http://egmm99.di.fct.unl.pt>
182. 1999 Invited expert, by NSF, for Digital Library for Education (DLE) meeting, Washington, D.C., June 10, 1999
183. 1998- Member, Steering Committee, ACM Digital Libraries conf. series
184. 1998-2000 Member, Program Committee of 4th European Conf. for Digital Libraries, ECDL'2000, Lisbon, Sept. 18-21, 2000, <http://www.bn.pt/org/agenda/ecdl2000/>
185. 1998-99 Member, Program Committee for The Eighth International Conference on Information and Knowledge Management (CIKM'99), Kansas City, Missouri, Nov. 2-6, 1999, <http://www.cs.umbc.edu/cikm>

186. 1998-99 Member, Program Committee, Fifth International Workshop on Multimedia Information Systems (MIS'99), Palm Springs Desert Resorts area, CA, Oct. 21-23, 1999
187. 1998-99 Member, Program Committee, ICON'99, International IEEE Conf. on Computer Networks, Brisbane, Australia, Sept. 9-10, 1999
188. 1998-99 Member, Review Committee for ACM SIGIR'99, Aug.15-19, Berkeley, CA
189. 1997-99 Associate Program Chair, ACM Multimedia'99, 7th ACM Int'l Multi- media Conf., Nov. 1999, Orlando, <http://www.acm.org/sigmm/MM99/>
190. 1997-99 Member, Program Committee for CoLIS 3, Dubrovnik, May 1999
191. 1999 Chair of Technical Committee meeting, for Networked Digital Library of Theses and Dissertations, held before Coalition for Networked Information Spring Meeting, Renaissance Washington D.C. Hotel, April 26-27, 1999
192. 1999 Participant, NSF Digital Library Workshop on undergraduate education, Arlington, VA, Jan. 4-6, <http://www.dlib.org/smete/>
193. 1998-99 Member, ASIS 1999 Mid-Year Meeting program committee
194. 1996-99 Member, OCLC's Research Advisory Council
195. 1995-99 Member, Columbia U. Digital Library Advisory Committee
196. 1998 Participant, University of Missouri-Columbia's Delphi Study of Digital Libraries. For details of the study and report see http://www.coe.missouri.edu/~is334/projects/Delphi_DL/Default.htm
197. 1998 Participant, NSF Workshop on Digital National Library for Undergraduate Science, Mathematics, Engineering, and Technology Education, Arlington, VA, July 21-23, <http://www.dlib.org/smete/>
198. 1998 Chair of Steering Committee meetings, for Networked Digital Library of Theses and Dissertations, held at Coalition for Networked Information offices, Washington, D.C, March 27, 1998; Sept.25,1998
199. 1998 Chair of Technical Committee meeting, for Networked Digital Library of Theses and Dissertations, held before Coalition for Networked Information Spring Meeting, Arlington, VA, April 14, 1998
200. 1998 Participant, D-Lib Metrics Working Group Meeting, Stanford, CA, Jan. 7-8, 1998
201. 1997-98 Member, Program Committee for IEEE Multimedia Systems'98, IEEE MM98
202. 1997-98 Member, Program Committee for ACM SIGIR '98, Aug., Melbourne, Australia
203. 1997-98 Member, Program Committee for The Seventh International Conference on Information and Knowledge Management (CIKM'98), Nov. 1998
204. 1997-98 Associate Program Chair, ACM Multimedia '98, 6th ACM Int'l Multimedia Conf., 12-16 Sept. 1998, Bristol, UK <http://www.acm.org/sigmm/MM98/>
205. 1997-98 Member, Program Committee of 2nd European Conf. for Digital Libraries, Crete
206. 1997-98 Member, Program Committee, SICON '98, IEEE Int'l Conf. on Networks, 30 June - 3 July 1998, Singapore (and session chair)
207. 1997-98 Member, Program Committee for ACM Digital Libraries '98, Pittsburgh, PA, June 23-26, 1998, <http://www.ks.com/dl98> (also, Workshop Chair, committee to select winner of the Vannevar Bush award)
208. 1997-98 Member, Program Committee for BAS98, The 3rd Symposium on Computer Networks, June 25-26, 1998, Dokuz Eylul University, Izmir, Turkey
209. 1997-98 Member, Program Committee for RIDE98, Eighth International Workshop on Research Issues in Data Engineering: Continuous-Media Databases and Applications, February 23-24, 1998, Orlando, Florida, Sponsored by IEEE Computer Society Technical Committee on Data Engineering
210. 1996-98 Member, Steering Committee, Monticello Electronic Library, a project of SURA and SOLINET (re TIAPP grant)
211. 1995-98 Member, ACM SIGIR Executive Committee (as Past Chair)
212. 1995-98 Member, ACM SIGIR Electronic Publishing Committee
213. 1993-98 Member, ACM SIGIR Education Committee
214. 1997 Chair, Nominations Committee, ACM SIGIR
215. 1997 Chair of Technical Committee meeting, for Networked Digital Library of Theses and Dissertations, held before Coalition for Networked Information Spring Meeting, Minneapolis, Oct. 26, 1997
216. 1997 US Representative, Workshop on Curricular Development on Information Management and Digital Libraries, Lisbon, Portugal, Oct. 3-4, 1997

217. 1997 Chair of Steering Committee meeting, for Networked Digital Library of Theses and Dissertations, held at Coalition for Networked Information offices, Washington, D.C, Sept. 19, 1997
218. 1997 Member, workshop on a Digital National Library for Science, Mathematics, Engineering and Technology, sponsored by National Research Council, Washington, D.C., August 7-8, 1997
219. 1996-97 Program committee member, First European Conference in Research and Advanced Technology for Digital Libraries, Pisa, Italy, 9/1-3/97
220. 1996-97 Program committee member, 20th Intern'l Conf. on R&D in Information Retrieval, SIGIR '97, July 27-31, 1997, Philadelphia; also chair of session on Image Retrieval; also on Best Paper Committee
221. 1996-97 Technical papers committee member, 2nd ACM Int'l Conf. on Digital Libraries, DL'97, July 21-23, 1997, Philadelphia
222. 1995-97 Program committee member, IEEE Multimedia Systems'97, the IEEE International Conference on Multimedia Computing and Systems (ICMCS), June 3-6, 1997, Ottawa, Canada
223. 1995-97 Program comm. member, 1997 International Conference on Software Engineering, ICSE 97, May 17-24, 1997, Boston, MA
224. 1996-97 Organizing comm. member, Workshop on R&D Opportunities in Federal Information Services, 5/13-15/97, Arlington, VA; also met 12/3-5/96
225. 1997 Chair of Technical Committee meeting, for National Digital Library of Theses and Dissertations, held before Coalition for Networked Information Spring Meeting, Crystal City, VA, 4/1-2/97
226. 1997 Invited attendee, Computing and Humanities workshop, Computer Science and Telecommunications Board, National Research Council, March 28, 1997, Washington, D.C.
227. 1997 Chair of Steering Committee meeting, for National Digital Library of Theses and Dissertations, held at Coalition for Networked Information offices, Washington, D.C, March 14, 1997
228. 1997 Invited attendee and co-chair of one of four working groups, NSF Workshop for a Research Initiative on Distributed Knowledge-Work Environments, Santa Fe, March 9-11, 1997
229. 1997 NSF Database and Expert Systems panel, Feb. 3, 1997
230. 1996-97 Program committee member, Multimedia Computing and Networking 1997 (MMCN97) Conference (sponsored by SPIE and IS&T), San Jose, Feb. 10-12, 1997.
231. 1996 Chair of Technical Committee meeting, for National Digital Library of Theses and Dissertations, held after Coalition for Networked Information Fall Meeting, San Francisco, Dec. 7, 1996
232. 1996 Program review committee member, ACM Multimedia '96 conference, November 18-22, 1996, Boston, MA, <http://www.acm.org/sigmm/MM96/>
233. 1996 Member, NSF DLI Site Review Team, visiting 2 institutions, May, 1996
234. 1995-96 Steering committee member, NSF-sponsored 38th Allerton Institute, Oct. 27-29, 1996, Monticello, IL; co-chaired session with G. Marchionini
235. 1995-96 Program committee member, 19th Intern'l Conf. on R&D in Information Retrieval, SIGIR '96, Aug. 18-22, 1996, Zurich, Switzerland
236. 1995-96 Technical Program Committee member, HPDC Focus Workshop on Multimedia and Collaborative Environments, part of Fifth IEEE Int. Symp. on High Performance Distributed Computing (HPDC-5), Aug. 6-9, 1996, Syracuse, NY
237. 1995-96 Program committee member for Multimedia Computing and Networking 1996 - part of the IS&T/SPIE Symposium on Electronic Imaging Science and Technology, Jan. 29-31, 1996, San Jose, CA
238. 1995-96 Program committee member, Pacific Workshop on Distributed Multimedia Systems, DMS'96, June 25-28, 1996, Hong Kong
239. 1995 Steering committee member, NSF-sponsored 37th Allerton Institute, "How We Do User-Centered Design and Evaluation of Digital Libraries: A Methodological Forum," 10/29-31/95, Monticello, IL
240. 1995 Program committee member, Curriculum Development in Computer Information Science: A Framework for Developing a New Curriculum in IR, workshop following ACM SIGIR'95, July 13, 1995, Seattle, WA
241. 1995 Invited participant, ARPA sponsored HPCC/IITA DigLib Workshop, May 18-19, 1995, Tysons Corner, VA.
242. 1995 Organizing Committee, NSF hosted workshop on Computer Science Technical Reports, NSF, Arlington, VA, April 7-8, 1995

243. 1994-96 Program committee member, ISMIS'96, organized with the assistance of the Polish Academy of Sciences, 6/10-13/96, Zakopane, Poland
244. 1994-95 Senior Member of the Program Committee, member of conference executive committee, ACM Multimedia '95, Third ACM International Conference on Multimedia, Nov. 5-9, 1995, San Francisco, CA
245. 1994-95 Program committee member, CIKM 95, Fourth International Conference on Information and Knowledge Management, Nov. 28 - Dec. 2, 1995, Baltimore, MD
246. 1994-95 Organizing Committee Member, Digital Libraries '95, June 11-13, 1995, Austin, TX
247. 1994-95 Program committee member, Electronic Publishing and the Information Superhighway, DAGS'95 (Dartmouth Institute for Advanced Graduate Studies 4th Annual Summer Meeting), May 31-June 2, Boston
248. 1994-95 Program committee member, 1995 Pacific Workshop on Distributed Multimedia Systems, March 30-31, 1995, Honolulu, Hawaii
249. 1994-95 Member, IBM Digital Library Council
250. 1994 Participant, Oct. 31, 1994 NSF Workshop on World-Wide Web in support of Computer Science Research and as a Means for NSF to Disseminate Information, NSF Headquarters, Arlington, VA
251. 1994 Assoc. Program Chair, Digital Libraries '94, June 19-21, 1994, College Station, TX.
252. 1994 Session Chair on Architectures, EG-MM '94, Eurographics Symposium and Workshop on Multimedia: Multimedia/Hypermedia in Open Distributed Environments, June 6-9, 1994, Graz, Austria. Also, invited workshop participant.
253. 1994 Member, ACM Electronic Membership Directory task force
254. 1994 NSF Instrumentation and Laboratory Improvement Program panel, Jan. 19-22, 1994.
255. 1994 NSF Database and Expert Systems panel, March 29-30.
256. 1993-94 Program vice-chair, CIKM 94, Third International Conference on Information and Knowledge Management, Nov. 29-Dec. 2, 1994, NIST, Gaithersburg, MD
257. 1993-94 Program and conference executive committees member, ACM Multimedia 94, Second ACM International Conference on Multimedia, Oct. 15-20, 1994, San Francisco, CA
258. 1993-94 Program committee member, 2nd International Workshop on Advanced Teleservices and High-Speed Communication Architectures (IWACA), Sept. 26-28, 1994, Heidelberg, Germany
259. 1993-94 Member, NSF Information Engineering Task Force, initial meeting Nov. 4-6, 1993, Alexandria, VA, preparing NSF Task Force Report on Developing a Framework for Academic Programs in Informatics: Educating the Next Generation of Information Specialists
260. 1993-94 Organizing committee member, Workshop on Intelligent Access to On-line Digital Libraries, in connection with IEEE CAIA '94, San Antonio, TX, March 1, 1994
261. 1993 NSF panels on Jan. 7-8, March 19, April 15, May 7, June 21-22, 1993
262. 1993 NIH RADIX review panel, March 26, Bethesda, MD
263. 1992-94 Program committee member, 17th Intern'l Conf. on R & D in Information Retrieval, SIGIR '94, Dublin, Ireland, July, 1994
264. 1992-94 Program committee member, IS&T/SPIE Symposium on Electronic Imaging Science and Technology --- two workshops: 1) Digital Video Compression and Processing on Personal Computers: Algorithms and Technologies, 2) High-Speed Networking and Multimedia Computing (and session chair). Feb. 6-10, 1994, San Jose, CA
265. 1992-94 Member, ACM Electronic Publishing Volunteer Advisory Committee
266. 1992-93 Member, Design Team, The Capture and Storage of Electronic Theses and Dissertations, sponsored by Coalition for Networked Information (CNI), VPI&SU, Council of Graduate Schools, and University Microfilms Int., including Information Technology group leader for 11 Oct. 1992 Design Meeting, Washington, D.C., speaker at 2 sessions of the CNI 1993 Spring Meeting, March, San Francisco.
267. 1992-93 Program committee member, ACM Multimedia '93, First ACM International Conference on Multimedia, Aug. 2-6, 1993, Anaheim, CA
268. 1992-93 Editorial board, NSF funded SCID3B (Scientific Database Bulletin Board)
269. 1992 Steering committee member, Hyperbases workshop, sponsored by the National Science Foundation and Texas A&M, 15-16 Oct., 1992, Washington, D.C.

270. 1992 Invited member, NSF Workshop on Visual Information Management Systems, org. by U. of Mich. and IBM Almaden Res. Cntr., 24-24 Feb. 1992, San Francisco.
271. 1992 Review panel member, NSF CISE Education Infrastructure Program
272. 1991-95 Jury, ASIS (Amer. Soc. for Inf. Science) Award for Research in Information Science: member 1991-93, chair 1994, member 1995
273. 1991-92 Program comm. member, 1992 Symposium on Applied Computing (SAC '92)
274. 1991 Review panel member, NSF Research Initiation Awards
275. 1991 Steering committee member, "Emerging Technologies" panel chair: Directions in Text Analysis, Retrieval and Understanding workshop, sponsored by the National Science Foundation and U. Nebraska, 11-12 Oct., 1991, Chicago IL.
276. 1991 Invited workshop member, "User Interfaces for Online Public Access Catalogs" Invitational Research Workshop, sponsored by the U. of Maryland Human-Computer Interaction Lab. and the Library of Congress Information Technology Office, Nov. 1, 1991, Library of Congress, Washington, D.C.
277. 1990-93 Member, Chemical Abstracts Service Research Council
278. 1990-92 Program committee member, 15th Intern'l Conf. on R & D in Information Retrieval, SIGIR '92, June 21-24, 1992, Copenhagen, Denmark
279. 1990-92 Member, Working Group on Hypermedia, Text Encoding Initiative
280. 1990-91 Member, Editorial Board, Applied Computing Review
281. 1990-91 Member, ACM Press CD-ROM Advisory Panel
282. 1990-91 Program committee member, publicity chair, 14th Intern'l Conf. on R & D in Information Retrieval, SIGIR '91, October 13-16, 1991, Chicago
283. 1990-91 Organizing committee member, AAAI-91 Workshop on Natural Language Text Retrieval, July 15, 1991, Anaheim, CA
284. 1990-91 Program committee member, RIAO (Recherche d'Informations Assistee par Ordinateur) 91, April 2-5, 1991, University Autonoma of Barcelona
285. 1990 Invited participant at Scientific Database Workshop, sponsored by NSF and Univ. of Virginia Dept. of Comp. Sci., Charlottesville VA, Mar. 12-13, 1990.
286. 1990 Organizer and chairman of planning meeting on Electronic Submissions at ACM Computer Science Conference, Feb. 20, 1990, Washington, D.C.
287. 1989-91 Member of ad hoc committee of the ACL: ACL Data Collection Initiative
288. 1989-91 Program comm. member, International Conference on Multimedia Information Systems, Singapore, Jan. 16-18, 1991
289. 1989-91 Member, Research Committee, American Society for Information Science
290. 1988-90 Technical program comm. member, The Fifth Annual AI Systems in Gov. Conf., May, 1990, Washington, D.C.
291. 1988-90 Member Advisory Board, Lexical Research Program, Applied Information Technologies Research Center, Columbus, Ohio
292. 1988-90 Program committee member, 13th Intern'l Conf. on R & D in Information Retrieval, Sept. 5-7, 1990, Brussels, Belgium. Access Methods session chair.
293. 1988-89 Technical program comm. member, Intelligent Systems - Realizing the Payoff, AI Systems in Gov. Conf., March 27-31, 1989, Washington, D.C.
294. 1988 Invited participant in AITRC sponsored workshop on lexicons and text collections, April 20, 1988, Dublin, Ohio
295. 1988 Review panel member, NSF Science & Tech. Research Centers
296. 1987-94 Editorial board, CD-ROM Professional(formerly Laserdisc Professional)
297. 1987-89 Publicity chairman, program committee member, 1989 ACM SIGIR Intern'l Conf. on R & D in Information Retrieval, June 25-27, 1989, Cambridge, MA
298. 1987-88 Program committee, hypertext session chair: RIAO (Recherche d'Informations Assistee par Ordinateur) 88: User-Oriented Text and Image Handling, March 21-24, 1988, Cambridge, MA.
299. 1987 Invited participant in AAP/UMI Workshop on Dissertation Markup, April 15, 1987, Ann Arbor, MI

300. 1986-87 Planning committee for Workshop on Distributed Expert-Based Information Systems, March 5-7, 1987, New Brunswick, NJ
301. 1985 Conference Committee, Virginia Networking and Telecommunications Planning Conference, Oct. 15 -16, 1985, Fredericksburg, VA

UNIVERSITY SERVICE:

CURRENT:

1. 2015- Faculty Affiliate, Virginia Tech Center for Autism Research (VTCAR)
2. 2015- Affiliated Faculty Member, Global Change Center (GCC)
3. 2014- University Libraries' Dean's Advisory Committee (Library DAC)
4. 2012- CS Mentoring Program Coordinator, Co-Coordinator
5. 2011- Member, Discovery Analytics Center (VT DAC)
6. 2009- Member, Search Committee(s), Dept. of Computer Science
7. 1998- Director, Digital Library Research Laboratory, www.dlib.vt.edu
8. 1995- Founding Member of Center for Human-Computer Interaction (CHCI)

PRIOR:

1. 2016-7 Member, College of Engineering Commencement Committee
2. 2013-7 College of Engineering Faculty Organization Executive Committee, Member, and President 2015-2017
3. 2007-2014 Faculty Advisor to Information Technology, special staff member reporting to VP for Information Technology
4. 2009-2012 Member, Personnel Committee, Dept. of Computer Science
5. 2007-2010 Member, Commission on Undergraduate Studies and Policies (CUSP)
6. 2007-2010 Member, Committee on Undergraduate Curricula (CUC)
7. 2007-2010 Member, College of Engineering Undergraduate Curricular Committee
8. 2003-2009 Chair, Undergraduate Program Committee, Dept. of Computer Science
9. 2007-2008 Chair, Search Committee for next Head of Dept. of Computer Science
10. 2005-2007 Member, Personnel Committee, Dept. of Computer Science
11. 2005 Member, Review Committee for Dean of the College of Business
12. 2003-2004 Member, College of Engineering Undergraduate Curriculum Committee
13. 2002-2004 Member, Information Sciences and Technology Advisory Committee of the Administrative Coordinating Council for Engineering, Physical Sciences, and Information Sciences and Technology (ACCEPSIST)
14. 1998-2005 Director, Internet Technology Innovation Center at Virginia Tech (a University Center), <http://fox.cs.vt.edu/itic/>, www.internettic.org
15. 1996-2003 Member, Electronic Thesis and Dissertation Advisory Committee
16. 2003-2004 Member, College of Engineering Executive Committee
17. 2000-2003 Member, Undergraduate Program Committee, Dept. of Computer Science
18. 2001-2002 Member, University Council
19. 2000-2001 Fellow, Institute for the Social Assessment of Information Technology (ISAIT). Virginia Tech, <http://www.uap.vt.edu/classes/uap3344/ISAITInfo/>
20. 1996-2002 Chair, Commission on University Support (2001-2002, Vice chair 2001, member in previous years)
21. 2001 Member, Technical Advisory Group for WPI, meeting 1/19/2001
22. 1999-00 Member, Review Committee for Center for Wireless Telecommunications (CWT)
23. 1997- Member, Personnel Committee of Dept. of Computer Science
24. 1995-99 Member, University Computing and Communications Resources Committee (chair for AY 1995-1996)

25. 1995-99 Coordinator, College of Arts and Sciences, Advanced Communication and Information Technology Center (ACITC)
26. 1997-98 Member, University Libraries Serials Collection Committee
27. 1996-98 Member, Steering Committee, University Self Study
28. 1996-98 Member, 125th Anniversary Steering Committee
29. 1996-98 Chair, Traditional Students Subcommittee, University Self Study
30. 1995-97 Member, Computing Resources Committee of Dept. of Computer Science
31. 1994-97 Member, Faculty Senate (and chair, 1995-96, of working group on distance learning)
32. 1994-95 Member, University Research Computing Advisory Group
33. 1994-95 Member, Blacksburg Electronic Village Research Advisory Group
34. 1992-95 Member, Executive Committee of Department of Computer Science
35. 1992-93 Faculty advisor, Organization for Student Computing
36. 1991-93 Chair, Search Committee, for Head of Department of Computer Science
37. 1991 Member, Search Committee for Asst. Dean for Engineering Computing
38. 1991 Member, Planning Comm. for 2nd Annual University/Industry Cooperation Conf.
39. 1991 Member, Task Group for Innovations in Teaching: The Information Resources
40. 1990-94 Member (for Arts & Sciences), University's Library Committee
41. 1990-92 Chair, Arts & Sciences' Ad Hoc College Library Committee
42. 1989-93 Member, Scholarly Publications Project subcommittee
43. 1989-92 Chair, Dept. of Computer Science's Computing Resources Committee
44. 1988-95 Member (for Arts & Sciences), University's Communications Resources Committee
45. 1988-89 Member, Dept. of Comp. Science's Graduate Program & Research Activities Comm.
46. 1987-91 Departmental representative, Sigma Xi
47. 1987-90 Member, Arts & Sciences' Ad Hoc College Library Committee
48. 1987-88 Member, PC Selection Committee (selecting CS computer system for requirement)
49. 1987-88 Faculty Counselor for University's Honor System
50. 1983-89 Member, Dept. of Computer Science's Computing Resources Committee, wrote first draft of request for proposal leading to 1985 UNIX requirement for CS students
51. 1986-87 Member, LRC Teaching Learning Grant Committee
52. 1986-87 Member, Computing and Information Services Committee of University Self Study (serving on 2 of the 4 task forces, responsible for helping prepare final report)
53. 1986 Member, review team, CNS Single System Image project
54. 1986 Member, Task Force, Library's role in relation to other units in an electronic campus
55. 1985 Member, Ad Hoc Committee on Library Futures
56. 1983-87 Technical liaison for Virginia Tech to CSNET (proposed joining the Computer Science Network, and coordinated this effort that was taken over in 1987 by CNS, leading to university Internet connection)

SELECTED COURSES TAUGHT:

- **Regular:** Data Structures; Information Storage and Retrieval; Information Systems Project; Intro. to Artificial Intelligence; Intro. to Computer Science; Intro. to Data Base Management Systems, Intro. to LIKES (Living In the KnowlEdge Society), Intro. to Networked Information (team); Multimedia, Hypertext and Information Access; Multimedia Technology and Projects (team)
- **Special Topics:** Big Data Text Summarization, CD-ROM Publishing and Access, Computational Linguistics, Digital Libraries, Intelligent Multimedia, Information Systems, Interactive Accessibility, Natural Language Processing, Office Information Systems, UNIX/C
- **VTechWorks Submissions from Recent Courses (team term projects):**
 - CS4624 (Multimedia, Hypertext, and Information Access): <https://vtechworks.lib.vt.edu/handle/10919/18655>
 - CS4984 (Computational Linguistics): <https://vtechworks.lib.vt.edu/handle/10919/50956>
 - CS5604 (Information Retrieval): <https://vtechworks.lib.vt.edu/handle/10919/19081>
 - CS6604 (Digital Libraries): <https://vtechworks.lib.vt.edu/handle/10919/47780>

PUBLICATIONS:

(with h-index of 59 and i10-index of 236 according to [Google Scholar](#))

CD-ROMS (in quantity, among earliest at Virginia Tech):

1. E. Fox, editor and project manager. Virginia Disc One. Produced by Nimbus Records, 1990. Blacksburg VA: VPI&SU Press. Contains about 600 megabytes in about 6000 files of data and DOS executable programs. ISBN 0-929900-00-6.
2. E. Fox, editor and project manager. Virginia Disc Two. Produced by Nimbus Records, 1990. Blacksburg VA: VPI&SU Press. Contains 2 searchable library catalog collections accessible with MicroVTLS and Personal Librarian. ISBN 0-929900-02-2.
3. E. Fox, editor and project manager. Virginia Disc Three. Produced by Nimbus Records, 1990. Blacksburg VA: VPI&SU Press. Contains about 300 megabytes of data and software of interest for Macintosh systems running the A/UX version of UNIX. ISBN 0-929900-01-4.

VIDEOTAPES:

1. E. Fox, executive producer, script writer. Interactive Digital Video. Five minute preview (Aug. 1989), hour final program (Jan. 1990), supplementing July 1989 Communications of the ACM, produced for ACM Press Database and Electronic Products with assistance from IBM T. J. Watson Research Center (with producer/director Guillermo Pulido).
2. E. Fox, executive producer. Advanced Naval Message Analyzer. Fifteen minute (Nov. 1990) VPI&SU videotape description of results for NSWC contract about the CODER system, producer/director Jim Ruggiero, host/script/graphics Richard Barnhart.

BOOKS:

1. General Chairs: Jiangping Chen, Marcos André Gonçalves, Jeff M. Allen; Program Chairs: Edward A. Fox, Min-Yen Kan, Vivien Petras. 2018. JCDL '18 The 18th ACM/IEEE Joint Conference on Digital Libraries. Fort Worth, TX, USA — June 03 - 07, 2018. Proceedings of the 18th ACM/IEEE on Joint Conference on Digital Libraries. ACM, New York, NY, USA. ISBN 978-1-4503-5178-2. 435 pages, <https://dl.acm.org/citation.cfm?id=3197026>
2. Edward A. Fox and Jonathan P. Leidig, editors. Digital Library Applications: CBIR, Education, Social Networks, eScience/Simulation, and GIS. Morgan & Claypool Publishers, San Francisco, March 2014, 175 pages, ISBN paperback 9781627050326, ebook 9781627050333, <http://dx.doi.org/10.2200/S00565ED1V01Y201401ICR032>
3. Edward A. Fox and Ricardo da Silva Torres, editors. Digital Library Technologies: Complex Objects, Annotation, Ontologies, Classification, Extraction, and Security. Morgan & Claypool Publishers, San Francisco, March 2014, 205 pages, ISBN paperback 9781627050302, ebook 9781627050319, <http://dx.doi.org/10.2200/S00566ED1V01Y201401ICR033>
4. Rao Shen, Marcos Andre Goncalves, and Edward A. Fox. Key Issues Regarding Digital Libraries: Evaluation and Integration. Morgan & Claypool Publishers, San Francisco, Feb. 2013, 110 pages, ISBN paperback 9781608459124, ebook 9781608459131, <http://dx.doi.org/10.2200/S00474ED1V01Y201301ICR026>
5. Edward A. Fox, Marcos Andre Goncalves, and Rao Shen. Theoretical Foundations for Digital Libraries: The 5S (Societies, Scenarios, Spaces, Structures, Streams) Approach. Morgan & Claypool Publishers, San Francisco, July 2012, 180 pages, ISBN paperback 9781608459100, ebook 9781608459117, <http://dx.doi.org/10.2200/S00434ED1V01Y201207ICR022>, supplementary website <https://sites.google.com/a/morganclaypool.com/dlibrary/>
6. Edward A. Fox, editor. Digital Libraries: A 5S Approach. With its 15 chapters authored with: Monika Akbar, Pranav Angara, Yinlin Chen, Lois M. Delcambre, Noha Elsherbiny, Eric Fouh, Marcos Andre

Goncalves, Nadia P. Kozievitch, Spencer Lee, Jonathan Leidig, Lin Tzy Li, Mohamed Magdy Gharib Farag, Uma Murthy, Sung Hee Park, Rao Shen, Venkat Srinivasan, Ricardo da Silva Torres, and Seungwon Yang. 527 page draft textbook, used in VT's Digital Libraries class (CS6604) in Fall 2011, released selectively for review and testing (including in a Villanova DL course), most recent version Feb. 8, 2012

7. Philip S. Yu, Vassilis Tsotras, Edward Fox, and Bing Liu (eds.). Proceedings 15th ACM Conference on Information and Knowledge Management (CIKM 2006), November 6-11, 2006, Arlington, VA, USA, ACM Press, ISBN 1-59593-433-2
8. Fox, E.A.; Neuhold, E.; Premssmit, P.; Wuwongse, V. (Eds.) Digital Libraries: Implementing Strategies and Sharing Experiences; Proceedings 8th International Conference on Asian Digital Libraries, ICADL 2005, Bangkok, Thailand, December 12-15, 2005, Lecture Notes in Computer Science, Vol. 3815, XVII, 529 p., ISBN: 3-540-30850-4, DOI: 10.1007/11599517
9. Zhaoneng Chen, Hsinchun Chen, Qihao Miao, Yuxi Fu, Edward Fox, Ee-Peng Lim, eds. Digital Libraries: International Collaboration and Cross-Fertilization; Proceedings 7th International Conference on Asian Digital Libraries, ICADL 2004, Shanghai, Dec. 2004. Springer, Lecture Notes in Computer Science 3334, ISBN 3-540-24030-6.
10. Edward A. Fox, Shahrooz Feizbadi, Joseph M. Moxley, and Christian R. Weisser, eds., Electronic Theses and Dissertations: A Sourcebook for Educators, Students, and Librarians, New York: Marcel Dekker, April 2004, ISBN 0-8247-0973-X
11. Ee-Peng Lim, Schubert Foo, Chris Khoo, Hsinchun Chen, Edward Fox, Shalini Urs, Thanos Constantino, eds. Digital Libraries: People, Knowledge, and Technology; Proceedings 5th International Conference on Asian Digital Libraries, ICADL 2002, Singapore, Dec. 2002. Springer, Lecture Notes in Computer Science 2555.
12. L. Kalinichenko (coordinating author), with working group (D. Atkins, E. Fox, D. Fulker, Y. Ioannidis, S. Koernig, B. Ludascher, M. Marlino, P. Savino, N. Seshagiri, T. Sumner, M. Wright). Digital Libraries in Education: Analytical Survey. UNESCO Institute for Information Technologies in Education, 2003, Moscow, 68 pages, http://www.iite.ru/img/upload/Digital_Libraris.pdf
13. Joseph M. Moxley, Diane Masiello, and E. Fox, eds., The Guide for Electronic Theses and Dissertations, over 425 pages, completed in English in 2001, translated into French and Spanish in 2002, and in process for later translation into a number of other languages, funded in part and made available by UNESCO as book and web site (www.etsdguide.org), 2001-2002; in 2008 updated and converted for inclusion in Wikibooks at http://en.wikibooks.org/wiki/ETD_Guide
14. C. Borgman and E. Fox. Proceedings of the First ACM/IEEE-CS Joint Conference on Digital Libraries, JCDL'2001, Hotel Roanoke, Roanoke, VA, June 24-28, 2001
15. E. Fox, N. Rowe, and D. Watkins, eds., Proceedings of the Fourth ACM International Conference on Digital Libraries, DL'99, Berkeley, CA, Aug. 11-14, 1999.
16. A. Cardenas, W. Chu, and E. Fox, eds. Proceedings of the NSF Information and Data Management Workshop, UCLA, Los Angeles, March 7-9, 1999.
17. E. Fox and G. Marchionini, eds., Proceedings of the First ACM International Conference on Digital Libraries, DL'96, Bethesda, MD, March 20-23, 1996.
18. E. Fox, P. Ingwersen, R. Fidel, eds., Proceedings SIGIR'95, 18th International Conference on Research and Development in Information Retrieval, New York: ACM Press, 1995.
19. E. Fox, ed. Sourcebook on Digital Libraries: Report for the National Science Foundation, TR-93-35, VPI&SU Computer Science Dept., Dec. 1993, Blacksburg, VA. Over 400 pages, <http://fox.cs.vt.edu/DigitalLibrary/>

JOURNAL/MAGAZINE ARTICLES:

1. Hamed Alhoori, Mohammed Samaka, Richard Furuta, and Edward A. Fox. Anatomy of Scholarly Information Behavior Patterns in the Wake of Academic Social Media Platforms. *International Journal on Digital Libraries*, in press.
2. S.M. Shamimul Hasan, Edward A. Fox, Keith Bisset, Madhav V. Marathe. EpiK: A Knowledge Base for Epidemiological Modeling and Analytics of Infectious Diseases. *J Healthcare Informatics Research*

- (Dec. 2017) 1(2): 260-303. DOI: 10.1007/s41666-017-0010-9, <https://doi.org/10.1007/s41666-017-0010-9>
3. Andrea Kavanaugh, Steven D. Sheetz, Hamida Skandrani, and Edward A. Fox. Media use by young Tunisians during the 2011 revolution vs 2014 elections. *Information Polity* 22(2-3): 137-158 (Oct. 20, 2017), DOI 10.3233/IP-170412
 4. Zhiwu Xie and Edward A. Fox. Advancing library cyberinfrastructure for big data sharing and reuse. *Information Services & Use*, vol. 37, no. 3, pp. 319-323, 7 Nov. 2017. <https://content.iospress.com/articles/information-services-and-use/isu853>. Also in Proc. NFAIS 2017, Alexandria, VA, USA, February 26-28, 2017. DOI: 10.3233/ISU-170853
 5. Edward A. Fox, Zhiwu Xie, Martin J. Klein. Web Archiving and Digital Libraries (WADL) 2016: Highlights and Introduction to this Special Issue. *Bulletin of IEEE Technical Committee on Digital Libraries*, 13(1), April 2017, 3 pages, <http://www.ieee-tcdl.org/Bulletin/v13n1/papers/intro.pdf>
 6. Yinlin Chen, Zhiwu Xie, and Edward A. Fox. A Library to Manage Web Archive Files in Cloud Storage. *Bulletin of IEEE Technical Committee on Digital Libraries*, 13(1), April 2017, 1 page, <http://www.ieee-tcdl.org/Bulletin/v13n1/papers/chen.pdf>
 7. Mohamed Farag and Edward A. Fox. Which webpage should we crawl first? Social media-based webpage source importance guidance. *Bulletin of IEEE Technical Committee on Digital Libraries*, 13(1), April 2017, 1 page, <http://www.ieee-tcdl.org/Bulletin/v13n1/papers/farag.pdf>
 8. Sunshin Lee and Edward A. Fox. Archiving and Analyzing Tweets and Webpages with the DLRL Hadoop Cluster. *Bulletin of IEEE Technical Committee on Digital Libraries*, 13(1), April 2017, 1 page, <http://www.ieee-tcdl.org/Bulletin/v13n1/papers/lee.pdf>
 9. Edward A. Fox, Martin Klein, and Zhiwu Xie. Guest Editors' Introduction to the Special Issue on Web Archiving. *International Journal on Digital Libraries*, 18, 2017. DOI: 10.1007/s00799-016-0203-5; also on paper: 19(1): 1-2
 10. Mohamed Magdy Gharib Farag, Sunshin Lee, Edward A. Fox. Focused Crawling for Events. *International Journal on Digital Libraries*, 18:1-17, 2017. DOI: 10.1007/s00799-016-0207-1
 11. Warren Kurt Bickel, Amanda Quisenberry, Prashant Chandrasekar, Mikhail Nikolaas Koffarnus, Edward A. Fox, Chris Franck. The social interactome of recovery: Network topology influences social media engagement. *Drug and Alcohol Dependence* vol. 171, page e20, 2017. <http://dx.doi.org/10.1016/j.drugalcdep.2016.08.070>
 12. Andrea L. Kavanaugh, Steven D. Sheetz, Rodrigo Sandoval-Almazan, John C. Tedesco, Edward A. Fox. Media use during conflicts: Information seeking and political efficacy during the 2012 Mexican elections. *Government Information Quarterly*, 33(3): 595-602, Feb. 2016, DOI: 10.1016/j.giq.2016.01.004, <http://dx.doi.org/10.1016/j.giq.2016.01.004>
 13. Tarek Kanan, Raed Kanaan, Omar Al-Dabbas, Ghassan Kanaan, Ali Al-Dahoud, Edward Fox. Extracting Named Entities Using Named Entity Recognizer for Arabic News Articles. *International Journal of Advanced Studies in Computer Science and Engineering (IJASCSE)* 5(11):78-84, 11/30/2016.
 14. Tarek Kanan and Edward A. Fox. Automated Arabic Text Classification with P-Stemmer, Machine Learning, and a Tailored News Article Taxonomy. *Journal of the Association for Information Science and Technology (JASIST)*, 67(11): 2667-2683, Nov. 2016, published online 23 Dec. 2015, DOI: 10.1002/asi.23609.
 15. Richard Gruss, Tarek Kanan, Xuan Zhang, Mohamed Farag, Mary C. English, and Edward A. Fox. Teaching Big Data Through Project-based Learning in Computational Linguistics and Information Retrieval. *Journal of Computing Sciences in Colleges (ISSN 1937-4771)* 31(2): 260-270. From Proc. 29th Annual Consortium for Computing in Small Colleges: Southeastern Conference (CCSC:SE), Roanoke College, Salem, VA, November 6-7, 2015.
 16. Yinlin Chen and Edward A. Fox. Extending Ensemble - An Education Digital Library for Computer Science Education. *Journal of Computing Sciences in Colleges (ISSN 1937-4771)* 31(2): 201-207. From Proc. 29th Annual Consortium for Computing in Small Colleges: Southeastern Conference (CCSC:SE), Roanoke College, Salem, VA, November 6-7, 2015.
 17. Edward A. Fox, Zhiwu Xie, Martin J. Klein. Introduction to the Web Archiving and Digital Libraries 2015 Workshop Issue: Web Archiving and Digital Libraries 2015 (WADL 2015) Overview. *Bulletin of*

- IEEE Technical Committee on Digital Libraries, 11(2), October 2015, 2 pages, <http://www.ieee-tcdl.org/Bulletin/v11n2/papers/intro.pdf>
18. Mohamed M. G. Farag, Edward A. Fox. Building and archiving event web collections: A focused crawler approach. *Bulletin of IEEE Technical Committee on Digital Libraries*, 11(2), October 2015, 2 pages, <http://www.ieee-tcdl.org/Bulletin/v11n2/papers/farag.pdf>
 19. Tarek Kanan, Sagnik Ray Choudhury, C. Lee Giles, Prashant Chandrasekar, Edward A. Fox. Digital Library and Archiving for Qatar. *Bulletin of IEEE Technical Committee on Digital Libraries*, 11(2), October 2015, 1 page, <http://www.ieee-tcdl.org/Bulletin/v11n2/papers/kanan.pdf>
 20. Zhiwu Xie, Prashant Chandrasekar, Edward A. Fox. A UWS Case for 200-Style Memento Negotiations. *Bulletin of IEEE Technical Committee on Digital Libraries*, 11(2), October 2015, 1 page, <http://www.ieee-tcdl.org/Bulletin/v11n2/papers/xie2.pdf>
 21. Sanghee Oh, Seungwon Yang, Jeffrey A. Pomerantz, Barbara M. Wildemuth, and Edward A. Fox. Results of a Digital Library Curriculum Field Test. *International Journal on Digital Libraries*, 17(4):273-286, 2016. Published online as open access work, 20 May 2015, DOI: 10.1007/s00799-015-0151-5
 22. Jonathan P. Leidig and Edward A. Fox. Intelligent Digital Libraries and Tailored Services. *Journal of Intelligent Information Systems*, Nov. 2014, 1-18, <http://dx.doi.org/10.1007/s10844-014-0342-3>
 23. M. Tabet, T. Kanan, H. Alhoori, S. S. Lukesh, C. Thompson, E. A. Fox, and M. Samaka, "Digital library initiative: a project for educators in Qatar," *ACM Inroads*, 4(3): 70-75, 2013
 24. Andrea Kavanaugh, Steven D. Sheetz, Riham Hassan, Seungwon Yang, Hicham G. Elmongui, Edward A. Fox, Mohamed Magdy, and Donald J. Shoemaker. Between a Rock and a Cell Phone: Communication and Information Technology Use during the 2011 Uprisings in Tunisia and Egypt. Special issue on social media, *Int'l J. of Information Systems for Crisis Response and Management (IJISCRAM)*, 5(1): 1-21, January - March 2013
 25. Uma Murthy, Edward A. Fox, Yinlin Chen, Eric M. Hallerman, Donald J. Orth, Ricardo da S. Torres, Lin Tzy Li, Nadia P. Kozievitch, Felipe S.P. Andrade, Tiago R.C. Falcao & Evandro Ramos. SuperIDR: A Tool for Fish Identification and Information Retrieval. *Fisheries* 38(2): 65-75, Feb. 2013
 26. Kozievitch, N. P.; Almeida, J. G. A.; Torres, R. da S.; Santanche, A.; Leite, N. J.; Murthy, U.; Fox, E.A. Reusing a Compound-Based Infrastructure for Searching and Annotating Video Stories. *International Journal of Multimedia Technology*, 2(3): 89-97, Sept. 2012, <http://www.ijmt.org/paperInfo.aspx?ID=57>
 27. Andrea L. Kavanaugh, Edward A. Fox, Steven D. Sheetz, Seungwon Yang, Lin Tzy Li, T. Whalen, Donald J. Shoemaker, Apostol Natsev, Lexing Xie. Social Media Use by Government: From the Routine to the Critical. *Government Information Quarterly (GIQ)* 29(4): 480-491, Oct. 2012, <http://dx.doi.org/10.1016/j.giq.2012.06.002>
 28. Sourav Mishra, Kriti Sen Sharma, Spencer J. Lee, Edward A. Fox, and Ge Wang. SLATE: virtualizing multiscale CT training. *Journal of X-Ray Science and Technology*. 2012; 20(2):239-48. doi: 10.3233/XST-2012-0332.
 29. Davinia Hernandez-Leo, Monika Akbar, Deborah Tatar, and Edward A. Fox. Social tools for educators: supporting the needs of specific communities. *IEEE Learning Technology Newsletter* 14(2), April 2012, special theme section on "Social Networks and Social Computing in Technology-Enhanced Learning", <http://www.ieeetclt.org/issues/april2012/IEEE-LT-Apr2012.htm>
 30. N.J. Short, A. Lynn Abbott, M.S. Hsiao, E.A. Fox. Reducing descriptor measurement error through Bayesian estimation of fingerprint minutia location and direction. *IET Biometrics*, a journal of The Institution of Engineering and Technology, 1(1): 82-90, 2012. <http://dx.doi.org/10.1049/iet-bmt.2011.0010>
 31. Edward A. Fox. Constructivist Learning with Modularization, Personalization, and Teams. In *Pedagogy in Practice*, a magazine of Virginia Tech's Center for Instructional Development and Educational Research (CIDER), Blacksburg, VA, Spring 2012, 14-15
 32. Nadia P. Kozievitch, Jurandy Almeida, Ricardo da S. Torres, Neucimar A. Leite, Marcos A. Goncalves, Uma Murthy, Edward A. Fox. Towards a Formal Theory for Complex Objects and Content-Based Image Retrieval. *Journal of Information and Data Management*, 2(3): 321-336 (Oct. 2011), <http://seer.lcc.ufmg.br/index.php/jidm/article/view/142>

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11. E. Fox. "Future of Electronic Publishing." Invited seminar in Virginia Tech Symposium on Scholarship in the Electronic World, text and audio online, paper in published proceedings, Research and Graduate Studies, Blacksburg, VA, April 13, 1998 <http://www.rgs.vt.edu/resmag/seminars.html>
12. E. Fox. "Update on the Networked Digital Library of Theses and Dissertations (NDLTD)." In Proc. 35th Annual Clinic on Library Applications of Data Processing, GSLIS 98, DPC'98, U. Illinois Urbana-Champaign, March 22-24, 1998, ISSN 0069-4789

13. E. Fox. "Effects on Education, and a Proposal for Collection of Tools" Invitational Workshop on Information Retrieval Tools <http://www.sis.pitt.edu/~erasmus/workshop.html>, U. Pittsburgh, 3/19-21/98, <http://fox.cs.vt.edu/talks/IRtools.htm>
14. E. Fox. "A Scalable Digital Ecology for a Networked Digital Library of Theses and Dissertations (NDLTD)." Winter Workshop of the Human-Computer Interaction Consortium (HCIC), Fraser, Colorado, March 4-8, 1998
15. E. Fox. Networked Digital Library of Theses and Dissertations (NDLTD): A Worldwide Initiative to Advance Scholarship, invited presentation for session on Progress on Digital Dissertation Initiatives, Chair: Joan K. Lippincott, for Coalition for Networked Information Fall Meeting, Minneapolis, MN, Oct. 25-27, 1997 <http://www.ndltd.org/talks/CNIF97.pdf>
16. E. Fox. Digital Libraries and Virtual Universities, invited presentation for "Information research for designing and planning virtual universities" Seminar at Centro Universitario de Investigaciones Bibliotecolgicas Universidad Nacional Autnoma de Mexico Cd. Universitaria, Mexico, D.F. (Library and Information Research Center, National University of Mexico), Aug. 11-15, 1997, <http://fox.cs.vt.edu/talks/Mexico97.html>
17. J. Eaton, E. Fox, G. McMillan. Electronic Theses and Dissertations (ETDs) and Their Contribution to Graduate Education. Proc. 53rd Annual Meeting Midwestern Association of Graduate Schools, MAGS, 1997, 73-78
18. E.A. Fox. Interactive Learning with a Digital Library in Computer Science. Invited paper for Proc. Frontiers in Education - FIE'96, Salt Lake City, Utah, Nov. 6-9, 1996, 415-419.
19. E. Fox. Digital Libraries, WWW, and Educational Technology: Lessons Learned. Invited paper for Proc. ED-MEDIA 96, World Conference on Educational Multimedia and Hypermedia, Boston, MA, June 17-22, 1996, 246-251. See also <http://ei.cs.vt.edu/~fox/EDMEDIA96/>
20. E. Fox. Digital Library Support for Education - A Case Study of Advanced Networked Information Systems, Invited presentation for Dagstuhl Workshop on Networked Information Systems - Discovery, Retrieval, Dissemination, Feb. 26 - March 1, 1996, Dagstuhl, Germany.
21. J.M. Carroll, M.B. Rosson, E.A. Fox, A.M. Cohill, K.W. Schmidt & N.A.Kipp. Community Networks as Working Memory, Invited presentation for HCIC (HCIC Consortium), Feb. 1996.
22. E. Fox, N. Barnette, C. Shaffer, L. Heath, W. Wake, L. Nowell, J. Lee, D. Hix, and H. Hartson. Progress in Interactive Learning with a Digital Library in Computer Science. Invited paper for Proc. ED-MEDIA 95, World Conference on Educational Multimedia and Hypermedia, Graz, Austria, June 17-21, 1995, pp. 7-12.
23. J. Shaw and E. Fox. Combination of Multiple Searches. In The Third Text REtrieval Conference (TREC-3), National Institute of Standards and Technology Special Publication, 500-225, April 1995, ed. D. Harman.
24. E. Fox. Seamless Multimedia Integration for Digital Libraries. Invited position paper for Dagstuhl Seminar on Fundamentals and Perspectives of Multimedia Systems, International Conf. and Research Center for Computer Science, Dagstuhl Castle, Germany, July 4-8, 1994, 118-123.
25. E. Fox. A digital library connecting Envision, KMS, and Mosaic with interfaces, communications, and data interchange. Invited presentation for 1994 Workshop on Digital Libraries: Current Issues, sponsored by: Rutgers and Purdue Universities, AT&T and Bellcore, at Rutgers Univ., Newark, NJ, May 19-20, 1994. Abstract in SIGOIS Bulletin, Aug. 1994, 15(1): 6.
26. E. Fox and O. Balci. MDDS Design Evaluation Environment. Massive Digital Data Systems Workshop, Feb. 1-2, 1994, Reston, VA, sponsored by Director of Central Intelligence, Community Management Staff, Advanced Technology Office, 1 page abstract, reviewed.
27. E. Fox and J. Shaw. Combination of Multiple Searches. In Proc. of The Second Text REtrieval Conference (TREC-2) (Aug. 30 - Sept. 1, 1993, NIST, Gaithersburg, MD), NIST Special Publication 500-215, 1994, ed. D. K. Harman, 243-252
28. E. Fox. A User-Centered Hypermedia Database from the Computer Science Literature. Invited presentation for Advances in Data Management for the Scientist and Engineer Session 2, AAAS '93, Feb. 11-16, 1993, Boston. Abstract in Proc. 159th National Meeting of the AAAS, AAAS'93: Science and Engineering for the Future, p. 145. Longer paper: E. Fox, L. Heath, and D. Hix, A User-Centered

- Database from the Computer Science Literature, in Proceedings of the NSF Scientific Database Projects, 1991-1993, eds. W. Chu, A. Cardenas, and R. Taira, Feb. 14-16, 1993, Boston, 70-75.
29. E. Fox, M. Koushik, J. Shaw, R. Modlin, and D. Rao. Combining Evidence from Multiple Searches. In Proc. of The First Text REtrieval Conference (TREC-1) (Nov. 4-6, 1992, Rockville, MD), ed. D. K. Harman, NIST Special Publication 500-207, Washington: U.S. Government Printing Office, 1993, pp. 319-328.
 30. E. Fox. An Information Retrieval Viewpoint of Query Processing for VIMS. Invited position paper for NSF Workshop on Visual Information Management Systems, organized by U. of Michigan and IBM Almaden Research Center, Feb. 24-24, 1992, San Francisco, CA.
 31. E. Fox. Multimedia Update. Invited presentation appearing in ONLINE/ CD-ROM'91 Conference Proceedings, Nov. 11-13, 1991, San Francisco, CA, 65-69. In Support of Democratic Information Access. Invited presentation for "Emerging Technologies" panel at Future Directions in Text Analysis, Retrieval and Understanding workshop, sponsored by NSF, 11-12 Oct. 1991, Chicago IL, 7 pages.
 32. E. Fox. Background on Information Retrieval Research. Invited presentation for AAAI-91 Workshop on Natural Language Text Retrieval, July 15, 1991, Anaheim, CA, 4 pages.
 33. E. Fox, A. Daoud. CD-ROM Hardware: What's Real, What's Next. Invited presentation appearing in ONLINE/ CD-ROM '90 Conference Proceedings, Nov. 5-7, 1990, Washington Hilton and Towers, Washington, D.C., 63-67.
 34. E. Fox. An Electronic Publishing / Information Storage and Retrieval Perspective on the Management of Scientific Databases. Invited presentation for National Science Foundation sponsored Workshop on Scientific Databases, March 12-13, 1990, Charlottesville, VA, 2 pages.
 35. E. Fox, Qi Fan Chen. Why and How We Should Have Hypertext/Hypermedia Standards: ACM's Need and the CODER/LEND Approach. Selected for workshop discussion at Hypertext Standardization Workshop, National Institute of Standards and Technology, Jan. 16-18, 1990, Gaithersburg, MD, 10 pages.
 36. E. Fox, A. Daoud. CD-ROM Hardware: An Update. Invited presentation for Online '89, November 7-9, 1989, Chicago, IL, 64-69.
 37. E. Fox. Advances in Text and Image Publishing for CD-ROM. Invited presentation for National Online Meeting, May 10, 1989, New York, 165-170.
 38. E. Fox. Building the CODER System: Working Toward a Comprehensive Testbed for AI in IR. Workshop on Distributed Expert-Based Information Systems, March 5-7, 1987, Rutgers Univ., New Brunswick, NJ, 9 pgs.
 39. E. Fox. Advanced Information Retrieval Methods. Workshop on "Strategies for Information Access" at Second International Conference on CD ROM. Making It Happen, March 2-5, 1987, Seattle, WA, 12 pages.
 40. E. Fox. A Design for Intelligent Retrieval: The CODER System. Proc. of the Second Conf. on Computer Interfaces and Intermediaries for Information Retrieval, May 28-31, 1986, Boston MA, Report DTIC / TR-86 / 5, 135-154.

HOSTING VISITS (selected):

- Hosting 1 year visit from Denilson Alves Pereira (Ph.D. 2009), professor in Dept. of CS, Universidade Federal de Lavras (UFLA), Feb. 2016 - Jan. 2017
- Hosting 1 year visit from Kuwait University, by Associate Professor Sultan Al-Daihani, starting Sept. 2014
- Hosting 1 year visit from UNICAMP, Brazil, by Ph.D. student Lin Tzy Li, August 2010 - July 2011
- Hosting 8 month visit from UNICAMP, Brazil, by Ph.D. student Nadia P. Kozievitch, Feb. 2010 - Sept. 2010
- Hosting visit by Ricardo daSilva Torres from UNICAMP, Brazil, July 31 - Aug. 4, 2008
- Hosting visit from Darmstadt U. of Technology by Prof. Dr. Rudi Schmiede, May 27-30, 2008
- Hosting 3 Fulbright Scholars visiting from India starting Aug. 2002: Buddhi Chauhan, Pradeep Cheemalavagupalli, Devika Madalli

- Hosting Sabbatical Visit by Lillian Cassel (Villanova U.), all of fall semester 2002 and part-time spring semester 2003
- Hosting Professor Byongsun (Sunny) Kim, Korean Studies Information Center, The Academy of Korean Studies, Seoul, visiting Dec. 14, 2000 - June 10, 2002
- Mann-Ho Lee, Chungnam National University (formerly here on sabbatical), discussing with the Digital Library Research Laboratory MARIAN group and CITIDEL project team, Feb. 15, 2002. (He was part of delegation discussing a cooperative exchange program between Virginia Tech and Chungnam National University, with an MOU signed by respective university presidents.)
- Lillian Cassel and Deborah Knox, presenting to the CITIDEL project team, Feb. 15, 2002
- Russ Davis and Dennis Barnes, eNumerate, Inc., presenting to the Digital Library Research Laboratory, Feb. 6, 2002
- AOL team, Jan. 15, 2002
- Ann Lally, University of Arizona, co-PI on NSF grant, Dec. 5-6, 2001, giving Virginia Tech CS seminar on Dec. 5
- John Impagliazzo, Hofstra U., Nov. 29 - Dec. 1, 2001
- Bill Winter, of Internet TIC, Nov. 5, 2001
- UCL (Belgium) visit in conjunction with VTLS, July 23, 2002
- Professor Eberhard Hilf, April 11-13, 2001
- Professor Shalini R. Urs, Dept. Library and Information Science, U. Mysore (India), Fulbright Fellowship, 5 months: August 12, 2000 - Feb. 12, 2001
- Professor Mann-Ho Lee, Dept. of Computer Science, CNU (Chungnam National University) in Korea, visiting for 1 year starting Aug. 14, 2000
- Professor Pablo de la Fuente, Departamento de Informatica, University of Valladolid (Spain), visiting 4/27/2000 - 6/24/2000
- Dr. Ahira Maeda, Japan, postdoctoral fellow for Oct. 22, 2000 - March 21, 2001, after graduation from Nara Institute of Science and Technology (NAIST), Japan
- Professor Byongsun (Sunny) Kim, Korean Studies Information Center, The Academy of Korean Studies, Seoul, visiting for 1 year starting Dec. 14, 2000
- RAI-Channel Two News Group from Italy, hosted visit to Digital Library Research Laboratory and other parts of Torgersen Hall, Oct. 10, 2000
- ABD Fellow Denise Haskings, from The George Washington, Summer 1997
- Marian Bate, Univ. New South Wales, 7/18/97
- Jong-Min Bae, from Korea, Aug. 1997 - June 1998 (sabbatical)
- WVU team visit 11/6/97
- W&M team visit 11/18-19/97
- ISOGEN team 2/26/98
- Sugimoto Shigeo (Japan) 3/18-20/98 and 12/1-2/99
- Delegation from Korea National Open U., Aug. 21, 1998
- Dr. Peter Schirmbacher, Humboldt U., Berlin, Feb. 1999
- Eugene Evans, Infinite Ventures, Inc., Sep. 2, 1999 (speaker on "Alternative Teaching/Learning Strategies" - brown-bag lunch)
- Susanne Dobratz, Humboldt U., Berlin, Sep. 16, 1999 (speaker on "Dissertations Online" - for brown-bag lunch)
- Professor Shalini R. Urs, Dept. Library and Information Science, U. Mysore, India, Fulbright Fellowship, 2000-2001 (scheduled)
- Professor Mann-Ho Lee, Dept. of Computer Science, CNU (Chungnam National University) in Korea, visiting for year starting fall 2000
- Professor Pablo de la Fuente, Departamento de Informatica, University of Valladolid (Spain), visiting 2 months summer 2000

AWARDS SERVING AS PRINCIPAL INVESTIGATOR:

1. NSF OAC-1835660: Collaborative Research: Framework: Software: CINES: A Scalable Cyberinfrastructure for Sustained Innovation in Network Engineering and Science, \$2,880,000 to VT for 11/1/2018-10/31/2023, PI Madhav Marathe; Co-PIs: Catherine Amelink, Edward Fox, Naren Ramakrishnan, Christopher Kuhlman
2. IMLS RE-70-18-0005-18: Continuing Education to Advance Web Archiving, \$248,451 for 5/1/2018 - 4/30/2020, PI Zhiwu Xie, VT Co-PI Edward A. Fox, with key project staff at multiple other institutions
3. Mitre Corporation: Computer Science Capstone Project, \$5000 for 1/25/2018 - 5/11/2018, PI Edward A. Fox
4. Mayfair Group: Deposition Summarization, \$255,615 for 1/1/2018 - 8/15/2018, PIs Naren Ramakrishnan and Edward Fox
5. NSF CMMI-1638207, CRISP Type 2/Collaborative Research: Coordinated, Behaviorally-Aware Recovery for Transportation and Power Disruptions (CBAR-tpd), \$876,913 for 1/1/2017-12/31/2020, PI Pamela Murray-Tuite, Co-PIs Edward Fox, Kris Wernstedt; in collaboration with grant 1638197 for \$249,921 to U. Mich. Ann Arbor, PI Seth Guikema
6. NSF IIS-1619028, III: Small: Collaborative Research: Global Event and Trend Archive Research (GETAR), \$446K for 1/1/2017-12/31/2019, PI Fox, Co-PIs Alla Rozovskaya, Andrea L. Kavanaugh, Donald J. Shoemaker; in collaboration with grant 1619371 for \$54K to Internet Archive, PI Jefferson Bailey.
7. IMLS LG-71-16-0037-16: Developing Library Cyberinfrastructure Strategy for Big Data Sharing and Reuse; \$308,175 for 2 years starting June 1, 2016, extended to 5/31/2019; Zhiwu Xie (PI), Tyler Walters, Edward Fox (20%), Pablo Tarazaga
8. University of North Texas (NSF flow through supplement request): CREST Partnership Supplement: Building Capacity in Information Management through a Partnership with Virginia Tech's Digital Library Technology Center, sole PI (with main grant to UTEP), \$36,659 to VT for 9/1/2015 - 5/31/2017. Funded by NSF to UTEP by 2/11/2016
9. VT ARC. VT-Rnet: A 10-Gbps Research Network for Virginia Tech. In-kind support to connect the Digital Library Research Laboratory Hadoop Cluster to VT's 10 gigabits per second network. Dec. 2015. PI Edward A. Fox.
10. NEH Grant EH-231264-15, Veterans in Society Summer Institute for College Teachers, 10/1/2015 - 12/31/2016, PI James M. Dubinsky, co-PI Bruce E. Pencek, \$152,250, CS funding \$1054
11. NIH Grant 1R01DA039456-01: The Social Interactome of Recovery: Social Media as Therapy Development; \$1,674,440 for 9/15/2014-8/31/2017, PI Warren K. Bickel (VTCRI), Fox as co-PI (16% personal share)
12. Columbia U. (from Mellon Foundation): Archiving Transactions Towards Uninterruptible Web Service. \$25,000 for 4/1/2014-9/30/2015. PI Zhiwu Xie, Co-PI Edward A. Fox (25% personal share), proposal 14-1578-01
13. Virginia Tech Institute for Creativity, Arts, and Technology, Science, Engineering, Arts, and Design: The ecology of 3D objects (3Dcology): Exploring and understanding creation, use, and flow of 3D objects. \$3000, for 8/26/2013 - April 30, 2014; sole PI
14. NSF IIS - 1319578: III: Small: Integrated Digital Event Archiving and Library (IDEAL); \$500,000 for 9/1/2013 - 8/31/2016, PI, with co-PIs Donald Shoemaker, Andrea Kavanaugh, Steven Sheetz, and Kristine Hanna (Internet Archive)
15. Villanova University (pass-through from NSF DUE-1141209, Account 416931): Computing in Context; \$22,500 for 8/15/2012 - 7/31/2015; sole PI (with overall PI at Villanova: Robert Beck, \$199,244 total)
16. NSF DUE-0840719 supplement to: Collaborative Research: Ensemble: Enriching Communities and Collections to Support Education in Computing; additional \$84,895 to VT for 2 years starting 9/15/2012; VT PI Fox (50%), co-PIs Stephen H. Edward and Weiguo Fan
17. Qatar National Research Fund Project No. NPRP 4-029-1-007, Account 457837: Establishing a Qatari Arabic-English Library Institute, Lead PI Edward A. Fox, Co-Lead PI Mohammed Samaka (Qatar University), Co-PIs C. Lee Giles (Pennsylvania State University), John Impagliazzo (Hofstra), Richard Furuta (Texas A&M University), \$1,030,484.98 total (\$125,277 for Virginia Tech). 4/1/2012 - 12/31/2015, funds in place at VT by Jan. 2013.

18. VTX, Part of GlobalWeb Corp., Sao Paulo, Brazil: Organizing Crawled Web Data for Brazilian Customers, PI Edward A. Fox, investigators N. Ramakrishnan and H.R. Hartson, \$199,920 for 12/5/2011 - 5/15/2012.
19. NSF OCI-1032677, SDCI NMI New: From Desktops to Clouds - A Middleware for Next Generation Network Science, PI Madhav Marathe (17%), Co-PIs Keith Bisset (17%), Anil Vullikanti (17%), Henning Mortveit (17%), E. Fox (15%), Annette Feng (17%), \$1,350,000 for 8/1/2010-8/31/15
20. CCSR (partnership between Arlington Co., IBM Research, VT): Social Media for Cities, Counties, and Communities, \$15,000 (half to IBM and half to VT) for 6/21/2010 - 12/31/2010, VT PI: Andrea Kavanaugh, co-PIs: Edward Fox, Donald Shoemaker, Steven Sheetz; IBM PI: Apostol Natsev, co-PI: Lexing Xie
21. BAE Systems (with funds from DHS) Proposal 75000-02-13, Account 416289: Biometrics Training and Performance Initiative (BTPI), PI Randall S. Murch, co-PIs: A. Lynn Abbott, Edward Fox, Michael Hsiao, Kathleen A. Meehan, Eric Smith; initial letter award made Dec. 2009, rest confirmed March 2010: \$484,622 (CS share with Fox sole CS co-PI: \$51,039.88), 11/3/2009-3/30/2013
22. VT Advance: Department Climate Mini-Grant Program, \$2500 for Computer Science mentoring, 11/16/2009-6/30/2010, PI Edward A. Fox
23. National Institute of Justice NCJ 239049: Establishing the Quantitative Basis for Sufficiency: Thresholds and Metrics for Friction Ridge Pattern Detail Quality and the Foundation for a Standard, \$854,907 for 10/1/2009-9/30/2011 followed by 6 month extension to 3/31/2012, PI Randall Murch, Co-PIs A. Lynn Abbott, Michael Hsiao, Bruce Budowle, and Edward A. Fox
24. NSF IIS-0916733: III:Small:Integrated Digital Library Support for Crisis, Tragedy, and Recovery, \$500,000, 8/1/2009 - 7/31/2013, PI Edward A. Fox. Co-PIs: Naren Ramakrishnan, Steven Sheetz, Andrea Kavanaugh, Donald Shoemaker
25. NSF IIS-0910183: Collaborative Research: Curatorial Work and Learning in Virtual Environments, \$75,000 + \$8,000 REU Supplement (followed by 6 month extension), 4/1/09-3/31/10, PI at VT, with overall PI Gary Marchionini at UNC-CH
26. VT Center for Excellence in Undergraduate Training (CEUT): Living In the KnowlEdge Society. Instructional grant: \$2100. PI: Edward A. Fox. Co-PIs: Weiguo Fan, Christopher Zobel, Carlos Evia, Steven Sheetz. November 14, 2008 (1 year)
27. NSF DUE-0840719: Collaborative Research: Ensemble: Enriching Communities and Collections to Support Education in Computing; \$425,002 total to VT, with overall total to all partners \$2M; VT PI Fox (50%), co-PIs Stephen H. Edward and Weiguo Fan. Plus \$6,293 provided summer 2012 from the Villanova funds though a subcontract to support GRA Y. Chen.
28. IBM: Extraction of Named Entities from Documents for Business Purposes; \$25,450; 2/2008 - 6/2008; GRA Yi Ma; sole PI
29. Google: Concept Maps for Discovering/Using Multilingual Electronic Theses and Dissertations, \$50,000, PI Edward A. Fox, award Sept. 2007
30. NSF IIS-0736055: SGER: DL-VT416: A Digital Library Testbed for Research Related to 4/16/2007 at Virginia Tech, \$199,993+REU Supplement, PI Edward A. Fox, Co-PIs: Christopher L. North, Donald J. Shoemaker, Naren Ramakrishnan, Weiguo Fan, August 15, 2007 - July 31, 2008
31. NSF CCF-0722259: Collaborative Research: CPATH CB: Living In the KnowlEdge Society (LIKES), \$289,999 + \$8,000 REU Supplement to VT, PI Edward A. Fox, Co-PIs: Carlos Evia, Christopher W. Zobel, Steven D. Sheetz, Weiguo Fan, in collaboration with 0722289 to co-PI Edward Carr, North Carolina A&T State University; 0722276 to Robert E. Beck, Villanova University; and 0722263 to Wingyan Chung, Santa Clara University (originally to University of Texas at El Paso), August 1, 2007 - July 31, 2010
32. Microsoft Research: Deployment and Assessment of an Image Annotation and Retrieval Tool, Including for Biodiversity, \$50,000, 5/16/2007 - 5/15/2008, PI: Edward A. Fox, Co-PIs: Eric Hallerman, Ricardo da Silva Torres.
33. Idaho National Laboratory: Storytelling in the National Nuclear Archive, \$10,866 in hand out of \$100K expected, 4/1/2007-3/31/2008, PI: Naren Ramakrishnan, Co-PI: Edward Fox (50-50).

34. NSF OCI-0636151: CI-TEAM Implementation Project: Collaborative Research - A National Engineering Dissection Cyber-Collaboratory, \$104,378.00, 1/1/2007 - 12/31/2008, PI Janis Terpenney, co-PIs: Lisa McNair, Richard Goff, Mary Kasarda, Edward Fox.
35. IBM Unstructured Information Management Architecture (UIMA) Faculty Innovation Award: Incorporating Superimposed Information into UIMA, and UIMA into Digital Library Curriculum Development, as a Prototype Tool for Resource Collection Building and Automatic Syllabus Generation in the Semantic Web; \$16,740; 7/1/2006-6/30/2007; sole PI
36. NSF IIS-0535057: Collaborative Research: Curriculum Development: Digital Libraries, \$272,187 + \$3,200 REU Supplement (all to VT), as well as \$262,407 to partners at UNC-CH under IIS-0535060 for 1/1/2006 - 12/31/2009, PI: Fox, co-PIs at UNC-CH: Barbara Wildemuth and Jeffrey P. Pomerantz.
37. Microsoft Research Digital Memories (Memex): Beyond Human Memory: SenseCam Use in Veterinary College and as Assistive Technology. \$49,894 plus 2 SenseCam devices & software, 1/2006 - 1/2007, PI: Perez-Quinones, co-PI: Fox
38. NSF DUE-0532825: Personalization of Content: Bridging the gap between NSDL and its users through the course website, \$449,912, 9/1/2005 - 8/31/2008, PI: Manuel A. Perez, co-PIs: Edward A. Fox, Lillian N. Cassel, and Weiguo Fan
39. IMLS: Study of User Quality Metrics for Metasearch Retrieval Ranking, \$65,592, for 10/1/2004 - 12/31/2006, subcontract from Emory U. on grant from IMLS, sole PI: Fox.
40. NSF DUE-0435059: Collaborative Project: Superimposed Tools for Active Arrangement and Elaboration of Educational Resources, \$397,914, 9/1/04-8/31/06, PI: Lois Delcambre and co-PI David Maier (Portland State U.) including subcontract of \$107,001 to VT with Fox as sole local PI; plus collaborative project at Villanova of \$101,593
41. NSF: Reformulating General Engineering and Biological Systems Engineering at Virginia Tech, \$996,238, 9/1/04 - 8/31/07, PI: Vinod Lohani, co-PIs: G.V. Loganathan, Greg Adel, and E. Fox (5%). www.dlr.engr.vt.edu
42. Argyll Foundation: Relief for Canine Hip Dysplasia Related Pain through Reiki, \$8,500, 8/1/04-7/31/05, PI: Marie Suthers-McCabe, co-PIs: Peter K. Shires and Edward A. Fox.
43. NSF IIS-0307867: Extending retrieval with stepping stones and pathways, \$124,250, 9/1/03-8/31/05, sole PI: Fox.
44. CWRU (subcontracting to VT for NSF IIS-0325579): Information Technology Research: Managing complex information applications: An archaeology digital library, Project PI: J. Flanagan (CWRU), VT PI: Fox, VT co-PI: Weiguo Fan; subcontract: \$189,500, 9/1/03-12/31/05.
45. NSF DUE-0333531: Collaborative Project: The OCKHAM Library Network, Integrating the NSDL into Traditional Library Services, NSF, \$99,232, 9/1/03-8/31/06.
46. National Institute of Aerospace: Development of New Innovative Digital Library, \$40,000, 12/1/03-5/31/05, sole PI: Fox.
47. Indo-US S&T Forum: Open Digital Libraries and Interoperability Workshop, June 23-25, 2003, Holiday Inn at Ballston, Arlington, VA, \$50,826. Principal investigator. Co-chairs for the workshop: Shalini Urs, Mohammad Zubair, N. Balakrishnan.
48. SUN: Equipment donation in support of Computing and Information Technology Interactive Digital Educational Library (CITIDEL), 6/30/2003, \$51,119
49. SOLINET: AmericanSouth.org: A Collaborative Project to Improve Access to Digital Resources on Southern History and Culture: \$52,235 for 1/1/2002 - 2/28/2003. Project director: E. Fox (subcontract on Mellon award to SOLINET).
50. NSF DUE-0121741 (414201): Intelligent Collection Services for and about Educators and Students: Logging, Spidering, Analysis and Visualization: \$425,000 for 9/10/2001-8/31/2003. PI: Hsinchun Chen (U. Arizona), Co-PI: Ann Lally (U. of Arizona), Co-PI: Edward Fox (VT) - with VT subcontract \$104,773.
51. NSF DUE-0136690 (414214): A Technical Service Enhancing Interoperability of NSDL Collections and Services. \$450,000 for 9/15/2001-9/30/2003. PI: Su-Shing Chen (University of Florida), Co-PI: Joe Futrelle (NCSA, University of Illinois, Urbana-Champaign), Co-PI: Edward A. Fox (VT) - with VT subcontract \$142,501 for 1/1/2002 - 8/31/2003.

52. NSF DUE-0121679 (427106): Computing and Information Technology Interactive Digital Educational Library (CITIDEL): \$800,000+\$35,000 for 9/1/2001 - 5/31/2005. Principal investigator Edward A. Fox. Co-PIs: John A. Lee, Manuel A. Perez, Lillian Cassel (Villanova), C. Lee Giles (Penn State), John Impagliazzo (Hofstra), Deborah Knox (College of New Jersey)
53. e-Numerate Solutions Inc. (414156): Integrating Digital Library and e-Numerate Technologies: \$40,416 for 8/16/2001 - 8/15/2002. Project director: E. Fox
54. NLM: SIS/Virginia Tech Advanced Digital Library for Toxicology and Environmental Health Databases, Research Collaboration Program: \$40,000+\$5,500 for 5/16/2001 - 5/15/2002. Project director: E. Fox. (Processed through ORISE, with part to Virginia Tech, and tuition and stipend directly to the graduate assistants.)
55. NSF IIS-0122201 (427075): June 2001 Workshop for Digital Libraries Initiative Principal Investigators: \$37,948 for 5/1/2001-6/30/2002. Project director: E. Fox.
56. Internet TIC (one of the awards related to account 437510): Extending Collaboration Between Internet TIC and Virginia Companies Regarding Digital Libraries, Information Retrieval, Networking, and Knowledge Management, \$19,000 for 5/16/2001 - 12/31/2001. Principal Investigator Edward Fox. (Also, \$10,000 for 8/10/2001 - 5/9/2002, as part of \$30K for ODU/UVA/VT on this effort. Also, \$10,000 for 3/15/2001 - 6/30/2002; \$26,000 for 10/15/2001-6/30/2002.)
57. NSF IIS-0080748 (427043): High Performance Interoperable Digital Libraries in the Open Archives Initiative: \$99,999 for 3/1/2001-3/31/2003. Project director: E. Fox (with CONACyT co-PIs J. Alfredo Sanchez, Universidad de las Americas-Puebla --- UDLA, and David Garza-Salazar, Monterrey Technology Institute --- ITESM, both funded by CONACyT in Mexico)
58. NSF IIS-0086227 (427042): Open Archives: Distributed services for physicists and graduate students (OAD): \$315,259 for 3/1/2001-2/28/2004 (continuing over 3 years with remaining portions of funds). Project director: E. Fox (w. Royce Zia, Physics, VT, and E. Hilf, U. Oldenburg, PI on matching German DFG project)
59. AOL (433837): AOL Fellowship in Information Retrieval: \$140,000 for 2001-2004. Project director: E. Fox
60. UNESCO (433800): International Guide for the Creation of Electronic Theses and Dissertations: \$13,000 for 12/28/2000-3/31/2002. Project director: E. Fox.
61. SOLINET: Networked Digital Library of Theses and Dissertations: \$1000 to establish Virginia Tech Foundation account 872037 for NDLTD, 2000. Project director: E. Fox.
62. PCGI (433766): Internet Development at Public Consulting Group, Inc., \$7825 + \$15,425 for 10/1/2000 - 5/15/2001. Project director: E. Fox
63. NSF IIS-0090153 (427963): US-Korea Joint Workshop on Digital Libraries: Removing Barriers to International Collaboration on Research and Education through Digital Libraries, \$24,472 for 8/1/2000-12/31/2001, extended to 9/30/2002. Project director: E. Fox (with co-PIs Ronald L. Larsen, U. Md. and Reagan W. Moore, San Diego Supercomputer Center).
64. IBM (438220): IBM Faculty Partnership Award (UPP): \$20,000, 8/15/2000-2/28/2002. Project director: E. Fox (on superstorage systems and video servers).
65. UNC Wilmington (434091): A Digital Library of Reusable Science and Math Resources for Undergraduate Education: \$78,374+\$10,000 for 5/1/2000 - 12/31/2002. Project director: E. Fox. (subcontract for IIS-0002935, originally CCRI proposal NSF 98-63 for \$1,143,282, DLI-2, Undergraduate Emphasis)
66. NSF IIS-9986089 (SGER) (427905): Core Research for the Networked University Digital Library (NUDL): \$79,997 for 1/1/2000 - 4/30/2002. Project director: E. Fox.
67. Advance Auto Parts: Internet Technology Innovation and Visioning with Advance Auto Parts: \$193,014 for 1/7/2000 - 12/29/2000. Project director: E. Fox. Co-investigators at VT: N. Ramakrishnan, J. Hicks, L. Matheson. Co-investigators at UVA: J. French, A. Weaver.
68. NSF IIS-9905026: 1999 NSF Information and Data Management Workshop: Research Agenda for the 21st Century - IDM'99: \$105,782 for 3/1/99 - 1/31/01. Project director: Edward A. Fox.
69. IBM: SUR Program Equipment Donation valued at approximately \$120K for various computers for digital library research, Fall 1998. Project director: E. Fox.

70. CIT (437510): Internet Technology Innovation Center (ITIC): \$2M for 5 years starting on 10/1/98. Project director at Virginia Tech: Edward A. Fox, also serving as director of a new university center to handle this (ITIC@VT). Virginia Tech is one of 4 universities in this virtual center, with UVA administering the grant from the Virginia Center for Innovative Technology. See <http://www.internettic.org>
71. NLM: Advanced Information Retrieval for Toxicology and Environmental Health Databases: \$25,000 for 5/16/98 - 5/15/99. Project director: Edward A. Fox (processed through ORISE, with \$7754 to Virginia Tech and tuition and stipend directly to the graduate assistant). Project period and funds are being extended into 2000.
72. NSF DUE-9752408: Curriculum Resources in Interactive Multimedia (CRIM): \$87,000 for the DUE CCD program 97-29, 1/1/98 - 12/31/2000. Project director: Edward A. Fox.
73. NSF DUE-9752190: A Digital Library Based Computer Science Teaching Center (CSTC): \$72,820 for 1/1/98-2/29/2000. Project director: Edward A. Fox. Subaward for proposal to NSF for the DUE CCD program 97-29 granted to D. Knox of The College of New Jersey
74. NSF NCR-9616956: A High Performance Connection for Research and Education Institutions and Facilities in Virginia: \$350,000 for 1/1/97 - 12/31/98. Principal investigators: E. Blythe, E. Fox, J. Crowder.
75. OCLC: SiteSearch software license: \$50,000 for 1997-1999 for electronic thesis and dissertation research. Project director: E. Fox.
76. IBM: SUR Program Equipment Donation valued at approximately \$400K for various computers for digital library research, Dec. 1996. Project director: E. Fox.
77. NSF NCR-9627922: World-Wide Web Traffic Characterization with Application to In-Network Caching and Prefetching: \$320,559 for 9/1/96 - 8/31/99. Principal investigators: M. Abrams, E. Fox, J. Pollard. REU supplement summer 1998: \$5000.
78. U.S. Dept. of Education, FIPSE Program P116B61190: Improving Graduate Education with a National Digital Library of Theses and Dissertations: \$208,040 requested for 9/1/96-8/31/99 (federal/nongovernmental percentages 53.3% / 46.7%. Principal investigators: E. Fox, J. Eaton, G. McMillan. In-kind cost sharing of \$30K promised by SURA, and supporting software donations promised from Microsoft (est. value \$107,820) and Adobe (est. value \$100K). See final report <http://www.ndltd.org/pubs/FIPSEfr.pdf>
79. HAL Computers: HALstation 330 (64 bit) donated as follow-up to earlier license of hashing technologies, 1996. Est. value \$10K. Principal investigators: E. Fox, L. Heath.
80. IBM: Information Retrieval Systems Evaluation: \$11,002 for 5/22/96 - 3/15/97. Principal investigator: E. Fox.
81. SURA: Development and Beta Testing of the Monticello Electronic Library Thesis and Dissertation Program: \$90,117 for 1/1/96 - 12/31/97. Principal investigators: E. Fox, J. Eaton, G. McMillan.
82. NSF DGE-9553458: Graduate Research Traineeship in Human Interface Design for Access to Computers and Networked Information at Virginia Tech. \$562,500 for 9/5/95-8/31/2000. PIs: Carroll, J. (project director), Abrams, M., Ehrich, R., Rosson, M.B, Hix, D., Hartson, R., Shaffer, C., and Fox, E.A.
83. NSF SUCCEED: Using Computers and Networked Information: Distance Learning with Networked Multimedia: \$35,432 for 5/15/95 - 8/15/97. Principal investigators: E. Fox, M. Abrams, N. D. Barnette.
84. IBM: SUR Program Equipment Donation valued at approximately \$250K for 4-processor SMP machine for digital library research, Dec. 1995. Project director: E. Fox.
85. NSF: Building a History of the Blacksburg Electronic Village: \$24,866 for 10/15/94 - 8/15/95. Principal investigators: J. Carroll, A. Cohill, G. Downey, E. Fox, and M.B. Rosson.
86. PRC Inc.: Hypertext and Automatic Document Indexing: \$25,308 for 5/16/94-12/31/94. \$27,592 extension to 8/15/95. Principal investigator: E. Fox.
87. NSF SUCCEED (Cooperative Agreement No. EID-9109853): Network Multimedia File System with HyTime: \$60,000 for 8/16/93 - 2/15/95. Principal investigators: E. Fox (proj. dir.), M. Abrams, and S. Newcomb (of Florida State Univ., receiving \$15K of the total).
88. NSF CISE Institutional Infrastructure (Education) Grant CDA-9312611: Interactive Learning with a Digital Library in Computer Science: \$449,088 for 8/15/93 - 7/31/97. Principal investigators: E. Fox

- (project director), J. Lee, C. Shaffer, H. Hartson, D. Barnette. Supplement \$67,802 in 1997 for workshop, EI home page, digital library courseware.
89. NSF Research Infrastructure CDA-9303152: Interactive Accessibility: Breaking Barriers to the Power of Computing: \$1,375,000 for 7/1/93 - 6/30/98. Principal investigators: R. Ehrich, E. Fox, H. Hartson, D. Hix, R. Williges. Director of Information Access Laboratory.
 90. NIST/DARPA, PRC Inc.: Text Retrieval Methodologies: \$6,000 from DARPA for 1 year starting 4/1/93. Additional support for project provided by PRC Inc.: \$11,489 for 1993. Principal, only investigator.
 91. National Science Foundation CISE Grant NSF-CDA-9308259: Wide Area Technical Report Server: \$22,736 for 1993. Principal investigators: K. Maly (ODU), E. Fox, J. French (UVA), and A. Selman (SUNY Buffalo). Awarded to Maly (ODU) with \$4200 subcontract to VPI&SU.
 92. Intel Corporation: Multimedia Research and Enhanced Surrogate Travel Simulations Using DVI Technology: \$5,845 in equipment, Oct. 1992. Prin. investigators: L. Carstensen, E. Fox.
 93. National Science Foundation CISE/CDA Grant: High Data Rate Network Research: \$46,000 for 6/1/92 - 5/31/95. Principal investigators: M. Abrams, J.A. Wiencko, S.F. Midkiff, N.J. Davis, and E.A. Fox.
 94. Dept. of Education (FIPSE): GeoSim: A GIS-Based Simulation Laboratory for Introductory Geography: \$149,571 for 9/9/92-5/15/95. Principal investigators: C. Shaffer; L. Carstensen, R. Morrill, and E. Fox.
 95. National Science Foundation Grant 9155943: GeoSim: A GIS-Based Simulation Laboratory for Introductory Geography: \$107,940 for 5/1/92 - 10/31/93. Principal investigators: C. Shaffer; L. Carstensen, R. Morrill, and E. Fox.
 96. NIST/DARPA, PRC Inc.: Advanced Routing and Retrieval from a Large Collection: \$10,000 from DARPA for 1 year starting 2/1/92. Additional support for project provided by PRC Inc.: \$28,571 for 2/1/92 - 12/30/92. Principal and only investigator.
 97. Intel Corporation: Multimedia Research and Enhanced Surrogate Travel Simulations Using DVI Technology: \$34,752 in equipment, November 1991. Principal investigators: L. Carstensen, E. Fox.
 98. National Science Foundation Grant IRI-9116991: A User-Centered Database from the Computer Science Literature: \$443,391 for 9/15/91 - 2/28/95, plus \$12,000 REU supplements, plus \$29,941 equipment supplement. Principal investigators: E. Fox, D. Hix and L. Heath.
 99. NCR Corporation: Usable Environments for Developing Interactive Multimedia Applications, \$20,000 for 5/15/91 - 12/31/91. PIs: E. Fox, D. Hix and E. Schwartz.
 100. Virginia Center for Innovative Technology: Software for Large Multimedia Databases Including Facsimile Images: \$8,000 for 6/1/91 - 5/31/92. Principal and only investigator.
 101. PRC Inc.: Software for Large Multimedia Databases Including Facsimile Images: \$20,000 for 6/1/91 - 5/31/92. Principal, only investigator.
 102. NCR Corporation: Evaluation of Tools for Developing Interactive Multimedia Applications: \$20,000 for 3/1/91 - 9/30/91. Principal investigators: E. Fox, D. Hix, and E. Schwartz.
 103. NCR Corporation: Prototyping with New Metaphors for Describing Interactive Multimedia Applications: \$20,000 for 1/1/91 - 6/30/91. Principal investigators: E. Fox, D. Hix, and E. Schwartz.
 104. NCR Corporation: Extending the Integrator Component of an Interactive Multimedia Application Development Environment: \$7763 for 1/1/91 - 5/31/91. Principal investigators: E. Fox, D. Hix, and E. Schwartz.
 105. Chemical Abstracts Service: An Evaluation of Access Approaches to the Chemical Literature: \$25,133 for 1/1/91 - 8/15/91. Principal investigators: E. Fox and J. Merola.
 106. West Publishing Company: Advanced Retrieval Methods for Full Texts of Legal Documents: \$74,717 for 1/1/91 - 12/31/91. Principal and only investigator.
 107. NCR Corporation: Developing Digital Multimedia Applications for the General Public. \$60,000 for 1/1/90 - 12/31/90. Principal investigators: E. Fox, D. Hix, and E. Schwartz.
 108. Columbia University (subcontract under IAIMS grant from National Library of Medicine): Cardiology-CODER: \$20,000 for 12/1/89-5/15/91. Principal and only investigator.
 109. Online Computer Library Center (OCLC) Inc.: Advanced Retrieval Methods for Online Catalogs: \$10,000 for 7/1/89-6/30/90. Principal and only investigator.
 110. Naval Surface Warfare Center: Advanced Naval Message Analyzer: \$26,594 for 7/10/89 - 6/9/90. Principal and only investigator.

111. Virginia Center for Innovative Technology: A Prototype Geographic Information System for Personal Workstations: \$33,890 for 4/1/89- 3/31/90. Principal investigators: Clifford A. Shaffer, James B. Campbell, Laurence W. Carstensen, Jr., Edward A. Fox.
112. General Dynamics: A Prototype Geographic Information System for Personal Workstations: \$43,000 for 4/1/89-3/31/90. Principal investigators: Clifford A. Shaffer, James B. Campbell, Laurence W. Carstensen, Jr., and Edward A. Fox.
113. Virginia Center for Innovative Technology Grant INF-89-010: Interactive Digital Video Authoring and Prototyping. \$50,000 for 5/1/89-4/30/90. Principal investigators: Edward A. Fox, Deborah Hix, and E. Schwartz.
114. NCR Corporation: Interactive Digital Video Authoring and Prototyping. \$60,000 for 2/15/89-2/14/90. Principal investigators: Edward A. Fox, Deborah Hix, and E. Schwartz.
115. Council on Library Resources Grant CLR 4048-C: Comparison of Advanced Retrieval Approaches for Online Catalog Access. \$3000 for 1/1/89- 6/30/90. Principal investigators: Edward A. Fox and Linda Wilson (Reference Dept., Newman Library, VPI&SU).
116. NCR Corporation: Prototype Application of Advanced Methods for Information Storage and Retrieval. \$44,691 for 1/1-12/31/89. Principal and only investigator.
117. Nimbus Records, Inc. Grant: CD ROM Based Publishing and Access to Composite Document Databases. \$9000 from CIT plus \$10,000 from Nimbus (and \$5000 in-kind) for 6/1/88-10/1/88. Principal and only investigator.
118. National Agricultural Library and Extension Service - USDA: Joint Assessment of Alternative Approaches for Database Development and Distribution. \$41,400 for 1988-9. Principal investigators: Mary G. Miller, Michael T. Lambur, Thomas R. McAnge, and E. A. Fox.
119. National Science Foundation Grant IRI-8703580: Organizing Lexical Knowledge for Information Retrieval. \$149,900 plus \$8,284 REU Suppl. for 8/1/87-6/30/90. Prin. investigators: E. Fox and J.T. Nutter.
120. Council of Higher Education in Virginia Grant: Cooperative Library Services Program: The Virginia Disk: An Evaluation of Locally Produced CD ROM Products. \$21,735 for 6/15/87 - 9/15/88. Principal investigators: E. Fox and P. Gherman.
121. Virginia Center for Innovative Technology Grant INF-87-012: CD ROM Based Publishing and Access to Composite Document Databases. \$24,500 for 5/1/87-7/31/88. Renewal \$9,000 through 1/15/89. Principal and only investigator.
122. Nimbus Records, Inc. Grant: CD ROM Based Publishing and Access to Composite Document Databases. \$24,500 from CIT plus \$12,000 from Nimbus (and \$5000 in-kind from Highlighted Data, Inc.) for 5/1/87-7/31/88. Principal and only investigator.
123. AT&T Foundation Equipment Donation. \$711,090 for 1987. Prin. invest's: D. Kafura, E. Fox. Virginia Center for Innovative Technology Grant INF- 85-016: Improved Automatic Analysis, Indexing, Storage and Retrieval of Corporate Documentation and Network Information. \$82,500 (renewal) for 1/1/86-9/15/87. Principal and only investigator.
124. National Science Foundation Grant IST-8418877: Effective Retrieval of Composite Documents. \$90,760, 2/15/85-7/31/87. Prin. investigator.
125. AT&T Foundation Equipment Donation. \$7,580 in Dec. 1986. \$50,030 in Dec. 1985. Principal and only investigator.
126. Virginia Center for Innovative Technology Grant INF-85-016: Improved Automatic Analysis, Indexing, Storage and Retrieval of Corporate Documentation and Network Information. \$51,001 (to VPI&SU and \$45,871 to George Mason Univ.) for 1/1/85-12/31/85. Principal investigators: M. Koll (GMU) and E. Fox (VPI&SU).
127. Virginia Center for Innovative Technology Contract C-85-026: Development of Prototype Electronic Mail and Bulletin Board Distributed System to Facilitate CIT Operations. \$21,479 for 3/15/85-3/15/86. Principal and only investigator.
128. VPI&SU College of Arts and Science Small Proj. Grant 1895820: Information Retrieval for Office Information Systems. \$1,600 for 12/1/83-11/30/85. Principal and only investigator.

SUMMARY:

>126 grants with funding from Advance Auto Parts, AOL, ARPA, AT&T, BAE Systems, CAS, Dept. of Educ., Google, IBM, IMLS, Intel, Natl. Ag. Lib., Mellon, Microsoft, NCR, NEH, Nimbus Records, NIH, NIJ, NIST, NLM, NSF, NSWC, OCLC, PRC Inc., QNRF, Sun, UNESCO, U.S. Dept. of Education, Virginia CIT, ...

ALSO, CONSULTANT ON:

- Patent cases, addressing invalidity, non-infringement, IPR, etc.
- US Intelligence Community: Massive Parallel Object Store, 12/1/94 - 12/1/95, to Knowledge Systems Inc., Principal investigators: R. Akscyn, D. McCracken.
- National Archives and Records Administration: Access to Archival Databases (AAD), \$648,282.50 contract to SAIC for 1999-2000

KEYNOTE/BANQUET/INT'L INVITED/DISTINGUISHED SPEAKER PRESENTATIONS:

1. Edward A. Fox, Applications of Big Data Analysis for the Worldwide Collection of ETDs. Invited keynote for ETD 2018, Taiwan, Sept. 26-28, 2018, <http://fox.cs.vt.edu/talks/2018/20180926FoxETD2018keynote.pptx>
2. Edward A. Fox, Living In the KnowlEdge Society: the double duty of a librarian, invited speaker (by videoconference) at Linking Research and Education in Digital Libraries Workshop at TPDL 2011, 28-29 Sept. 2011, Berlin
3. E. Fox. A formal approach to digital libraries - the 5S framework: Societies, Scenarios, Spaces, Structures, Streams. Invited talk for Seminar Series, Department of Computer Science at Georgetown University, Washington, D.C., April 29, 2011
4. E. Fox. Digital Library Support for 1) Graduate Education and 2) Computing-related Education. Keynote presentation at Digital Libraries in Higher Education: Scientific Experiences, Riyadh, Saudi Arabia, 30-31 October 2010, <http://fox.cs.vt.edu/talks/2010/20101030FoxRiyadhKeynote.pdf>.
5. E. Fox. Digital Libraries, Scholarship, and the Humanities. Keynote presentation (as Guest of Honor for the conference), Libraries in the Digital Age (LIDA) 2010, Zadar, Croatia, 24-28 May 2010, University of Zadar, Zadar, Croatia (<http://ozk.unizd.hr/lida/2010/>, video: <https://meduza.carnet.hr/index.php/media/watch/11219>)
6. E. Fox. Opening and Expanding Digital Library Services. Invited keynote for Canadian ETD and Open Repositories Workshop, May 10-11, 2010, Carleton University, Ottawa
7. Digital Libraries: From Theory to CS/LIS Curricula, invited speaker for the Lazerow lectures, C.W. Post Campus, Long Island University, Brookville, New York, April 23, 2008
8. Digital Libraries: From Proposals to Projects to Systems to Theory to Curricula, invited keynote for DELOS Conference 2007, 14 Feb. 2007, Pisa, Italy, <http://fox.cs.vt.edu/talks/2007/20070214DELOSkeynotePisa.ppt>
9. Digital Libraries for Education: Lessons Learned and Promising Opportunities, invited keynote for LODL 2006, Workshop on "Learning Object Repositories as Digital Libraries: Current Challenges", ECDL 2006, Alicante Spain, 22 Sept 2006 (by videoconference)
10. Improving Graduate Education with Digital Libraries, invited keynote for the Inauguration of the DFG Graduiertenkollegs 1223 "Quality improvement in e-Learning by feedback processes" (Eröffnung des DFG-Graduiertenkollegs 1223 Qualitätsverbesserung im E-Learning durch rückgekoppelte Prozesse), 14 Sept. 2006, Darmstadt, GE
11. A 5S Perspective on Digital Libraries for E-Learning: With case studies from Archaeology, Computing, and Dissertations, invited keynote for DeLFI 2006 (Die 4. e-Learning Fachtagung Informatik), 14 Sept. 2006, Darmstadt, GE

12. Digital Libraries: 1991-2006 and beyond, with electronic theses and dissertations. Invited videoconference (since delayed 1 day in travel) presentation to approximate 300, at several sites and at University of Sao Paulo (USP-Brazil), for event to commemorate 5 years of electronic theses and dissertations (www.teses.usp.br). Aug. 23, 2006
13. Digital Library Curricula and Modules Informed by 5S, invited keynote for Workshop 6: Developing a Digital Libraries Education Program, JCDL 2006, June 11-15, 2006, Chapel Hill, NC
14. 5S and the Reference Model, invited talk at DELOS Reference Model Workshop, Frascati-Rome, June 1-2, 2006
15. From the WWW and Minimal Digital Libraries, to Powerful Digital Libraries: Why and How. Invited talk in Fox, E.A.; Neuhold, E.; Premismit, P.; Wuwongse, V. (Eds.) Digital Libraries: Implementing Strategies and Sharing Experiences; Proceedings 8th International Conference on Asian Digital Libraries, ICADL 2005, Bangkok, Thailand, December 12-15, 2005, Lecture Notes in Computer Science, Vol. 3815, XVII, 529 p., ISBN: 3-540-30850-4, p. 525, DOI: 10.1007/11599517_74, <http://fox.cs.vt.edu/talks/2005/20051213ICADLinvited.ppt>
16. Digital Libraries: Archaeology, Automation, ETDs, and Enhancements. Invited talk. The International Advanced Digital Library Conference (IADLC), Nagoya University, Japan, August 25-26, 2005, <http://fox.cs.vt.edu/talks/2005/20050823Nagoya.ppt>
17. Digital Libraries for Education: Case Studies. Invited talk. In Zhaoneng Chen, Hsinchun Chen, Qihao Miao, Yuxi Fu, Edward Fox, Ee-Peng Lim, eds. Digital Libraries: International Collaboration and Cross-Fertilization; Proceedings 7th International Conference on Asian Digital Libraries, ICADL 2004, Shanghai, Dec. 2004. Springer-Verlag GmbH, Lecture Notes in Computer Science, vol. 3334, pp. 51-60, <http://springerlink.metapress.com/openurl.asp?genre=article&issn=0302-9743&volume=3334&spage=51>
18. Towards a Digital Library Theory: A Formal Digital Library Ontology. Invited talk at University of Athens, Greece, Dec. 9, 2004.
19. Towards a Quality Model for Digital Libraries. Invited talk for the DELOS workshop on digital library evaluation, Padova, Italy, October 4-5, 2004. Marcos Andre Goncalves, Edward A. Fox, Baoping Zhang, Layne T. Watson.
20. Digital Libraries of the Future: Integration through the 5S Framework. Keynote talk for RCDL'2004, the Sixth National Russian Research Conference: Digital Libraries: Advanced Methods and Technologies, Digital Collections, Sep. 30, 2004, Pushchino, Russia
21. Digital Libraries for Education: Foundations to Case Studies. Invited talk. Also, Chair of the conference for the morning of 7 September. In Proceedings Digital Library --- Advance the Efficiency of Knowledge Utilization, 2nd International Digital Library Conference, hosted by National Library of China, Beijing, September 6-8, 2004.
22. Case Studies in the US National Science Digital Library: DL-in-a-Box, CITIDEL, and OCKHAM. Invited talk in: Tengku Mohd Tengku Sembok, Halimah Badioze Zaman, Hsinchun Chen, Shalini R. Urs, Sung Hyon Myaeng, eds. Digital Libraries: Technology and Management of Indigenous Knowledge for Global Access; Proceedings 6th International Conference on Asian Digital Libraries, ICADL 2003, Kuala Lumpur, Malaysia, Dec. 2003. Springer-Verlag GmbH, Lecture Notes in Computer Science, vol. 2911, 17-25, <http://www.springerlink.com/openurl.asp?genre=article&issn=0302-9743&volume=2911&spage=17>
23. Improving Graduate Education: Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation for International Conference on University Libraries: Electronic publishing and library services, Mexico City, Oct. 23, 2003, 82 slides
24. Research Challenges to Semi-Automatically Enhance Quality in Distributed Open Archives, invited presentation for SINNO3, Oldenburg, GE, 9/18/2003, 75 slides
25. Closing Keynote invited for ETD'2003 (The 6th Int'l Symp. on Electronic Theses and Dissertations), Humboldt U., Berlin, GE, May 23, 2003
26. The Future of Electronic Publishing, invited presentation for Symposium on The Library of the Future, Humboldt U., Berlin, GE, May 19, 2003 (at opening of new building)

27. Keynote on "Human Resources and the Information Professional in the Digital Age" for Madras Library Association (MALA) Platinum Jubilee Celebration, Chennai, India, Jan. 29, 2003 (videoconference presentation arranged by US State Dept.), <http://smp2.cc.vt.edu/~fox/tmp/Chennai20030129Fox.ppt>
28. ETD Digital Library, invited presentation for International Conference on Scientific Electronic Publishing in Developing Countries, Sept. 30 - Oct. 2., 2002, Valparaiso, Chile
29. From Electronic Theses and Dissertations to Supporting Teaching and Learning in Science, Technology, Engineering and Mathematics - The Benefits of Digital Libraries. Invited presentation for University of Chile, Sept. 30, 2002 (for ~200 librarians, etc. in region), Santiago, hosted by Gabriela Ortuzar
30. From Electronic Theses and Dissertations to Supporting Teaching and Learning in Science, Technology, Engineering and Mathematics - The Benefits of Digital Libraries, invited presentation for ISN Sommerfest, September 13, 2002, Oldenburg, Germany
31. Advancing Education through Digital Libraries: NSDL, CITIDEL, and NDLTD. Invited presentation, Proc. Digital Library: IT Opportunities and Challenges in the New Millennium, July 9-11, 2002, Beijing Library Press, Beijing, China, 107-117
32. ETD Roots: History of the ETD Initiative. Keynote invited for ETD'2002 (The Fifth Int'l Symp. on Electronic Theses and Dissertations: Pioneering on the Electronic Frontier: e-theses and Intellectual Solidarity), BYU, Provo, Utah, May 30 - June 1, 2002
33. Future of the ETD Initiative. Keynote invited for ETD'2002, BYU, Provo, Utah, May 30- June 1, 2002
34. Digital Library as Infrastructure for Knowledge Management in Academic and Research Institutions: Open Archives Initiative and Education Demonstrations (NDLTD, CITIDEL/NSDL), Construyendo una plataforma de tecnologia integrada para la administracion del conocimiento. Opening keynote for Amigos 2002 Conference, Comunicacion del conocimiento basada en la tecnologia de la informacion, The Mexican Network for Library Cooperation, <http://biblio.pue.udlap.mx/congress/>, Puebla, Mexico, Feb. 21, 2002. (7 page paper) (Also, panel moderator, with panel title "Construyendo una plataforma de tecnologia integrada para la administracion del conocimiento".)
35. Overview of Digital Libraries. Inaugural speaker in seminar series for the ASDC staff - Atmospheric Sciences Data Center (the former EOSDIS DAAC) - and related groups - full-day tutorial on digital libraries at NASA LaRC (NASA Langley), Hampton, VA, January 18, 2002, <http://ei.cs.vt.edu/~dlib/tut/NASA20020118.htm>
36. International Collaboration on Digital Libraries. Invited keynote presentation, International Conference on Asian Digital Libraries, ICADL'2001, Bangalore, India, Dec. 10-12, 2001.
37. Networked Digital Library of Theses and Dissertations: New Services, Standards, and Integration with the Open Archives Initiative. Invited keynote at the workshop Jornadas sobre Gestion de la Informacion en el siglo XXI, JOURNEYS ON INFORMATION MANAGEMENT ON XXI CENTURY, Montevideo, Uruguay, 12-14 November.2001 sponsored by UNESCO, ISTE, the University of Republica of Uruguay and the ORT University
38. Terabyte scale multilingual digital library services and harvesting from Open Archives. Invited plenary for NIT'2001, Beijing, China, May 29-31, 2001. In Global Digital Library Development in the New Millennium: Fertile Ground for Distributed Cross-Disciplinary Collaboration, ed. Ching-chih Chen, Tsinghua U. Press, pp. 59-70
39. Status Report on the NDLTD. Invited closing plenary for Fourth International Symposium on Electronic Theses and Dissertations (ETDs), Caltech, Pasadena, CA, March 22-24, 2001, <http://www.ndltd.org/talks/etd01key.ppt> (plus helped run standards meeting, chaired 2 sessions, hosted a "networking" table on NDLTD future directions, coordinated meeting of working group on the UNESCO International Guide for ETDs)
40. Digital Libraries: From Theory to Applications in Education and Business. Invited keynote presentation, 2000 Asian DL conference, ICADL'2000, Seoul, Korea, Dec. 6-8, 2000. <http://www.ndltd.org/talks/koreainv.ppt>
41. Digital Libraries: Extending and Applying Library and Information Science and Technology, invited keynote for ACM CIKM 2000, McLean, VA, Nov. 9, 2000. <http://www.ndltd.org/talks/cikm2000.ppt>
42. The Co-Evolution of Digital Libraries and the WWW. Invited keynote for WebNet '2000, San Antonio, Nov. 4, 2000. <http://www.ndltd.org/talks/webnet.ppt>

43. Digital Libraries: Extending the Impact of Information Science, sole keynote for final DISSAnet Conference, Pretoria, South Africa, Oct. 26-27, 2000. DISSAnet is a project between the Royal School of Library and Information Science in Copenhagen and the Universities of Pretoria and the North in South Africa. It is funded by DANIDA. <http://www.ndltd.org/talks/prolissa.ppt>
44. Digital libraries, universities, and scholarly communication, keynote for EUNIS'2000, Poznan, Poland, April 14, 2000. <http://www.ndltd.org/talks/poznan.ppt>
45. Future Funding and the NDLTD Vision. Invited closing plenary for Third International Symposium on Electronic Theses and Dissertations (ETDs), St. Petersburg, FL, March 18, 2000
<http://www.ndltd.org/talks/ETD3close.ppt>
46. The 5S Framework for Digital Libraries and Two Case Studies: NDLTD and CSTC, keynote for NIT99 (<http://artemis.simmons.edu/~cchen/nit/>), The 11th International Conf. on New Information Technology, Taipei, Taiwan, Aug. 18, 1999, Word: <http://www.ndltd.org/talks/nit99.ppt>
47. Networked Digital Library of Theses and Dissertations. Sole keynote for 15th Workshop on Digital Library (DLW15), Nara Inst. for Sci. Tech. (NAIST), Japan, July 19, 1999. PowerPoint:
<http://www.ndltd.org/talks/dlw15.ppt>, Word: <http://www.ndltd.org/pubs/dlw15.doc>
48. From Theory to Practice in Digital Libraries: 5S and Educational Applications (NDLTD, CSTC), Keynote at NSF-CONACyT Workshop on Digital Libraries, Albuquerque NM, July 7-9, 1999,
<http://ict.udlap.mx/dl/workshop99/>), Word: <http://www.ndltd.org/pubs/conacyt99.doc>
49. Digital dissertations network worldwide, keynote presentation for joint session of Dissertation Online Workshop and IuK'99 - Dynamic Documents, University of Jena, Germany, March 24, 1999
<http://elfikom.physik.uni-oldenburg.de/IuK/IuK99>
50. Networked Digital Library of Theses and Dissertations: A Framework for East-West Collaboration, keynote talk, paper in Proc. First Asian Digital Library Workshop, "East meets West," August 5-7, 1998, Hong Kong, hosted by University of Hong Kong. <http://www.ndltd.org/talks/Asia.htm>
51. Digital Libraries: The Networked Digital Library of Theses and Dissertations (NDLTD) and the Computer Science Teaching Center (CSTC). Keynote for Computer Science Workshop, sponsored by CONACyT and NSF, Puebla, Mexico, June 10-12, 1998. <http://www.ndltd.org/talks/CONACyTNSF.pdf>
<http://www.ndltd.org/talks/CONACyTNSF.ppt>
52. Improving Education through the Networked Digital Library of Theses and Dissertations (NDLTD) and the Computer Science Teaching Center (CSTC), invited international presentation for the Russian-American DL Workshop, <http://www.risi.ru/radlw98/indexe.htm> Moscow, April 16-17, 1998.
53. Digital Libraries: Their Educational Applications and Uses. Opening presentation, keynote session for Web Week and first talk in the Rice University Fondren Library and Information Technology 1997 Lecture Series "Rethinking Information Access in the Digital Age", March 17, 1997.
54. Digital Libraries through Information Retrieval for Education. Presentation for Distinguished Lecture Series, Univ. Utah Dept. of Computer Science, March 7, 1996.
55. Rethinking libraries in the information age: lessons learned with 5 digital library projects, Henderson Lecture, UNC Chapel Hill, Feb. 1, 1996.
56. Images of Digital Libraries. Invited opening keynote address. INFO Conference: Digital transfer of images, Helsinki, Finland, Nov. 10-11, 1994, 2 pg. extended abstract for conference plus longer paper for proceedings.
57. Multimedia in Education and Digital Libraries. Sole keynote speaker for Multimedia Systems: Technology and Applications, Oct. 12-13, 1994, Ottawa.
58. How to make intelligent digital libraries. Invited plenary presentation for 8th Int'l Symp. on Methodologies for Intelligent Systems (ISMIS'94), Charlotte, NC, Oct. 16-19, 1994.
59. Toward a Widely Used Hypermedia Digital Library in Computer Science. Invited plenary presentation for EG-MM '94, First Eurographics Symposium and Workshop on Multimedia: Multimedia/Hypermedia in Open Distributed Environments, June 6-9, 1994, Graz, Austria.
60. Digital Libraries: Why People Use Tools, Not AI. Invited plenary presentation for Tenth IEEE Conf. on Artificial Intelligence for Applications (CAIA), San Antonio, March 1-4, 1994.
61. From Information Retrieval to Networked Multimedia Information Access, keynote address. In G. Knorz, J. Krause, C. Womser-Hacker, eds., Information Retrieval '93, Proc. der 1. Tagung Information

- Retrieval '93, 13-15 September, 1993, University of Regensburg, Germany, Univ. of Konstanz Press, 116-124.
62. Multimedia Systems and Electronic Libraries, IBM/FAU Distinguished Lecture Series, April 8, 1993, Florida Atlantic Univ., Boca Raton, FL.
 63. Multimedia Standards and Systems. Banquet Presentation, Third International Workshop on Network and Operating System Support for Digital Audio and Video, Nov. 12-13, 1992, La Jolla, CA.
 64. Building a User-Centered Database from the ACM Literature. Invited plenary presentation for Symposium on Document Analysis and Information Retrieval, March 16-18, 1992, Tropicana Hotel, Las Vegas, Nevada, 235-246.
 65. Hypermedia: Flexible Access to Multimedia Information. Invited presentation at National Institute of Standards and Technology (NIST), Gaithersburg, MD, September 27, 1991. Initial lecture in series on Hypermedia.
 66. Electronic Publishing and Intelligent Information Retrieval. Invited presentation for OCLC (Online Computer Library Center, Inc.) Office of Research Distinguished Seminar Series, Feb. 10, 1989, Dublin, OH.
 67. The Role of CD ROM in Libraries of the Future. Academia Keynote, Compact Disks for Information Storage and Access, Cornell Univ. Libraries sponsored conf., April 27, 1987, Cornell Univ., Ithaca NY.

TUTORIALS:

(over 83 tutorials in over 28 countries - Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Costa Rica, Croatia, Denmark, England, Germany, Hungary, India, Ireland, Italy, Malaysia, Portugal, Russia, Scotland, Singapore, S. Africa, S. Korea, Spain, Switzerland, Thailand, Uruguay, USA, Vietnam)

1. Edward Fox. Introduction to Digital Libraries, JCDL 2018 (ACM/IEEE), half-day on June 3, 2018, Ft. Worth, Texas.
2. Edward Fox. Introduction to Digital Libraries, JCDL 2017 (ACM/IEEE), full-day on June 19, 2017, Toronto, Ontario, Canada. <http://fox.cs.vt.edu/talks/2017/20170613JCDL2017FoxTutorialSlides.pptx>
3. Edward Fox. Introduction to Digital Libraries, JCDL 2016 (ACM/IEEE), full-day on June 19, 2016, Rutgers U., Newark, NJ. <http://fox.cs.vt.edu/talks/2016/20160619JCDLFoxTutorialSlides.pptx>
4. Edward Fox. Introduction to Digital Libraries, JCDL 2015 (ACM/IEEE), full-day on June 21, 2015, Knoxville, TN. <http://fox.cs.vt.edu/talks/2015/20150621FoxTutorialJCDL.pptx>
5. Edward Fox. Introduction to Digital Libraries; DL 2014 (ACM/IEEE JCDL + TPD), London, 8 Sept. 2014 (full-day)
6. Edward Fox. Introduction to Digital Libraries; Proceedings of the 13th ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL 2013), Indianapolis, IN, July 22-26, 2013 (half-day)
7. E. Fox. Introduction to Digital Libraries. Refereed 1/2 day tutorial for ACM/IEEE Joint Conf. on Digital Libraries, JCDL 2011, Ottawa, June 13-17
8. E. Fox. Guidelines and Resources for Teaching Digital Libraries. Refereed 1/2 day tutorial for ACM/IEEE Joint Conf. on Digital Libraries, JCDL 2011, Ottawa, June 13-17
9. Gregory W. Hislop, Lillian N. Cassel, Lois M.L. Delcambre, Edward A. Fox, Richard Furuta, Peter Brusilovsky, and Daniel D. Garcia. Sharing Your Instructional Materials via Ensemble. Tutorial for Proceedings Consortium for Computing Sciences in Colleges - Northeastern Region, CCSCNE 2011, Western New England College, Springfield, MA, April 15-16, 2011
10. Introduction to (Teaching / Learning about) Digital Libraries. Refereed 1/2 day tutorial for Research and Advanced Technology for Digital Libraries, Proc. 14th European Conference, ECDL2010, Glasgow, Sept. 6-10
11. Introduction to Digital Libraries. Refereed full-day tutorial for JCDL 2010, June 21-25, Gold Coast, Australia
12. Introduction to (Teaching / Learning about) Digital Libraries. Full-day tutorial, JCDL 2009, Austin, June 15, 2009
13. Introduction to (Teaching / Learning about) Digital Libraries. Half-day tutorial, JCDL 2008, Pittsburgh, June 19, 2008

14. Introduction to (Teaching / Learning about) Digital Libraries. Half-day tutorial, ICADL 2007, Dec. 10, 2007, Hanoi
15. Introduction to (Teaching / Learning about) Digital Libraries. Full-day tutorial (part 1, part 2), ECDL 2007, Sept. 16, 2007, Budapest
16. Introduction to (Teaching / Learning about) Digital Libraries. Half-day tutorial, ECDL 2006, Sept. 17, 2006, Alicante, Spain
17. Introduction to (Teaching / Learning about) Digital Libraries. Full-day tutorial with M.A. Goncalves, JCDL 2006, June 11-15, 2006, Chapel Hill, NC
18. Learning / Teaching Digital Libraries: An Overview. Half-day tutorial, ICADL 2005, Dec. 12-15, 2005, Bangkok, <http://fox.cs.vt.edu/talks/2005/20051212ICADLtutorial.ppt>
19. Digital Libraries: An Overview and Formal Framework. Full-day tutorial, ECDL 2005, Sep. 18-23, 2005, Vienna, <http://fox.cs.vt.edu/talks/2005/20050918ECDLtutorial.ppt>
20. Digital Libraries: An Overview and Formal Framework. Full-day tutorial with M.A. Goncalves, SIGIR 2005, Aug. 15-19, 2005, Salvador, Brazil, <http://fox.cs.vt.edu/talks/2005/20050815SIGIRtutorial.ppt>
21. Introduction to (Teaching / Learning about) Digital Libraries. Full-day tutorial with M.A. Goncalves, JCDL 2005, June 7-11, 2005, Denver, p. 419
22. How to Build Digital Libraries. 2 day tutorial (lecture in morning, lab session with M.A. Goncalves in afternoon) for First Latin-American Course on Building Digital Libraries, 21-25 February 2005, Fortaleza, Brazil, sponsored by UNESCO, CETREDE, IFLA-LAC, AUGM, CLEI, and UFC
23. Digital Library: Overview and Framework. 1/2 day tutorial for Digital Libraries: International Collaboration and Cross-Fertilization; International Conference on Asian Digital Libraries, ICADL 2004, Shanghai, Dec. 2004.
24. Digital Library Foundations. Half day tutorial for RCDL'2004, the Sixth National Russian Research Conference: Digital Libraries: Advanced Methods and Technologies, Digital Collections, Oct. 1, 2004, Pushchino, Russia
25. Overview of Digital Libraries. Half day tutorial for ECDL'2004, Sept 2004, Bath, England
26. Three days short course covering Digital Libraries, Information Retrieval, and Multimedia, NIDA, Bangkok, Thailand, June 21-23, 2004
27. Overview of Digital Libraries. Half day tutorial for JCDL'2004, June 2004, Tucson, AZ
28. Two days short course in Bahia Blanca, and one day short course in Buenos Aires, covering Digital Libraries, Semantic Web, Open Source. Argentina, May 17-19, 2004
29. Overview of Digital Libraries. Half day tutorial for ICADL 2003, Dec. 2003, Kuala Lumpur, Malaysia
30. Overview of Digital Libraries. Full day tutorial for JCDL'2003, May 27, Houston, TX
31. Introduction to ETDs and NDLTD. Tutorial for ETD'2003 (The 6th Int'l Symp. on Electronic Theses and Dissertations), Humboldt U., Berlin, GE, May 24, 2003
32. Practical Digital Libraries Overview. Two-hour tutorial at ICADL'2002, Singapore, Dec. 17-20, 2002, <http://www.cais.ntu.edu.sg:8000/icadl02>
33. Overview of Digital Libraries. Half-day tutorial at JCDL'2002, Portland, July 14, 2002 (see p. 417 in Proc. JCDL 2002).
34. Digital Libraries: from requirements to theory to systems to projects. 2 hour tutorial. In Tutorials/Panels, Digital Library: IT Opportunities and Challenges in the New Millennium, pp. 233-363, July 9, 2002, Beijing, China, <http://researchsmp2.cc.vt.edu/~fox/tmp/FoxDLOC2002.ppt>
35. Practical Digital Libraries Overview. Two hour tutorial at ICADL'2001, December 10, 2001 (9-11am), Bangalore, India, <http://ei.cs.vt.edu/~dlib/tut/ICADL01.htm>
36. Construyendo Bibliotecas Digitales Interoperables: Una Guia Practica para crear Archivos Abiertos (in English this is "Building Interoperable Digital Libraries: A Practical Guide to Creating Open Archives"). 1.5 hour tutorial (presented in Spanish, prepared with the assistance of Ryan Richardson and Hussein Suleman), as part on UNESCO- sponsored training course on electronic theses and dissertations, Montevideo, Uruguay, Nov. 12-14, 2001, hosted by UNESCO, ISTEAC, ...
37. Practical Digital Libraries Overview. Half-day tutorial, Pre-conference for LITA National Forum, Milwaukee, WI, 10/12/2001
38. Practical Digital Libraries Overview. Half-day tutorial, scheduled for ACM SIGIR'2001, New Orleans, LA, Sept. 7-12, 2001

39. Overview of Digital Libraries. Half-day tutorial, for 5th European Conference on Research and Advanced Technology for Digital Libraries, ECDL'2001, September 4-8 2001, Darmstadt, Germany, <http://www.ecdl2001.org>
40. DL Interoperability via Metadata Harvesting - Applying the Open Archives Initiative Protocol. Half-day tutorial by Carl Lagoze and Edward A. Fox, scheduled for 5th European Conference on Research and Advanced Technology for Digital Libraries, ECDL'2001, September 4-8 2001, Darmstadt, Germany, <http://www.ecdl2001.org>
41. Practical Digital Libraries Overview. Full-day tutorial, JCDL'2001, Roanoke, VA, June 24, 2001
42. Digital Libraries from Theory to Framework to Application: 5S Model, Open Archives Initiative, and Networked Digital Library of Theses and Dissertations, Dec. 6, 2000, Seoul, S. Korea, half-day tutorial for 2000 Asian DL conference, ICADL'2000 <http://www.ndltd.org/talks/foxtutkr.ppt>
43. Practical Digital Libraries Overview. Half-day tutorial, ACM Multimedia 2000, Los Angeles, CA, Oct. 30 - Nov. 4, 2000, <http://ei.cs.vt.edu/~dlib/tut/MM00.htm>
44. Digital Libraries. One-and-a-half day (12 hour) tutorial for DISSAnet workshop, Pretoria, South Africa, Oct. 23-24, 2000, <http://ei.cs.vt.edu/~dlib/tut/SA.htm>
45. Practical Application of Digital Libraries. Full-day tutorial, RRTC Advanced Technology Seminar, Rosslyn, VA, October 13, 2000, <http://ei.cs.vt.edu/~dlib/tut/RRTC4.htm>
46. Digital Libraries: An Overview. Full-day tutorial, with ECDL'2000, European Conference on Digital Libraries, Lisbon, Portugal, Sept. 18, 2000, <http://ei.cs.vt.edu/~dlib/tut/ECDL2000.htm>
47. Digital Libraries: An Overview. Two half-day tutorials (intro., advanced), ACM Digital Libraries '2000, June 4-7, 2000, <http://www.ndltd.org/talks/DL2000i.ppt>, <http://ei.cs.vt.edu/~dlib/tut/indexi.htm>, <http://ei.cs.vt.edu/~dlib/tut/indexa.htm>
48. Principios basicos para desarrollar bibliotecas digitales (Fundamental principles to develop digital libraries). Half-day workshop tutorial for Primer Seminario-Taller Subregional Sobre Bibliotecas Digitales, Ciudad Universitaria Rodrigo Facio, San Jose, Costa Rica, Dec. 8-10, 1999. Sponsored by Universidad de Costa Rica, the Iberoamerican Science and Technology Education Consortium (ISTEC), Executive Secretariat for Integral Development, the Organization of American States (OAS), and the American Embassy in Costa Rica (<http://www.istec.org/jerome/costarica/engsemucr.html>)
49. Practical Digital Libraries Overview Part 2. Half-day tutorial for ACM Digital Libraries '99, Berkeley, CA, August 11-14, 1999.
50. Digital Libraries. Full-day tutorial for CoLIS 3, Dubrovnik, May 23, 1999.
51. Digital Libraries. Full-day tutorial for ACM Multimedia'98, Bristol, UK, Sept. 12-16, 1998.
52. Digital Libraries. Full-day tutorial for SICON'98, Singapore, July 1, 1998.
53. Fundamentals of Digital Libraries. Half-day tutorial (with Rob Akscyn), ACM Digital Libraries '98, June 23, 1998, Pittsburgh, PA.
54. Multimedia Information and Systems. Half-day tutorial selected by ACM SIGIR'97, July 27-31, 1997, Philadelphia.
55. Building and Applying Digital Libraries. Full-day tutorial for ICMCS'97, IEEE International Conference on Multimedia Computing and Systems, June 3, 1997, Ottawa, Canada.
56. Digital Libraries for Computer Science Education. Half-day workshop (tutorial) presentation for ACM SIGCSE '97, San Jose, 3/1/97.
57. Building and Applying Digital Libraries: Part 1, Introduction and Part 2, Research. Two half-day tutorials for ACM Multimedia'96, Boston, MA, Nov. 18, 1996, with Robert M. Akscyn.
58. Building and Applying Digital Libraries. Half-day tutorial for SIGIR'96, Zurich, Switzerland, Aug. 18, 1996, by E. Fox.
59. Information Retrieval and Hypertext. Half-day tutorial for ACM DL'96, Bethesda, MD, March 20, 1996, by E. Fox and R. Akscyn.
60. Digital Libraries. Half-day tutorial for CIKM'95, Baltimore, MD, Nov. 28, 1995, by E. Fox.
61. Research Issues and Design Issues for Digital Libraries. Half-day tutorial for ACM Multimedia'95, San Francisco, Nov. 6, 1995, by E. Fox and R. Akscyn.
62. Background for Digital Libraries: Information Retrieval and Hypertext. Half-day tutorial for ACM Multimedia'95, San Francisco, Nov. 6, 1995, by E. Fox and R. Akscyn.

63. Design and Use of Digital Libraries. Half day tutorial for ACM SIGIR '94, International Conference on R&D in Information Retrieval, July 3-6, 1994, Dublin, Ireland, by R. Akseyn and E. Fox.
64. Introduction to Information Retrieval. Afternoon tutorial for ACM Workshop on Information Retrieval and Genomics, sponsored by ACM SIGIR and SIGBIO, Lister Hill National Center for Biomedical Communications, National Library of Medicine, Bethesda, MD, May 2- 4, 1994
65. Multimedia Technology. Afternoon tutorial for 1994 Custom Integrated Circuits Conf. Educational Session, May 1, 1994, San Diego.
66. Introduction to Information Retrieval. Half day tutorial for CIKM'93, 2nd International Conference on Information and Knowledge Management, Nov. 1-5, 1993, Arlington, VA.
67. Multimedia Information Systems, Knowledge Based Information Retrieval, Electronic Libraries and other presentations (total: 15 hours of lectures). Invited visit to People's Republic of China, Nov. 20-29, 1992, Beijing, sponsored by Beijing Information Technology Inst., plus 1/2 day visit (including presentation on Digital Video Technology) to Tsinghua Univ.
68. Multimedia Information Systems. Half day tutorial for CIKM-92, First International Conference on Information and Knowledge Management, Nov. 8-11, 1992, Baltimore, MD.
69. Introduction to Multimedia. Half day tutorial for SCAMC (16th Annual Symposium on Computer Applications in Medical Care), Nov. 8- 11, 1992, Baltimore.
70. Multimedia Information Systems. Half day tutorial for Philips Laboratories, Oct. 23, 1992, Briarcliff, NY.
71. Multimedia: Applications and Practice. One day course for Eurographics '92, 7-11 Sept. 1992, Cambridge, England.
72. Knowledge-Based Information Retrieval. Half day tutorial for SIGIR '92, 15th Intern'l Conf. on R & D in Information Retrieval, June 21-24, 1992, Copenhagen, Denmark.
73. CD-ROM and Multimedia Technologies. Four day UCLA Extension course with E. Fox doing 1 day session on multimedia, Jan. 21-24, 1991, Los Angeles, CA.
74. Multimedia Information Systems. Half day tutorial for SIGIR '91, 14th Int'l Conf. on R&D in Information Retrieval, Oct. 13-16, 1991, Chicago, IL.
75. Interactive Technologies. Three day short course, conference presentation, sponsored by Sistema Nacional de Informacao Geografica, June 11-14, 1991, Lisbon, Portugal.
76. Multimedia/Hypermedia Computing and Applications. Half-day educational session for International Conference on Consumer Electronics (ICCE, 10th Anniversary), June 4, 1991, Chicago, IL.
77. Knowledge Based Information Retrieval. Half day tutorial for SIGIR '90, 13th Int'l Conf. on R&D in Information Retrieval, Sept. 5-7, 1990, Brussels, Belgium.
78. Interactive Digital Video Technologies. Three day short course, sponsored by Sistema Nacional de Informacao Geografica, July 16-18, 1990, Lisbon, Portugal.
79. Knowledge Based Techniques. Half day course for European Summer School in Information Retrieval, organized by A.I.C.A. Special Interest Group in Information Retrieval, Sezione A.I.C.A. delle Tre Venezie, 9-12 July, 1990, Bressanone, Italy.
80. CD-ROM Publishing and Access. Full day Professional Development Seminar for the Washington, D.C. Chapter of the ACM, Nov. 9, 1989, U. Maryland, College Park, MD.
81. Knowledge Based Information Retrieval. Half day tutorial for SIGIR '89, 12th Int'l Conf. on R&D in Information Retrieval, June 25-28, 1989, Cambridge MA.
82. CD-ROM Interfaces -- From Authoring to Access. Half day workshop for American Society for Information Sci. Mid-Year Meeting, May 21-24, 1989, San Diego, CA.
83. CD-ROM Interfaces: from authoring to access. Half day tutorial for CHI '89, ACM Conf. on Human Factors in Computing Systems, April 30- May 4, 1989, Austin TX.
84. CD-ROM Publishing and Access. Half day tutorial, demonstration of the Virginia Disc Series of CD-ROMs, for ACM Conf. on Document Processing Systems, Dec. 5-9, 1988, Santa Fe, NM.

DEMONSTRATIONS:

1. Sunshin Lee, Mohamed Magdy, Edward A. Fox. IDEAL: Integrated Digital Event Archive & Library. Demonstration, Center for Human Computer Interaction (CHCI) 20-Year Celebration Conference, 15-17 October 2015, Blacksburg, VA, USA.
2. Edward A. Fox and the IDEAL team. IDEAL (Integrated Digital Event Archive & Library). Virginia Science Festival, Sept. 26, 2015, Blacksburg, VA, USA. <http://www.cpe.vt.edu/sciencefestival/plan.html>
3. Rizmari Versfeld, Spencer Lee, Edward Fox, Hussein Suleman and Kyle Williams. Digital Library in a 3D Virtual World: The Digital Bleek and Lloyd Collection in Second Life. Refereed demo in Research and Advanced Technology for Digital Libraries, Proc. 14th European Conference, ECDL2010, Glasgow, Sept. 6-10, 550-553
4. Spencer Lee, Bradley Willis, Joseph S. Bourne Jr., Edward A. Fox. Entertainment History Museums in Virtual worlds: Video Game and Music Preservation in Second Life, Demonstration, JCDL 2010, June 21-25, Gold Coast, Australia, 403-404
5. B. Stephen Carpenter II, Richard Furuta, Frank Shipman, Allison Huie, Daniel Pogue, Edward A. Fox, Spencer J. Lee, Peter Brusilovsky, Lillian N. Cassel, and Lois M.L. Delcambre, Multiple Sources with Multiple Portals: A Demonstration of The Ensemble Computing Portal in Second Life, Demonstration, JCDL 2010, June 21-25, Gold Coast, Australia, 397-398
6. Gregory W. Hislop, Lillian N. Cassel, Richard Furuta, Lois M. L. Delcambre, Peter Brusilovsky, Edward A. Fox, Daniel D. Garcia. Ensemble - the online community center for computing educators: demonstration. June 2010. Consortium for Computing Sciences in Colleges. Journal of Computing Sciences in Colleges, 25(6): 74-75
7. Spencer Lee, Edward Fox, Gary Marchionini, Javier Velasco, Goncalo Antunes and Jose Borbinha. Virtual DL Poster Sessions in Second Life. Refereed demo at JCDL 2009
8. Spencer Lee, Seungwon Yang, Javier Velasco, Edward Fox. Second Life Demo for U. Texas Austin, April 3, 2009
9. Spencer Lee, Seungwon Yang, Larry Taylor, Edward Fox. Second Life Demo for VT CSRC, Feb. 17, 2009
10. Murthy, U., Torres, R., Fox, E.A., Yang, S., Venkatachalam, L., and Goncalves, M. From Concepts to Implementation and Visualization: Tools from a Team-Based Approach to IR. Demo D7 at SIGIR 2008 (Singapore, July 20-24, 2008). ACM, New York, NY, p. 889. DOI=<http://doi.acm.org/10.1145/1390334.1390563>
11. Douglas Gorton, Weiguo Fan and Edward A. Fox: Specification and Generation of Digital Libraries into DSpace Using the 5S Framework. Research and Advanced Technology for Digital Libraries, ECDL 2007: pp. 567-569, Springer Berlin / Heidelberg, LNCS 4675, demo, http://dx.doi.org/10.1007/978-3-540-74851-9_71
12. Barbara Lagoeiro Moreira, Marcos Andre Goncalves, Alberto Henrique Frade Laender, Edward A. Fox. 5SQual: a quality assessment tool for digital libraries. ACM IEEE Joint Conference on Digital Libraries, June 18-23, 2007, Vancouver, British Columbia, Canada, demonstration, p. 513, <http://doi.acm.org/10.1145/1255175.1255313>
13. Naga Srinivas Vemuri, Ricardo da S. Torres, Rao Shen, Weiguo Fan, and Edward A. Fox. A Content-Based Image Retrieval Service for Archaeology Collections, demonstration for ECDL 2006, Alicante, Spain, Sept. 17-21, 2006, Research and Advanced Technology for Digital Libraries, ISBN 978-3-540-44636-1, Lecture Notes in Computer Science, Volume 4172, ISSN 0302-9743, Springer Berlin / Heidelberg, 2006, http://dx.doi.org/10.1007/11863878_37, pp. 438-440
14. Johnny L. Sam-Rajkumar, Rao Shen, Naga Srinivas Vemuri, Weiguo Fan, and Edward A. Fox. EtanaCMV: A Visual Browsing Interface for ETANA-DL Based on Coordinated Multiple Views, demonstration for ECDL 2006, Alicante, Spain, Sept. 17-21, 2006, Research and Advanced Technology for Digital Libraries, ISBN 978-3-540-44636-1, Lecture Notes in Computer Science, Volume 4172, ISSN 0302-9743, Springer Berlin / Heidelberg, 2006, http://dx.doi.org/10.1007/11863878_51, pp. 492-494
15. Uma Murthy, Ricardo da S. Torres and Edward A. Fox. SIERRA - A Superimposed Application for Enhanced Image Description and Retrieval, demonstration for ECDL 2006, Alicante, Spain, Sept. 17-21, 2006, Research and Advanced Technology for Digital Libraries, ISBN 978-3-540-44636-1, Lecture

Notes in Computer Science, Volume 4172, ISSN 0302-9743, Springer Berlin / Heidelberg, 2006, http://dx.doi.org/10.1007/11863878_63, pp. 540-543

16. Seungwon Yang, Ben Congleton, George Luc, Manuel A. Perez-Quinones, and Edward A. Fox. Demonstrating the Use of SenseCam in Two Domains. In Proc. JCDL 2006, June 11-15, 2006, Chapel Hill, NC, demonstration, p. 376, <http://doi.acm.org/10.1145/1141753.1141872>
17. Uma Murthy, Kapil Ahuja, Sudarshan Murthy, and Edward A. Fox. SIMPEL: A Superimposed Multimedia Presentation Editor and Player. In Proc. JCDL 2006, June 11-15, 2006, Chapel Hill, NC, demonstration, p. 377, <http://doi.acm.org/10.1145/1141753.1141873>
18. Douglas Gorton, Rao Shen, Naga Srinivas Vemuri, Weiguo Fan, and Edward A. Fox. ETANA-GIS: GIS for Archaeological Digital Libraries. In Proc. JCDL 2006, June 11-15, 2006, Chapel Hill, NC, demonstration, p. 379, <http://doi.acm.org/10.1145/1141753.1141875>
19. Ryan Richardson and Edward A. Fox. Using Concept Maps as a Cross-Language Resource Discovery Tool. In Proceedings of the Fifth ACM/IEEE Joint Conference on Digital Libraries (JCDL2005), June 7-11, 2005, Denver, p. 415
20. Ananth Raghavan, Divya Rangarajan, Rao Shen, Marcos Andre Goncalves, Naga Srinivas Vemuri, Weiguo Fan, and Edward A. Fox. Schema Mapper: A Visualization Tool for DL Integration. In Proceedings of the Fifth ACM/IEEE Joint Conference on Digital Libraries (JCDL2005), June 7-11, 2005, Denver, p. 414
21. U. Ravindranathan, R. Shen, M. A. Goncalves, W. Fan, E. A. Fox, and J.W. Flanagan. ETANA-DL: Managing Complex Information Applications - An Archaeology Digital Library. In Proceedings of the Fourth ACM/IEEE Joint Conference on Digital Libraries: Global Reach and Diverse Impact, JCDL2004, Tucson, AZ, June 7-11, 2004, p. 414
22. R. da S. Torres, C. B. Medeiros, M. A. Goncalves, and E. A. Fox. An OAI Compliant Content-Based Image Search Component. In Proceedings of the Fourth ACM/IEEE Joint Conference on Digital Libraries: Global Reach and Diverse Impact, JCDL2004, Tucson, AZ, June 7-11, 2004, p. 418
23. Qinwei Zhu, M.A. Goncalves, E.A. Fox. 5SGraph Demo: A Graphical Modeling Tool for Digital Libraries. JCDL'2003, May 27-31, 2003, Houston, TX, p. 385
24. P. Calado, M. Goncalves, E. Fox, B. Ribeiro-Neto, A. Laender, A. da Silva, D. Reis, P. Roberto, M. Vieira, J. Lage. The Web-DL Environment for Building Digital Libraries from the Web. JCDL'2003, May 27-31, 2003, Houston, TX
25. CITIDEL, by Edward A. Fox and Lillian Cassel. Poster and demonstration, at PI meeting of the National SMETE (science, mathematics, engineering, and technology education) Digital Library initiative, Washington, D.C., Dec. 2-3, 2001
26. Building Interoperable Digital Library Services: MARIAN, Open Archives, and NDLTD, by Fox, E. A., France, R. K., Goncalves, M. A., and Suleman, H. In Proceedings of the 24th Annual International SIGIR Conference on Research and Development in Information Retrieval, New Orleans, USA, Sept. 9-14, 2001
27. Computer Science Teaching Center (CSTC, www.cstc.org), IDM'2001, Dallas, TX, April 30, 2001
28. Building a Unified Library for Theses and Dissertations, by Fox, E. A., France, R. K., Goncalves, M. A., Suleman, H., and Lee, M. H. In Proceedings of the 3rd International Conference of Asian Digital Library, Seoul, December 6-8, 2000
29. XXDL and CSTC and Virginia Tech, demonstration for NSF-sponsored NSDL workshop, September 22-24, 2000, NSF, Arlington, VA, <http://www.ndltd.org/talks/nsdlcstc.ppt>
30. Computer Science Teaching Center, demonstration at NSF IDM'2000, Chicago, March 5-7, 2000, <http://boston.cwru.edu/idm00/>
31. NDLTD and CSTC/CRIM, demonstrations for ACM DL'99, with Neill Kipp, Aug. 12, 1999
32. Networked Digital Library of Theses and Dissertations. Demonstration for CoLIS 3, Dubrovnik, May 25, 1999.
33. Improving Post-Secondary Education through the Networked Digital Library of Theses and Dissertations. Poster and demonstration for FIPSE PI Meeting, Washington, D.C., Oct. 23-25, 1998
34. Networked Digital Library of Theses and Dissertations. Demonstration for ACM SIGIR'97, July 28, 1997, Philadelphia.

35. Visualizing Search Results with Envision. Demonstration by Lucy T. Nowell, Robert K. France, and Edward A. Fox for ACM SIGIR'96, Zurich, Switzerland, Aug. 19, 1996.
36. Automatic Building of Hypertext Links in Digital Libraries. Demonstration for ACM SIGIR'95, Seattle, WA, July 10, 1995, by Robert B. Kelloff, Madhan Subhas and Edward A. Fox.
37. Envision: Information Visualization in a Digital Library. Demonstration for ACM SIGIR'95, Seattle, WA, July 10, 1995, by Lucy T. Nowell and Edward A. Fox.
38. NSF Education Infrastructure Project. Hour demonstration for Multimedia Expo, Virginia Tech, March 24, 1995.
39. MARIAN and Envision System Demonstrations, for 16th Intern'l Conf. on R & D in Information Retrieval, SIGIR '93, Pittsburgh, PA, June 27 - July 1, 1993.
40. MARIAN System Demonstration, at Software Fair, ACH-ALLC93, Joint International Conference of the Association for Computers and the Humanities and the Association for Literary and Linguistic Computing, June 16-19, 1993, Georgetown Univ., Washington, D.C.

SOFTWARE AND DATABASE PRODUCTS:

1. Co-inventor on US patent no. 7346621, filed May 14, 2004, issued March 18, 2008, Method and System for Ranking Objects Based on Intra-type and Inter-type Relationships (Benyu Zhang, Hua-Jun-Zeng, Wei-Ying Ma, Wensi Xi, Zheng Chen, and Edward A. Fox)
2. SMART: Proposed, designed, and led implementation effort of a new version of the SMART system, 1980-2, written in the C language under UNIX. From 1986, extended this for use at Virginia Tech. The version of SMART further developed at Cornell by others since 1983 has been used around the world for information retrieval research. The databases called "CACM" and "ISI" developed 1980-2 for dissertation research with SMART have been used in scores of published studies, as benchmark test sets.
3. CED lexicon: Proposed and supervised preparation of a database form of the "Collins English Dictionary" that has been distributed from the Oxford Text Archive since 1988.
4. CODER: Proposed and supervised development of the COMposite Document Expert/extended/effective Retrieval System, 1985-92, which was used as a testbed for the study of artificial intelligence concepts in the field of information retrieval, and applied to electronic mail digests, navy messages, and literature (and thesaurus data) on cardiology.
5. LEND: Proposed and supervised development of the Large External object-oriented Network Database system, an object-oriented database management system, representing content as a graph/network, which was distributed starting in 1992 by Virginia Tech Intellectual Properties, and was used with both the CODER and MARIAN systems.
6. MARIAN: Proposed and supervised development starting in 1991 of the MARIAN system, an alternative to searching on the VTLS system for library catalog data. The campus production service version of this ran on a collection of PC and NeXTstep machines in the Computing Center and was designed to support scores of simultaneous users. It was built upon data and code from the CED lexicon and CODER (both developed here in the 1980s). With support from NLM, and new support from NSF, it was revamped in Java to become a key part of our research on digital libraries. URL: <http://www.dlib.vt.edu/products/marian.html>
7. ENVISION: Proposed and supervised development 1991-93, 1995 of Project Envision, developing a large hypermedia database (digital library) from the ACM publications, along with a retrieval system and graphical user interfaces to support access to the computer science literature.
8. TULIP: Technical coordinator for Virginia Tech's efforts to make about 40 journals in material science and engineering from Elsevier available for campus use, working with OCLC software
9. EI: Proposed and supervised development of Computer Science courseware and related digital library content, 1993-98, which has led to most CS courses at Virginia Tech having online materials, and some functioning essentially paperless, with up to 150K accesses/wk from local and world-wide users. URL: <http://ei.cs.vt.edu>
10. QUIZIT: Supervised development of an automated WWW-based quiz system to use with CS4624 and CS5604 as well as other courses like CS1604. This has led to several publications and is available for use. See the online papers and software under <http://ei.cs.vt.edu>

11. Boy Scout Computers Merit Badge web site used with local group
12. ETD: Supervised development of electronic thesis and dissertation related software and systems in connection with building the Networked Digital Library of Theses and Dissertations (NDLTD). This includes extensive online information at <http://www.ndltd.org>, and earlier info at <http://etd.vt.edu>, with documentation, automated submission software, multimedia tutorials, SGML/XML document type definitions, conversion tools (to SGML/XML, from SGML/XML to HTML), services (searching, browsing, submission, and conversion from PostScript to PDF), and adaptation of Open Archives Initiative. Collaboration on these efforts includes staff on multiple grants, personnel in Graduate School, Library, Computing Center, and other universities. The Library now maintains the <http://etd.vt.edu> site, while I am responsible for domains ndltd.org and theses.org (also known as dissertations.org) and related listservs. As Executive Director of NDLTD, I coordinate efforts of its members; in March 2000 roughly 225 people attended our 3rd International Symposium, and similar numbers have continued in subsequent years. According to Don Fischer, Program Officer at FIPSE (US Dept. of Education), in email dated 2/14/2000 "Your work is outstanding. Your outreach efforts are incredibly extensive."
13. NRG: The Web Characterization Repository developed for the WWW Consortium (W3C), helped catalog papers, tools, and trace files related to Web traffic characterization. It was used by researchers and practitioners worldwide.
14. CSTC: The Computer Science Teaching Center (www.cstc.org) was hosted at Virginia Tech where I served as an editor and was responsible for the software, server, and repository. This supported teachers and learners interested in computing. This led to CITIDEL - see below.
15. Open Archives Initiative: This international digital library initiative involves specifications, protocols, and other standards (www.openarchives.org). I was one of the founding members and served on the Steering Committee. Virginia Tech students developed a range of widely used software to support development, testing, and operation. I proposed and ran 2 workshops for OAI in 2000 and one in 2001, attended the public launch meeting 1/23/2001, and had several grants related that yielded new tools.
16. CITIDEL: Computing and Information Technology Interactive Digital Educational Library, www.citidel.org, collection effort that is part of NSDL (www.nsdl.org), supporting English and Spanish access to resources to help with teaching and learning about computing and IT, for various ages and types of users, incorporating CSTC, ACM JERIC, NCSTRL, ResearchIndex, and other content. Collaborative project funded by NSF for 2001-2003, with College of NJ, Hofstra, Penn State, and Villanova. This led to Ensemble - see below.
17. Crawls: In collaboration with Charlie Clarke at U. of Waterloo, crawls of large parts of WWW to allow research with large text collections. One collection of 1 Tbyte was collected in 2001. Another collection, focused on government content, was collected and was adapted to yield a new TREC test collection for 2002.
18. PlanetMath and PlanetPhysics: www.planetmath.org and www.planetphysics.org are online community-based encyclopedia initiatives, covering mathematics (and a little computer science) and physics. Software used was developed by Aaron Krowne, whose MS thesis on this I supervised. Mr. Krowne continues to run the sites, which Virginia Tech hosted under my supervision.
19. ETANA: <http://www.etana.org/>; developed at Virginia Tech, then ported to Vanderbilt Library that agreed to sustain this effort to provide coordinated access to archaeological information.
20. Digital library curricular guidelines and modules available on our web site (<http://curric.dlib.vt.edu/>), through Wikiversity (http://en.wikiversity.org/wiki/Curriculum_on_Digital_Libraries), and as a collection in Ensemble (see on <http://www.computingportal.org/collections>) that also is available through the National Science Digital Library (NSDL)
21. Ensemble Portal: <http://www.computingportal.org>, with Virginia Tech leading work on the distributed portal, with PI Boots Cassel managing the overall Ensemble effort involving 6 universities as well as other partners - the Computing Portal in NSF's NSDL (National Science Digital Library). This portal to educational resources in computing is being expanded in 2016-2017 through machine learning methods to include entries from YouTube and SlideShare.
22. Crisis, Tragedy, and Recovery Network (CTRnet): <http://www.ctrnet.net>; developed at Virginia Tech with NSF funding, and partnering with the Internet Archive; digital library and archiving support related to communities, supporters, and scholars working with disasters and emergencies

23. IDEAL (Integrated Digital Event Archiving and Library) and GETAR (Global Event and Trend Archive Research): <http://eventsarchive.org>. Making use of a Hadoop cluster with more than 20 nodes and more than 150 terabytes of storage, these NSF funded projects support an advanced information retrieval system integrating search engine and Web archiving technologies, including collecting tweets, focused crawling for webpages, classification, topic analysis, clustering, entity recognition, geo-location, indexing, searching, and multiple user interfaces.
24. Social Interactome, an NIH-funded project, running clinical trials on interventions employing social networks to aid with recovery from addictions, uses a series of virtual machines in Computer Science, as well as other services at VTCRI (managed by PI Warren Bickel), involving an enhanced version of Friendica and related interface and analysis software.

DIGITAL LIBRARY RESEARCH LABORATORY (DLRL, www.dlib.vt.edu) (earlier: INFORMATION ACCESS LABORATORY):

- Fox was director of the NSF supported Information Access Laboratory in Computer Science. His offices at the Computing Center were moved to 840 Pointe West Commons (PWC), Suite 8, allowing merger with the IAL, and the new complex is now the DLRL, located at 2030 Torgersen Hall. We are responsible for domains including: citidel.org, nudl.org, cstc.org, dissertations.org, theses.org, ndltd.org, and dlib.vt.edu.
- Facilities dating back to the early 1990s have included (in addition to upgrades/replacements/additions):
 - VT-PetaPlex-1, with 2.5 terabytes of disk storage, over 100 processors, developed by Knowledge Systems Incorporated, a very early cluster focused on storage
 - Roughly \$770K of hardware donated by IBM for digital library research, located in Computing Center, PWC, or engaged in logging in locations around campus
 - A wide variety of PC-based workstations purchased 2001-2002
 - Older servers of various types, including DEC Alpha, Sun Ultra, Gateway, Mac, IBM
 - Multimedia peripherals: camcorders and cameras, VTRs (digital, Betacam, Hi-8, SVHS, U-matic), audio units (CD-DA, DAT, cassette), laserdisk player, preamp, amplifier, mixer, CD-ROM drives, professional microphones, headphones, speakers, monitors - many donated to VT's New Media Center in return for access by classes and research groups
 - CD-ROM production (Kodak PCD Writer 225) for DOS/Mac/UNIX
- Current facilities include servers (in the Computing Center), and virtual machines in Computer Science, for the Ensemble and IDEAL/GETAR projects, as well as a full lab of units at DLRL.

ORAL PRESENTATIONS:

1. Edward A. Fox. Conference welcome and closing, at ETD 2018, the 21st International Symposium on Electronic Theses and Dissertations, Taiwan, Sept. 26-28.
<http://fox.cs.vt.edu/talks/2018/20180926FoxETD2018welcome.pptx>,
<http://fox.cs.vt.edu/talks/2018/20180926FoxETD2018workshop.pptx>
2. Edward A. Fox. Tips for maximizing your ETD program. Workshop presentation at ETD 2018, the 21st International Symposium on Electronic Theses and Dissertations, Taiwan, Sept. 26-28.
3. Edward A. Fox. Big Data and Machine Learning in Virginia Tech's Digital Library Research Laboratory. Invited presentation at Yahoo! Research, Sunnyvale, CA, 21 June 2018,
<http://fox.cs.vt.edu/talks/2018/20180621FoxYahoo.pptx>
4. Edward A. Fox and Zhiwu Xie. Web Archiving and Digital Library Projects and Technologies. Presentation for Linux/Unix Users Group @ VT (VTLUUG). 15 March 2018.
<http://fox.cs.vt.edu/talks/2018/20180315WADL-VTLUUG.pdf>

5. Fox, Edward A. Information Research. STEP (Student Transition Engineering Program) Faculty Research Seminar, College of Engineering, Virginia Tech, 7 July 2017, <http://fox.cs.vt.edu/talks/2017/20170707STEPfacultySeminar.pptx>
6. Fox, Edward A. Digital Library Framework for Behavioral Science: Social Interactome (based on research with Prashant Chandrasekar, Allison Tegge, Christopher T. Franck, Warren K. Bickel, Sandesh Bhandari, Brian Brown, John Crawford, Kirstin Gathalian, Mikhail N. Koffarnus, Patsy A. Marshall, Lexie Mellis, Elan Perry, Derek Pope, Amanda J. Quisenberry, Sarah E. Snider, and Robert C. Reese). Introduction to Scieneering (ENGR/COS 2164) Seminar, CEED (Center for Enhancement of Engineering Diversity), College of Engineering, Virginia Tech, 15 September 2017
7. Fox, Edward A. Digital Library Framework for Behavioral Science: Social Interactome (based on research with Prashant Chandrasekar, Allison Tegge, Christopher T. Franck, Warren K. Bickel, Sandesh Bhandari, Brian Brown, John Crawford, Kirstin Gathalian, Mikhail N. Koffarnus, Patsy A. Marshall, Lexie Mellis, Elan Perry, Derek Pope, Amanda J. Quisenberry, Sarah E. Snider, and Robert C. Reese). First Year Galileo Seminar (ENGR 1054) Seminar, CEED (Center for Enhancement of Engineering Diversity), College of Engineering, Virginia Tech, 10 October 2017
8. Fox, Edward A. Information Friendly. Hypatia Seminar (ENGR 1034) Seminar, CEED (Center for Enhancement of Engineering Diversity), College of Engineering, Virginia Tech, 12 October 2017
9. Edward A. Fox. NDLTD Committee Meetings. Presentation at ETD 2017: 20th Int'l Symposium of the NDLTD, Washington, D.C., USA, August 7-9, 2017. <http://fox.cs.vt.edu/talks/2017/20170808ETD2017committees.pptx>
10. Edward A. Fox. ETD Metadata / Union Catalog / IR Consortium Networks. Presentation at ETD for Rookies Workshop at ETD 2017: 20th Int'l Symposium of the NDLTD, Washington, D.C., USA, August 7-9, 2017. <http://fox.cs.vt.edu/talks/2017/20170807ETD2017FoxRookiesUnion.pptx>
11. Edward A. Fox. Introduction to NDLTD and Brief History of the ETD Movement. Presentation at ETD for Rookies Workshop at ETD 2017: 20th Int'l Symposium of the NDLTD, Washington, D.C., USA, August 7-9, 2017. <http://fox.cs.vt.edu/talks/2017/20170807ETD2017FoxRookiesIntro.pptx>
12. Edward A. Fox. Web Archiving Research Supported by Text and Data Mining. Invited panelist for Text and Data Mining Discussion Forum, Virginia Tech, Newman Library, April 12, 2017. Video recording of the entire forum is available from <http://hdl.handle.net/10919/77526>
13. Edward A. Fox. "Launch, Persevere, and Collaborate." Invited panelist for Faculty Senate Forum on Research and Scholarship, 16 March 2017, The Inn, Virginia Tech, Blacksburg, VA
14. Edward A. Fox. GETAR Overview. Invited presentation for Discovery Analytics Center, Virginia Tech, Blacksburg, VA. 2 February 2017. <http://fox.cs.vt.edu/talks/2017/20170202GETAR-DAC.pptx>
15. Edward A. Fox. Overview for EFO Annual Meeting. 27 September 2016, The Inn, Virginia Tech, Blacksburg, VA. <http://fox.cs.vt.edu/talks/2016/20160927FoxEFO.pptx>
16. Edward A. Fox. Information Research. Presentation for ENGR 1014: Engineering Research Seminar. 2 September 2016, Virginia Tech, Blacksburg, VA. <http://fox.cs.vt.edu/talks/2016/20160902ENGR1014Fox.pptx>
17. Edward A. Fox. "Technologies in an Emerging Academic Field." Presentation for 27 July 2016 part of 2016 NEH Summer Institute for College and University Teachers: Veterans in Society: Ambiguities & Representations, 10-29 July 2016, Blacksburg, VA, <http://www.veteransinsociety.org/>, notes at <http://fox.cs.vt.edu/talks/2016/20160727ViSlinks.txt>
18. Edward A. Fox. Welcome (as NDLTD Executive Director) presentation for ETD 2016: 19th Int'l Symposium on ETDs. Lille, France. 11 July 2016. <http://fox.cs.vt.edu/talks/2016/20160711ETD2016FoxWelcome.pptx>
19. Edward A. Fox; Andrea Kavanaugh; Donald Shoemaker; Steven Sheetz; Mohamed Magdy Farag; and Sunshin Lee. "Can Collecting, Archiving, Analyzing, and Accessing Webpages and Tweets Enhance Resilience Research and Education?" Global Forum on Urban & Regional Resilience Spring 2016 Seminar Series, 2/11/2016, Virginia Tech, Blacksburg, VA
20. Edward A. Fox. From Man and Computer to Digital Libraries. Invited presentation for panel "HCI Research: Where are we coming from?". Plenary opening session for the CHCI 20-year Celebration, Oct. 16, 2015, in the Fife Theatre of the Moss Arts Center, Blacksburg, VA, USA.

21. Edward A. Fox. Quarter-day of presentations, including: Edward A. Fox: "ELISQ Seminar"; Tarek Kanan and Edward Fox: "Arabic Natural Language Processing: P-Stemmer, Browsing Taxonomy, Text Classification, RenA, ALDA, and Template Summaries - for Arabic News Articles"; Qatar University Library, Doha, Qatar, 19 May 2015, <http://fox.cs.vt.edu/ELISQ/201505/>
22. Edward A. Fox. Half-day of presentations, including: Edward A. Fox: "ELISQ Discussion with QNL Director Lux"; Edward A. Fox: "ELISQ Seminar"; Tarek Kanan and Edward Fox: "Arabic Natural Language Processing: P-Stemmer, Browsing Taxonomy, Text Classification, RenA, ALDA, and Template Summaries - for Arabic News Articles"; Qatar National Library, Doha, Qatar, 20 May 2015, <http://fox.cs.vt.edu/ELISQ/201505/>
23. Edward A. Fox. Half-day of presentations, including: Edward A. Fox: "Web Archives, IDEAL, and PBL Overview"; Richard Gruss and Edward A. Fox: Problem Based Learning To Build And Search Tweet And Web Archives"; Sunshin Lee and Edward A. Fox: "Big Data and Hadoop and DLRL: Introduction to the DLRL Hadoop Cluster"; Mohamed Farag and Edward A. Fox: Web Archive Content Analysis: Disaster Events Case Study". Qatar National Library, Doha, Qatar, 21 May 2015, <http://fox.cs.vt.edu/ELISQ/201505/>
24. At ETD 2014, University of Leicester, England, July 23-25: NDLTD Welcome, and panelist for "ETDs for life: opportunities, challenges, benefits"; also talks at the ETD for Rookies pre-conference workshop.
25. From CTRnet to IDEAL (and Qatar, VT, SiteStory, UPS, ...). Invited talk at NSF-funded workshop, Working with Internet Archives for Research (WIRE), Harvard University, Cambridge, MA, June 16, 2014, with [online slides](#)
26. Chair of panel, and panelist, on Educational Repositories for Teaching AI, with Lois Delcambre and Todd Neller. Fourth Symposium on Educational Advances in Artificial Intelligence (EAAI-13), July 15-16, 2013, Bellevue, WA
27. Many talks related to electronic theses and dissertations, including a number from years ago, including:
 - An ETD and 5S Related Perspective. Invited presentation in session on Scholarly Communication: New Models for Digital Scholarship Workflows at Coalition for Networked Information (CNI) Spring 2013 Membership Meeting, April 4-5, 2013, San Antonio, TX (with Stephen M. Griffin as session chair)
 - Co-chair of Webinar on Emergency Informatics and Digital Libraries, July 24, 2012 (as follow-up to NSF/CCC Workshop on Computing for
 - E. Fox. MIT 6/18/96; Georgia Tech 10/4/96; U. Ill. Urbana-Champaign 10/29/96; Univ. Utah 11/8/96; MIT 11/20/96; Stanford U. 12/16/96; ... Ohio State U. 5/29/98, U. Pitt. 6/23/98, Singapore 6/30/98, U. Arizona 7/30/98, U. Southampton 9/11/98, ...
 - E. Fox with other members of project team: NC State 7/9/96 and 10/9/96, ...
 - Posters: Networked Digital Library of Theses and Dissertations, FIPSE PI Meeting, Nov. 1, 1997, Arlington, VA
28. Invited attendee and panelist (on 3 panels), NSF workshop on Interdisciplinary Computing, Washington, D.C., Nov. 3-5, 2011
29. Edward A. Fox, "Living In the KnowlEdge Society: the double duty of a librarian", invited speaker (by videoconference) at "Linking Research and Education in Digital Libraries" Workshop at TPDL 201, 28-29 Sept. 2011, Berlin
30. Edward A. Fox. Introduction to NDLTD and Brief History of the ETD Movement. Invited 30 minute plenary opening talk for day long ETDs for Rookies - Newcomer's Pre-Conference Tutorial. 14th International Symposium on Electronic Theses and Dissertations, ETD 2011, Cape Town, S. Africa, Sept. 13-17, 2011
31. Edward A. Fox. Other ETD Systems: ETD-db, the Short Story. Invited 40 minute plenary talk for day long ETDs for Rookies - Newcomer's Pre-Conference Tutorial. 14th International Symposium on Electronic Theses and Dissertations, ETD 2011, Cape Town, S. Africa, Sept. 13-17, 2011
32. Edward A. Fox. Welcome, invited 5 minute opening for 14th International Symposium on Electronic Theses and Dissertations, ETD 2011, Cape Town, S. Africa, Sept. 13-17, 2011
33. Edward A. Fox. Moderator and speaker at Panel on NDLTD Union Catalog. 14th International Symposium on Electronic Theses and Dissertations, ETD 2011, Cape Town, S. Africa, Sept. 13-17, 2011

34. Edward A. Fox. Some Reflections on Students' Roles. Invited presentation for Workshop on Data Curation. 14th International Symposium on Electronic Theses and Dissertations, ETD 2011, Cape Town, S. Africa, Sept. 13-17, 2011
35. Kavanaugh, A., Fox, E., Sheetz, S., Yang, S., Si, L.T., Shoemaker, D., Natsev, A., Xie, L. Social Media for Cities, Counties and Communities. Invited presentation, Inaugural conference on 'Communicating Disaster,' Bielefeld, Germany, January 12-15, 2011.
36. E. Fox. Invited presentation for panel "When Universities Put Dissertations on the Internet: New Practice; New Problem?", at American Historical Association 125th Annual Meeting, Jan. 6-9, 2011, Boston
37. M. S. Hsiao, A. L. Abbott, E. A. Fox, R. Murch, B. Budowle, N. J. Short, S. Misra, N. P. Kozievitch, and S. H. Park, "Toward a Quantitative Basis for Sufficiency of Friction Ridge Pattern Detail," Presentation at Impression and Pattern Evidence Symposium, Clearwater Beach, FL, Aug. 2010.
38. A. L. Abbott, M. S. Hsiao, E. A. Fox, R. Murch, B. Budowle, N. J. Short, S. Misra, N. P. Kozievitch, and S. H. Park, "Toward a Quantitative Basis for Sufficiency of Friction Ridge Pattern Detail," Presentation at 95th International Educational Conference, International Association for Identification, Spokane, WA, July 2010.
39. E. Fox. Invited presentation for panel on Innovation vs. Preservation: Does it Have to be One or the Other? Panelists Ed Fox, Geneva Henry; moderators Jill Kleister, Billie Peterson-Lugo; for Texas ETD Association Annual Meeting, a pre-conference workshop for ETD 2010 - 13th International Symposium on Electronic Theses and Dissertations. Austin, TX. June 16-18, 2010
40. E. Fox. Basic Principles for ETD programs. Invited presentation for preconference workshop "Advice from NDLTD Leaders", ETD 2010 Conference, Austin, TX, June 16-18
41. E. Fox. Introduction to NDLTD and Brief History of the ETD Movement. Invited presentation for "ETDs for Rookies" - Newcomer's Workshop, at ETD 2010 - 13th International Symposium on Electronic Theses and Dissertations. Austin, TX. June 16-18, 2010
42. E. Fox. ETD-db, the Short Story. Invited presentation for "ETDs for Rookies" - Newcomer's Workshop, at ETD 2010 - 13th International Symposium on Electronic Theses and Dissertations. Austin, TX. June 16-18, 2010
43. E. Fox. NDLTD Welcome and Introduction. Invited presentation for Opening Session at ETD 2010 - 13th International Symposium on Electronic Theses and Dissertations. Austin, TX. June 16-18, 2010
44. E. Fox. Invited presentation for Plenary Panel: ETD Veterans. Panelists John Hagen (West Virginia University), Ed Fox (Virginia Tech), Thomas Dowling (OhioLink), Terry Kahn (UT Austin), Gail McMillan (Virginia Tech). At ETD 2010 - 13th International Symposium on Electronic Theses and Dissertations. Austin, TX. June 16-18, 2010
45. E. Fox. NDLTD Wrapup. Invited presentation for Closing Session at ETD 2010 - 13th International Symposium on Electronic Theses and Dissertations. Austin, TX. June 16-18, 2010
46. A. L. Abbott, M. S. Hsiao, E. A. Fox, R. Murch, B. Budowle, N. J. Short, S. Misra, N. P. Kozievitch, and S. H. Park, "Development of a Quantitative Basis for Sufficiency in Friction Ridge Pattern Detail," Presentation for NIJ Panel on Impression Evidence, NIJ Conference 2010, National Institute of Justice, Arlington, VA, June 14, 2010.
47. E. Fox. NDLTD: Past, Present, and Future. Invited presentation for Canadian ETD and Open Repositories Workshop, May 10-11, 2010, Carleton University, Ottawa
48. Edward A. Fox. Mentoring in Computer Science. Panel presentation on How to be a Successful Mentor, 7th Annual Advancing Diversity at Virginia Tech Workshop, Jan. 11, 2010, Inn and Skelton Conference Center, Virginia Tech, <http://fox.cs.vt.edu/talks/2010/20100111Mentoring.ppt>
49. Edward A. Fox. CTR. Presentation (with same title as session since it was about our project) as part of panel for session "Crisis, Tragedy, and Recovery Network (CTRnet)" at the Coalition for Networked Information Fall Meeting, Dec. 15-16, 2009, Washington, D.C.
50. Edward A. Fox. Digital Libraries. Graduate seminar presentation for Virginia Tech Dept. of Computer Science, Nov. 20, 2009, Blacksburg, VA
51. Ensemble Project Overview. Presentation as panelist at NSDL Annual Meeting, Nov. 18, 2009, Washington, D.C.

52. Electronic Theses and Dissertations (ETDs) - A worldwide initiative. University of Iowa, Oct. 29, 2009, <http://fox.cs.vt.edu/talks/2009/20091029IowaETD.pptx>
53. CTRnet (Crisis, Tragedy, & Recovery Network) (www.ctrnet.net): A global human network and distributed digital library. University of Iowa, Oct. 29, 2009, <http://fox.cs.vt.edu/talks/2009/20091029IowaCTRnet.pptx>
54. CTRnet: A Crisis, Tragedy, & Recovery Network) (www.ctrnet.net). Virginia College of Osteopathic Research Day, Oct. 16, 2009, <http://fox.cs.vt.edu/talks/2009/20091016CTR-VCOM.ppt>
55. Donald J. Shoemaker, Steven D. Sheetz, and Edward A. Fox. Initiatives to Assemble a Record. Presentation for the conference Aftermath Dynamics and Management: Through the Lens of the Virginia Tech Incident, July 22, 2009, The Inn, Blacksburg, VA
56. E. Fox. Reiki. Presentation for the Natural Healthcare Series at the Blacksburg Library, July 16, 2009, <http://fox.cs.vt.edu/talks/2009/20090716FoxReiki.pdf>, http://www.mfml.org/view_entry.php?id=1812&date=20090716
57. Daphne Rainey and Edward A. Fox. Cyber-Learning & Digital Libraries: are traditional classrooms going the way of the horse and buggy? Cafe Scientifique, Blacksburg, VA, May 26, 2009
58. Molly Bragg, Edward A. Fox, Margaret Hedstrom, and Christopher A. Lee. Moving Web Archiving into the Classroom. Panel at DigCCurr2009: Digital Curation Practice, Promise and Prospects. April 1-3, 2009, Chapel Hill, NC, pp. 112-113 in proceedings: http://www.lulu.com/items/volume_64/6482000/6482253/5/print/DigCCurr2009Proceedings_032609.pdf
59. Jeffrey Pomerantz, Sanghee Oh, Barbara Wildemuth, Carolyn Hank, Helen Tibbo, Edward Fox, and Seungwon Yang. Comparing Curricula for Digital Library and Digital Curation Education. Panel at DigCCurr2009: Digital Curation Practice, Promise and Prospects. April 1-3, 2009, Chapel Hill, NC, pp. 2-3 in proceedings: http://www.lulu.com/items/volume_64/6482000/6482253/5/print/DigCCurr2009Proceedings_032609.pdf
60. Uma Murthy, Edward A. Fox, Yinlin Chen, Eric Hallerman, Ricardo Torres, Evandro J. Ramos, and Tiago R. C. Falco. Image Description and Retrieval for Fish Species Identification. Oral presentation by Uma Murthy at 25th Annual GSA Research Symposium, March 25, 2009, VT, Blacksburg, VA, <http://filebox.vt.edu/users/techy/public/RS/>
61. Joseph E. Urban, Jesse M. Heines, Edward A. Fox, Harriet G. Taylor: Panel on revitalized undergraduate computing education. In Proceedings of the 40th ACM Technical Symposium on Computer Science Education (Chattanooga, TN, USA, March 04 - 07, 2009). SIGCSE '09. ACM, New York, NY, 69-70. DOI= <http://doi.acm.org/10.1145/1508865.1508893>, refereed
62. Edward Fox, "Living In the KnowlEdge Society (LIKES)" (CPATH). Invited presentation for NSF CCLI/CPATH Showcase of the 40th ACM Technical Symposium on Computer Science Education (Chattanooga, TN, USA, March 04 - 07, 2009). SIGCSE '09.
63. Edward A. Fox, presentation as part of Panel 3 - Computational Thinking Everywhere (Part II). Computational Thinking for Everyone Workshop I, The National Academies, 2/19-2/20/2009, Washington, DC
64. Edward A. Fox, "CNI Podcast: An Interview with Edward Fox on Digital Scholarship", Podcast: 28 min., 19.24MB, Editor Gerry Bayne, In CNI Podcasts by EDUCAUSE <http://www.educause.edu/blog/gbayne/CNIPodcastAnInterviewwithEdwar/16809>, posted on February 3, 2009
65. Kristine Hanna, Edward A. Fox, Jamaica Jones, and Padmini Srinivasan. Capturing Crisis: A Digital Library to Study Tragedy and Recovery from Around the World. Panel at CNI Fall Meeting, Washington, DC, Dec. 9, 2008, <http://www.cni.org/tfms/2008b.fall/Abstracts/PB-digital-hanna.html>, http://www.cni.org/tfms/2008b.fall/Abstracts/handouts/cni_digital_hanna.pdf
66. Edward A. Fox, Carlos Evia, Weiguo Fan, Steve Sheetz, Chris Zobel, and Seungwon Yang. Sakai LIKES Initiative. Panel at the Sakai Regional Conference, Virginia Tech, Nov. 11-12, 2008
67. NDLTD Welcome and Introduction, invited opening presentation, ETD 2008, June 4-6, Aberdeen Scotland
68. Introduction to NDLTD and Brief History of the ETD Movement, invited opening presentation for ETD Rookies Workshop, ETD 2008, June 4-6, Aberdeen Scotland

69. ETD-db, the Short Story, invited presentation for ETD Rookies Workshop, ETD 2008, June 4-6, Aberdeen Scotland
70. Closing Session, invited closing presentation, ETD 2008, June 4-6, Aberdeen Scotland
71. Manuel A. Perez-Quinones, Stephen Edwards, Manas Tungare, Edward A. Fox, and Lillian Cassel. Using Web 2.0 Technologies in your Computer Science Classes. Workshop #16 at 39th ACM Technical Symposium on Computer Science Education, SIGSCE 2008, March 12-15, 2008, Portland, Oregon
72. Invited visit and presentation at World Bank, Nov. 20, 2007, Washington, D.C.
73. Internet 2 - Digital Library community of Mexico Virtual Day on Digital Theses, 25 min. videoconference presentation, Oct. 5, 2007
74. From information retrieval to digital libraries to computer science education, Sep. 21, 2007, Vienna University of Technology
75. Living In the KnowLEDge Society, July 30, 2007, Univ. Arizona, Tucson
76. Enhancing Computing Education through LIKES, NSDL, and NDLTD. Invited presentation for Google Education Summit 2007 (part of Google Faculty Summit), July 27, 2007, Mountain View, CA
77. 5S Perspective. Invited presentation for 1st Workshop on Digital Library Foundations, ACM IEEE Joint Conference on Digital Libraries, June 18-23, 2007 - Vancouver, British Columbia, Canada, <http://fox.cs.vt.edu/talks/2007/20070623JCDLdlfWkshpFox-5S.ppt>
78. Quality Modeling. Invited presentation for 1st Workshop on Digital Library Foundations, ACM IEEE Joint Conference on Digital Libraries, June 18-23, 2007 - Vancouver, British Columbia, Canada, <http://fox.cs.vt.edu/talks/2007/20070623JCDLdlfWkshpFox-Quality.ppt>
79. Core DL Curriculum. Invited presentation (with co-authors Seungwon Yang, Barbara M. Wildemuth, Jeffrey Pomerantz, Sanghee Oh) for JCDL 2007 Workshop 1: Developing a Digital Libraries Education Program, with 2007 Joint Conference on Digital Libraries, June 18, 2007, Vancouver, <http://fox.cs.vt.edu/talks/2007/20070617JCDLeducWkshpFox-Core.ppt>
80. NDLTD: Past, Present, and Future. ETD 2007: 10th Int. Symp. on ETDs, Uppsala, Sweden, <http://fox.cs.vt.edu/talks/2007/20070613ETDfoxOpening.ppt>
81. Two presentations, Overview of VT/NDLTD Plans: Resources & Projects; Update on Digital Library Technology Trends: From Proposals to Projects to Systems to Theory to Curricula. Invited talks to Scirus and Scopus groups, Elsevier, Amsterdam, 18 March 2007
82. Edward Fox, Uma Murthy, and Ricardo Torres. Automation and Quality in Image Digital Libraries with Annotations, invited presentation for University of Florence, Florence, Italy, 17 Feb. 2007, <http://fox.cs.vt.edu/talks/2007/20070216Florence.ppt>
83. Reiki at Virginia Tech, invited talk for Companion Animal Club, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA, 26 Jan. 2007, <http://fox.cs.vt.edu/talks/2007/20070126ReikiLecture.ppt>
84. Indexing and searching heterogeneous information, invited presentation at Lawrence Livermore National Laboratory, Livermore, CA, Nov. 3, 2006
85. "NDLTD Resources & Projects", invited hour-long plenary presentation for ETD 2006 U.S. Regional Conference: Revealing the Potential of ETDs, October 27-28, 2006, J.C. Penney Conf. Center, University of Missouri-St. Louis
86. Invited presentations for SIMPOSIO DE ACESSO LIVRE A INFORMACAO (Symposium on Open Access to Information, <http://si.ibict.br>), Aug 24-25, 2006, at Hotel Nacional, SHS (Setor Hoteleiro Sul), Quadra 01, Brasilia, DF, Brasil 70322-900; speaker on 2 panels:
 1. "Digital Libraries, Electronic Theses and Dissertations (ETDs), and NDLTD" for 5 hour panel on August 24, 2006, "Open Access para Repositorio Institucionais" (Open Access for Institutional Repository)
 2. "NDLTD: From Local to National to Global", for 3.5 hour panel on August 25, 2006, "BDTD: Biblioteca Digital de Teses e Dissertacoes" (Digital Library of Theses and Dissertations)
87. "Introductory words", opening talk (30 minutes) for ETD 2006, Quebec City, June 6-10, 2006
88. Digital libraries, computer science, and education: 10 projects. Invited seminar at Fraunhofer IPSI, Darmstadt, GE, Dec. 9, 2005 <http://fox.cs.vt.edu/talks/2005/20050929ETDclose.ppt>
89. NDLTD Update: Past, Present, Future, and the Expanding ETD Community. Closing plenary invited presentation for ETD2005: evolution through discovery, 8th International Symposium on Electronic

- Theses and Dissertations, Sydney, Sept. 28-30, 2005,
<http://fox.cs.vt.edu/talks/2005/20050929ETDclose.ppt>
90. ADT and the Future of NDLTD. Invited presentation for ADT Program Workshop, Sydney, Australia, Sept. 26, 2005, <http://fox.cs.vt.edu/talks/2005/20050926ADT.ppt>
 91. Networked Digital Library of Theses and Dissertations (NDLTD, www.ndltd.org). Invited presentation for Oregon State U., 20 July 2005, <http://fox.cs.vt.edu/talks/2005/20050720OregonSt.ppt>
 92. The Global Reach of Electronic Theses and Dissertations (ETDs). Edward Fox, Joan K. Lippincott, Eva Muller, Susan Copeland. Project Briefing: Spring 2005 Task Force Meeting. CNI, April 4-5, 2005, Washington, DC. <http://www.cni.org/tfms/2005a.spring/abstracts/PB-fox-global.html>
 93. Electronic Tools and Near Eastern Archives Digital Library (ETANA-DL). Presentation by Edward A. Fox, with co-presenter ill (James W. Flanagan). Session on "Long-Term Digital Preservation and Archiving Strategies for Archaeological Data" at 106th Annual Meeting of the Archaeological Institute of America, AIA 2005, Boston, January 6-9, 2005
 94. Digital Libraries Settling the Score: 10 Years Hence and 10 Before. Moderator for closing plenary panel of the conference. In Proceedings of the Fourth ACM/IEEE Joint Conference on Digital Libraries: Global Reach and Diverse Impact, JCDL2004, Tucson, AZ, June 7-11, 2004, p. 374
 95. J. W. Flanagan, E. A. Fox, D. R. Clark, W. Fan, Ravindranathan, R. Shen, M. A. Goncalves, "Jordanian Archaeology and ETANA: Developing a Digital Library for Near Eastern Archaeology", History and Archaeology of Jordan Conference, Petra, Jordan. May 23-27, 2004
 96. Improving Graduate Education: Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at Villanova University, hosted by graduate school, Jan. 15, 2004, 69 slides
 97. Networked Digital Library of Theses and Dissertations (NDLTD), La Red de Bibliotecas Digitales de Tesis y Disertaciones, invited presentation using videoconferencing for Dia Virtual de Bibliotecas Digitales, Nov. 25, 2003, hosted by UDLA, Puebla, Mexico, 41 slides
 98. Edward A. Fox and James W. Flanagan. ETANA-DL: Managing complex information applications: An archaeology digital library. 2 hr session (ETANA Workshop: Integrated Technology-Enabled Archaeology), followed by 1 day workshop, at American Schools of Oriental Research (ASOR) Annual Meeting, Atlanta, GA, Nov. 19-22, 2003, 68 slides
 99. Research Overview Related to NSDL, invited presentation, Library, UDLA, Puebla, Mexico, Oct. 24, 2003, 86 slides
 100. Edward A. Fox and Lillian Cassel. Computing and Information Technology Interactive Digital Educational Library (CITIDEL). Poster at NSDL Annual Meeting, Oct. 12-15, 2003, Washington, DC
 101. CITIDEL, in Session: Sustainability II: NSDL (2-3:30pm, Tue). At NSDL Annual Meeting, Oct. 12-15, 2003 Washington, DC
 102. Edward A. Fox and Martin Halbert. Needs Addressed by the OCKHAM Project, in Session: NSDL Service Interoperability and Web Services (9-10:30am, Wed). At NSDL Annual Meeting, Oct. 12-15, Washington, DC
 103. Distributed vs. Centralized Systems: Funding and Maintenance of International Services. Panel presentation for SINNO3, 9/19/2003, Oldenburg, GE
 104. Extending Retrieval with Stepping Stones and Pathways. Brief research overview at NSF IDM PI workshop, Sept. 14-16, 2003, Seattle, Washington, 4 slides
 105. Integration of regular and static OAI repositories. Presentation for OAI Metadata Harvesting Workshop, JCDL 2003, Houston, TX, 31 May 2003,
<http://www.cs.cornell.edu/people/simeon/workshops/JCDL2003/>
 106. Digital Libraries Support for Education: Two Case Studies - CITIDEL and NDLTD. Invited presentation, Dept. of Computer Science, Rice University, Houston, TX, May 28, 2003
 107. Panel member, Special Session: Report on the NSF major funding initiative for a National Science, Technology, Engineering, and Mathematics Education Digital Library (NSDL) with special emphasis on the Computing Education Component, ACM SIGCSE'2003, Reno, Nevada, March 16, 2003
 108. National Science Digital Library Work in CS at Virginia Tech, AI Seminar, U. of Arizona, Tucson, AZ, March 7, 2003
 109. Digital libraries for e-rulemaking: integrating the information fields (hypertext, information retrieval, multimedia, etc.), presentation as part of serving as invited participant in NSF-funded research workshop

- on "E-Rulemaking: New Directions for Technology and Regulation", Jan. 21-22, 2003, John F. Kennedy School of Government, Harvard, Cambridge, MA
110. OCKHAM, 5S, and ODL. Invited presentation for OCKHAM Initiative Meeting, Emory U., Atlanta, GA, Jan. 8, 2003
 111. Edward Fox, Hussein Suleman, and Ming Luo. Building Digital Libraries Made Easy: Toward Open Digital Libraries, invited paper, pages 14-24 in: Ee-Peng Lim, Schubert Foo, Chris Khoo, Hsinchun Chen, Edward Fox, Shalini Urs, Thanos Constantino, eds. Digital Libraries: People, Knowledge, and Technology; Proceedings 5th International Conference on Asian Digital Libraries, ICADL 2002, Singapore, Dec. 2002. Springer, Lecture Notes in Computer Science 2555.
 112. Trends on e-learning from the corporate and academic perspective, and NSDL Governance, invited presentations for IDA (Infocomm Development Authority) Visiting Professor Programme, Dec. 13, 2002, Singapore
 113. Open Digital Libraries, reviewed presentation for AOL-CIT Finding Common Ground University Research Day, Nov. 6, Herndon, VA. First Prize Winner for Track 3, with \$1500 prize, based on doctoral work of Hussein Suleman
 114. Edward A. Fox and Ellen Hoffman, Comments from NSDL PC Chair and Vice Chair, in NSDL New Projects Welcome, repeated Oct. 30 and Nov. 4, 2002, teleconference, <http://nsdl.comm.nsdlib.org/community/?pager=61>
 115. NDLTD and the ETD Initiative: Enhancing Graduate Education, Ohio State University/Virginia Tech Videoconference, Oct. 24, 2002, presented by Edward A. Fox, Gail McMillan, and David Pluska, <http://researchsmp2.cc.vt.edu/~fox/tmp/ETDs4OSU20021024.ppt>
 116. History of ETDs and Practice at Virginia Tech, invited presentation for Howard U. ETD Workshop, Washington, D.C., Oct. 4, 2002
 117. Hybrid Partitioned Inverted Files for Large-Scale Digital Libraries, for Dept. of Computer Science Seminar, University of Chile, Sept. 30, 2002, Santiago (hosted by Ricardo Baeza-Yates)
 118. Foundations of, and Experiences with, Componentized Digital Libraries. Presentation as part of OCKHAM panel, ECDL'2002, Rome, Sep. 16-18, 2002
 119. Invited presentations in 3 cities in Brazil (Rio de Janeiro - visiting PUC Rio, Belo Horizonte - visiting Federal University of Minas Gerais, and Curitiba - visiting Catholic University of Parana), as part of week long visit arranged by the American Embassy in Brasilia and the American Consulate in Rio de Janeiro, Brazil, July 20-28, 2002 (discussing NDLTD, NSDL, and related matters)
 120. Panel member and proposer of panel "NSDL (National SMETE Digital Library): From Prototype to Production to Transformational National Resource" at JCDL'2002, Portland, July 14-18, 2002 (p. 368 of JCDL 2002 Proceedings)
 121. Mirroring an OAI archive with an I2-DSI channel, invited presentation for session on Distributed Storage for Digital Libraries, Spring 2002 Internet2 Members Meeting in Washington, DC, May 7, 2002 (by videoconference), http://www.internet2.edu/activities/html/spring_02.html
 122. Invited presentation as well as speaker on at least one panel, for symposium "What Scholars Need to Know to Publish Today: Digital Writing and Access for Readers", April 8, 2002, University at Albany, Albany, NY
 123. Digital Library Support of Education. Invited presentation for mini-conference on ETDs, Southern Illinois University, Carbondale, IL, March 22, 2002.
 124. Digital Library Support of Learning: Open Archives Initiative and Educational Demonstrations (NDLTD, CITIDEL/NSDL). Invited presentation at University of Arizona, March 8, 2002 (145 slides)
 125. GWU and NDLTD: Technical Issues. Invited presentation at GWU, Washington, D.C., Feb. 13, 2002
 126. GWU and NDLTD: General Issues. Invited presentation at GWU, Washington, D.C., Feb. 13, 2002
 127. Virginia Tech Perspective on AmericanSouth.org. Presentation for meeting of the project team for AmericanSouth.org: A Collaborative Project to Improve Access to Digital Resources on Southern History and Culture Funded by The Andrew W. Mellon Foundation. Emory University, Atlanta, GA, Feb. 1, 2002.
 128. Digital Library Support of Teaching and Learning. Invited presentation for colloquium series of talks in the area of digital libraries (SIS Colloquium Series on Digital Libraries) at School of Information

- Sciences; and additional talk "Networked Digital Library of Theses and Dissertations" for ETD Working Group, U. of Pittsburgh, Jan. 25, 2002.
129. Networked Digital Library of Theses and Dissertations: New Services, Standards, and Integration with the Open Archives Initiative. Invited presentation for Jornadas ISTECS, Montevideo 2001, "Jornadas sobre Gestion de la Informacion en el siglo XXI", Montevideo, Uruguay, Nov. 12-14, 2001, hosted by UNESCO, ISTECS, ... <http://www.ndltd.org/talks/Montevideo2001.ppt>
 130. From Information Retrieval to Digital Libraries: Scenarios, Software, Systems, Services, Simulations. Presentation for Virginia Tech Dept. of CS Seminar, Blacksburg, VA, Oct. 31, 2001
 131. Invited panel (Arts and Humanities Discussion: Non-traditional Theses) presentation for Fall Internet2 Conference "Virtual Internet2 Member Meeting", 4 October 2001, by telephone
 132. Invited presentation for panel "Digital Library Programs: Current Status and Future Plans", ECDL'2001, Darmstadt, GE, Sept. 4-8, 2001
 133. International Interdisciplinary Open Archives and ETDs. Invited presentation for Workshop, International Interdisciplinary Open Archives and Subject Specific Services in Mathematics and Physics, Duisburg, Germany, 9/3/2001
 134. Panel moderator for IDM'2001, Dallas, TX, April 30, 2001
 135. Internet Technology Innovation Center at VT. Invited presentation at Fall Centers Director Luncheon, "Interdisciplinary Frontiers 2001: Science and Technology in Service to Society", Virginia Tech, Blacksburg, VA, April 18, 2001
 136. Parts 1 and 6, statement for panel 1: Developing the UNESCO International Guide for ETDs: A Multilingual Training Resource of Best Practices, for Fourth International Symposium on Electronic Theses and Dissertations (ETDs), Caltech, Pasadena, CA, March 22-24, 2001, <http://www.ndltd.org/talks/etd01p1.ppt>
 137. Collaboration on Digital Libraries. Invited presentation at NEC RI, Princeton, NJ, Dec. 27, 2000. <http://www.ndltd.org/talks/nec2000.ppt>
 138. Collaboration on Digital Libraries. Invited presentation at Hofstra U., Hempstead, NY, Dec. 22, 2000. <http://www.ndltd.org/talks/hofstra2.ppt>
 139. Digital Libraries: Starting with Authors/Creators. Invited presentation for Digital Strategies 2000, National Archives, College Park, MD, Nov. 16-17, 2000. <http://www.ndltd.org/talks/nara.ppt>
 140. Plenary panel 1 slides for ACM Multimedia '2000: Curricula and Resources for Courses about Multimedia, Oct. 30 - Nov. 4, 2000, Marina del Rey, CA, <http://www.ndltd.org/talks/mm00pan1.ppt>
 141. Digital Libraries, OAI, ETDs, and NDLTD. Invited presentation for SEALS ETD Meeting, Oct. 25, 2000, Port Elizabeth, S. Africa. <http://www.ndltd.org/talks/seals.ppt>
 142. Extending Interoperability of Digital Libraries: Building on the Open Archives Initiative, OAI Workshop at ECDL'2000, Lisbon, September 21, 2000, <http://www.ndltd.org/talks/oaiecdl.ppt>
 143. Networked Digital Library of Theses and Dissertations (www.ndltd.org). Invited presentation for ECDL 2000 Panel 3 "Digital Libraries Programs and International Cooperation", September 20, 2000, Lisbon. <http://www.ndltd.org/talks/ecdlpnl.ppt>
 144. Open Archives initiative and the Networked Digital Library of Theses and Dissertations. Invited presentation for seminar at UCSD, Geisel Library, Seuss Room, Aug. 9, 2000 <http://www.ndltd.org/talks/UCSD20000809.ppt>
 145. Virginia Tech's Digital Library Research Laboratory: From Hardware to Software to Projects to Theory, invited seminar talk at IBM T. J. Watson Research Center, July 26, 2000. <http://www.ndltd.org/talks/ibm20000726public.ppt>
 146. Digital Libraries, invited presentation requested by Virginia Center for Innovative Technology for AOL - University Research Day: Finding Common Ground, Reston, VA, July 14, 2000 (and separate breakout session for those desiring further info.)
 147. Digital Libraries and the Open Archives Initiative, invited presentation for Louisiana State U., June 30, 2000. <http://www.ndltd.org/talks/lsuoai.ppt>
 148. Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation for Louisiana State U., June 30, 2000. <http://www.ndltd.org/talks/lsundltd.ppt>

149. OAI, Electronic Theses, and Scholarly Communication: The Way to the Virtual University, Sonder-Kolloquium Einladung, Carl von Ossietzky Universitat Oldenburg, June 19, 2000
<http://www.ndltd.org/talks/oldnbrg.ppt>
150. Virtual Universities: Myth or Reality? Invited panel presentation at EUNIS 2000, Poznan, Poland, April 13-14, 2000. <http://www.ndltd.org/talks/poznanPanel.ppt>
151. Electronic Theses and Dissertations (ETDs): Improving Graduate Education through the Networked Digital Library of Theses and Dissertations (NDLTD), invited campus-wide presentation at Johns Hopkins U., April 7, 2000. <http://www.ndltd.org/talks/jhundltd.ppt>
152. E-Commerce Business Laboratory, presentations to stimulate e-commerce in Virginia, coordinated by Global Opportunities, Inc. of Blacksburg, VA and the Internet TIC of Virginia: March 21, 2000 at New River Community College, Dublin and March 30, 2000 at Southwest Virginia Higher Education Center, Abingdon, using notes including <http://fox.cs.vt.edu/talks/VTITIC.html>
153. Digital Libraries: An Aid to Education through Interoperable Open Archives of Resources, invited campus-wide presentation at Johns Hopkins U., April 7, 2000. <http://www.ndltd.org/talks/jhuoai.ppt>
154. The Open Archives initiative (OAI) and Electronic Theses and Dissertations (ETDs), invited presentation for the Spring 2000 Meeting of the Association of Information and Dissemination Centers (ASIDIC), Orlando, FL, March 27, 2000, <http://www.ndltd.org/talks/asidic.ppt>
155. Electronic Theses and Dissertations (ETDs): Improving Graduate Education through the Networked Digital Library of Theses and Dissertations (NDLTD), invited campus-wide presentation at U. Kentucky, Lexington, Feb. 24, 2000.
156. Digital Libraries: An Aid to Education through Interoperable Open Archives of Resources, invited campus-wide presentation at U. Kentucky, Lexington, Feb. 24, 2000.
157. Involving New Scholars in Digital Libraries through the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at Telcordia, Morristown, NJ, Dec. 30, 1999.
158. Involving New Scholars in Digital Libraries through the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at NEC Research Institute, Princeton, NJ, Dec. 21, 1999.
159. Case study of Information Technologies in Action: Virginia Tech and Digital Libraries, invited presentation for State of the Art (SOTA), "Technology: The Next Revolution", Special Libraries Association (SLA) Nov. Forum, Washington, D.C., Nov. 19, 1999,
<http://www.sla.org/professional/sota/index.shtml>
160. Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at Virginia Commonwealth U., Richmond, VA, Nov. 17, 1999
161. From NDLTD to NUDL to a NODL Framework, invited presentation for Universal Preprint Service Workshop, Santa Fe, NM, Oct. 21-22, 1999.
162. Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation for U. New Mexico, Albuquerque, NM, Oct. 20, 1999
163. Digital Libraries: A Pictorial View, invited presentation for Bioinformatics '99, Virginia Tech, Oct. 7-8, 1999.
164. Networked Digital Library of Theses and Dissertations (NDLTD); ETD Needs, Possibilities, Action; invited presentations for Workshop on an international project of electronic dissemination of theses and dissertations, <http://www.unesco.org/webworld/etd>, UNESCO, Paris, September 27-28, 1999:
<http://www.unesco.org/webworld/etd/contributions/fox.rtf>
165. From NDLTD to Technology for Digital Libraries: Progress and Challenges, part of DL'99 tutorial, Aug. 11, 1999
166. From NDLTD to Technology for Digital Libraries: Progress and Challenges, invited presentation for Ricoh, Tokyo, Japan, July 28, 1999
167. Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation for NACSIS, Japan, July 28, 1999
168. From NDLTD to Technology for Digital Libraries: Progress and Challenges, invited presentation for IBM Tokyo Research Lab, July 27, 1999
169. From NDLTD to Technology for Digital Libraries: Progress and Challenges, invited presentation for NEC Human Media Research Lab, July 27, 1999

170. Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation for Tokyo Institute of Technology, Japan, July 26, 1999
171. Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation for ULIS, Japan, July 23, 1999
172. How to Build Digital Libraries: A Methodology and Examples (NDLTD, CSTC), invited presentation for Kyoto U., Japan, July 22, 1999
173. Digital Libraries to Support Graduate and Undergraduate Education (NDLTD, CSTC), invited presentation at Kobe U., Japan, July 22, 1999.
174. Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at Arizona State U., July 6, 1999
175. Digital Libraries and their Support of Education, invited presentation at U. of Arizona, Tucson, AZ, July 1, 1999
176. Every University Should Have Its Own Digital Library, invited presentation at IBM Almaden Research Laboratory, June 7, 1999
177. Theses and Dissertations in the Digital Library, invited presentation in Split, Croatia, May 28, 1999.
178. Continuing Evolution of the NDLTD, invited presentation for the ETD Workshop (2nd in series of national/international meetings), Virginia Tech, Blacksburg, VA, May 18, 1999
179. Technology in the Classroom. Presentation for Virginia Tech Multimedia Users Group (VTMMUG, <http://www.nmc.vt.edu/vtmmug/>) meeting, Litton Reaves 1670, Virginia Tech, April 23, 1999
180. Theses and Dissertations in the Digital Library. Presentation for Spring 1999 CNI Meeting, Renaissance Washington D.C. Hotel, April 16, 1999
181. Networked Digital Library of Theses and Dissertations, invited multimedia presentation sent for launch of ETD initiative at Nanyang Technological Institute (NTU), Singapore, April 8, 1999 (Powerpoint, audio, video)
182. A Computer Science Perspective on Bioinformatics. Presentation by L. Heath, C. Ribbens, and E. Fox, Biochemistry seminar, Virginia Tech, March 29, 1999
183. Enhancing Learning through Digital Libraries and Inter-University Cooperation, invited presentation at Valencia Tech, Valencia, Spain, March 26, 1999 (delivered electronically followed by visit and discussion after plane delays)
184. Digital Libraries, Electronic Publishing, CRIM, NDLTD, and Collaboration, invited presentation for Multimedia-Discussion Group (MUME), Humboldt U., Berlin, Germany, March 25, 1999
185. Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation for campus community, Caltech, Pasadena, CA, March 12, 1999
186. Current and Future Technical Structure of the NDLTD, invited library presentation, Caltech, Pasadena, CA, March 12, 1999
187. The Networked Digital Library of Theses and Dissertations, invited presentation for CS201 Seminar Series, UCLA Computer Science Department, Los Angeles, March 11, 1999
<http://www.cs.ucla.edu/classes/cs201/winter99/calendar.html#Fox>
188. Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation for Dept. of Information Studies, UCLA, Los Angeles, March 11, 1999
189. Developing a University-Based Federated Digital Library of Worldwide Graduate Research (NDLTD), Computer Science Colloquium Series, USC, Los Angeles, March 10, 1999
190. Networked Digital Library of Theses and Dissertations: A Vehicle for University Collaboration, seminar hosted by University of North Carolina, Chapel Hill, October 16, 1998.
191. Improving Graduate Education through the Networked Digital Library of Theses and Dissertations (NDLTD), seminar hosted by University of Southampton, England, September 11, 1998
192. The Worldwide Electronic Thesis and Dissertation Initiative: Joining the Networked Digital Library of Theses and Dissertations seminar hosted by University of Arizona, Tucson, AZ, July 30, 1998,
<http://www.ndltd.org/talks/ndltd980713.ppt>
193. The Worldwide Electronic Thesis and Dissertation (ETD) Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), seminar hosted by National Univ. of Singapore, June 30, 1998. <http://www.ndltd.org/talks/ndltd980630.ppt>

194. The Worldwide Electronic Thesis and Dissertation Initiative: Joining the Networked Digital Library of Theses and Dissertations seminar hosted by University of Pittsburgh, Pittsburgh, PA, June 23, 1998, <http://www.ndltd.org/talks/ndltd980623.ppt>
195. DL Metrics: Web Characterization and 4S, presented by Edward A. Fox, written with Ghaleb Abdulla and Neill Kipp, DL'98 Metrics Workshop, June 27, 1998, Pittsburgh, PA <http://www.canis.uiuc.edu/workshop/presentations.html>
196. Position paper (<http://ks.com/icdl/254.html>) for 1st Summit on International Cooperation on Digital Libraries, 27-28 June 1998, Marriott City Center, Pittsburgh, PA [following Digital Libraries '98] <http://www.ks.com/icdl/>
197. The Worldwide Electronic Thesis and Dissertation Initiative: Joining the Networked Digital Library of Theses and Dissertations seminar hosted by Ohio State University, Columbus, Ohio, May 29, 1998.
198. Context for DL Collaboration Between VTLS and Virginia Tech, invited presentation, VTLS Inc., Blacksburg, VA, May 12, 1998 <http://fox.cs.vt.edu/talks/VTLS.htm>
199. Digital Libraries to Enhance Learning: Case Studies in Computer Science and Graduate Education. Invited presentation at Pacific Northwest National Laboratory, Pasco, WA, April 20, 1998.
200. Update on Digital Dissertations. Presentation for Spring 1998 CNI Meeting, Crystal Gateway Marriott, Arlington, April 14, 1998 <http://fox.cs.vt.edu/~fox/test/CNIS98.pdf>
201. Helping Learners through Digital Libraries: The Networked Digital Library of Theses and Dissertations (NDLTD) and the Computer Science Teaching Center (CSTC), invited seminar for Dept. of Computer Science, Univ. of Mass., Amherst, March 12, 1998. Seminar series page is <http://www.cs.umass.edu/csinfo/colloquia/DEPT/Seminars1997-98.html>
202. The Worldwide Electronic Thesis and Dissertation Initiative: Joining the Networked Digital Library of Theses and Dissertations seminar hosted by University Denver for all neighboring universities, Denver, CO, March 9, 1998
203. Progress on the National Digital Library of Theses and Dissertations (NDLTD), invited presentation for Computers in Libraries '98, Hyatt Regency, Crystal City, Arlington, VA, March 2, 1998
204. Digital Libraries: Preparing the Next Generation of Scholars in session "Driving Influences: An Update on Issues, Trends and Current Developments that will Affect Secondary Publishers", NFAIS'98, Four Seasons, Philadelphia, PA, Feb. 24, 1998 <http://www.pa.utulsa.edu/nfais.html>
205. The Networked Digital Library of Theses and Dissertations: Improving Graduate Education, invited seminar for Drexel U. College of Information Science and Technology, Phil. PA, Feb. 23, 1998
206. Proposing a Partnership for Education Innovation: NSF, Virginia Tech, and SCT. Invited presentation, Malvern, PA, Feb. 23, 1998
207. The Worldwide Electronic Thesis and Dissertation Initiative: Building the Networked Digital Library of Theses and Dissertations, presentation with John Eaton for National Agricultural Library, MD, Feb. 20, 1998
208. The Worldwide Electronic Thesis and Dissertation Initiative: Joining the Networked Digital Library of Theses and Dissertations presentation with John Eaton, James Madison U., Harrisonburg, VA, Feb. 19, 1998
209. Digital Libraries, presentation arranged by Assistant Professor of IS, Youngjin Yoo, Weatherhead School of Management, Case Western Reserve U., through videoconference for MIDS411: Advances in Information Technology, Feb. 5, 1998, 6-8pm
210. The Worldwide Electronic Thesis and Dissertation Initiative: Joining the Networked Digital Library of Theses and Dissertations, invited videoconference presentation, Florida International U., 1pm Jan. 27, 1998, hosted by Jackie Zelman, Director, UCS
211. The Worldwide Electronic Thesis and Dissertation Initiative: Joining the Networked Digital Library of Theses and Dissertations, invited presentation, VCU, Richmond, VA, Jan. 12, 1998
212. The Networked Digital Library of Theses and Dissertations, invited presentation for Seminar on Information Access, School of Information Management & Systems, University of California, Berkeley, CA, Jan. 6, 1998
213. Transfer Conference presentations, on changes in Computer Science instructional offerings utilizing instructional technology, Donaldson Brown Hotel and Conference Center, Blacksburg, Dec. 8, 1997. <http://fox.cs.vt.edu/talks/Transfer98.htm>

214. Distributed Learner Spaces with Digital Libraries: Future digital library technologies across high-speed distributed systems. Presentation for signing of Memorandum of Understanding between VPI&SU and the Institute of Systems Science of Singapore, as part of the ceremony launching the SINGAREN-vBNS connection, Washington, D.C., Nov. 7, 1997. <http://www.ndltd.org/talks/singapore>
215. Implications of the Electronic Thesis and Dissertation (ETD) Initiative, invited presentation for Electronic Publishing session of DTIC's Annual Users Conference, November 5, 1997, Arlington, VA
216. Improved Education with a Digital Library: the NDLTD Case Study, invited session and presentation (with Gail McMillan) for FIPSE PI meeting, Nov. 2, 1997, Arlington, VA
217. The Worldwide Electronic Thesis and Dissertation Initiative: Joining the Networked Digital Library of Theses and Dissertations, invited presentation at Fall CNI Meeting, Minneapolis, MN 10/26-27/97 <http://www.ndltd.org/talks/CNIF97.pdf>
218. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at U. Michigan, Oct. 8, 1997
219. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at Tech. Univ. of Lisbon, Oct. 2, 1997
220. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at U. Illinois Urbana-Champaign, Sept. 26, 1997
221. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at U. Virginia, Aug. 29, 1997
222. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at Florida Inst. of Tech, Aug. 21, 1997
223. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at University N. Florida, Aug. 18, 1997
224. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at U. Pennsylvania, July 29, 1997
225. Panel discussion "NCSTRL: Experience with a Global Digital Library" on Networked CS Technical Report Library, D-Lib Panel on Interoperability I, ACM DL'97, July 24, 1997, Philadelphia, PA
226. Renaissance Consortium Report on the Worldwide ETD Initiative / Networked Digital Library of Theses and Dissertations (NDLTD), IBM Almaden Lab, San Jose, CA, July 11, 1997.
227. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), informal presentation at Stanford U., July 11, 1997
228. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at Naval Postgraduate School, July 9, 1997
229. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at U. Ca. Berkeley, July 8, 1997
230. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), informal presentation at U. Ca. Santa Barbara, July 7, 1997
231. Information Retrieval, Digital Libraries, Education Innovation, Theses and Dissertations, and WWW Traffic Analysis/Modeling: Related Work at Virginia Tech. Presentation July 3, 1997, ISS, Singapore.
232. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at National U. Singapore, July 1-3, 1997
233. Powerful Interactivity in a Networked World. Presentation to the Computer Society of Singapore, July 1, 1997, Singapore.
234. The Digital Era: Implications for Librarians, Information Providers and Users. Presentation for National Computer Board Digital Libraries Cluster. June 30, 1997, ISS Auditorium, Singapore.
235. The Worldwide Electronic Thesis and Dissertation Initiative: Joining the Networked Digital Library of Theses and Dissertations seminar in conjunction with NSF DLI briefing, Carnegie-Mellon U., June 3, 1997
236. Networked Digital Library of Theses and Dissertations, or, the ETD Initiative, presentation at Univ. Waterloo, June 2, 1997, <http://www.lib.uwaterloo.ca/~uw-etpt/Flyer.html>
237. E. Fox, J. Eaton, G. McMillan. National Digital Library of Theses and Dissertations, invited session for CAUSE/CNI regional conference, Univ. of Del., May 22, 1997.
238. Networked Digital Library of Theses and Dissertations, presentation at NYU, NYC, May 20, 1997.

239. Networked Digital Library of Theses and Dissertations, presentation for the AAP PSP Executive Council, AAP, NY, May 20, 1997.
240. Networked Digital Library of Theses and Dissertations. Invited videoconference presentation at Univ. S. Florida, April 11, 1997 (w. J. Eaton, G. McMillan, N. Kipp)
241. Publishers and Electronic Theses, project briefing at Coalition for Networked Information Spring Meeting, Crystal City, VA, April 1-2, 1997.
242. The Worldwide ETD Initiative: Joining the Networked Digital Library of Theses and Dissertations (NDLTD), invited presentation at Rutgers, The State University, New Brunswick, NJ, March 6, 1997
243. Networked Digital Library of Theses and Dissertations. Invited presentation at Clemson U., March 5, 1997 (w. J. Eaton)
244. Networked Digital Library of Theses and Dissertations. Invited presentation at U. Georgia, Athens, March 5, 1997 (w. J. Eaton)
245. Networked Digital Library of Theses and Dissertations. Invited presentation at U. Alabama, Tuscaloosa, March 4, 1997 (w. J. Eaton)
246. Networked Digital Library of Theses and Dissertations. Invited presentation at U. Alabama, Birmingham, March 4, 1997 (w. J. Eaton)
247. Networked Digital Library of Theses and Dissertations. Invited presentation at U. Tennessee, Knoxville, March 3, 1997 (w. J. Eaton)
248. Networked Digital Library of Theses and Dissertations. Informal presentation at San Jose State U., Feb. 28, 1997
249. Multimedia, Hypertext and Information Access. Panel presentation in session on "Defining Multimedia Courses within a Computer Science Education", ACM SIGCSE'97, San Jose, 2/27 - 3/1/97.
250. Digital Libraries: Theory, Educational Applications, and Use. Invited colloquium series talk for Dept. of Computer & Information Science, Ohio State Univ., Feb. 11, 1997.
251. Networked Digital Library of Theses and Dissertations. Invited presentation at Ohio State U., Feb. 10, 1997
252. Networked Digital Library of Theses and Dissertations. Invited presentation at Vanderbilt U., Jan. 17, 1997 (w. J. Eaton, G. McMillan)
253. National Digital Library of Theses and Dissertations. Invited presentation, AT&T Laboratories, Murray Hill, NJ, Dec. 27, 1996.
254. National Digital Library of Theses and Dissertations. Invited presentation and chairing of working group session on this topic, NSF/DARPA/NASA DLI (Digital Library Initiative) meeting, Dec. 16-17, 1996
255. Electronic Theses and Dissertations, project briefing at Coalition for Networked Information Fall Meeting, San Francisco, Dec. 6-7, 1996
256. The Future Role of Publishers in the New Educational Dynamic. Chaired plenary luncheon for Proc. Frontiers in Education - FIE'96, Salt Lake City, Utah, Nov. 7, 1996.
257. Interactive Learning with a Digital Library in Computer Science. Invited long presentation for NSF CISE EI PIs workshop at FIE'96, Salt Lake City, Utah, Nov. 5-8, 1996.
258. IR Curriculum: Information Engineering to Digital Libraries. Invited presentation for Drexel University hosted Workshop/Symposium sponsored by the W.K. Kellogg Foundation "Information Retrieval 2000 --- Workplace Needs and Curricular Implications", Marriott Hotel, Philadelphia PA, May 24, 1996.
259. Virginia Tech's Digital Library Project. Invited short presentation for IBM Digital Library Consortium Meeting, Case Western Reserve University, Cleveland, May 2, 1996.
260. Perspectives on Information Technology. Invited presentation for the executives of the Corporate Research Center, Blacksburg, VA, Dec. 21, 1995.
261. Digital Libraries and CS Education. Invited Colloquium, George Mason U., Nov. 13, 1995.
262. Education and Research with a Digital Library in Computer Science. Invited presentation for IBM Almaden Research Center, Nov. 3, 1995.
263. Education and Research with a Digital Library in Computer Science. Invited presentation for IBM Watson Research Lab, Oct. 27, 1995.
264. Electronic librarians, intelligent network agents, and information catalogues. Invited presentation for Reconnecting Science and Humanities in Digital Libraries, sponsored by the Univ. of Kentucky and the British Library, 19-21 October 1995, Lexington, KY.

265. Computer Science Technical Reports Library. Invited presentation for Unlocking University Information, sponsored by SURA/SOLINET, Atlanta, Sept. 6-7, 1995.
266. IR Education in CS. Invited presentation for Panel on Education for IR, ACM SIGIR'95, Seattle, WA, July 12, 1995.
267. IR is at the Heart of Digital Libraries and the Global Information Infrastructure. Invited presentation for A SMART Celebration, Cornell Univ., Ithaca, NY, April 22, 1995.
268. How the Blacksburg Electronic Village will Lead to Changes in Careers. Invited presentation for Golden Keys Society Conference, Virginia Tech, Blacksburg, VA, April 1, 1995.
269. Improving CS Education with Digital Libraries. Invited Colloquium for Dept. of Computer Science, SUNY Buffalo, Dec. 2, 1994.
270. Interactive Accessibility. Invited presentation at MCNC, Research Triangle Park, NC, October 30, 1994.
271. Requirements for Knowledge Workers and Education. Invited presentation for Digital Library Academy Workshop, sponsored by IBM Academy of Technology, Edith Macy Conference Center, Briarcliff Manor, NY, Sept. 12-13, 1994.
272. Digital Libraries. Norfolk State University Seminar, Norfolk, VA, March 28, 1994.
273. Components of the Informatics Discipline. Panel presentation for session on Education of the New Information Specialist, ACM CSC'94, ACM Computer Science Conference, Phoenix, AZ, March 8, 1994.
274. Electronic Publishing Experiments: Report on Digital Libraries and their Relationship to SIG Activities. Presentation for ACM SIG Chairs Meeting, Phoenix, AZ, March 6, 1994.
275. Background to Current Work on Digital Libraries. Invited presentation for Workshop on Intelligent Access to On-line Digital Libraries, in connection with IEEE CAIA '94, San Antonio, TX, March 1, 1994.
276. Electronic Theses and Dissertations. Invited presentation for Workshop: Innovative Uses of High-Tech in Graduate School Operations, CSGS'94, Conf. of Southern Graduate Schools, 23rd Annual Meeting, Clearwater Beach, FL, Feb. 18-21, 1994.
277. Digital Library Related Research. Seminar for Case Western Reserve University, Cleveland, OH, Dec. 21, 1993.
278. Interactive Learning with a Digital Library in Computer Science. Invited presentation, as part of this year's program on Applications of Computers in Instruction, for Virginia Tech Chapter of Sigma Xi, Nov. 30, 1993, Blacksburg, VA.
279. Worldwide Digital Libraries. Invited presentation for Virginia Tech Center for the Study of Science and Society, Nov. 18, 1993, Blacksburg, VA.
280. Research In Digital Libraries and Networked Multimedia Information Access. Invited presentation for panel on Academic Research Trends in Information Storage and Retrieval, sponsored by SIG/SRT and SIG/MGT, ASIS'93, October 25-29, 1993, Columbus, OH.
281. Improving the Undergraduate Experience through Research in Interactive Accessibility and Digital Libraries. Invited presentation for ACM Student Chapter, Virginia Tech, Blacksburg, VA, Sept. 29, 1993.
282. Networked Multimedia Information Retrieval. Invited presentation for IBM European Networking Center, Heidelberg, Germany, Sept. 16, 1993.
283. Blacksburg Electronic Village and the NREN. Coordinator and presenter in team representing the Blacksburg Electronic Village in briefing at National Science Foundation, Aug. 27, 1993, Washington, D.C.
284. Envision-ing a Computer Science Digital Library. Invited presentation and chair for panel on Digital Libraries of the Future, ACM Multimedia 93, Aug. 4-6, 1993, Anaheim, CA.
285. Technical Reports / Dissertations. Invited project presentation for Monticello Electronic Library meeting, sponsored by SURA, SURAnet, SOLINET, and NSF, July 29-30, 1993, Atlanta.
286. Electronic Dissertation Project. Presentation for Invited SIGIR Panel on Information Retrieval, and panel chair, ACH-ALLC93, Joint International Conference of the Association for Computers and the Humanities and the Association for Literary and Linguistic Computing, June 16-19, 1993, Georgetown Univ., Washington, D.C..

287. An Information Retrieval and Digital Library Perspective. Invited Presentation for Panel on Multimedia Databases, Joint Conf.: 1993 ACM SIGMOD International Conference on Management of Data and Twelfth ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS), Washington, D.C., May 25-28, 1993.
288. Envision, the Future. Invited presentation for Digital Libraries of the Future session, Online Publishing '93, Pittsburgh, PA, March 22-24, 1993.
289. Digital Multimedia Standards and Systems. Invited Lecturer for Multimedia and GIS Workshop, sponsored by the National Center for Geographic Information (CNIG) and GIS Europe, Inc., Feb. 24-26, 1993, Lisbon, Portugal
290. Personalized System of Instruction. Presentation and moderating panel on Individualized Instruction: Past, Present, and Future, for LRC Workshop, Virginia Tech, Blacksburg, VA, Feb. 4, 1993.
291. Electronic Libraries. Invited presentation for session on Impacts of Application Environments on Hyperbase Systems, NSF Hyperbases Workshop, Oct. 14-16, 1992, Washington.
292. Project Envision & Information Retrieval Invited presentation for NSF Workshop on Electronic Libraries, July 20-21, 1992, Washington, D.C.
293. Digital Technology and Standards for Multimedia. Invited seminar for Informatik-Kolloquium and HypEdu (Swiss Special Interest Group for Hypermedia and Educational Computing and Software Ergonomics) at ETH (Eidgenossische Technische Hochschule) Zurich, Swiss Federal Institute of Technology Zurich, June 26, 1992.
294. Constructing and Distributing Information Retrieval Databases. Invited presentation for "Databases for Research and Testing in Document Analysis and Information Retrieval" panel at Symposium on Document Analysis and Information Retrieval, March 16-18, 1992, Tropicana Hotel, Las Vegas, Nevada.
295. Developing Interactive Digital Multimedia Applications and Archives. Invited seminar for Graduate Center, CUNY, NY, Feb. 6, 1992. Approaches to Improving Information Access. Invited seminar for AT&T Bell Laboratories Murray Hill, NJ, Feb. 6, 1992.
296. Developing Interactive Digital Multimedia Applications and Archives. Invited presentation for Bell Communications Research, Morristown, NJ, Dec. 23, 1991.
297. Building an Archive of Computer Science Literature. Invited seminar for Department of Computer Science, The Ohio State University, Nov. 5, 1991.
298. Extended Boolean. Invited presentation for "Full Text: From Tutorial to Innovations, Part 2. Beyond Boolean" panel at ASIS '91, American Society for Information Science Annual Meeting, Oct. 28-30, 1991, Washington, D.C. Abstract on conf. proceedings p. 370.
299. New Developments in Information Retrieval Systems and Technology. Invited presentation as part of "The SMART Project in Automatic Document Retrieval" Panel Session at SIGIR '91, 14th Intern'l Conf. on R & D in Information Retrieval, October 13-16, 1991, Chicago.
300. Intelligent Information Retrieval. Invited presentation for Librarian Ex Machine 5.0 session sponsored by LITA, American Library Association 1991 Annual Conf., Atlanta, GA, July 2, 1991.
301. Multimedia Databases. Invited presentation for 1991 NCR Imaging/Multimedia TIES, June 25, 1991, Kitchener, Canada.
302. The Emergence of Digital Video in Interactive Computing Systems. Invited presentation for 1990 NCR Multimedia TIES, October 29-31, 1990, Atlanta, GA.
303. Interactive Digital Video. Invited presentation for Data Processing Management Association, New River Valley Chapter, Sept. 13, 1990, Blacksburg, VA.
304. DVI: A Tool for Tomorrow. Invited demonstration, presentation for Extension Technology Conference: Applied Technology, May 30 - June 2, 1990, Blacksburg, VA.
305. Electronic Publishing and Information Retrieval Research. Invited presentation for joint meeting of Southern and Central Ohio Chapters of ASIS, March 7, 1990, Dayton, OH.
306. Managing Large Data, Information, Knowledge Bases. Invited presentation for University-Wide Seminar on Engineering and Scientific Computing, sponsored by Dept. of Mathematics, Feb. 13, 1990, VPI&SU, Blacksburg, VA.

307. Interactive Digital Video -- Technology and Applications for the Next Generation of Multimedia Systems. Invited presentation for seminar of Dept. of Computer Science, Dec. 13, 1989, Miami University of Ohio, Oxford, Ohio.
308. Advances in Retrieval Software and Database Design. Invited Presentation for Information Industry Association Impact Seminar "The Second Generation of CD-ROM" on Nov. 13, 1989, New York City.
309. Intelligent Handling of Naval Intelligence Messages: The CODER System. Invited presentation for Seventh Intelligence Community Artificial Intelligence / Advanced Computing Symposium, 4-6 October, 1989, Reston, VA.
310. The Lexicon and Information Retrieval panel presentation for SIGIR '89, 12th Int'l Conf. on R&D in Information Retrieval, June 25 - 28, 1989, Cambridge, MA.
311. Development of the CODER Distributed System. Invited presentation for Computer Science Colloquium, University of Utah, March 30, 1989, Salt Lake City, Utah.
312. Expert-Based Retrieval: The CODER Prototype. Invited presentation for "Intelligent Access to Information" session at University of Utah health sciences INFOFAIR, March 30, 1989, Salt Lake City, Utah.
313. Electronic Publishing panel presentation, for ACM Conf. on Document Processing Systems, Dec. 5-9, 1988, Santa Fe, NM.
314. The State of the Art in Information Retrieval: Background for Hypertext. Invited presentation for "The Range and Power of Standards & the Desktop," sponsored by Graphic Communications Assoc. and National Assoc. of Desktop Publishers, Nov. 16-18, 1988, Boston, MA.
315. Experimental Information Retrieval. Invited presentation, Center for Medical Informatics Seminar Series, Nov. 3, 1988, Columbia Univ., NY.
316. Medium and Message: The Future of the Electronic Book. Invited presentation for panel at Univ. of Waterloo Centre for the New Oxford English Dictionary 4th Annual Conf., Information in Text, Oct. 27-28, 1988, Waterloo, Canada.
317. Interfaces for User Modeling. Invited presentation for "Interface Issues in Interactive Information Retrieval," SIG UOI / ACM SIGIR joint session, at 51st American Society for Information Science Annual Mtg., Oct. 23-27, 1988, Atlanta, GA.
318. Hypertext and Hypermedia are Aspects of Information Storage and Retrieval. Invited presentation for NCR sponsored Hypertext Workshop, Oct. 5-7, 1988, Atlanta, GA.
319. Relating Information Retrieval Research to CD-ROM. Invited presentation for "Advanced Information Handling" session, at CD-ROM Expo, Sept. 26-29, 1988, Chicago, IL.
320. The Emergence of CD-ROM: Image vs. Information Access. Invited presentation for Old Dominion Chapter AIIM, Sept. 13, 1988, Richmond VA.
321. Automatic Methods for Information Retrieval. Invited presentation for Annual Meeting of American Association of Law Libraries, June 26-28, 1988, Atlanta, GA.
322. Information Retrieval Models, Methods and Merits. Invited presentation for Microsoft's Third Int'l CD-ROM Conf., March 1-3, 1988, Seattle, WA.
323. Advances in Information Retrieval. First seminar for Lotus Development Corp. Information Retrieval Series, October 5, 1987, Cambridge, MA.
324. UNIX Today. Seminar for Lynchburg Chapter of Data Processing Man. Assoc. Computer Show, September 4, 1987, Lynchburg, VA.
325. Experimental Systems for Advanced Retrieval. Seminar at AT&T Bell Laboratories, July 15, 1987, Holmdel, NJ.
326. Experimental Systems for Advanced Retrieval: SMART and CODER. Seminar for the School of Information Studies, Syracuse University, April 28, 1987, Syracuse, NY.
327. Experimental Systems for Testing the Applicability of Advanced Retrieval Methods: Lessons Learned from SMART and CODER. Seminar for Grad. Library School, Univ. of Chicago, April 9, 1987, Chicago, IL.
328. Why UNIX: A Personal Perspective. Presentation for Roanoke Chapter of Data Processing Management Assoc., March 19, 1987, Roanoke, VA.
329. The CODER System: A Testbed for AI Methods in Information Retrieval. Seminar on "Applications of Artificial Intelligence and Expert Systems to Database Production and Information Retrieval" at NFAIS

- (National Federation of Abstracting and Information Services) 29th Annual Conference, March 1-4, 1987, Washington, D.C.
330. Why UNIX. Presentation for New River Valley PC Users Group, December 17, 1986, Blacksburg, VA.
 331. Effective Retrieval of Composite Documents. NSF Research Panel at American Society for Information Science 49th ASIS Annual Meeting, Sept. 28 - Oct. 2, 1986, Chicago, IL.
 332. Information Retrieval Research Opportunities. Presentation for Westinghouse Electric Corp. Technologies Enterprises, June 24, 1986, Monroeville PA.
 333. Overview of Information Retrieval Research. Presentation at AT&T Document Development Organization, March 24, 1986, Winston- Salem, NC.
 334. Research in Electronic Conferencing. Presentation for SIG/UIO Panel at American Society for Information Science 48th American Society for Information Science Annual Mtg., Oct. 20-24, 1985, Las Vegas, NE.
 335. Overview of Information Retrieval Research. Seminar at Bell Communications Research, Aug. 7, 1985, Morristown, NJ.
 336. Overview of Information Retrieval Research. Seminar at AT&T Bell Laboratories, Aug. 5, 1985, Murray Hill, NJ.
 337. Theory and Applications for Extended Information Retrieval. Seminar at AT&T Bell Laboratories, July 30, 1985, Holmdel, NJ.
 338. Composite Document Extended Retrieval: An Overview. Seminar at AT&T Bell Laboratories, July 23, 1985, Holmdel, NJ.
 339. UNIX in Education. In seminar on "UNIX, Micro Computers, And You," sponsored by Virginia Western Community College and Sperry Corp., May 16, 1985, Roanoke, VA.
 340. Improved Retrieval Using a Relational Thesaurus Expansion of Boolean Logic Queries. Presentation and paper for workshop on relational models of the lexicon, June 29, 1984, Stanford Univ., Palo Alto, CA.

TECHNICAL REPORTS, OTHER PUBLICATIONS:

1. Hamed Alhoori, Richard Furuta, Mohammed Samaka, Edward A. Fox. Anatomy of Scholarly Information Behavior Patterns in the Wake of Social Media. 23 Dec. 2016. CoRR arXiv:1612.07863 [cs.DL]. <https://www.arxiv.org/abs/1612.07863>
2. Zhang, Xuan; Qiao, Zhilei; Tang, Lijie; Fan, Patrick (Weiguo); Fox, Edward A.; Wang, Alan (Gang). Identifying Product Defects from User Complaints: A Probabilistic Defect Model. Virginia Tech Department of Computer Science Technical Report TR-16-01, 2016-03-02. <http://hdl.handle.net/10919/64902>
3. Kanan, Tarek; Ayoub, Souleiman; Saif, Eyad; Kanaan, Ghassan; Chandrasekarar, Prashant; Fox, Edward. Extracting Named Entities Using Named Entity Recognizer and Generating Topics Using Latent Dirichlet Allocation Algorithm for Arabic News Articles. Department of Computer Science Technical Report TR-15-2. Virginia Tech, Blacksburg VA. April 27, 2015. <http://hdl.handle.net/10919/51822>
4. Tarek Kanan and Edward A. Fox. Automated Arabic Text Classification with P-Stemmer, Machine Learning, and a Tailored News Article Taxonomy. Department of Computer Science Technical Report TR-15-1. Virginia Tech, Blacksburg VA. January 22, 2015. <http://hdl.handle.net/10919/51269>
5. S.M.Shamimul Hasan, Sandeep Gupta, Edward A. Fox, Keith Bisset, Madhav V. Marathe. Unified Digital Library and Data Access Framework For Heterogeneous and Federated Computational Epidemiology Datasets. NDSSL Technical Report, Network Dynamics and Simulation Science Laboratory Virginia Bioinformatics Institute, Virginia Tech, Blacksburg, VA. April 2, 2014.
6. Kavanaugh, Andrea, Yang, Seungwon, Sheetz, Steven, Li, Lin Tzy, Fox, Edward (2011) Between a Rock and a Cell Phone: Social Media Use during Mass Protests in Iran, Tunisia and Egypt. Technical Report TR-11-10, Computer Science, Virginia Tech. July 2011. <http://eprints.cs.vt.edu/archive/00001149/>
7. Kavanaugh, Andrea, Fox, Edward, Sheetz, Steven, Yang, Seungwon, Li, Lin Tzy, Whalen, Travis, Shoemaker, Donald, Nastev, Apostel, Xie, Lexing (2011) Social Media for Cities, Counties and

- Communities. Technical Report TR-11-09, Computer Science, Virginia Tech. July 2011.
<http://eprints.cs.vt.edu/archive/00001148/>
8. N. Short, A. L. Abbott, M. Hsiao, and E. Fox "A Bayesian Approach to Fingerprint Minutia Localization and Quality Assessment using Adaptable Templates," CESCA Technical Report, CESCA-2011-002, Bradley Dept. of Electrical and Computer Engineering, Virginia Tech, June 2, 2011.
http://www.cesca.centers.vt.edu/research/technical_report/TechReport_2011_002.pdf
 9. K. Hoyle, N. Short, M. S. Hsiao, and A. L. Abbott, E. A. Fox, "Minutiae + Friction Ridges = Triplet-Based Features for Determining Sufficiency in Fingerprints," CESCA Technical Report, CESCA-2011-001, Bradley Dept. of Electrical and Computer Engineering, Virginia Tech, June 2, 2011.
http://www.cesca.centers.vt.edu/research/technical_report/fingerprint_sufficiency.pdf
 10. Murthy, Uma, Li, Lin Tzy, Hallerman, Eric, Fox, Edward, Perez-Quinones, Manuel, Delcambre, Lois, Torres, Ricardo (2011) Use of Subimages in Fish Species Identification: A Qualitative Study. Technical Report TR-11-02, Computer Science, Virginia Tech. <http://eprints.cs.vt.edu/archive/00001142/>
 11. Kavanaugh, A., Fox, E., Sheetz, S., Shoemaker, D., Natsev, A., Xie, L. Social Media for Cities, Counties and Communities. Final Grant Report, submitted to Virginia Tech Center for Community Security and Resilience (CCSR), March 2011.
 12. Nadia P. Kozevitch, Edward Fox, and Ricardo da S. Torres. Analyzing Compound Object Technologies from the 5S Perspective. University of Campinas (UNICAMP) Instituto de Computacao, Technical Report IC-11-01, Brazil, Jan. 2011, 26 pages, <http://www.ic.unicamp.br/~reltech/2011/11-01.pdf>
 13. N. Short, A. L. Abbott, M. Hsiao, and E. Fox "Extraction of Hierarchical Extended Features in Fingerprint Images," CESCA Technical Report, CESCA-2010-001, Bradley Dept. of Electrical and Computer Engineering, Virginia Tech, November 12, 2010.
http://www.cesca.centers.vt.edu/research/technical_report/TechReport_2010_001.pdf
 14. Nadia P. Kozevitch, Sherley Codio, Jennifer A. Francois, Edward Fox, and Ricardo da S. Torres. Exploring CBIR concepts in the CTRnet Project. University of Campinas (UNICAMP) Instituto de Computacao, Technical Report IC-10-32, Brazil, November 2010, 20 pages,
<http://www.ic.unicamp.br/~reltech/2010/10-32.pdf>
 15. Murthy, U., Kozevitch, N. P., Leidig, J., Torres, R. da S., Yang, S., Goncalves, M., Delcambre, L., Archer, D., and Fox, E. A. Extending the 5S Framework of Digital Libraries to Support Complex Objects, Superimposed Information, and Content-Based Image Retrieval Services. Technical Report TR-10-05, Computer Science, Virginia Tech, April 2010, <http://eprints.cs.vt.edu/archive/00001114/>.
 16. Nadia P. Kozevitch, Ricardo da Silva Torres, Thiago Falcao, Evandro Ramos, Felipe Andrade, Silmara Marques Allegratti, Marlene Tiduko Ueta, Rubens Riscala Madi, Uma Murthy, Edward A. Fox, Yinlin Chen, and Eric Hallerman. Evaluation of a Tablet PC image annotation and retrieval tool in the parasitology domain. University of Campinas (UNICAMP) Instituto de Computacao, Technical Report IC-09-23, Brazil, July 2009, 16 pages, <http://www.ic.unicamp.br/~reltech/2009/09-23.pdf>
 17. Tripathi, Jyotirmaya. ETD Collection and Preservation from India. Independent Study Project Report. Computer Science, Virginia Tech, Blacksburg, VA, July 2008, <http://pubs.dlib.vt.edu:9090/193/>
 18. Volpe, James, McMillan, Gail and Fox, Edward A. Integration of VT ETD-db with Banner. Technical Report TR-08-04, Virginia Tech Department of Computer Science, Jan. 2008,
<http://eprints.cs.vt.edu/archive/00001018/>
 19. Andrews, Nicholas O. and Fox, Edward A. Recent Developments in Document Clustering. Technical Report TR-07-35, Virginia Tech Department of Computer Science, Oct. 2007,
<http://eprints.cs.vt.edu/archive/00001000/>
 20. Andrews, Nicholas O. and Fox, Edward A. Clustering for Data Reduction: A Divide and Conquer Approach. Technical Report TR-07-36, Virginia Tech Department of Computer Science, Oct. 2007,
<http://eprints.cs.vt.edu/archive/00000999/>
 21. Kim, Seonho, Fox, Edward A., Fan, Weiguang, North, Chris, Tatar, Deborah, and Torres, Ricardo da Silva. Design and Evaluation of Techniques to Utilize Implicit Rating Data in Complex Information Systems. Technical Report TR-07-20, Virginia Tech Department of Computer Science, May 2007,
<http://eprints.cs.vt.edu/archive/00000980/>

22. Pomerantz, Jeffrey, Oh, Sanghee, Wildemuth, Barbara M., Yang, Seungwon, and Fox, Edward A. (2007) Digital Library Education in Computer Science Programs. Technical Report TR-07-09, Virginia Tech Department of Computer Science, Feb. 2007, <http://eprints.cs.vt.edu/archive/00000945/>
23. Matthew Phillips, Edward A. Fox, and Fernando das Neves. Finding Computer Science Syllabi on the World Wide Web. Virginia Tech Dept. of Computer Science Technical Report TR-06-25, Oct. 2006, <http://eprints.cs.vt.edu/archive/00000930/>
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2. Abigail Bartolome, "Describing Trail Cultures through Studying Trail Stakeholders and Analyzing their Tweets", June 2018, MS thesis, Computer Science, <http://hdl.handle.net/10919/84528>
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