Dale Musser

Curriculum Vitae

Dale Musser has experience managing technological innovation, designing and developing products and services, and teaching generations of designers, software engineers, and computer scientists. His interests and expertise include iOS application design and development, web services development, machine learning, computational intelligence, data analytics, software architecture, software engineering, programming languages, UI design, human factors engineering, applications of technology to journalism, performance support systems, learning theory, instructional design, digital media production, spatial audio, game design and development, amateur radio, robotics, multicopters, and network-based information systems for education, entertainment, social exchange, information dissemination, collaboration, and information technology management.

EDUCATION

June 1992
GPA: 3.96

Doctor of Philosophy
Instructional Design and Technology
Department of Educational Policy and Leadership · The Ohio State University

Education, instructional systems design and evaluation, digital media software systems, database management systems, software architecture, software engineering, networks, tools for education, educational simulations, artificial intelligence, research methodology, and electrical engineering.

December 1989
GPA: 3.92

Master of Arts
Instructional Design and Technology
Department of Educational Policy and Leadership · The Ohio State University

Education, instructional systems design and evaluation, tools for education, educational simulations, artificial intelligence, research methodology, and electrical engineering.

May 1986
GPA: 4.00

Bachelor of Science in Education
Physics and Mathematics Education
Department of Education · Shippensburg University of Pennsylvania

Education, physics, mathematics, and educational software.

1982 – 1984
GPA: 3.75

Electrical Engineering
Department of Electrical Engineering
Pennsylvania State University

Digital and linear systems, physics, and mathematics.

EXPERIENCE

February 2020 – Present

Founder & Principal Engineer

Intelligence Builders

Founded February 2020 alongside professorship; transitioned to full-time August 2025.

Contact: dale@intelligencebuilders.com.

- Secured federal grant-subrecipient status and a development contract for Mission HydroSci, a U.S. Department of Education–funded, research-backed educational game.
- Technical lead for the ~20-person Mission HydroSci team spanning development, design, and art: directly managed five developers and set platform choice, technical direction, and tooling.
- Architected, built, and operate the Strata platform as sole engineer — StrataHub, StrataLog, StrataSave, and automated grading services — and manage all AWS deployment and operations.
- Ran Spring 2026 classroom pilot serving 765 students, 13 teachers, and 11 schools; pilot research found consistently strong student engagement and near-universal teacher intent to return. Scaling to 180–200 teachers and 9,000–10,000 students for Fall 2026.
- Shipped AI-powered learning analytics: LLM-generated performance statements and feedback that help teachers identify struggling students — cited by pilot teachers among the dashboard's most-valued features.
- Conducted the pilot's qualitative research using AI-assisted analysis (Claude Code): coded eight teacher interviews against a 71-code codebook spanning 15 category groups, and authored the pilot research report, executive brief, and Fall 2026 mixed-methods study plan.
- Designed and led a cross-service production migration de-identifying all student data.
- Created and maintain Waffle, an open-source Go web framework (44 composable packages) powering all company products.
- Education-technology consulting and product development focused on learning analytics, AI-supported teacher feedback, educational games, and research data infrastructure.

February 2008 – July 2025

Associate Teaching Professor, Computer Science/Information Technology

Electrical Engineering Computer Science Department (EECS)

College of Engineering · University of Missouri

- Selected nine times by graduating CS and IT seniors for the Computer Science Department Faculty Award; courses rated 4+/5 by students every semester.
- Alumni hired by Apple, Meta, and other leading technology companies.
- Courses taught: team-based iOS application design and development, software engineering, database systems, object-oriented programming and design, web application development, C#/.NET desktop application development, introduction to programming in Python, and senior capstone.
- Worked out a partnership with Ameren (Callaway Energy Center) that brought a fleet of Boston Dynamics Spot robots to the College of Engineering in summer 2021 for student research on autonomous nuclear-plant safety inspections — making MU one of the few universities offering undergraduates hands-on access to Spot.
- The program's Spot performed with Marching Mizzou at the October 2, 2021 televised halftime show — the first robot halftime performance at a college football game.
- Featured speaker, alongside researchers from the University of Virginia, CU Boulder, and TNO, on Boston Dynamics' Spot User Group: Academia & Research webinar on autonomous legged robots in academic and industry research.
- Research areas: mobile applications, health informatics, learning systems, learning spaces, programming languages, web applications, Internet technologies, social computing, digital media, and spatial audio.
- Taught online courses from San Francisco, CA. Transitioned to full-time founder in August 2025, continuing Mission HydroSci development under contract.

May 2016 – May 2018

Chief Technology Advisor

Reynolds Journalism Institute

School of Journalism · University of Missouri

- Guided the institute's understanding of AI applications in journalism; developed the Debate Analyzer, which used IBM Watson AI text analysis to analyze the 2016 presidential debates — featured in a television interview.
- Designed and built an iOS app for 14ymedio, Cuba's independent digital news outlet, enabling readers to share news peer-to-peer despite restricted Internet access.

February 2008 – December 2015

Director of Information Technology Program

Computer Science Department

College of Engineering · University of Missouri

- Took over management of the undergraduate information technology degree program as its founding AT&T grant expired.
- Grew enrollment 4.6× — from 70 students to 320 students.
- Rebuilt annual funding 6.5× — from $200,000 to $1.3 million — through industry partnerships and agreements.
- Led improvements in curriculum and instructional delivery in CS and IT.

February 2007 – May 2009

Adjunct Assistant Professor
Health Management and Informatics
School of Medicine · University of Missouri

Engaged in research and development involving information systems to support patient counseling and education.

August 2006 – January 2008

Mathematics and Physics Teacher
Tarboro High School
Edgecombe County Public Schools, North Carolina

Taught calculus, pre-calculus, advanced functions, and physics.

Implemented learning technologies for mathematics and science education.

Founded and advised the robotics club.

June 2003 – July 2003

Instructor — Developing Multimedia Mobile Applications
Växjö universitetet, Växjö, Sweden (now Linnaeus University)

Taught project-based course in the design and development of multimedia mobile applications.

April 2003 – February 2008

Owner of Eyebits Studios
Greensboro, NC / Tarboro, NC

Web application design, development, and hosting; digital media production, graphic design, photography, audio/video production, animation production, CD/DVD production, networking, and wireless Internet installation.

June 2002 – July 2002

Instructor — Digital Game and Learning Environment Development
Växjö universitetet, Växjö, Sweden (now Linnaeus University)

Taught project-based course in the design and development of digital games for learning environments.

April 2001 – May 2004

Assistant Professor, Network Learning Systems
School of Information Science and Learning Technologies
College of Education · University of Missouri

Taught courses in the School of Information Science and Learning Technologies.

Directed research and development projects in the Center for Technology Innovations in Education which I co-founded.

Participated in the creation and operation of the technology infrastructure for the College of Education.

Provided consultation to units outside of COE regarding computing, instructional technology, and software development.

January 2000 – May 2000

Director of Systems and Applications
Information & Access Technology Services
University of Missouri

Managed the following teams: unix systems, Exchange e-mail, Netware, WebCT/online course management systems, security, and application development.

December 1999 – May 2000

Director of Advanced Computing Environments
Information & Access Technology Services
University of Missouri

Managed the following groups: Advanced Technology Center, Emerging Technologies Group, and Research Support Computing.

September 1999 – May 2002

Instructor
Department of Computer Engineering & Computer Science
College of Engineering · University of Missouri

Taught course in digital media and Internet software development.

1995 – 1999

Co-Founder and Co-Director
Center for Technology Innovations in Education (CTIE)
University of Missouri

Implemented one of the first college-wide student laptop programs in the nation (Apple PowerBook), deploying laptops to 1,500 College of Education students; used by Apple as a model for other institutions and covered in The Wall Street Journal.

Technical director for the center's grant-funded research and development projects — NSF, U.S. Department of Education, SBC Foundation, and others — totaling more than $6 million and supporting a team of more than 20 developers.

Directed day-to-day operation of CTIE: budgets, personnel, technology, facilities, and mission.

Directed $500,000 renovation of CTIE facilities.

Directed research and development projects.

Managed Internet/server services for the College of Education.

Obtained funding for research and development projects and general operation of CTIE.

1994 – 2001

Research Assistant Professor
School of Information Science and Learning Technologies
College of Education · University of Missouri

Taught courses in the School of Information Science and Learning Technologies.

Participated in creation and operation of technology infrastructure for the College of Education.

Provided consultation to units outside of COE regarding computing, instructional technology, and software development.

1995

Manager of Multimedia Educational Software Products
IBM K-12 · Atlanta, GA

Managed the design and development of multimedia educational software products; project-managed a ten-person team delivering a series of educational K-12 titles.

Managed creation of "look and feel" standards for IBM K-12 products.

Reviewed third party products acquired for distribution by IBM K-12.

1994

Multimedia Software Title Director and Designer
IBM K-12 · Atlanta, GA

- Designed and directed an eight-person team developing "Magic Canvas!", shipped standalone and bundled with OS/2.
- Participated in development of the "Shadowboxes: A Story of the ABC's" CD-ROM for Windows.
- Created and managed the IBM Educational Software Summer Design Project.

1993

Software Developer
SEGA of America · Redwood City, CA

- While working for IBM I spent three months at SEGA developing SEGALink, an interpreted programming language, and video player software for the SEGA CD game platform — demonstrating authoring-tool development against the era's assembly/C workflows.

1993 – 1994

Programming and Technology Services Team Leader
IBM EduQuest · Atlanta, GA

- Programming and Technology Services team leader within the multimedia titles development group.
- Created tools for DOS, Windows, and Macintosh multimedia development.
- Selected commercial tools for software development.
- Provided problem resolution expertise during multimedia title development.
- Acquired and managed hardware and software for development group.
- Established and managed network services.
- Designed multimedia title concepts and evaluated multimedia title designs.

1990 – 1992

Education Instruction Specialist
IBM EduQuest · Atlanta, GA

- Developed a network-based multimedia database management system.
- Developed a system for accessing analog video from videodiscs over a digital network.
- Developed a Novell-based network voice mail system.
- Co-developed the second generation of the Digital Video Interactive (DVI) Audio/Video Kernel (AVK) for DOS.
- Developed prototype and demonstration multimedia technologies.

1991

Consultant and Multimedia Software Developer
BellSouth Mobility · Atlanta, GA

- Developed a touch-screen multimedia marketing application for cellular phone services and products.

1990 – 1991

Graduate Research Associate
Department of Educational Policy and Leadership · The Ohio State University

- Installed and managed the IBM-ICLAS/Novell LAN for the Instructional Design and Technology group.

1989 – 1990

Editor, PILOT SIG Newsletter
Association for the Development of Computer-Based Instructional Systems (ADCIS)

Edited the newsletter for the PILOT programming language special interest group in ADCIS.

1989

OSU Contingent Expedition Leader to Krakatau
The Ohio State University and Oxford University, England · Krakatau Islands, Indonesia

Led the Ohio State University contingent of the Oxford/OSU Expedition to the Krakatau Islands to study the recovery of the flora and fauna following the eruption of 1883.

Collected plant specimens for AIDS and cancer research for NIH.

1988 – 1990

Graduate Teaching Associate, Mathematics
Department of Mathematics · The Ohio State University

Recitation leader and instructor for undergraduate mathematics courses.

1986 – 1988

Physics and Electronics Teacher; Boys Track Coach
Hanover Public School District · Hanover, PA

Taught physics and electronics.

Coached boys track team.

Advised the photography club.

Directed the "Student Life" multimedia production.

1985 – 1986

Physics Tutor
Department of Physics · Shippensburg University of Pennsylvania

Physics tutor for Department of Physics.

June 1984 – August 1984

Software and Hardware Developer
Computer Based Undergraduate Physics Lab
Temple University · Philadelphia, PA

Developed digital interface for experimental apparatus and wrote instructional computer software for the undergraduate physics lab experiments.

INTERNATIONAL EXPERIENCE

June 2003 – July 2003

Växjö universitetet, Växjö, Sweden (now Linnaeus University)
Instructor for Developing Multimedia Mobile Applications.

July 2002

Berlin, Germany
Demonstration of Shadow netWorkspace to faculty from Institut für die Pädagogik der Naturwissenschaften, Kiel, Deutschland.

June 2002 – July 2002

Växjö universitetet, Växjö, Sweden (now Linnaeus University)
Instructor for Digital Game and Learning Environment Development.

June 2001 – July 2001

Goethe Institut, Munich, Germany
German language learning.

June 1995

Moscow, Russia
Received training in and flew L-39 and MiG-29 jet aircraft.

June 1989 – August 1989 **Krakatau and Java, Indonesia**
Oxford/OSU Expedition to the Krakatau Islands.

AWARDS

Spring 2019 **Computer Science Department Faculty Award**
Selected by graduating CS and IT seniors.

Fall 2018 **Computer Science Department Faculty Award**
Selected by graduating CS and IT seniors.

Spring 2017 **Computer Science Department Faculty Award**
Selected by graduating CS and IT seniors.

Fall 2016 **Computer Science Department Faculty Award**
Selected by graduating CS and IT seniors.

Spring 2016 **Computer Science Department Faculty Award**
Selected by graduating CS and IT seniors.

Spring 2015 **Computer Science Department Faculty Award**
Selected by graduating CS and IT seniors.

Fall 2012 **Computer Science Department Faculty Award**
Selected by graduating CS and IT seniors.

Spring 2011 **Computer Science Department Faculty Award**
Selected by graduating CS and IT seniors.

Spring 2010 **College of Engineering Faculty Fellowship**
Renewable/reviewable faculty fellowship awarded by the Dean of Engineering.

Fall 2010 **Computer Science Department Faculty Award**
Selected by graduating CS and IT seniors.

Spring 2009 **CS/IT Program Outreach Award**
Presented for the promotion of the computer science and information technology programs and the field of engineering to K-12 students.

Fall 2009 **Excellence in Teaching with Technology Award, Undergraduates**
MU 2009 Faculty Recognition Awards.

Fall 1998 **High Flyer Award**
Excellence in the Scholarship of Teaching · MU College of Education.

Summer 1998 **High Flyer Award**
Excellence in the Scholarship of Teaching · MU College of Education.

April 20, 1998 **Citation of Merit for Outstanding Achievement**
Excellence in Education Awards · MU Division of Student Affairs.

Academic Year 1997 – 1998 **High Flyer Award**
Excellence in the Scholarship of Teaching · MU College of Education.

Academic Year 1994 – 1995 **High Flyer Award**
Excellence in the Scholarship of Teaching · MU College of Education.

1987 **Sallie Mae Foundation First Year Teacher Award**
Physics Teacher, Hanover High School, Hanover, PA.

1982 **Eagle Scout**
Boy Scouts of America · Troop 172 · Terre Hill, PA.

LICENSES

FCC Amateur Radio License
Extra Class — Callsign W6NCA.

FUNDING

(Submitted, Pending) September 2019 – August 2021 **ImpacT**
$50,000 State Farm Good Neighbor Citizenship Grant for ImpacT. ImpacT helps students develop an understanding of the world, society, and self through authentic data in open datasets while learning IT topics such as programming, databases, web services, and data analytics.

September 2018 – August 2020 **inITialize**
$10,000 State Farm Good Neighbor Citizenship Grant for the inITialize program that helps high school students get started in a career in Information Technology by developing an understanding of the field and career opportunities, learning about the educational pathways that can lead to IT careers, and by allowing them to take their first college IT courses online from the University of Missouri BSIT program while still in high school.

June 2010 – June 2014 **Healthy Living Exhibits — Portable Kiosks Using iPad Tablets**
$60,000 from Missouri Extension to develop an exhibit on topics related to healthy living using iPad tablets. The project involved designing and writing the software, building kiosk stands, developing directional audio hardware, and building a mechanism for securing, transporting, and charging the kiosks.
Project leader and principal designer and developer.

May 2010 – August 2012 **Research Experiences for Undergraduates (NSF REU)**
National Science Foundation award of $340,000 for 3 years of summer REU experiences for undergraduate students. Undergraduate students come to MU in the summer where they engage with mentors on CS-related research projects.
Co-Principal Investigator with Wenjun Zeng (PI).

September 2007 – June 2009 **OAHelp**
Awarded $20,000 for the development, hosting, and management of a web-based system and interactive digital media to provide education, counseling, and support for people with osteoarthritis (OA) and to collect research data to evaluate the system, methodologies, and materials.
Principal designer and developer.

July 2005 – June 2009 **InSite**
Awarded $18,000 for the design and development of a web content management system that allows users to edit rich digital media content directly in a web browser.
Principal designer and developer.

September 2004 – Present

RAHelp
Awarded $22,500 for the development, hosting, and management of a web-based system and interactive digital media to provide education, counseling, and support for people with rheumatoid arthritis (RA) and to collect research data to evaluate the system, methodologies, and materials.
Principal designer and developer.

September 2003 – August 2004

Web-based Platform for Learning: Webmentoring
Awarded €21,240 (approx. $20,000) to create a web-based platform to support mentoring for the EU Consortium on Webmentoring.
Project leader, principal designer, and developer. In collaboration with Växjö universitetet, Växjö, Sweden (now Linnaeus University).

September 2001 – September 2002

Verizon Children's Literacy netWorkspace — Verizon Kids Read!
Awarded $90,000 by Verizon for building an Internet-based environment using the Shadow netWorkspace system to support literacy development for children.
Collaboration with James Laffey.

April 2001 – September 2002

Shadow netWorkspace eMINTS Project
Awarded $250,000 by MOREnet, UM System, and MU School of Information Science & Learning Technologies to develop the Shadow netWorkspace system and deploy it for use by eMINTS schools in Missouri.
Collaboration with James Laffey.

September 1999 – Ongoing

Networked Learning Systems
A collaborative proposal of the Colleges of Engineering and Education to the MOGAIA Institute. Award: $380,000 year 1, $320,000 year 2, $260,000 year 3 and beyond.
Contributing author.

April 1999 – June 2000

Information Environment for School Leadership Preparation
Awarded $78,100 by the Educational Leadership & Policy Analysis Department from funding for the Cooperative EdD program.
Principal investigator.

January 1998 – December 1999

A Very High-speed Backbone Network Service (vBNS) Connection for the University of Missouri
Awarded $350,000 by the National Science Foundation.
Contributing author. Gordon Springer was principal investigator.

October 1998 – April 1999

Information Environment for School Leadership Preparation
Awarded $20,000 plus benefits by a Goals 2000 grant.
Contributing author to Goals 2000 proposal with Jerry Valentine, principal investigator, IESLP.

November 1997 – August 2000

Technology Infrastructure in Teacher Education
Study of technology infrastructure in MU College of Education. Awarded $800,200 from the National Science Foundation, REPP.
Collaboration with Jim Laffey, Peter Hall, and Peggy Placier.

October 1997 – June 2000

Supporting Educational Reform at the Jefferson School
Awarded $77,300 from the SBC Foundation.
Co-principal investigator and co-author with Jim Laffey.

September 1997 – August 2001

Program Support for the Center for Technology Innovations in Education
Awarded $500,000 from the SBC Foundation in a competitive submission.
Co-principal investigator and co-author with Jim Laffey.

September 1997 – September 1999

Information Environment for School Leadership Preparation
Awarded $150,000 by the Educational Leadership and Policy Analysis Department from funding for the Cooperative Ed.D. program.
Principal investigator.

July 1997 – June 1998

Information Environment for School Leadership Preparation
Awarded $45,000 from the University Council of Educational Administrators.
Principal investigator.

October 1996 – September 2001

Challenge Grant for Project Whistlestop — systemic reform effort
Awarded $1,900,000 from the U.S. Department of Education to a School/University/Library consortium in a competitive submission. The grant funded development of digital versions of materials in the Harry S. Truman Presidential Library.
Contributing author.

October 1995 – September 1998

Implementation Grant for the NIE MOST (Missouri Supporting Teachers)
Electronic support system to promote problem-based learning using a computational science model. Awarded $863,865 from NSF in a competitive submission.
Co-principal investigator and co-author with Jim Laffey.

June 1995 – May 1996

Performance Support of Field-Based Learning — Interactive Shared Journal System
Awarded $100,000 from the Institute for Instructional Development in a competitive submission.
Co-principal investigator and co-author with Jim Laffey.

May 1995 – May 1996

Investigation of Internet Applications and Protocols and Using the Internet to Support Collaboration
Research Experiences for Undergraduates (REU) Program. Awarded $10,000 from the National Science Foundation as supplement to the MORENET grant for NSF Connections to NSF Net.
Principal author, co-investigator, and manager of REU program. Bill Mitchell from MORENET served as principal investigator.

February 1995 – May 1995

The Guide to Project-Based Learning in Math and Science
Awarded $25,000 by Oracle Corporation in a competitive submission.
Co-principal investigator and co-author with Jim Laffey.

REFEREED JOURNAL ARTICLES

Shigaki, C., Smarr, K., Chokkalingham, S., Ge, B., Musser, D., Johnson, R. (Oct 2013). "RAHelp.org: An Online Intervention for Individuals with Rheumatoid Arthritis." *Arthritis Care & Research*. [Pub link]

Smarr, K. L., Musser, D. R., Shigaki, C. L., Johnson, R., Donovan Hanson, K., Siva, C. (March 2011). "Online Self-Management in Rheumatoid Arthritis: A Patient-Centered Model Application." *Telemedicine and e-Health*. 17(2): 104–110. [Pub link]

Shigaki, C. L., Smarr, K. L., Yang, G., Donovan-Hanson, K., Siva, C., Johnson, R. A., Ge, B., Musser, D. R. (Dec 2008). "Social interactions in an online self-management program for rheumatoid arthritis." *Chronic Illness*. 4(4), 239–46. [Pub link · NIH]

Laffey, J., Musser, D. (2006). "Shadow netWorkspace: an open source intranet for learning communities." *Canadian Journal of Learning Technology*. 32(1), 163–176. [Pub link]

Laffey, J., Musser, D., Remidez, H., Gottdenker, J. (2003). "Networked systems for schools that learn." *Communications of the Association for Computing Machinery*. 46(9), 192–200. [Pub link]

Mayer, C., Musser, D., Remidez, H. (2001). "Description of a Web-Driven, Problem-Based Learning Environment and Study of the Efficacy of Implementation in Educational Leader Preparation." *Computers in the Schools*. 18(1), 249–265. [Pub link · ERIC]

Remidez, H., Laffey, J., Musser, D. (2001). "Open Source and the Diffusion of Teacher Education Software." *Technology and Teacher Education Annual*. 3, 2774–2778.

Laffey, J., Musser, D. (1998). "Attitudes of Preservice Teachers about Using Technology in Teaching." *Journal of Technology and Teacher Education*. 6(4), 223–242. [Pub link]

Laffey, J., Musser, D. (1998). "Software and Learning Systems Design for Field-Based Experience." *Journal of Technology and Teacher Education*. 6(2/3), 193–204. [ERIC]

Laffey, J., Musser, D., Tupper, T. (1998). "An Internet-based Journal System for Enabling Learning Communities." *Learning Technology Review*. 2, Winter. 4–13. [ERIC]

Laffey, J., Musser, D., Tupper, T. (1998). "A Computer-Mediated Support System for Project Based Learning." *Educational Technology Research and Development*. 46(1), 73–86. [Pub link]

REFEREED ABSTRACTS

Smarr, K. L., Musser, D. R., Donovan Hanson, K., Laffey, J. M., Johnson, R. A., Siva, C., Parker, J. C. (2005). "Development of an online self-management intervention for persons with rheumatoid arthritis: The RAHelp.org project [Abstract]." *Arthritis and Rheumatism*. 52(9), S718.

Musser, D., Laffey, J., Espinosa, L. (2004). "Shadow netWorkspace: A Project Report on an Open Source, Intranet for Learning Communities." In L. Cantoni & C. McLoughlin (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2004*. pp. 1206–1213. Chesapeake, VA: AACE.

Remidez, H., Gottdenker, J., Laffey, J., Musser, D., Hong, R., Espinosa, L., Amelung, C. (2002). "Networked Learning Systems." *Proceedings of CSCL*. pp. 550–551. Boulder, CO. Lawrence Erlbaum Associates.

Remidez, H., Gottdenker, J., Laffey, J., Musser, D., Hong, R., Espinosa, L., Amelung, C. (2002). "Developing a Shared Language for Discussing Networked Learning Systems." *Proceedings of CSCL*. pp. 697–698. Boulder, CO. Lawrence Erlbaum Associates.

Laffey, J., Musser, D., Espinosa, L., Remidez, H., Gottdenker, J., Hong, R., Amelung, C. (2002). "CSCL for Schools that Learn." *Proceedings of CSCL*. pp. 111–118. Boulder, CO. Lawrence Erlbaum Associates.

Gottdenker, J., Remidez, H., Hong, R., Yoon, S-Y., Amelung, C., Musser, D., Laffey, J. M. (2002). "Introduction to the Shadow netWorkspace." *Proceedings of CSCL*. pp. 527–528. Boulder, CO. Lawrence Erlbaum Associates.

Musser, D., Laffey, J. (2001). "The Shadow netWorkspace." In C. Montgomerie & J. Viteli (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2001*. pp. 1376–1377. Chesapeake, VA: AACE.

Laffey, J., Musser, D., Espinosa, L. (2000). "Shadow netWorkspace Learning Systems Project." *Proceedings of the International Workshop on Advanced Learning Technologies*. Palmerston North, New Zealand. IEEE Computer Society. 188–189.

Laffey, J., Musser, D., Tupper, T. (1998). "An Internet-based Journal for Professional Development." *Proceedings of AACE World Conference of SITE*.

Laffey, J., Musser, D., Wedman, J. (1998). "A Technology Infrastructure for Teacher Education." *Proceedings of AACE World Conference of SITE*.

Laffey, J., Musser, D. (1996). "Building Internet-based electronic performance support for teaching and learning." *Proceedings of AACE World Conference of the Web Society*.

Laffey, J., Musser, D. (1996). "Supporting Learning from Field Experience in Teacher Education." *Proceedings of AACE World Conference on Educational Multimedia and Hypermedia*.

Hall, K., Musser, D., Lear, G. (1989). "Tools for Developing CBI Research Treatments and Gathering Data." *Proceedings of the 31st International ADCIS Conference*. 261–266.

BOOK CHAPTERS

Musser, D., Laffey, J., Lawrence, B. (2000). "Center for Technology Innovations in Education, University of Missouri-Columbia." In R. M. Branch & M. A. Fitzgerald (Eds.), *Educational Media and Technology Yearbook 2000, Volume 25*. pp. 89–95. ERIC Clearinghouse on Information & Technology / AECT. Libraries Unlimited, Inc., Englewood, CO.

MONOGRAPHS

Musser, D., Bush, M. (1990). "Plant Sampling for AIDS and Cancer Research." In R. J. Whittaker, N. M. Asquith, M. B. Bush, & T. Patomihardjo (Eds.), *Krakatau Research Project: 1989 Expedition Report*. p. 56. Krakatau Research Project, School of Geography, University of Oxford. [SIRIS]

OTHER PROFESSIONAL PUBLICATIONS

Wedman, J., Laffey, J., Andrews, R., Musser, D., Diggs, L., Diel, L. (Sept/Oct 1998). "Building Technology Infrastructure and Enterprises: Increasing Performance Capacity." *Educational Technology Magazine*.

REFEREED PAPERS AND PRESENTATIONS

Smarr, K. L., Johnson, R. A., Laffey, J. M., Musser, D. R., Siva, C., Donovan Hanson, K., Parker, J. C. (2006, April). "Chronic disease management: an online patient-centered collaborative care approach." Second Annual Bridging the Quality Gap in Mid-America Conference, Columbia, MO.

Smarr, K. L., Musser, D. R., Donovan Hanson, K., Laffey, J. M., Johnson, R. A., Siva, C., Parker, J. C. (2005, November). "Development of an online self-management intervention for persons with rheumatoid arthritis: the RAHelp.org project." Fortieth Annual Meeting of the Association of Rheumatology Health Professionals, San Diego, CA.

Laffey, J. M., Smarr, K. L., Donovan Hanson, K., Musser, D. R., Johnson, R. A., Burks, K., Hong, R-Y., Kidd, J. K., Yang, C-C. (2005, June). "RAHelp.org: An online self-management program for adults with rheumatoid arthritis." Critical Issues in eHealth Research Conference, Bethesda, MD.

Donovan Hanson, K., Smarr, K. L., Musser, D. R., Laffey, J. M., Johnson, R., Burks, K., Hong, R-Y., Kidd, J. L., Yang, C-C. (2005, April). "RAHelp.org: Development of an innovative self-management program." Bridging the Quality Gap in Mid-America conference, Columbia, MO.

Musser, D. (2003, July). "Social Computing and Collaborative Learning Environments." ICALT. Athens, Greece.

Musser, D. (2002, November). "Shadow netWorkspace." ASCEND Network Conference. Växjö, Sweden.

Musser, D. (2002, October). "Internet2 Shadow netWorkspace Demonstration." Internet2 Fall Members Meeting. Los Angeles, CA.

Musser, D., Laffey, J., Remidez, H., Amelung, C., Gottdenker, J. (2002, April). "Shadow netWorkspace: Technology for Learning Community Implementation and Research." Annual Conference of the American Education Research Association, New Orleans, LA.

Musser, D., Peace, L. (2000, April). "Internet Schools." Annual Conference of the American Education Research Association, New Orleans, LA.

Mayer, C., Howland, J., Musser, D. (1999, October). "Information Environment for School Leadership Preparation: Web-Based Software for Preparing Reflective Educational Leaders." WebNet 99 World Conference, Honolulu, HI.

Musser, D., Laffey, J., Huyler, D., Laffey, M., Trujillo, J. (1999, October). "A Web-Based Homework Notification System." WebNet 99 World Conference, Honolulu, HI.

Musser, D., Laffey, J., Tupper, T. (1999, October). "A Web-Based Interactive Shared Journal System." WebNet 99 World Conference, Honolulu, HI.

Laffey, J., Espinosa, L., Musser, D. (1999, June). "Technology and Urban, Elementary School Reform." ED-MEDIA 1999 World Conference, Seattle, WA.

Laffey, J., Musser, D., Tupper, T. (1998, June). "A Technology Infrastructure for Enabling a Learning Community." AACE World Conference on Educational Multimedia and Hypermedia.

Laffey, J., Musser, D., Tupper, T. (1998, June). "An Internet-Based Journal System for Learning." AACE World Conference on Educational Multimedia and Hypermedia.

Laffey, J., Musser, D. (1998, February). "Building Internet-Based Electronic Performance Support for Teaching and Learning." Annual Conference of the AECT, St. Louis, MO.

Laffey, J., Tupper, T., Musser, D. (1998, February). "Performance Support for Learners in a Project-Based Curriculum." Annual Conference of the AECT, St. Louis, MO.

Tsikalas, K., McMillan, K., Schlager, M., Musser, D., Hewitt, J., Schank, P. (1997, November). "Online Collaboration: Tools for Teaching and Learning." TelEd 97, Austin, TX.

Laffey, J., Tupper, T., Musser, D. (1997, August). "Performance Support for Learners in a Project-Based Curriculum." International Conference of Human-Computer Interaction, San Francisco, CA.

Laffey, J., Musser, D. (1996, March). "Designing a Journal System for Learning from Field Experiences in Teacher Education." Society for Information Technology in Teacher Education Annual Conference. **Awarded best-of-conference paper in the instructional design category.**

Laffey, J., Musser, D. (1996). "A Journal System for Field Experience in Teacher Education." Demonstration at the Second International Conference on the Learning Sciences, Chicago.

Musser, D. (1995, February 10). "A Multimedia Database Management System for Educators, Students, and Developers." AECT '95 National Convention, Anaheim, CA.

Hall, K., Musser, D., Lear, G. (1989). "Tools for Developing CBI Research Treatments and Gathering Data." 31st International ADCIS Conference.

INVITED PRESENTATIONS AND WORKSHOPS

Musser, D. (2010, April). "Producing and Disseminating Digital Video Learning Materials." 2010 Teachnology! Conference, University of Missouri, Columbia, MO.

Musser, D. (2009, December). "New Media, Collaboration, Entrepreneurship and Knocking Down Silos." Economic Gardening & New Media, Reynolds Journalism Institute, University of Missouri, Columbia, MO.

Musser, D. (2009, November). "The IT Program, Collaboration and Entrepreneurship." Mizzou Corporate Roundtable, St Louis, MO.

Musser, D., McKean, M. (2009, November). "The IT Program, Journalism, and Collaboration." MU Research & Development Summit, Columbia, MO.

Musser, D. (2009, November). "The IT Program, Collaboration, and Entrepreneurship." MU College of Engineering Dean's Advisory Council, Columbia, MO.

Musser, D. (2009, August). "Producing Digital Video Learning Materials." PTAC Directors Meeting, Lake of the Ozarks, MO.

Musser, D., Thompson, J. (2008, June). "The MU Information Technology Program." Saint Louis IT Coalition Presentation Series, University of Missouri–Saint Louis, St. Louis, MO.

Musser, D. (2002, July). "Shadow netWorkspace." Institut für die Pädagogik der Naturwissenschaften, Kiel, Germany.

Musser, D. (2002, July). "Shadow netWorkspace." Växjö universitetet, Växjö, Sweden (now Linnaeus University).

Musser, D. (2000, April 7). "Innovative Internet Learning Environments and the Open Source Movement (Keynote)." Converging Technologies: Reaching Learners in the Digital Age. MOREnet Consortium Conference, Tan Tara, MO.

Musser, D., Jenkins, Y., Niguidula, D. (1992, October 31). "Digital Multimedia Portfolios and Student Assessment: Tools and Examples." The Fall Forum, Coalition of Essential Schools, Philadelphia, PA.

Musser, D., Stanton, B. (1992, October 28). "Multimedia Databases: The Electronic Library and Electronic Books." Databases in Schools '92, Chicago, IL.

STATE PRESENTATIONS AND WORKSHOPS

Musser, D. (2002, September 26). "Shadow netWorkspace." Ed.D. Missouri Statewide Coordinating Committee, University of Missouri, Columbia, MO.

Musser, D. (1999, March 19). "Course Delivery Via the Web: Lessons Learned." Teaching and Learning at a Distance. MOREnet Consortium Conference, Tan Tara, MO.

Musser, D., Guthrie, D. (1995, April 3). "Developing Multimedia Software (workshop)." Highways to Learning... Missouri Association of School Librarians (MASL), Tan Tara, MO.

Musser, D. (1994, October 24). "Technology Update for 'Low Tech'ers'." Trendicators for Administrators. Missouri Council of Vocational Administrators (MCVA), Tan Tara, MO.

Musser, D. (1994, October 3). "A Multimedia Database Management System for Use in K-12 Education." Missouri ED-TECH Fifth Annual Technology Conference, Tan Tara, MO.

Musser, D. (1994, October 3). "A System for Creating and Managing Digital Multimedia Student Portfolios." Missouri ED-TECH Fifth Annual Technology Conference, Tan Tara, MO.

LOCAL PRESENTATIONS

Musser, D. (2009, March 17). "Developing Windows Desktop Applications, XBAPs, and Silverlight RIAs Using WPF, XAML, .NET and C#." CS Department 2008–2009 Seminar Series, University of Missouri, Columbia, MO.

Musser, D. (2009, January 8). "HD Film Production Using the Canon 5D Mark II." Columbia Media Resource Association (CMRA), Ragtag Film, Columbia, MO.

Musser, D. (1996, July 29). "The Interactive Shared Journal System." UMC Medical Informatics Group, Columbia, MO.

Musser, D. (1995, April 5). "Multimedia Database Management Systems." UMC Medical Informatics Group, Columbia, MO.

Laffey, J., Musser, D., Wedman, J. (1995, March 3). "Performance Support for Teaching and Learning." UMC Fifth Annual Teaching Renewal, Columbia, MO.

CREATIVE WORKS

Musser, D. (2016). "Debate Analyzer." [Java Application and Web Site]. University of Missouri, Columbia, MO. [Television interview]

Musser, D. (2016). "14ymedio iOS Mobile App." [iOS app and web services]. University of Missouri, Columbia, MO.

Musser, D. (2012). "Seasonal and Simple." [iOS and Android Applications and Web Site]. University of Missouri, Columbia, MO.

Musser, D. (2012). "The Community Exhibit." [Web Application]. University of Missouri, Columbia, MO.

Musser, D. (2006–2010). "InSite." [Web Application]. Eyebits Studios, Greensboro, NC.

Musser, D. (2005). "Good Moves for EveryBody." [Video DVD]. University of Missouri, Columbia, MO.

Musser, D. (2004–present). "RAHelp." [Web Application]. University of Missouri, Columbia, MO. [ClinicalTrials.gov]

Musser, D. (2004–2007). "Robot Haven: a refuge for robots." [Web Site]. Eyebits Studios, Greensboro, NC.

Musser, D. (2003–present). "OSXPASS." [Computer Program]. Eyebits Studios, Greensboro, NC.

Musser, D. (2003–2004). "Webmentor." [Web Application]. Eyebits Studios, Greensboro, NC.

Musser, D. (2002–2003). "Verizon Children's Literacy netWorkspace: Verizon Kids Read!" [Web Application]. University of Missouri, Columbia, MO.

Musser, D., Laffey, J. & CTIE Development Team (1999–2003). "The Shadow netWorkspace (Internet Schools Project)." [Web Application]. University of Missouri, Columbia, MO.

Musser, D. (1998–2001). "Homework Notifier." [Web Application]. University of Missouri, Columbia, MO.

Musser, D. & CTIE Development Team (1997–2000). "Information Environment for School Leadership Preparation (IESLP)." [Web Application]. University of Missouri, Columbia, MO.

Musser, D., Guthrie, D. (1995). "Downlinks for Learning Session IV: Multimedia." [Video]. University of Missouri, Columbia, MO.

Musser, D., Laffey, J. & CTIE Development Team (1995–1998). "The Interactive Shared Journal System (ISJS)." [Computer Program]. University of Missouri, Columbia, MO.

Musser, D., Laffey, J. & CTIE Development Team (1995). "The Guide to Project-Based Learning in Math and Science." [Multimedia Software]. University of Missouri, Columbia, MO.

Musser, D., Perry, L., Perry, T. (1994). "The Trek: An Interactive Literature Adventure." [Computer Program Design]. IBM EduQuest, Atlanta, GA.

Musser, D. (Director and Designer) & IBM Corp. (1994). "Magic Canvas!" [Computer Program]. IBM EduQuest, Atlanta, GA.

Musser, D. (Programming and Technology Development) & IBM Corp. (1994). "Shadowboxes: A Story of the ABC's (for Windows)." [Computer Program]. IBM Multimedia Publishing Studio, Atlanta, GA.

Musser, D. (Programming and Technology Development) & IBM Corp. (1994). "Shadowboxes: A Story of the ABC's (for Macintosh)." [Computer Program]. IBM Multimedia Publishing Studio, Atlanta, GA.

Musser, D. (Programming and Technology Development), IBM Corp. & Warner New Media (1993). "Seven Days in August (for DOS)." [Computer Program]. IBM Multimedia Publishing Studio, Atlanta, GA.

Musser, D., Causey, J., Duke, B. (1993). "SEGA Digital Video and Animation System." [Computer Program]. IBM EduQuest, Atlanta, GA.

Musser, D., Kheriaty, L., Causey, J. (1993). "SEGALink." [Computer Language]. IBM EduQuest, Atlanta, GA.

Westwater, R., Musser, D. (1992). "Digital Video Interactive Audio/Video Kernel (AVK) for DOS / LinkWay Live! — release 2." [Computer Program]. IBM EduQuest, Atlanta, GA.

Musser, D. (1992). "Multimedia Archive Explorer (MAX)." [Computer Software System]. IBM EduQuest, Atlanta, GA.

Musser, D. (1992). "Automatic Folder Creator (AFC)." [Computer Program]. IBM EduQuest, Atlanta, GA.

Musser, D. (1991). "Network Voice Mail System for K-12 Schools." [Computer Software System]. IBM EduQuest, Atlanta, GA.

Musser, D. (1991). "BellSouth Mobility Cellular Phone Multimedia Kiosk." [Computer Program]. BellSouth Mobility / IBM, Atlanta, GA.

Musser, D. (1990). "National Educational Multimedia Archive (NEMA)." [Computer Software System]. IBM Educational Systems Division, Atlanta, GA.

Musser, D. (1989). "Textcad." [Computer Program]. The Ohio State University, Columbus, OH.

SERVICE

2018 – 2019

Member of Information Technology Program committee.
Worked with MU and Engineering Development to support campus funding and development efforts.
Maintained the Computer Science and Information Technology programs Facebook pages.
Maintained the Mizzou Amateur Radio Club Facebook page.
Trustee for Mizzou Amateur Radio Club station (W0ZOU).

2017 – 2018

Organizer for Mizzou Swift Developer meetings.
Organizer for Mizzou Java Developer meetings.
CS/IT mentor and organizer for Reynolds Journalism Institute competition.
Member of Computer Science Department curriculum committee.
Chair of Computer Science Department equipment committee.
Member of Computer Science Department Information Technology Program committee.
Produced materials for CS and IT for "Let Your Major Be Your Guide" published by Tigertech.
Worked with Columbia, MO economic development organizations.
Maintained CS/IT Facebook pages and trustee role for W0ZOU.

2016 – 2017

Organizer for Mizzou Swift Developer and Java Developer meetings.
CS/IT mentor and organizer for the Reynolds Journalism Institute Mobile Intelligence for Journalism competition.
Member of CS curriculum committee; chair of equipment committee; member of IT Program committee.
Member of Lafferre Hall renovation, digital media infrastructure, furniture, and space assignment committees.
Maintained CS/IT Facebook presence and W0ZOU trustee role.

2015 – 2016	Organizer for Mizzou Swift and Java Developer meetings. CS/IT mentor and organizer for Reynolds Journalism Institute Apple Watch competition. Director of Information Technology degree program (through December 31). Chair of CS equipment committee; member of CS curriculum committee and IT Program committee. Member of Lafferre Hall renovation / media / furniture / space assignment committees.
2014 – 2015	CS/IT mentor and organizer for Reynolds Journalism Institute Public Media Platform competition. Director of Information Technology degree program. Chair of CS equipment committee; chair of IT Program committee; member of CS curriculum committee. Member of Lafferre Hall renovation committee.
2013 – 2014	CS/IT mentor and organizer for Reynolds Journalism Institute Public Media Platform competition. Director of Information Technology degree program; manager of IT infrastructure for CS department. Chair of CS equipment and IT Program committees; member of CS curriculum committee. Maintained the CS/IT Macintosh lab in Engineering Building East and the AT&T Media Lab in Engineering Building West.
2012 – 2013	Director of Information Technology degree program; manager of CS department IT infrastructure. Chair of CS equipment and IT Program committees. Maintained CS/IT labs and marketing presence at MU events.
2011 – 2012	Director of Information Technology degree program. Manager of IT infrastructure for CS department. Chair of CS equipment and IT Program committees. Built and managed CS/IT labs; produced materials for prospective students. Created and managed Engineering Week exhibit.
2010 – 2011	Director of Information Technology degree program. Collaborated with Cerner and KC Metropolitan Community College on an IT workforce pipeline. Extended the MCC/Cerner partnership to two-year colleges across Missouri. Built digital video production and distribution studio in 105 EBW. Developed and maintained the web application for the MU iLife competition.

2009 – 2010	Secured proportional funding for the Information Technology Program. Built CS/IT Macintosh lab in C1212 Engineering Building East. Led the GoMizzou Project — developing iPhone and other mobile applications for the MU campus community. Managed numerous MU and Engineering Development, committee, and recruitment activities.
2008 – 2009	Director of Information Technology degree program. Arranged presentations by CNN and Turner Broadcasting. Developed and maintained MU iLife competition web application. Developing web site and web applications for MO Film Commission.
2006 – 2008	Tarboro High School technology infrastructure support. System administrator for PLATO at Tarboro High School. Advisor for THS Robotics Club. Member of THS school improvement team.
2002 – 2003	Program committee member for the Second IEEE International Workshop on Wireless and Mobile Technologies in Education (WMTE 2003). College of Education Shadow netWorkspace implementation and training. Development of ZONE and digital media courses. Chair of faculty search committee for Digital Media faculty position.
2001 – 2002	Development of web survey technology and implementation of phases 1–4 of the MU campus climate survey. Re-implementation of Planet Innovation Tools. CTIE space renovations; COE technology infrastructure development.
1999 – 2000	2000 CTIE Teacher Technology Innovation Award selection committee member. International Program Committee for IASTED conferences.
1998 – 1999	International program committee for the IASTED International Conference on Computers and Advanced Technology in Education (CATE'99). Co-Director, Center for Technology Innovations in Education. 1999 CTIE Teacher Technology Innovation Award selection committee member.
1997 – 1998	Co-Director, Center for Technology Innovations in Education. Managed CTIE operations. Committee member of the MU computer policy and strategy committee. Managed Internet and server services for MU College of Education.

1996 – 1997

Co-Director, Center for Technology Innovations in Education.
Managed and designed renovation of CTIE space in London Hall.
Developed, implemented, and managed the COE mobile laptop computer laboratory.
Wrote and co-wrote position and vision statements for the COE Dean's office.
Represented CTIE and COE technology infrastructure at ASUM Lobby Day in the Missouri State Capitol.