

Susan Reiser

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PROFESSIONAL EMPLOYMENT

Lecturer: Computer Science, New Media, and Engineering **August 1994 - Present**
University of North Carolina at Asheville, Asheville, NC

Administrative positions:

Associate Dean of Natural Sciences	July 2014 - Present
Assistant Dean of Natural Sciences	July 2013 – June 2014
Interim Director of New Media	Fall 2008
Associate Director of New Media	July 2004 – June 2013
Assistant Director of Multimedia Arts + Sciences	July 2002 – June 2004

Independent Contractor **1991 - July 1995**

Provided custom programming services. Developed and taught courses in the Boston area: e.g.,
UNIX Commands and Utilities, Performance and Tuning for DEC OSF/1 Networking (TCP/IP), C
Programming

Principal Engineer **1988 - 1991 & 1984 - 1987**

Comten Inc., Greensboro, NC and Orange, NJ

Provided pre and post sales support for a data communications vendor of SNA networking software and hardware for several Fortune 50 companies.

Senior Programmer **1987 - 1988 & 1980 - 1981**

Basic Arrhythmia Lab, Duke University Medical Center, Durham NC

Designed and implemented image processing and 3D visualization C applications for the large interdisciplinary electrophysiology laboratory.

Programmer Analyst

1981 - 1984

Advanced Systems Applications, Jacksonville, Florida.

IBM assembly language programmer. Programmed and wrote program and system specifications. Served as team leader on a year-long project while also writing programs.

COURSES REVISED AND TAUGHT (this semester's courses are in bold)

C Programming (Computer Science)

Introduction to Data Structures (CS2 in various flavors: C, C++, Processing, Arduino, and Java)

Systems Analysis and Design (Computer Science)

Graphical User Interfaces (Computer Science)

Senior Project (Computer Science capstone)

Systems Management (Computer Science)

Introduction to Computing and New Media (CS0)

Senior Design (co-taught, Engineering capstone)

COURSES DEVELOPED AND TAUGHT (this semester's course is in bold)

3D Modeling and the Internet (CS0, New Media)

Advanced Computer Animation (Maya, Computer Science and New Media)

Audio Programming (Computer Science and New Media)

ActionScript 3.0 Programming (Computer Science and New Media)

CGI Scripting (Computer Science)

Computer Graphics with OpenGL (Computer Science)

Creative Fabrication (CS0, co-developed, Computer Science and Engineering)

Digits in Motion (New Media)

Electronic Origami (CS0, co-developed, Computer Science)

Engineering Design and 3D Modeling (CS0, Computer Science)

Human Computer Interaction (Computer Science)

Image Processing (Computer Science)

Intermediate Computer Animation (Computer Science and New Media)

Introduction to Authoring (New Media)

Introduction to Hypertext and Networking (CS0, Computer Science)

Intermediate Interactive Design (New Media)

Multimedia Technology (Computer Science)

Principles of Hypertext (CS0, Computer Science)

Programming for Animators (Python, Computer Science and New Media)
Processing (CS1 co-developed, Computer Science)
Radio Frequency Identification (co-developed, Computer Science)
Robotics and the Internet (CS0, co-developed, Computer Science and Engineering)
Scientific Visualization (Computer Science)
Systems Integration (Computer Science)
Using the Internet (CS0, co-developed Computer Science)
XP Programming (co-developed, Computer Science)

PUBLICATIONS AND PRESENTATIONS

Reiser, S., Bruce, R., Martin, J., Skidmore, B. (2016). Making: An Interdisciplinary Assistive Technology Project, 2016 Proceedings of ACM SIGGRAPH, Anaheim, CA, July 24-28, 2016. 2 page paper and talk.

Cays, J., Littell-Herrick, D, Knochel, A, Reiser, S., Walker, K. Panel: Educator Forum - Maker Movement Meets Formal Education, SIGGRAPH 2016 Educators Forum, Anaheim, CA, July 24-28, 2016.

Reiser, S. and deLaski, K. (2016) Teaching STEM with Design Thinking (Presentation), 2016 SENCER Summer Institute, Chicago, IL, July 29, 2016.

Reiser, S. (2016). The Science Behind Digital Design (Presentation), 2016 SENCER Summer Institute, Chicago, IL, July 31, 2016.

Martinez, A., Ruffin, T. Reiser, S. (2016). GEARing UP with SENCER in K-12 (Presentation), 2016 SENCER Summer Institute, Chicago, IL, July 31, 2016.

Reiser, S. and Bruce, R. (2016). Making: A Community in the Arts Community. In Proceedings of Envisioning the Future of Undergraduate STEM Education (EnFUSE) Symposium (sponsored by AAAS and NSF), Washington DC, April 27-29, 2016.

Bruce, R. and Reiser, S. (2016). Projects by Design: A Template. 2016 Proceedings of IEEE Southeastcon, Norfolk, VA, Mar 31-Apr 2, 2016. 5 pages.

Reiser, S. and Bruce, R. (2016). Computing in the Arts: Multidisciplinary I (NSF project showcase). In Proceedings of the 47th SIGCSE Technical Symposium on Computer Science Education. Memphis, Tennessee, March 2-5, 2016.

Starrett, C. (Reiser, S. collaborator). (2016). *Clever on Sunday*. In "Made for You: New Directions in Contemporary Design", Jennifer Scanlan (curator), Samuel Dorsky Museum of Art, SUNY New Paltz, (Feb. 6-July 10, 2016).

Bruce, R. and Reiser, S. (2015). Challenging Notions of Being Normal in the CS Classroom, Fall 2015.

Reiser, S. and Bruce, R. (2014). Cultivating Creativity (and Majors) with Computational Craft. 2014 Proceedings of IEEE Southeastcon, Lexington, KY, April 4-7, 2014. 2 pages.

Reiser, S. and Bruce, R. (2014). Electronic Origami MAKE Workshop and Building a Community of Computing in the Arts Educators Oral Session, THATCamp (The Humanities and Technology Camp, NY, NY, February 2014.

Burg, J., Reiser, S. and Kirby, W. (2013). Hot fusion: music, art, and computer science education. In Proceedings of the 18th ACM conference on Innovation and technology in computer science education (ITiCSE '13).

Burg, J. and Reiser, S. (2013). Computer science via digital sound and music: a hands-on introduction to open source tools and new curriculum material to introduce computer science concepts. In Proceeding of the 44th ACM technical symposium on Computer science education (SIGCSE '13). ACM, New York, NY, USA.

Bruce, R., Brock, D., & Reiser, S. (2013). *Teaching Programming Using Embedded Systems*, 2013 Proceedings of IEEE Southeastcon, Jacksonville, FL, April 4-7, 2013. 6 pages (proceedings published in PDF on CD-ROM).

Reiser, S., Electronic Origami Workshop, Origami USA, New York, NY, June 2012.

Brock, J., Bruce, R., & Reiser, S., Electronic Origami Workshop, IEEE SoutheastCon, Orlando, FL, March 2012.

Bruce, R., & Reiser, S., (2010). Take Chances Make Mistakes & Get Dirty. A technical paper presentation at IEEE SouthEastCon 2010. Charlotte-Concord, NC, March 18-21, 2010.

Brock, J., Bruce, R., & Reiser, S., (2009). Using Arduino for Introductory Programming Courses. A Tutorial in the Proceedings of the Twenty-Third Annual Southeastern Conference of the Consortium for Computing Sciences in Colleges (CCSC 2009), Salem, VA, Nov 13-14, 2009.

Reiser, S., and Bruce, R. (2009). Fabrication: A Tangible Link Between Computer Science and Creativity, Proceedings of the 40th ACM Technical Symposium on Computer Science Education (SIGCSE 2009), Chattanooga, TN, March 4-7, 2009, pp. 382-386.

Reiser, S. L., and Bruce, R. F., Service Learning Meets Mobile Computing, ACM Southeast Regional Conference 2008: 344-350.

Reiser, S. L., and Bruce, R. F., Making Computer Science Relevant: A Yearlong Service Learning Project Spanning Three Courses in the Computer Science Curriculum, Poster, 39th SIGCSE technical symposium on Computer science education, March 2008.

Bruce, R. F., and Reiser, S. L., Aligning Learning Objectives with Service-Learning Outcomes in a Mobile Computing Application, ACM Southeast Regional Conference 2006: 590-595.

Reiser, S. L. and Bruce, R. F., Robots in the Middle School: A Service Learning Project in an Introductory General Education Science Course, Poster, 2005 Invitational Conference on K-12 Outreach from University Science Departments, Research Triangle Park NC, April 2005.

Bruce, R. F. and Reiser, S. L., Introduction to Technology for General Education, Proceedings of the 43rd ACM Southeast Conference, Kennesaw GA, March 2005.

Reiser, S. L, Bruce, R. F. and Brock, J. D., CS0: Another Approach, Proceedings of the 35th SIGCSE Technical Symposium, Norfolk VA, March 2004.

Barnes, Bryant, McCracken & Reiser, Teaching Human-Computer Interaction: Reports from the Trenches, ACM SIGCSE Panel, Reno NV, February 2003.

Reiser, S. L., TCP/IP Networking, Lecture notes and exercises for a five-day course, 205 pages, 3DM Technologies, Framingham MA, 1995.

Reiser, S L., Common Desktop Environment, Lecture notes and exercises for a one half day course, 40 pages, Institute for Software Advancement, Framingham MA, 1995.

Brock, J. D. and Reiser, S. L., Unix Performance and Tuning, Lecture notes and exercises for a three-day course, 157 pages, 3DM Technologies, Hartford, CT, 1995.

Reiser, S. L. , A. S. L. Tang, N. D. Danieleley, R. E. Ideker, W. M. Smith, Comparison of Electrophysiologic Data Across Diverse Cardiac Geometries, I.E.E.E. Proceedings of the Computers in Cardiology Conference, September 1988. (I presented this as a plenary session).

Tang A. S. L., S.L. Reiser, P.D. Wolf, J.P. Daubert, R.E. Ideker, Gradient Shock Fields from Intracardiac Catheter and Cutaneous Patch, Circulation Research, Volume 78, 1988.

Ideker, R. E., W. M. Smith, S. M. Blanchard, S. L. Reiser, E. V. Simpson, P. D. Wolf, N. D. Danieleley, The Assumptions of Isochronal Cardiac Mapping, Pacing and Cardiac Electrophysiology, Volume 12, pages 456-478, 1989.

SENCER WORKSHOPS

Krumpe K., and Reiser, S. Introduction to SENCER and Designing a SENCER Class. Workshop at the University of North Georgia, Dahlonega (9/14/2016) and Gainesville (9/13/2016) campuses.

Katz, E. and Reiser, S. Introduction to SENCER and Designing a SENCER Class. Workshop at the University of Northern Kentucky (10/27/2015) sponsored by Kentucky Compact.

Martinez, A., Krumpe K., Ruffin, T. and Reiser, S. Introduction to SENCER and Designing a K-12 SENCER Class. 3/15/2016. Continuing education program for WNC K12 faculty. Workshop at UNC Asheville sponsored by NC GEARUP.

Katz, E., Krumpe K., and Reiser, S. Introduction to SENCER at the University of Georgia (8/4/2015).

EDUCATION

M.S. Computer Science, University of South Carolina **1986**
Image Processing and Computer Vision

B.S. Computer Science, Duke University **1981**
Concentration in Zoology

OTHER PROFESSIONAL ACTIVITIES

Co-Director, SENCER (Science Education of New Civic Engagements and Responsibilities) Center of Innovation South

Collaborative Co-Founder STEAM Studio

Board Member, Gulf South Summit

ACM SIGGRAPH and SIGCSE Member, SIGGRAPH Education Committee Member (through 2018)

Autodesk Faculty Fellow

Advisory Board Member, Asheville Buncombe Community College Business Technologies and Western Piedmont Community College Digital Effects and Animation

Reviewer for ACM SIGCSE, GSS, NCUR, UNC Asheville Journal of Undergraduate Research

GRANTS AND AWARDS

Computing in the Arts. A TUES grant funded by NSF-DUE. PI: Susan Reiser, Co-PI: Rebecca Bruce; part of a larger collaboration with College of Charleston and Wake Forest. Award: \$119,000.

Science Education for New Civic Engagements and Responsibilities, NSF Subaward, 2016.

Seeking STEM: Creating a Digital Scavenger Hunt. Funded by NC Science Festival Challenge Grant, Award: \$4000. Reiser, S., Whitlock, C. & Beck, J. 2015.

Seeking STEM: Creating a Digital Scavenger Hunt for Science and Math in Your World. Block Grant funded by UNC Asheville, Award: \$3000. Reiser, S., Whitlock, C. & Beck, J. 2014.

SIMVaC: Scientific Innovations in Numerical Modeling, Digital Visualization, and High Speed Connectivity in Western North Carolina, Funded by the University of North Carolina Initiative for Computational Science, Computer Science, High Performance Computing and Information Systems for \$600,000 over 2 years starting in 2004. PI: J. Stevens, co-PIs: R. Bruce, K. Moorhead, L. Dohse, A. Huang, D. Brock, J. Brownsmith, S. Reiser, G. Voos, M. Roden, P. Silvers, B. Etherton, L. Hodges, & D. Young.

Distinguished Teaching Award for Untenured Faculty 2007

OTHER TRAINING

UNC Asheville, Asheville NC, Art Classes: Drawing, 2D Design, 3D Design, Ceramics 1 and II

Asheville Buncombe Community College, Asheville NC, Assorted Machining and CNC classes

Autodesk Bootcamp, Boston MA, Fusion 360 Training

Shopbot Workshop, Durham NC, VCarve and Shopbot Training