

CAROL STROHECKER

EDUCATION

PhD Media Arts and Sciences, Massachusetts Institute of Technology, 1991

Epistemology & Learning group, Media Laboratory. Dissertation research concerned spatial and mathematical thinking, thinking with objects, and epistemological and psychological factors in learning about topology. *Advisor:* Seymour Papert. *Dissertation committee:* Seymour Papert, George Goethals (Harvard University), Edith Ackermann. *General examiners:* Seymour Papert, Jerome Wiesner / Philip Morrison, Edith Ackermann, Stephen Benton.

MS Visual Studies, Massachusetts Institute of Technology, 1986

Visible Language Workshop and Film/Video group, Media Laboratory. Thesis project involved creation of an interactive cinematic narrative supported by computer-controlled videodisc. *Advisor:* Richard Leacock. *Thesis committee:* Richard Leacock, Patrick Purcell, Glorianna Davenport.

BS Journalism, University of Maryland, College Park, 1977

Work/study included an internship followed by an editorial assistantship at the National Geographic Society. *Areas of concentration, minor focus:* botany, graphic design, studio art.

CONTINUING AND EXECUTIVE EDUCATION

Exploring Complexity in Social Systems and Economics, **Santa Fe Institute**, 2015
Tackling the Challenges of Big Data, **MIT Online X**, 2014 (audited)
Complex Systems Summer School, **Santa Fe Institute**, 2013
Exploring Complexity in Science and Technology, **Santa Fe Institute @ Stanford University**, 2012
Strategic Negotiations, **Harvard Business School**, 2005
Health and Human Rights, **Harvard Medical School**, 2001
Science and Mind/Body Medicine, **Harvard Medical School**, 2001
Humor, Optimism, and Cognitive Restructuring, **Harvard Medical School**, 2001
Introduction to Complex Systems, **New England Complex Systems Institute**, MIT, 2000
International Flaherty Film Seminar, **Vassar College**, 2000
The User's Guide to the Brain, **Harvard Medical School**, 2000
High-Performance Programming in Java, **Brown University**, 1999
Interactive Programming in Java, **MIT**, 1998
Topology in Biology, **Georgetown University**, 1998
Summer Workshop on DNA, **Rowland Institute at Harvard**, 1997
Topology of DNA, **University of Pennsylvania**, 1997
Virtual Reality, **VPL Research**, CA, 1993
Neuroscience: A Primer for the Clinician, **Harvard Medical School**, 1992
Neurology for the Non-Neurologist, **Harvard Medical School**, 1992
Various symposia, workshops, etc., **MIT Media Laboratory**, 1992-present

EMPLOYMENT

Rhode Island School of Design (RISD), Providence RI, USA, 2013-2016

Private design+art / liberal arts college with bachelor's and master's degrees in 16 majors, professional teaching and architecture degrees, and cooperative programs with Brown University

Vice Provost: Oversee cyclical academic program review. Cooperatively manage the Brown-RISD Dual Degree program. Advise research grant processes and economic development initiatives in collaboration

with faculty, staff, and private and governmental funders. Contribute to development of campus master plan, based on the institutional strategic plan. Work with faculty and staff to develop and enact policies and curricula. Manage processes related to students' academic standing, coordinating with student services and faculty advising. Chair and serve on administrative and faculty committees for operations and hiring. Assist management of \$65 million Academic Affairs budget within \$132 million institutional total.

2014-2016: Chair the academic program workgroup for NEASC and NASAD accreditation. Supervise the Nature Lab, including "STEM to STEAM" initiatives and an NSF Experimental Program to Stimulate Competitive Research (EPSCoR) grant. Oversee development of the Research Office, including external partners and grants and coordination with internal grants. Advise development of new courses and revenue-generating programs in conjunction with deans, faculty, staff, and Continuing Education.

2013-2014: Supervise the Nature Lab, Campus Exhibitions, Writing Center, Fleet Library with the Materials Resource Center collaborating with Harvard University, and Office of Global Partners and Programs including study abroad and the Rome-based European Honors Program. Inaugurate development of the Academic Commons consortium, including these resource areas plus the Assistant Dean of Faculty, Museum Education, Research, and Media Services.

Center for Design Innovation, Winston-Salem NC, USA, 2006-2013

A multi-campus research center of the University of North Carolina system

Inaugural Director: Led an effort to accelerate growth of the knowledge economy and creative industries in the state's Piedmont area, using technologies for imaging and advanced manufacturing to catalyze transformation of the region as a prominent locus of design and entrepreneurship. Key technologies included rapid prototyping and motion capture with associated data analysis and modeling, for application in the health care, education, communication, transportation, and entertainment sectors. Research pathways aimed to transform new knowledge to new workshops, courses, and academic programs; and new intellectual property to new products and services, companies, and jobs. Guided creation of a \$12.5 million, 23,000sf facility and supervised an additional \$4+ million for equipment, start-up operations, and grant-funded projects. Built staff, Advisory Board, and collaborative teams across bounds of disciplines, organizations, and economic sectors, bringing projects from ideation and implementation to realization in higher ed and business. Provided leadership on an NSF grant to form the SEAD network for transdisciplinary research and education in sciences, engineering, arts, and design, establishing UNC/CDI as a hub in the international milieu.

Community Leader: Involvements consistent with the center's outreach, workforce development, and technology transfer objectives included work with the local Chamber of Commerce Technology Council, regional Digital Arts Symposium and Creative Enterprises and the Arts Roundtable, statewide Emerging Initiatives Forum, and other initiatives related to arts, design, technology, and entrepreneurship.

Media Lab Europe, Dublin, Ireland, 2001-2005

The European research partner of the MIT Media Lab

Senior Scientist, Executive Team member: Contributed to start-up of the lab as its staff increased by a factor of 3 within 4 months. Worked with operations managers to establish systems for budgeting, hiring, facilities uses, and research evaluation and dissemination. Supported the lab's growth and operation to become an internationally known research center with staff up to 100 (full- and part-time) and budget ranging from €8 to €14 million. Helped assemble a multi-partner European Commission project involving complex budgeting and negotiating. Dialoged with colleagues at the MIT Media Lab and Media Lab Asia. Contributed to sponsor relations, press communications, meetings of the Board of Directors, and discussions with leaders such as European Commissioners, chiefs of Ireland's Higher Education Authority and Science Foundation Ireland (an equivalent to US NSF), the Taoiseach of Ireland, and the UK Education Secretary.

Principal Investigator, Everyday Learning research group: Led graduate-level researchers and visiting scholars in developing visions, prototypes, and implementations of interactive tools and environments for

constructive learning and for the study of human thinking, learning, and communicating. Focuses included sensor-equipped mobile devices, software-based simulations, and multimodal communication tools. Advocated in the national media for technology-supported learning. Led the program formation of a high-profile international symposium ("ICT in Education: Incremental Progress or Fundamental Change?"), as part of a conference associated with Ireland's hosting of the EU Presidency.

MERL - Mitsubishi Electric Research Laboratories, Cambridge MA, USA, 1991-2000

International R&D

Senior Research Scientist: Directed media technology projects involving multiple contributors with skills in computer programming and in audio, video, and graphic composition and production. Managed the internship program, conducted throughout the year and doubling the lab's size each summer. Initiated formulation of models for museum-based learning environments. Led creation of a genre of software construction kits supporting STEM learning and a Java framework for their implementation. Led design and development of a model for interactive narrative and knowledge management.

Research Scientist: Contributed to design and development of technology supports for online communities.

Sun Microsystems, Billerica MA, USA, 1990-1991

Human Interface Group

Multimedia / User Interface Designer: Specified software functions and interface layouts through print, video, and software media; conducted usability studies and incorporated results into design iterations.

MIT Media Laboratory, Cambridge MA, USA, 1987-1991

Epistemology & Learning Group

Research Associate: Dissertation research focused on development of spatial / mathematical thinking.

Research Assistant: Participated in studies of human learning with and about computers and interactive media; individual projects included a demo videodisc about human-powered flight (with MIT's Daedalus Project and Project Athena).

Early work in publishing involved increasing levels of responsibility:

1981-1984 *Director of Publications:* **The Walters Art Museum**, Baltimore MD

1978-1980 *Editor, Managing Editor:* The H. M. Rowe Company (educational publisher), Baltimore MD

1978 *Editor:* Iroquois Research Institute (archaeological research contractor), Fairfax VA

1977 *Intern, Editorial Assistant:* **National Geographic Society**, Washington DC

APPOINTMENTS

Gubernatorial Appointee, **Made in Rhode Island Manufacturing Collaborative**, 2013-2016

Affiliate Faculty / Research Professor, **Western Carolina University**, 2010

Chief Research Officer, **University of North Carolina School of the Arts**, 2008-2013

Faculty, **University of North Carolina School of the Arts**, 2006-2013

Professor, **Winston-Salem State University**, 2006-2013

Visiting Lecturer, **Dun Laoghaire Institute of Art, Design and Technology**, 2005-2006

Lecturer, Media Arts and Sciences program, **MIT Media Lab**, 2002-2004

Presidential Appointee, **MIT Corporation Visiting Committee**, Department of Architecture and Media Arts and Sciences, 1996-2001

Executive Fellow, **Graduate School of Design, Harvard University**, 1993-1994

Artist Foundation Fellow, New Genres, **Massachusetts Council for the Arts and Humanities**, 1987

Research Fellow, **US National Endowment for the Arts**, 1986

CONSULTING AND ADVISING

University of Washington, Bothell WA, USA, 2013

Workshop and discussions related to the Innovation Forum: Engaging Design.

Old Salem Museums and Gardens, Winston-Salem NC, USA, 2011

Recommended strategies for increasing attendance, broadening inclusion, and extending the reach of this living museum.

Piedmont Triad Partnership, Greensboro NC, USA, 2008-2010

Lead contributor to creation of the Triad Design Leadership professional development program for designers and business people interested in how “design thinking” can help to innovate products, services, and organizational processes.

Strohecker Associates, Dublin, Ireland and Cambridge MA, USA, 2005-2007

Advised the organizational start-up for StrataVarious data visualizations. Contributed with Seymour Papert to a proposed aspect of BBC's Digital Curriculum. Developed a design for intergenerational community-based learning, emphasizing physical skills and arts/STEM creativity with computational media. Selected to represent interests in educational technologies at the World Summit on the Information Society, Tunis (a collaboration of the United Nations and the International Telecommunication Union).

Washington University, St. Louis MO, USA, 2003

Advised on creation of an interdisciplinary center for studies in arts, design, and computational media.

Digital Childhood: A Research Agenda on Human Development & Technology, 2000

Sponsors included the National Science Foundation, The Markle Foundation, the American Psychological Association, the Center for Media Education, and the National Communication Association.

Advanced Technology Research Consortium, Tokyo, Japan, 1994

Corporations such as Mitsubishi Electric, Sony, and NEC saw educational media as part of a strategy to encourage collaboration through development of information and communication technologies.

Epistemology & Learning Group, MIT Media Laboratory, Cambridge MA, USA, 1987

Collaborated with a group led by Seymour Papert to produce printed and video facets of a proposal for a zoo's educational center, focusing on studies of motion supported by learners' creative uses of media.

Digital Techniques, Inc., Burlington MA, USA, 1987

Producer, *Play Away, Please!* interactive-video exhibit for United States Golf Association. Winner of the Nebraska Videodisc Award and a CINDY Award from Hollywood's Association of Visual Communicators.

The J. Paul Getty Trust, Malibu CA, USA, 1987

Advised on information preparation and interface representations for a relational database of the Foundation for Documents in Architecture, through the National Gallery of Art, Washington DC.

The Analytic Sciences Corporation, Reading MA, USA, 1986-1988

Directed, designed, and produced *Interpreting Satellite Imagery with SWIS*, an interactive-video explanation program for the National Weather Service.

Learncom Division, Sandy Corporation, Cambridge MA, USA, 1985-1986

Designed and implemented PC-based software; recommended tool functionalities.

INITIATIVES

Working Group co-organizer, **SEAD 5-year Update** including representatives of the National Academies of Sciences, Engineering, and Medicine; American Association for the Advancement of Science; National Science Foundation; National Science Teachers Association; National Endowment for the Arts; National Endowment for the Humanities; and Small Business Administration (with Roger Malina, Robert Thill, Carol LaFayette). Washington DC, 2016.

Educational and Professional Practices session co-organizer: **Cultivating an Ecology of Networked Knowledge and Innovation** through Collaborations among Sciences, Engineering, Arts, and

Design (with Roger Malina, Robert Thill, Carol LaFayette). College Art Association, Washington DC, 2016.

Workshop co-organizer: **Connecting Cities and Campuses** (with Jason Pace, Center for Serious Play). Innovation Forum: Engaging Design. University of Washington, Bothell, 2013.

Co-PI / Workshop host, **Network for Sciences, Engineering, Arts & Design**, University of North Carolina / Center for Design Innovation, US National Science Foundation Workshop, 2011.

Host co-organizer, **Design, Art & Technology Symposium**, Winston-Salem NC, 2010.

Workshop co-organizer, **Transformation of the Triad**, Design, Art & Technology Symposium (with Jerald Leimenstoll, Jerry Linn, Robert Powell), UNC-Greensboro 2008, High Point University 2009.

Instigator, organizer, **Idea Exchange**, Center for Design Innovation, 2007-2012.

Symposium co-organizer, **"Information and Communication Technologies" and Education:**

Incremental Progress or Fundamental Change?, Media Lab Europe, 2004 (with MIT Prof. Seymour Papert, held in conjunction with the EU Presidency conference, New Futures for Learning in the Digital Age).

Moderator, **Critical Praxis for the Emerging Culture**: Symposium for Technology, Media, Design, Art and Theory, Washington University in St. Louis, 2004.

Forum co-organizer, **Conversing with Materials**, Radcliffe Institute for Advanced Study at Harvard University, 2001-2003 (with Sarah Kuhn, 2001-2002 Bunting Fellow / Univ.MA - Lowell).

Forum organizer, **Changing Notions of Authorship and Control** and their Influence on the Design of Computer Systems and Applications, MERL, 1993.

INVITED / JURIED PARTICIPATION

The New York Times Higher Ed Leaders Forum addressing challenges such as those posed by race and free-speech dilemmas, the STEM-humanities debate, sexual assault, and the crisis in public funding of education. TheTimesCenter, 2016.

Cultivating an Ecology of Networked Knowledge and Innovation through Collaborations among Sciences, Engineering, Arts, and Design (panel moderator with Roger Malina). Leonardo Education and Art Forum, College Art Association, 2016.

Values and Evaluation Criteria for Interdisciplinary Research (panel moderator), Alliance for the Arts in Research Universities (a2ru), Virginia Tech, 2015.

Third Space Aggregator + Peer Review Forum, **Alliance for the Arts in Research Universities** (a2ru), Carnegie Mellon University, 2015.

Networking Sciences, Engineering, Arts, and Design to Confront the Hard Problems of our Time (speaker), co-hosted/sponsored by Smithsonian Institution, NSF-funded SEAD Network, and National Endowment for the Arts; including representatives of NSF, NEA, Smithsonian Institution, NASA Jet Propulsion Laboratory, US Department of Education, National Endowment for the Humanities, US Department of Energy, US Patent and Trademark Office, US Office of Science and Technology Policy; 2013.

Developing State of the Art Knowledge Communities with Urban Universities: A Wexford Science and Technology Planning Retreat, Wexford Science and Technology LLC, University of Maryland Bio Park, Baltimore, 2012.

Exchanges for Sciences, Engineering, Arts & Design (XSEAD), School of Arts, Media and Engineering, Arizona State University, US National Science Foundation Workshop, 2012.

Performance, Science and Science Education: Cultivating Ensembles in STEM Education and Research, Center for Cell Analysis and Modeling, University of Connecticut Health Center, NSF-funded workshop, 2011.

Network for Sciences, Engineering, Arts & Design (NSEAD), Maryland Institute College of Art, US National Science Foundation Workshop, 2011.

Create a Climate for Interdisciplinary Computing, Tucson, Arizona, US National Science Foundation Workshop, 2011.

Invention to Venture Technology Workshop, Wake Forest University, 2011.

Art + Science + Technology, Rensselaer Polytechnic Institute, US National Science Foundation Workshop, 2011.

STEM to STEAM, Rhode Island School of Design, US National Science Foundation Workshop, 2011.

Expert Committee, **Technology-Enhanced Learning**, Information Society Technologies Work Programme, European Commission, 2005-2006.

World Summit on the Information Society (delegate), United Nations and the International Telecommunication Union, Tunis, 2005.

Expert Committee, European Commission Directorate-General for **Education and Culture / Multimedia**, 2004.

Consultation workshop, eLearning: Designing Tomorrow's Education, European Commission Directorate-General for **Education and Culture**, 2004.

Expert round-table, Knowledge Technologies and Digital Content, European Commission Directorate-General for the **Information Society**, 2003.

eLearning Focus Group, **Experimental Learning Environments** expert network, 2002.

Designing for Resiliency, TTI/Vanguard, Brussels, 2002.

European Workshop on **Culture and Technology**, 2002.

US National Science Foundation Workshop, **Research Agenda for Educational Technology**, 1995.

US ARPA Workshop on **MUDs and Schools**, 1994.

GRANTS

Interpreters and Scientists Working On-Site at Our Parks (iSWOOP) - Advancing Informal STEM Learning, **US National Science Foundation** 1323558, 2013, \$100,904 of \$249,407. Co-authored with Merson, M., Rubin, A. - TERC; Char, C., Char Assoc.; Hristov, N., Allen, L. - Winston-Salem State University; invited follow-on proposal in 2015 led to a grant supporting expansion of the professional development method in National Parks throughout the US, for an overall project total of \$2.6M over 6 years.

Collaborative Research: EAGER: Network for Science, Engineering, Arts and Design (NSEAD) - IIS, Human Centered Computing, **US National Science Foundation** 1142663/1142510, 2011, \$43,493 of \$279,161. Strohecker, C. - Winston-Salem State University/Center for Design Innovation; complementary grant to LaFayette, C. - Texas A&M Research Fdn. and Nadarajan, G. - MICA.

Ready, Aim...Look! - **Arts Council of Winston-Salem and Forsyth County**, 2011, \$10,000. Strohecker, C. - Center for Design Innovation; Hristov, N. - Winston-Salem State University.

Center for Design Innovation - Congressional Grant, **US Small Business Administration**, 2009-2010, \$100,000. DeCristo, J. - UNC School of the Arts; Strohecker, C. - Center for Design Innovation.

Scientific Visualization - Provost's initiative: Liberal Learning Seminars, **Winston-Salem State University**, 2010, ~\$5,000. Strohecker, C. - Center for Design Innovation; Hristov, N., Betz, S. - Winston-Salem State University.

Animation techniques and educational strategies based on motion data capture and analysis - Workforce Innovation in Regional Economic Development, **Piedmont Triad Partnership**, 2010, \$23,500. Strohecker, C. - Center for Design Innovation; Hristov, N. - Winston-Salem State University.

Developing and sustaining the Triad's annual Design, Art & Technology Symposium - Workforce Innovation in Regional Economic Development, **Piedmont Triad Partnership**, 2010, \$15,000. Strohecker, C. - Center for Design Innovation.

Design, Art & Technology Symposium - **Arts Council of Winston-Salem and Forsyth County**, 2010, \$10,000. Strohecker, C. - Center for Design Innovation.

- Comm'n'Sense - **Higher Education Authority, Ireland**, 2003-2004, €99,900. MacGraith, B., O'Brien, E. - National Centre for Sensor Research, Dublin City University; Strohecker, C. - Media Lab Europe; Synnott, D. - National Botanic Gardens; Butler, J. - Intel Ireland.
- Multimodal Interfaces for Networked Music Learning - **Higher Education Authority, Ireland**, 2003-2004, €190,950. Tangney, B., Jennings, K., Bligh, J. - Trinity College Dublin; Strohecker, C., O'Modhrain, S. - Media Lab Europe.
- Liberating Learning - **Higher Education Authority, Ireland**, 2002-2003, €48,750. Butler, D. - St. Patrick's College, Dublin City Univ.; Papert, S., Davenport, G. - MIT Media Lab; Strohecker, C. - Media Lab Europe; Liberties Learning Initiative, Dublin Digital Hub; National Ctr. for Technology and Education
- Sensors for Science Education - **Higher Education Authority, Ireland**, 2002-2003, €114,276. MacGraith, B., O'Brien, E. - National Centre for Sensor Research, Dublin City University; Mikhak, B. - MIT Media Lab; Strohecker, C. - Media Lab Europe.
- Daedalus - **Council for the Arts at MIT**, 1988, ~\$5,000. Strohecker, C. - MIT Media Arts and Sciences
- A Different Train of Thought - Artists Foundation, **Massachusetts Council for Arts and Humanities**, 1987, \$10,000. Strohecker, C. - MIT Visual Studies.
- Poster design - **Maryland State Arts Council**, 1983, \$3,000. Strohecker, C. - Walters Art Museum.

PATENTS

GRANTED

Systems and methods for **constructive-dialogic learning**

Ackermann, E., Strohecker, C., Agarwala, A.

Continuation issued 15 October 2002 [Magix: MERL #1203, US #6,464,501]

Issued 22 August 2000 [Magix: MERL #1133, US #6,106,299]

Method and system for **displaying icons representing information** items stored in a database

Ackermann, E., Bromley, D. N., DeMaso, D. R., Gibson, S. F. F., Gonzalez-Heydrich, J., Karlin, J. G., Marks, J., Shen, C., Strohecker, C.

Issued 3 April 2001 [Children's Hospital, Boston / MERL #1180, US #6,211,876]

System for **designing graphical multi-participant environments**

Strohecker, C., Barros, B.

Issued 8 August 2000 [WayMaker: MERL #1154, US #6,100,896]

APPLICATION FILED

Method for **designing characters and simulating dancing**

Strohecker, C., H. Slaughter, A. H.

Filed US 16 August 2000 [Zyklodeon: MERL #1289]

PROVISIONALS FILED

Intermodal dynamic typography system

Taylor, A., Foley-Fisher, Z., Strohecker, C.

Filed US November 2004 [Polymorphic Letters: MLE]

Method and apparatus for **displaying time-constrained activities**

Donovan, B., Strohecker, C., Lewis, S.

Filed US October 2004 [Amble time: MLE]

Method and apparatus for **providing information based on location and environmental data**

Donovan, B., Wood, A., Davenport, G., Strohecker, C.

Filed US October 2004 [Nature Trailer: MLE]

Method and device for **detecting toxic components in an environment**

Strohecker, C., Rasmussen, R., Foley-Fisher, Z., Karau, M., O'Hanlon, B., Cader, R., Cherubini, M.

Filed UK 6 October 2003 [Smoke Rings: MLE]

AWARDS

Humanitarian in Technology honoree, ScottCares Foundation, 2009

Prix Möbius nominee, ART3000 / UNESCO / European Commission / National Centres for Science and Telecommunications Research, France, 1996 (*Tired of Giving In*)

Massachusetts Council for the Arts and Humanities, 1987 (*A Different Train of Thought*)

Nebraska Videodisc Award, 1987 (*Play Away Please!*)

Cindy Award, Association of Visual Communicators, Hollywood, 1987 (*Play Away Please!*)

Sun Photo Contest, *The Baltimore Sun*, 1975 (*Lion at Cylburn Park*)

JURYING

RESEARCH / FACULTY / GRANT PROPOSALS

RISD Mellon Fellowships, Research Assistantships, and other internal grants, 2013-2016

Brown/RISD Committee for Interinstitutional Collaboration, 2014

Provost's Research Initiation Program, **Winston Salem State University** (3 sessions), 2008-2012

US National Science Foundation (5 programs), 2006-2011

Royal Institute of Technology (KTH), Stockholm, Sweden, 2009

Arts Council of Winston-Salem and Forsyth County (2 programs), 2008, 2009

European Commission (multiple sessions), 2007-2009

TeKes (Finnish national research funding agency), 2007

Higher Education Authority, Ireland, 2001-2004

TEACHING

Learning Lab Denmark, Copenhagen, Denmark

Constructionism, 2003 (co-taught with Bakhtiar Mikhak) <<http://www.nadifo.dk/midframe42.htm>>

Media Lab Europe, Dublin, Ireland

Movement as an Interaction Design Element, 2003 (pilot co-taught with Sile O'Modhrain)

Tools and Environments for Contemplation, 2002 (approved by MIT Media Arts and Sciences)

Graduate School of Design, Harvard University, Cambridge MA, USA

Analytic Tools in an Electronic Context, 1994 (co-taught with Erin Hoffer)

Design Practice of the Future, 1994 (co-taught with Ken Kaplan)

Virtual Dynamic Environments, 1993 (co-taught with Ken Kaplan)

Maryland Institute College of Art, Baltimore MD, USA

Computer Graphics, 1986 (Macintosh software for graphic designers)

SELECTED TALKS AND PRESENTATIONS

iSWOOP: A Collaboration with the National Park Service Integrating Design Methods and Studio-based Learning with Scientific Inquiry and Field Research, **Exploring Science in the Studio**, AICAD Symposium, California College of the Arts, 2015.

NEA / SEAD / STEAM, **European Commission CONNECT Directorate-General for Digital Science**, Brussels, 2014.

Art & Digital Technologies: Disruptive Innovation Practices For An Unknown Future (panel chair), BOZAR Electronic Arts Festival, Brussels, 2014.

Design Policy in Context (panel), Better World By Design conference, Providence, 2014.

STEM to STEAM Advocacy to Curricula (keynote), The Art and Science of Testing: Conference for the **Association of Software Testing**, New York, 2014.

Culture and Economic Development, DC Art Science Evening Rendezvous (DASER), **National Academy of Sciences**, 2013.

Networking Sciences, Engineering, Arts and Design to Confront the Hard Problems of our Time, NSF + NEA @ Smithsonian Discovery Theater, 2013.

Innovation Forum: Engaging Design (Keynote), **University of Washington**, Bothell, 2013.

Research in Art and Design (Keynote), AICAD Symposium: Remaking Research. Assoc. Independent Colleges of Art and Design, Emily Carr University of Art + Design, Vancouver, 2012.

Insight, **Leadership Winston-Salem**, 2012

Designing So Others Can Design, **TEDx** talk, Wake Forest University, 2012

Computer Science Department, Winston-Salem State University, 2012

SciTech, National Center for the **Biotechnology Workforce**, Forsyth Tech Community College, 2011

Z. Smith Reynolds Foundation, 2011

Association of **Pedestrian & Bicycle Professionals** Professional Development Seminar, 2011

Association of **College and Research Libraries**, American Library Association, 2011

Conference for Entrepreneurial Librarians, Univ.NC-Greensboro and Wake Forest University, 2011

Piedmont Triad Research Park, 2011

Winston-Salem Engineers Club, 2011

Jobs of the Future, Leadership Winston-Salem, 2011

Maker Faire NC, 2010, 2011

North Carolina **Lions Club**, 2010

Triad Design Leadership, Piedmont Triad Partnership, 2010

Winston-Salem Section, **Institute of Electrical and Electronics Engineers**, 2009, 2010

Arts & Culture Day, **Leadership Winston-Salem**, 2006-2010

Targacept, 2009

Faculty Senate, **Winston Salem State University**, 2009

Mobile Learning Forum, **Higher Colleges of Technology, Abu Dhabi**, United Arab Emirates, 2009

Principals of **Winston-Salem/Forsyth County Schools**, 2009

Board of Directors, **Forsyth Futures**, 2009

Creativity: Worlds in the Making, A National Symposium at Wake Forest University, 2009

North Carolina Legislators, Chancellor's Home, Winston-Salem State University, 2009

Design, Art & Technology Symposium / Digital Arts Symposium, High Point University / UNC-Greensboro / UNC School of the Arts, 2007-2009

Rotary Club of Winston-Salem, 2007, 2009

Public Art Committee, **Arts Council of Winston-Salem and Forsyth County**, 2008

College Tech Prep, Greensboro, 2008

Winston-Salem Chapter, **American Institute of Architects**, 2008

Pecha Kucha Night, EastSquare Artworks, 2008

Seymour Papert's Legacy, **American Education Research Association**, 2008

Innovation as Integration (by Design), **Strategic Management Society**, San Diego, 2007

Human-Centric E-learning, **Interact 2007**, Rio de Janeiro, 2007

Salem College, Winston-Salem, 2007

Dance Seminar, School of Health Sciences, **Winston-Salem State University**, 2007

Innovate!, **Virginia Department of Education**, 2007

Millennium Club, Winston-Salem, 2007

Babcock Graduate School of Management, Calloway Business School, **Wake Forest University**, 2007

Evening with 8, **SCN Triad Event Communications**, 2007

Technology Briefing, **Winston-Salem Chamber of Commerce**, 2006, 2009

The Institute for the Future, Palo Alto CA, 2006

Emerging Technologies, **MIT CIO Symposium**, Cambridge MA, 2006

Future of Scientific Collaboration / Communication, **American Chemical Society**, Baltimore MD, 2006
Media Arts & Technology program, **University of California, Santa Barbara** CA, 2006
Technology & Change in Educational Practice, **London Knowledge Lab**, 2005
Educating the Innovator, **Centre for Contemporary Art, Glasgow**, 2005
Rural Wings, Science Week, Athens, 2004
Museums Computer Group, The British Museum, London, 2004
CONNECT consortium, European Commission, Athens, 2004
European Design Forum, **The Lighthouse**, Glasgow, 2003
School of Communications, **Dublin City University**, 2003
Dublin Institute of Technology, 2003
Centre for Culture, Technology, and Values, **University of Limerick**, 2002
International Seminar, Knowledge Management and E-Learning, **Universita degli Studi di Firenze**, 2002
Educational Management of Adult Guidance, Dublin, 2002
Orange Seminar on Education, London, 2002
BBC Imagineering, London, 2002
Online Learning '02 Europe, London, 2002
Trinity College, Dublin, 2001, 2003, 2004
EdMedia, Helsinki, 2001
Innovation Cultures, Leveraging Creativity, **Six Countries Programme**, Dublin, 2001
ACM CHI, 2001, 2000, 1997
IEEE International Workshop, **Applied Learning Technologies**, Massey Univ., North Palmerston, 2000
Bridging the Gap, **ACM Multimedia**, 2000
MaMaMedia.com, New York, 2000
AAAI Fall Symposium on **Narrative Intelligence**, 1999
Maps and Diagrammatical Representations of the Environment, Hamburg, 1999
IEEE Multimedia, 1999
Design Computing on the Net, 1998
Graduate School of Design, Harvard University, 1997-2000
Children's Hospital, Boston, 1997
Inter@ctive, International Telecommunication Union, Geneva, 1997
Women and the Art of Multimedia, Washington DC, 1997
Designing Interactive Systems, 1997
Prix Möbius International, UNESCO and the European Commission, Paris 1996
MediaActive, John Moores University, Liverpool, 1996
Massachusetts Psychological Association conference, Andover, 1996
ART3000 conference, Les États Généraux de l'Écriture Multimedia, Paris, 1995
AAAI Spring Symposium on **Interactive Story Systems: Plot and Character** (with Larry Friedlander),
Stanford University, 1995
International Conference on **Hypermedia and Interactivity in Museums**, 1995
Lifelike Computer Characters, Snowbird UT, 1994
International Design Conference in Aspen, 1994
Interactive Cinema Group, MIT Media Laboratory, 1994
Philomorphs, Carpenter Center, Harvard University, 1994
Museums and Interactive Media, Museum Documentation Association, 1993
State University of New York, New Paltz, 1993
Association for the Study of Play, St. Paul MN, 1993
Central Research Laboratory, **Mitsubishi Electric**, Tokyo, 1993
Computer Science Department, **Washington University, St. Louis** MO, 1992
Bolt, Baranek, and Newman, Cambridge MA, 1992

EDUCOM: National Agenda for Information Technology and Higher Education, Baltimore MD, 1992
National Education Association, Boston MA, 1991
Computer Science Department, **Yale University**, 1989
Multimedia Interactive Communication Systems, Paris, 1989
InterTainment, New York, 1988
Lucasfilms, 1987
Nebraska Videodisc Symposium, 1987
College of Library and Information Science, **University of Maryland, College Park**, 1986
National Endowment for the Arts, 1986
American Film Institute Faculty Development Workshop, MIT, 1986

PROFESSIONAL AND COMMUNITY SERVICE AND AFFILIATIONS

RESEARCH / PROFESSIONAL COMMUNITIES

Integration of Education in the Sciences, Engineering, and Medicine with the Arts and Humanities at the Undergraduate and Graduate Levels. Board on Higher Education and Workforce, National Academies of Sciences, Engineering, and Medicine, Washington, DC, 2016
Integrating Education in the Arts and Humanities with Education in Science, Engineering, Technology, and Medicine. Sponsored by the Andrew W. Mellon Foundation and hosted by the Board on Higher Education and Workforce of the National Academies of Sciences, Engineering, and Medicine. Carnegie Endowment for International Peace, Washington, DC, 2015
Nature Climate Leadership Summit, **American College & University Presidents' Climate Commitment**, 2014
Advisory/Program Committee, ACM International Conference on **Creativity and Cognition**, 2006-2007, 2009-2011, 2013
Advisory Board, **Design Computing and Cognition** International Conference, 2007, 2008
Reviewer, **William James Foundation Socially Responsible Business Plan Competition**, 2007, 2008
Advisor, **NPO Pangaea**, 2005-2008
Emerging Technologies panel, **MIT CIO Symposium**, 2006
Conference Committee, **Interaction Design and Children**, 2005
Key Rapporteur, Learning Enablers, **Towards a Learning Society**, Brussels, 2005
Invited expert, **eLearningeuropa**, Pau Education, Barcelona, 2005
Program Committee, **Story Representation, Mechanism and Context**, ACM Multimedia, 2004
Program Committee, **8th Eurographics Workshop on Multimedia**, 2004
Advisory Board, 6th International Conference on **Computational and Cognitive Models of Creative Design**, 2003, 2004
Program Committee, ACM International Conference on **Technology-Enhanced Learning**, 2003
Vice-Chair, International Conference on **Design Computing and Cognition**, 2002-2004
International Committee, **Visual and Spatial Reasoning in Design**, University of Sydney, Australia, and University of Aberdeen, Scotland, 2000-2002
Reviewer, MIT Press, 2000, 2001
Reviewer, **Design Computing on the Net**, 2000
Reviewer, **Royal Society of New Zealand Marsden Fund**, 2000
Session Chair, Adaptive Hypermedia, Internat'l. Workshop **Advanced Learning Technologies**, 2000
Reviewer, **Spatial Cognition II**, Springer-Verlag, 1999
Panel Chair, Parent/Child/Physician Communication, **Future of Health Technologies**, 1998
Reviewer, **ACM CHI**, 1998
Reviewer, **IBM Systems Journal**, 1997-2001

Advisory Board, **Ocean of Know** / Young MacDonald's Farm (NSF-funded informal education consortium, NY), 1997-1999
Facilitator, **2B1 Foundation** (MIT Media Lab project on technologies in 3rd World countries), 1997
Board of Special Reviewers, **User Modeling and User-Adapted Interaction**, 1996-2000
Reviewer, **International Conference on the Learning Sciences**, 1996
Judge, **Interaction Design Awards**, ACM Interactions, 1995-1997
Reviewer, **IEEE Multimedia**, 1995-1997
Reviewer, **ACM Multimedia**, 1993, 1997
Reviewer, **ACM SIGGRAPH**, 1993
Reviewer, **International Conference on Technology and Education**, 1993
Founding Member, Editorial Board, **Presence: Teleoperators and Virtual Environments**, MIT Press, 1992-2006

ACADEMIC CITIZENSHIP

President's Leadership Council, Provost's Council, Rhode Island School of Design, 2013-2016
Association of Independent Colleges of Art and Design, 2012-present
Design + Computing Advisory Panel, UNC-Charlotte, 2012-2013
Graduate Council, UNC School of the Arts, 2012-2013
Cabinet, Provost Council, UNC School of the Arts, 2010-2013
Master's Taskforce, Graduate School of Arts and Sciences / Biomedical Sciences, Wake Forest University, 2012-2013
Working Group on Advanced Manufacturing, Institute for Emerging Issues, NC State University, 2012-2013
Broadcasting Production and Technology Advisory Committee, Forsyth Technical Community College, 2012
Academic Council, General Education Task Force, Winston-Salem State University, 2009-2012
Student projects reviewer, Interior Design, Salem College, 2011
Reviewer, **Senior Capstone Project Symposium**, Western Carolina University, 2011
Executive Partners Mentorship Program, Wake Forest University, 2010
Lead, **Innovation Development and Transfer Team**, UNC School of the Arts, 2009, 2010
Working Group on Creativity, Institute for Emerging Issues, NC State University, 2009, 2010
Faculty Senate presentation, Winston Salem State University, 2009
Leadership Retreat, **Institute for Emerging Issues**, NC State University, 2009
Innovation Development and Transfer Committee, Winston Salem State University, 2009
Strategic Planning Committee, Winston Salem State University, 2009
Nanotech Industrial Advisory Board, Forsyth Technical Community College, 2008
Entrepreneurship Education Initiative, College of Management, NC State University, 2007
MBA Marketing Summit, Wake Forest University, 2007
Long-range Planning Focus Group, Forsyth Technical Community College, 2007
Invitee, Creating, **Sharing and Re-using eLearning Content**, National College of Ireland, 2004
Reviewer, Student Works, **Department of Architecture**, MIT, 2000
New Media SIG, **Fogg Museum**, Harvard University, 1999
Reviewer, Student Works, **Graduate School of Design**, Harvard University, 1998-2000
Reviewer, Student Works, **Rhode Island School of Design**, 1994, 2000
Mentor, **Research Science Institute**, 1992, 1994, 1996, 1998
Graphic Design Curriculum Committee, **Maryland Institute College of Art**, 1983, 1984

COMMUNITY LEADERSHIP

Multiple initiatives of the **Rhode Island** Foundation, RI Commerce Corporation, College & University Research Collaborative, and Greater Providence Chamber of Commerce, 2013-2016
Judge, Photo Contest, **Piedmont Authority for Regional Transportation**, NC, 2012
Consortium Oversight Committee, **Piedmont Triad Sustainable Communities Consortium**, 2012
Advisor, **Community Design Studio**, 2011-2013
Executive Committee, **Forsyth Futures**, 2011-2012
Judge, **Robot Run**, Forsyth Technical Community College, 2011
Review panel, VentuRealization Workshop, **DataMax Foundation**, 2011
Advisory Committee, **ECHO/Storyline**, 2011
Executive Committee, **Creative Corridors Coalition**, 2010-2013
Advisory Committee, BrainWorks exhibit, **SciWorks**, 2010-2013
Program Committee, **Southeastern Center for Contemporary Art**, 2010, 2011
Judge, **Habitat for Humanity Birdfest**, Winston-Salem NC, 2010
Advisory Board, **Bridges: Connecting Communities**, Inc., 2009, 2010
Higher Education Innovation Council, Piedmont Triad Partnership, 2009
Furnishings Roundtable, **Piedmont Triad Partnership**, 2009
Board of Directors, **Forsyth Futures**, 2008-2013
Executive Committee, Technology Council, **Winston-Salem Chamber of Commerce**, 2008-2013
Advisory Board, Southeastern Center for Contemporary Art, 2008-2010
Public Art Committee, **Arts Council of Winston-Salem and Forsyth County**, 2008, 2009
Honorary Exhibition Committee, Seeing the City, **Reynolda House**, 2008
Delegate, **Intelligent Communities Forum** (representing Winston-Salem), 2008
Community Creates!, **Arts-Based Elementary School**, Winston-Salem NC, 2008
Creative Enterprises and the Arts Roundtable, Piedmont Triad Partnership, 2007, 2009
Judge, **Whitespace Gallery**, Winston-Salem NC, 2007
Advisory Board, Liberating Learning, **Dublin Digital Hub**, 2004
Guest coordinator, Learning Designs, Multimedia Unplugged, **neoMuseum, Japan**, 1998
Vision Award Committee, **Boston Film/Video Foundation**, 1998
Mentor, Keypals program, **Cambridge Public Schools**, 1996
Reader, **Reading Service for the Blind**, Marshfield MA, 1992
Executive Committee, **Baltimore Publishers Association**, 1983, 1984
Reader, **Radio Reading Service**, Baltimore MD, 1977
Announcer, WBJC, Baltimore MD, 1974

MEMBERSHIPS

College Art Association, 2015-present
Rotary Club of Winston Salem, 2007-2013
ECHO Conversation Group ("Everyone Can Help Out"), **Winston-Salem Foundation**, 2007-2013
Association of Computing Machinery, 1992-2013
DESIGN 21: Social Design Network, 2007, 2008
ACM SIGGRAPH, 2005, 2006
Atelier Gargarian (collective of learning researchers), 1995
Association for the Study of Play, 1993
Jean Piaget Society for the Study of Knowledge and Development, 1992
Greater Boston SIGCHI, 1990, 1991
Boston Film/Video Foundation, 1987-1989

Boston Computer Society, 1987, 1988

International Interactive Communications Society, 1986-1988

COMPUTATIONAL TOOLS AND ENVIRONMENTS

PRINCIPAL INVESTIGATOR

Everyday Learning research group, Media Lab Europe (MLE):

Moving Minds **bases for representing sensed human movements**, 2003-2004 - Martin, K., Strohecker, C.

Polymorphic Letters **multimodal writing system**, 2002-2004 - Taylor, A., Foley-Fisher, Z., Strohecker, C.

TexTales **public fora with photos and SMS texts**, 2002-2004 - Ananny, M., Strohecker, C., Biddick, K., Donovan, B., Rasmussen, J.

Smoke Rings **portable sensing device and simulator**, 2002-2005 - Foley-Fisher, Z., Rasmussen, J., Karau, M., O'Hanlon, B., Cader, R., Cherubini, M., Strohecker, C.

Amble Time **map with a "sense of time,"** 2002-2004 - Donovan, B., Lewis, S., Strohecker, C. Cited: Moed, A. 2004. Conversations with maps. *Else/Where Mapping*, ed. Abrams, J., Hall, P. Univ. MN Press.

Citizen Journalism **metadata camera**, 2002-2003 - Ananny, M., Lewis, S., Strohecker, C.

Digital Seed **PDA-based toy with graphics and flow sensor**, 2002 - Cherubini, M., Rasmussen, J., Strohecker, C.; Gash, H. McCloughlin, T. (St. Patrick's College, Dublin City University); Lometti, A. (California State University, Chico)

Biosphera **ecosystems microworld**, 2001-2003 - Cherubini, M., Winters, N., Strohecker, C.; Mikhak, B. (MIT Media Lab); Gash, H. (St. Patrick's College, Dublin City University)

Dimensional Reading **electronically augmented book**, 2002-2003 - Gomez, H., Strohecker, C., O'Modhrain, S., Wood, A.

Electro Jewels **sensor-enhanced constructions**, 2002 - Ananny, M., Donovan, B., Karau, M., Strohecker, C.; Dekoli, M., Sylvan, E. (MIT Media Lab); Fraad, E., et al. (The Ark)

Dino Stable **RF (radio frequency) tags and software construction kit**, 2001-2003 - Strohecker, C., Boydell, O., Jacobus, E., Karau, M., Donovan, B., Gomez, H., Wang, A. J.

Birdcase **sensor-based audio installation**, 2001-2002 - Donovan, B., Karau, M., Strohecker, C.; Ranft, R., (British Library)

Wait Lifter **public transit monitor**, 2001-2002 - Donovan, B., Karau, M., Strohecker, C.

PROJECT LEADER

MERL - Mitsubishi Electric Research Laboratories:

Zyklodeon **construction kit for experimenting with cyclic timing relationships**, 1999-2000 - Strohecker, C., Slaughter, A. H., Horvath, M. A., Henrikson, J., Kwok, J. C-L., Gonzalez, D. P., Ait-Laoussine, N., Witzgall, B., Appleton, N. J.

Kit4Kits **framework for construction kits**, 1999-2000 - Slaughter, A. H., Strohecker, C.

WayMaker **construction kit for making maps**, 1996-2000 - Strohecker, C., Barros, B., Slaughter, A. H., Gilman, D., Back, M., Greenstadt, R.

Tired of Giving In **interactive narrative**, 1995-1997 - Strohecker, C., Brooks, K. M.; Friedlander, L. (Stanford Univ.). Cited in: Goldberg, A. 2002. Collaborative software engineering. *Journal of Object Technology* 1:1 (May-Jun); Axelson, M. 1997 (Sep 22). The new storytellers. *New Media* 7:12, 38-44.

Bones **construction kit for experimenting with balance**, 1993-2000 - Strohecker, C., Abernathy, W., Greenstadt, R., Gonzalez, D. P., Witzgall, B., Appleton, N. J., Gilman, D., Shiple, J.; AARCO Inc.

COLLABORATOR

Nature Trailer **location-sensitive guide and stories**, 2002-2005 - Donovan, B., Strohecker, C. (MLE Everyday Learning); Wood, A., Davenport, G. (MLE Story Networks)

AnimMagix **construction kit for experimenting with emergent social dynamics**, 1998 - Ackermann, E., Strohecker, C., Agarwala, A., Slaughter, A., Gilman, D. (MERL)

PatternMagix **construction kit for experimenting with geometric symmetry**, 1997-2000 - Ackermann, E., Strohecker, C., Agarwala, A. (MERL)

Experience Journals **narrative tool for online communities**, 1997-1999 - Bromley, D., Strohecker, C., Marks, J., Ackermann, E., Gibson, S. F. F., Shen, C. (MERL); Gonzalez-Heydrich, J., DeMaso, D. R., Karlin, J. E., Erickson, J. D., Grimes, V. P. (The Children's Hospital, Boston); Umaschi, M., Brooks, K. M. (MIT Media Lab)

Desktop software interfaces, 1990-1991 - Sun Microsystems

Interpreting Satellite Imagery with SWIS **interactive video explanation program**, 1988 - National Weather Service and The Analytic Sciences Corporation

Authoring system tutorials, interactive video implementations, 1985-1986 - Learncom Division, Sandy Corporation

CREATOR, PRODUCER, DIRECTOR, VIDEOGRAPHER, EDITOR, DEVELOPER

MIT Media Laboratory:

A Different Train of Thought **interactive narrative on computer-controlled videodisc**, 1986 - Strohecker, C. Cited in: Waters, T. 1989 (June). *Hypermedia. Discover* 10:6, 72-76.

VIDEOS AND VIDEO ASPECTS OF PROJECTS OR INTERACTIVE PROGRAMS**CREATOR, DESIGNER, VIDEOGRAPHER, EDITOR**

The Magix Series of Playful Learning Environments, 1998 - Video Program, CHI 2001, ACM Conference on Human Factors in Computing Systems; MERL (in Japanese and English)

Mending Hearts and Minds, 1997 - MERL and Children's Hospital, Boston

Boem Soon's Knots, 1990 - Epistemology & Learning Group, Media Laboratory, MIT

Daedalus, 1988 - Project Athena, MIT

Learning at the Zoo, 1987 - Epistemology & Learning Group, Media Laboratory, MIT

A Different Train of Thought, 1986 - Film & Video Group, Media Laboratory, MIT

CREATOR, DIRECTOR

Zircus, 1993 - MERL

DESIGNER, EDITOR

The Human Interface Group: A Voice for Users, 1991 - Sun Microsystems

Interpreting Satellite Imagery with SWIS, 1988 - NWS and The Analytic Sciences Corporation

Play Away Please!, 1987 - United States Golf Association and Digital Techniques

LEARNING AND RESEARCH ENVIRONMENTS AND DESIGNS**INITIATOR, DESIGNER, COLLABORATOR**

Strohecker Associates:

Cyrkus **physical, material, and conceptual learning about motion**, 2003-2006 - Strohecker, C. (MLE Everyday Learning / Strohecker Associates)

Mitsubishi Electric Research Laboratories (MERL):

Scientific Studio **virtual and material supports for constructive learning**, 1995-1999 - Strohecker, C. (Mitsubishi Electric Research Laboratories); Eisenberg, M. (Univ.CO-Boulder); Brand, M. (MIT Media Lab); Smith, D. (Museum of Science, Boston)

PRINCIPAL INVESTIGATOR

Media Lab Europe (MLE):

Everyday Learning **technology-supported intergenerational, intercultural constructivty**, 2001-2005 - Strohecker, C., Donovan, B., Cherubini, M., Jacobus, E., Karau, M., Ananny, M., Rasmussen, J., Butler, D., Gomez, H., Wichmann, A., Mikhak, B., Dekoli, M., Boydell, O., Lewis, S., Sylvan, E., Kaynama, A., Winters, N., Biddick, K., Twomey, T., Taylor, A.; Hayes, D., Mannion, E., Foley-Fisher, Z., Cader, R., O'Hanlon, B., Doherty, H., Williams, D., Martin, K., Quinn, A. (MLE and affiliates)

MIT Media Laboratory:

Knot Lab **topological thinking with string and a range of media**, 1988-1991 - Strohecker, C. (Epistemology & Learning group, MIT Media Lab); Lee, B. S. (Boy Scouts of America); anonymous kids and teachers (Hennigan School, Boston)

EXHIBITIONS

Bones, *WayMaker*, and *PatternMagix* (lead creator or producer for this construction kit software):

Test Tube trials, Museum of Science, Boston, 2000

Play Away Please! (producer for this interactive exhibit on computer-controlled videodisc):

United States Golf Association museum, 1987-1998

A Different Train of Thought (creator, director, videographer, editor, and programmer for this interactive narrative on computer-controlled videodisc):

Tech2000, Washington, DC, 1989-1990

InterTainment, New York, 1988

CityPlace, Boston, 1988

MIT Media Laboratory, 1986

LaserActive, International Interactive Communications Society, Boston, 1986

Convergence: An International Forum on the Moving Image, Montreal, 1986

Photographs:

City Hall, Baltimore, 1983

PAPERS AND PUBLICATIONS

MONOGRAPH

Strohecker, C. 2005. *Learning Cyrkus: A New Art and Science of Mind/Body Acrobatics*. <www.carolstrohecker.info/EnvironPages/cyrkus.html>

INVITED JOURNAL ISSUE

Malina, R. F., Strohecker, C., LaFayette, C., on behalf of SEAD network contributors. 2015. **Steps to an Ecology of Networked Knowledge and Innovation: Enabling New Forms of Collaboration among Sciences, Engineering, Arts, and Design**. MIT Press / Leonardo ePub. <http://www.mitpressjournals.org/page/NSF_SEAD>

INVITED BOOK CHAPTERS

Ananny, M., and Strohecker, C. 2009. Forms and Forums for Developing Public Opinions. *Handbook of Research on Urban Informatics: The Practice and Promise of the Real-Time City*. M. Foth, ed. Hershey PA: Information Science Reference, IGI Global.

Strohecker, C. 2007. Knots. *Evocative Objects: Things We Think With*. Turkle, S., ed. MIT Press, Cambridge MA.

Strohecker, C., Brooks, K. M., Friedlander, L. 2001. Experiments with the theatrical Greek chorus as a model for interactions with computational narrative systems. *Narrative Intelligence: Advances in Consciousness Research*, 175-188. John Benjamins, Amsterdam.

Strohecker, C. 1992. Elucidating styles of thinking through learning about knots. *Constructionism*, 215-233. Harel, I., Papert, S., eds. Ablex, Norwood NJ.

INVITED JOURNAL ARTICLES

Strohecker, C. 2005. **Designing for sensing, sensibilities, and sense-making.** *International Journal of Knowledge and Learning* 1:3, 269-285.

Picard, R. W., Papert, S., Bender, W., Blumberg, B., Breazeal, C., Cavallo, D., Machover, T., Resnick, M., Roy, D., Strohecker, C. 2004. **Affective learning** – a manifesto. *BT Technology Journal* 22:4, 253-269.

Strohecker, C. 2001. **Review of Computers and Design in Context** (Kyng, M., Mathiassen, L., eds., MIT Press, Cambridge, MA, 1977). *User Modeling and User-Adapted Interaction* 11:3, 261-266.

Strohecker, C. 2000. **Cognitive zoom:** From object to path and back again. *Spatial Cognition II*, 1-15, Springer-Verlag.

REFEREED JOURNAL ARTICLES

Strohecker, C., Malina, R., Silk, W., Giorgini, B. 2014. **Opportunities and obstacles facing scientists, mathematicians, and engineers deeply engaged in the arts and design.** Network for sciences, engineering, arts, and design, NSF grant 1142510. <<http://seadnetwork.wordpress.com/white-paper-abstracts/abstracts/opportunities-and-obstacles-facing-scientists-mathematicians-and-engineers-deeply-engaged-in-the-arts-and-design/>>

Watson, B., Berube, D., Hristov, N., Strohecker, C., Betz, S., Allen, L., Burczyk, M., Howard, A., Anthony McGee, W.A., Gymer, M., Cañas, D., Kirstner, M. 2013. **VIA - Visualizing Individual Actions to Develop a Sustainable Community Culture through Cycling.** *HCI* (25): 316-325.

Ananny, M., Strohecker, C., Biddick, K. 2004. Shifting scales on common ground: **Developing personal expressions and public opinions.** *International Journal of Continuing Engineering Education and LifeLong Learning* 14:6, 484-505.

DeMaso, D. R., Gonzalez-Heydrich, J., Erickson, J. D., Grimes, V. P., Strohecker, C. 2000. The Experience Journal: **A computer-based intervention for families facing congenital heart disease.** *Journal of American Academy of Child and Adolescent Psychiatry* 39:6, 727-734.

Strohecker, C., Barros, B. 2000 (1997). **Make way for WayMaker.** *Presence: Teleoperators and Virtual Environments* 9:1, 97-106.

Strohecker, C. 1997 (1994). The "Zircus" **concept sketch for a learning environment and online community.** *Presence: Teleoperators and Virtual Environments* 6:3, 339-349.

Strohecker, C. 1996 (invited). **Understanding topological relationships** through comparisons of similar knots. *AI&Society: Learning with Artifacts* 10:1, 58-69.

Rich, C., Waters, R. C., Strohecker, C., Schabes, Y., Freeman, W. T., Torrance, M. C., Golding, A. R., Roth, M. 1994. **Demonstration of an interactive multimedia environment.** *IEEE Computer* 27:12, 15-22.

INVITED WEB ARTICLES

Strohecker, C. 2009. **Local antidote designed to help those suffering from 'irritech.'** *Triad Business Journal*, October 5. <<http://triad.bizjournals.com/triad/stories/2009/10/05/smallb3.html>>

Strohecker, C. 2009. **The creative urge.** *IEI Forum Newsroom*. Institute for Emerging Initiatives, North Carolina State University. <<http://ncsu.edu/iei/newsroom/2009/8/debate.php>>

Strohecker, C. 2005. Registered users interviewed expert. *elearningeuropa.info: An Initiative of the European Commission*. Directorate-General for Education and Culture. <http://www.elearningeuropa.info/index.php?page=doc&doc_id=6150&docIng=6&menuzone=3>

- Strohecker, C. 2004. **Evolving literacy**: Crafting messages for senses, sensibilities, and sense-making. Vodafone Group *receiver* 10. <<http://www.receiver.vodafone.com/archive/index.html>>
- Strohecker, C. 2003. Whole world in their hands. *The Learning Citizen* 6: 6-8. European Commission Information Society Technologies. <<http://www.learningcitizen.net/articles/Wholeworldintheirhan.shtml>>
- Strohecker, C., Barros, B., Slaughter, A. 1998. **Mapping psychological and virtual spaces**. *Online Proc. of Design Computing on the Net, International Journal of Design Computing*. Key Centre of Design Computing and Cognition, University of Sydney. <<http://www.arch.usyd.edu.au/kcdc/journal/vol1/dcnet/stream2/paper6/>>

INVITED CONFERENCE PAPERS

- Strohecker, C. 2004. **Future models of ICT-enabled learning**: What are the implications for schools? *New Futures for Learning in the Digital Age: Ireland's Presidency of the European Union Conference on ICT in Education*.
- Strohecker, C. 2003. **Business's affinities with design research**. *Design and Education*. European Design Forum, The Lighthouse, Glasgow.

SELECTED REFEREED CONFERENCE PAPERS

- LaFayette, C., Rikakis, T., Cox, D.J., Nadarajan, G., Strohecker, C., Jennings, P., Wardrip-Fruin, N., Malina, R.F., Brown, S., Gibb, A. 2012. **Network for sciences, engineering, arts and design**. SIGGRAPH Posters 79.
- Lord, M., Debethizy, D., Strohecker, C. 2007. **Innovation equals integration**: Beyond either invention or openness, toward an integrated model. Strategic Management Society.
- Badre, A. N., Levaldi, S., Foley, J., Thomas, J., Strohecker, C., Angeli, A. D., Ram, P., Ram, A., Sanchez, J. 2007. **Human Centric E-Learning and the Challenge of Cultural Localization**. Baranauskas, M.C.C., Palanque, P.A., Abascal, J., Barbosa, S.D.J. (eds.) *INTERACT'07 Proc. 11th IFIP TC 13 International Conference on Human-Computer Interaction, II*: 690-691. Rio de Janeiro, Brazil.
- Butler, D., Strohecker, C., Martin, F. 2006. **Sustaining local identity, control and ownership while integrating technology into school learning**. *Proc. Informatics in Secondary Schools: Evolution and Perspectives*. Ministry of Education and Science of the Republic of Lithuania, Centre of Information and Technologies of Education, and Institute of Mathematics and Informatics.
- Papert, S., Strohecker, C. 2005. **Catalyzing debate about fundamental change in education**. *Proc. Technology and Change in Educational Practice*. London Knowledge Lab, University of London.
- Butler, D., Strohecker, C. 2005. **Developing self-esteem and empowerment through expressive computational materials**. *Proc. Society for Information Technology and Teacher Education International Conf.*, 736-741.
- Wood, A., Davenport, G., Donovan, B., Strohecker, C. 2004. **Stories for remote place**: Content, structure, device, trials. *Proc. International Cultural Heritage Informatics*.
- Ananny, M., Biddick, K., C. Strohecker, C. 2003. **Constructing public discourse with ethnographic/SMS "texts."** *Proc. Mobile HCI*, 368-373. Springer-Verlag Lecture Notes in Computer Science.
- Strohecker, C., Ananny, M. 2003. **Constructing intermodal literacies**. *Proc. ACM International Conf. Technology Enhanced Learning*.
- Ananny, M., Strohecker, C. 2002. **Situated citizen photojournalism and a look at dilemmatic thinking**. *Proc. E-Learn*. Assoc. Advancement of Computing in Education.
- Ananny, M., Strohecker, C. 2002. **Sustained, open dialogue with citizen photojournalism**. *Proc. Development by Design*.

- Strohecker, C., Slaughter, A. H. 2001. **A framework for microworld-style construction kits.** *Proc. EdMedia, World Conf. Educational Multimedia*. Assoc. Advancement of Computing in Education.
- Strohecker, C., Slaughter, A. H. 2000. **Approaches to processes of building in software kits.** *Proc. International Workshop on Applied Learning Technologies*. IEEE Computer Society.
- Strohecker, C., Slaughter, A. H., Horvath, M. A., Appleton, N. J. 2000. **Zyklodeon: A software construction kit modeling cyclic timing patterns.** *Proc. ACM Multimedia Workshops*, 31-34. Assoc. Computing Machinery.
- Strohecker, C. 1999. **Construction kits as learning environments.** *Proc. IEEE International Conf. Multimedia Computing and Systems 2*, 1030-1031. IEEE Computer Society.
- Strohecker, C. 1999. Toward a developmental image of the city: **Design through visual, spatial, and mathematical reasoning.** *Proc. Visual and Spatial Reasoning in Design*, 33-50. Key Centre of Design Computing and Cognition, University of Sydney.
- Strohecker, C. 1999. **What would Cézanne think?** *Proc. Creativity and Cognition*, 132-134. Assoc. Computing Machinery.
- Bers, M. U., Ackermann, E., Cassell, J., Donegan, J., Gonzalez-Heydrich, J., DeMaso, D. R., Strohecker, C., Lualdi, S., Bromley, D., Karlin, J. 1998. **Interactive storytelling environments: Coping with cardiac illness at Boston's Children's Hospital.** *Proc. CHI'98, Human Factors in Computing Systems*, 603-610. Assoc. Computing Machinery.
- Gonzalez-Heydrich, J., Bromley, D., Strohecker, C., Marks, J., DeMaso, D. R., Ackermann, E., Gibson, S., Shen, C., Umaschi, M. 1998. **Experience Journals: Using computers to share stories about illness and medical intervention.** *Proc. Ninth World Congress on Medical Informatics*, 1323-1327. Cesnik, B., McCray, A. T., Scherrer, J.-R., eds. IOS, Amsterdam.
- Strohecker, C. 1997. **A case study in interactive narrative design.** *Proc. Designing Interactive Systems: Processes, Practices, Methods, and Techniques*, 377-380. Assoc. Computing Machinery.
- Strohecker, C. 1996. **Design of an environment for learning about topology and learning about learning.** *Proc. Second International Conference on the Learning Sciences*. Assoc. Advancement of Computing in Education.
- Strohecker, C. 1996. Tired of giving in: **Experimenting with the Greek chorus as a model for interaction with stories.** *NovArt: Les États Généraux de l'Écriture Multimedia*, 94-97. ART3000, Paris.
- Strohecker, C. 1995. **A model for museum outreach based on shared interactive spaces.** *Multimedia Computing and Museums: Selected Papers, Third International Conf. Hypermedia and Interactivity in Museums*, 57-66. Archives & Museum Informatics.
- Strohecker, C. 1993. A comparison of **museum exhibits in art, sports, and science.** *Proc. Internat'l. Conf. Hypermedia and Interactivity in Museums*, 52-56. Archives & Museum Informatics.

ADDITIONAL REFEREED CONFERENCE PAPERS

- Ananny, M., Strohecker, C. 2007. **Forms and forums for developing public opinions.** Digital Cities 5 Workshop, 3rd International Conf. Communities and Technologies.
- Taylor, A., Foley-Fisher, Z., Strohecker, C. 2005. Polymorphic Letters: **Transforming pen movements to extend written expression.** *Extended Abstracts, CHI'05, Human Factors in Computing Systems*, 1825-1828. Assoc. Computing Machinery.
- Ananny, M., Strohecker, C. 2004. **Designing public spaces for democratic stories.** *Proc. First ACM Workshop on Story Representation, Mechanism & Context*, 47-50.
- Strohecker, C., Butler, D. 2004. The informal informing the formal in forming **new models of learning.** *Proc. Conf. on Interaction Design and Children*, 151-152. Assoc. Computing Machinery.
- Taylor, A., Donovan, B., Foley-Fisher, Z., Strohecker, C. 2004. **Time, voice, and Joyce.** *Proc. First ACM Workshop on Story Representation, Mechanism & Context*, 67-70.

- Ananny, M., Biddick, K., Strohecker, C. 2003. The (intermodal) pictures on the wall: **Nomadic snapshots, thumbnail texts, emergent archives**. *International Visual Sociology Association Conf.*
- Donovan, B., Wood, A., Davenport, G., Strohecker, C. 2003. Nature Trailer: **Physically navigate stories in the wild**. *Design Methods for Ubiquitous Computing in the Wild Workshop, Mobile and Ubiquitous Multimedia.*
- Winters, N., Cherubini, M. Strohecker, C. 2003. Biosphera: **A prototype design for learning about multivariate systems**. Designing for Learning Workshop, *CHI'03, Human Factors in Computing Systems*. Assoc. Computing Machinery.
- Ackermann, E., Strohecker, C. 2001. **PatternMagix construction kit software**. *Extended Abstracts, CHI'01, Human Factors in Computing Systems*, 31-32. Assoc. Computing Machinery.
- Muller, M., Millen, D. R., Strohecker, C. 2001. **What makes a representative user representative?** *Ext. Abstracts, CHI'01, Human Factors in Computing Systems*, 101-02. Assoc. Computing Machinery.
- Slaughter, A. H., Strohecker, C. 2000. **Toward patterns for the "quality without a name."** *Workshop position paper, CHI'00, Human Factors in Computing Systems*, Assoc. Computing Machinery.
- Strohecker, C., Slaughter, A. H. 2000. **Kits for learning and a kit for kitmaking**. *Extended Abstracts, CHI'00, Human Factors in Computing Systems*, 149-150. Assoc. Computing Machinery.
- Strohecker, C. 1999. **The chorus as internalized objects**. *Working Notes, AAAI-99 Fall Symposium on Narrative Intelligence.*
- Strohecker, C., Barros, B. 1997. **A prototype design tool for participants in graphical multiuser environments**. *Extended Abstracts, CHI'97, Human Factors in Computing Systems*, 246-247. Assoc. Computing Machinery.
- Friedlander, L., Strohecker, C. 1996. **The Greek chorus as a model for agents in interactive stories**. *Working Notes, AAAI-95 Spring Symposium on Interactive Story Systems: Plot and Character.*

TECHNICAL REPORTS, NOTES, AND WORKING PAPERS

- Foley-Fisher, Z., Strohecker, C. 2005. An approach to the presentation of information from multiple sensors. MLE EL-TR2005-02.
- Strohecker, C. 2003. MLEonardos: **The art and science of inventing new technologies through interdisciplinary collaboration**. Proposal to *Marie Curie Actions / Human Resources and Mobility Activity: Structuring the European Research Area*. 6th Framework Programme, European Commission. MLE EL-TR2005-01.
- Slaughter, A. H., Strohecker, C. 2000. **Framework for microworld-style construction kits**. MERL TR2000-19.
- Strohecker, C. 2000. **Bones v.3 construction kit interactions**. MERL WP2000-08.
- Strohecker, C. 2000. **PatternMagix v.1 construction kit interactions**. MERL WP2000-10.
- Strohecker, C. 2000. **Rationale for Kit4Kits**. MERL N2000-03.
- Strohecker, C. 2000. **WayMaker v.2 construction kit interactions**. MERL WP2000-09.
- Strohecker, C. 2000. **Zyklodeon: A kit for building intuitions about time / emergence**. MERL WP2000-02.
- Strohecker, C. 2000. **Zyklodeon design update 1**. MERL WP2000-11.
- Strohecker, C., Appleton, N. J., Henrikson, J. 2000. **Aura: An elevator-based ambient sound system**. MERL N2000-02.
- Strohecker, C., Slaughter, A. H. 2000. **Approaches to processes of construction in software kits**. MERL TR2000-28.
- Strohecker, C., Slaughter, A. H. 2000. **Designing building processes in software construction kits**. MERL TR2000-03.
- Strohecker, C., Slaughter, A. H., Horvath, M. A., Appleton, N. J. 2000. **Zyklodeon interaction design document**. MERL WP2000-03.
- Ackermann, E., Strohecker, C. 1999. Build, launch, convene: **Sketches for constructive-dialogic learning environments**. MERL TR99-30.

- Ramalingam, V., Strohecker, C. 1999. **Learning research with TangoTiles**. MERL N99-03.
- Ramalingam, V., Strohecker, C. 1999. **Tangibles: A literature survey**. MERL N99-02.
- Strohecker, C. 1999. **Learners' development of languages for communicating about computationally supported ideas**. MERL WP99-04.
- Strohecker, C. 1999. **The Scientific Studio museum-based learning environment**. MERL N99-04.
- Strohecker, C. 1999. Protocols for **WayMaker v.1 prototype usage trials**. MERL WP99-01.
- Strohecker, C., Brooks, K., Friedlander, L. 1999. Tired of giving in: **An experiment in narrative unfolding**. MERL TR99-16; see Strohecker, Brooks, Friedlander 2001.
- Strohecker, C., Eisenberg, M., Brand, M. 1999 (1996). **Virtual museum as Scientific Studio**. MERL N99-01.
- Strohecker, C., Schwenke, D., Shipman, S., Suits, E., Berman, D., Waters, R. C., Sakaguchi, T., Slaughter, A. H. 1999. **Environments for Science World Museum: A preliminary proposal by Mitsubishi Electric Information Technology Center America**. MERL N99-05.
- Strohecker, C., Slaughter, A. H. 1999. **Constructing representations of mental maps**. MERL TR99-01.
- Ackermann, E., Strohecker, C. 1998. **Interaction design for AnimMagix prototype**. MERL TR98-13.
- Ackermann, E., Strohecker, C., Slaughter, A. 1998. **AnimMagix interaction design with projections for updated prototype**. MERL WP98-02.
- Strohecker, C. 1998 (1996). **Cubist characters for virtual worlds**. MERL WP98-03, N96-16.
- Ackermann, E., Strohecker, C., Agarwala, A. 1997. **The "Magix" series of playful learning environments**. MERL TR97-24.
- Strohecker, C. 1997. **An interface metaphor and mechanism for learning history through multimedia stories**. MERL WP97-15.
- Strohecker, C. 1997. **1-2-3-Done! Learning to cope with serious medical conditions, hospitalization, and treatments**. MERL N97-02.
- Ackermann, E., Strohecker, C. 1996. **PatternMagix for next-generation PICO**. MERL N96-09.
- Strohecker, C. 1995. **Embedded microworlds for a multiuser environment**. MERL TR95-07.
- Strohecker, C. 1993. **A view of learning environments**. MERL N93-17.
- Strohecker, C. 1992. **System supporting users' learning of a foreign language**. MERL N92-19.

THESES

- Strohecker, C. 1991. **Why knot?** Doctoral dissertation, Epistemology & Learning Group, Media Laboratory, Massachusetts Institute of Technology.
- Strohecker, C. 1986. Electronic collage: **The videodisc and interactive narrative**. Master's thesis, Visual Studies, Media Laboratory, Massachusetts Institute of Technology.

ADDITIONAL EDITED PUBLICATIONS

- Strohecker, C., ed. 1984. *The Taste of Maryland*. The Walters Art Gallery, Baltimore MD.
- Strohecker, C., ed. 1983. *Ivory: The Sumptuous Art*. The Walters Art Gallery, Baltimore MD.
- Strohecker, C., ed. 1982. *God's Minstrel: St. Francis of Assisi*. The Walters Art Gallery, Baltimore MD.
- Strohecker, C., ed. 1982. *3000 Years in Glass*. The Walters Art Gallery, Baltimore MD.
- Strohecker, C., ed. 1981-1983. *The Journal of The Walters Art Gallery* 35-37.
- Strohecker, C., ed. 1978. *The New Melones Dam: An Impact Survey*. Iroquois Research Inst., Fairfax VA.