

Malcolm McCullough

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ACADEMIC APPOINTMENTS

- 2013-> Professor of Architecture,
Taubman College of Architecture and Planning
University Of Michigan.
- 2001-2013 Associate Professor of Architecture,
Taubman College of Architecture and Planning
University Of Michigan.
(Associate Professor of Art and Design, 1/4 time, 2001–2005.)
- 1998-2000 T. David Fitzgibbon Visiting Professor,
School of Architecture,
with courtesy appointment (1/3 time) in the School of Design
Carnegie Mellon University
- 1992-1998 Associate Professor of Architecture
1989-1992 Assistant Professor of Architecture
Harvard University Graduate School of Design
- 1987-1988 Assistant Professor of Architecture
Director, Advanced CAD Lab
School of Architecture and Planning
University of Texas at Austin

EDUCATION

M.Arch. 1985, University of California (Los Angeles). Dean's award: highest student honor.
B.A. 1979, Yale University, honors, double concentration: engineering plus architecture.

HONORS AND AWARDS

Chrysler Design Award, nominee, 2002. In what proved to be its last year, this distinguished set of awards was devoted to "advocates and educators."

American Institute of Architects, International Book Award, 1993. With William Mitchell, for *Digital Design Media*.

American Institute of Architects, Student Gold Medal, University of California (Los Angeles), 1985.

BOOKS

- Downtime on the Microgrid—Architecture, Electricity, and Smart City Islands.* Cambridge: MIT Press. March 2020.
- Ambient Commons—Attention in the Age of Embodied Information.* Cambridge: MIT Press. April 2013. Paperback edition, September 2015.
- Digital Ground—Architecture, Pervasive Computing, And Environmental Knowing.* April 2004. Cambridge: MIT Press. Paperback edition, September 2005.
- Abstracting Craft—The Practiced Digital Hand.* 1996. Cambridge: MIT Press. Paperback edition, 1998.
- Digital Design Media.* 1991. Co-author with William Mitchell. New York: Van Nostrand Reinhold (original), John Wiley (present). Second edition, 1994. Chinese, Italian, and Korean translations, 1995, 1996, 1997. Online companion, 1995.
- The Electronic Design Studio—Architectural Knowledge in the Computer Era.* 1990. Co-editor with William Mitchell and Patrick Purcell. Cambridge: MIT Press.

INVITED BOOK CHAPTERS

- “Urban Information Environmentalism,” invited chapter for the book *The Politics of Visibility*, Andrea Mugi Brighenti, ed., London: Intellect. Delayed by pandemic from 2020, at last in print release in October 2022.
- “Inhabiting Electricity—David Nye on the Built Environment,” invited chapter for a festschrift on this eminent social historian of technology. Jørn Brondal, ed, Heidelberg University Press, in press for summer 2021.
- “Seeking Effortless Attention,” invited chapter for the book *24/7* to accompany an arts exhibit by the same name, Somerset House, London, Fall 2019.
- “Retrospect on the New Epigraphy,” invited lead chapter for the *The Ambient Literature Collection*. Amy Spencer and Jonathan Dovey, eds. On hold at publisher. Spring 2018.
- “(Unofficially) Enacting the Commons,” invited chapter for the book *Entr’Acte--New Public Space Formations*. Jordan Geiger, Ed. Palgrave Macmillan. 2015.
- “Distraction Reconsidered: on the cultural stakes of the ambient,” invited chapter for the book *Complex Ubiquity-Effects: Individuating, Situating, Eventualizing*. Ulrik Ekman, Jay David Bolter, Lily Diaz, Morten Søndergaard, and Maria Engberg, eds. London, Routledge, 2015.
- “On Sensibility and Ambient Information,” invited chapter for the book *Rethinking the American City*. Miles Orvell and Klaus Bensch, eds., University of Pennsylvania Press, 2013.
- “Twenty Years of Scripted Space,” reprint from *A.D.* magazine, “Programming Cultures,” August 2006, for the anthology *The Digital Turn in Architecture*, Mario Carpo, editor, Wiley/AD Reader, December 2012.
- “On Micro-transactions in Urban Informatics,” invited chapter for the international anthology *Sustainable Urbanism and Beyond*. Tigran Haas, ed. New York: Rizzoli, 2012.
- “Inscribing the Ambient Commons,” invited chapter for the book *Throughout: Art and Culture Emerging with Ubiquitous Computing*. Ulrik Ekman, ed. Cambridge: MIT Press, (completed 2010, published fall 2012).

- “Spatial Settings,” invited section introduction for the book *Shared Encounters: Content Sharing as Social Glue in Public Places*, K. Willis, G. Roussos, M. Struppek, & K. Chorianopoulos (eds.), Springer, 2009.
- “New Media Urbanism,” invited article for international anthology *New Urbanism and Beyond*, Tigran Haas, ed., Royal University of Technology, Stockholm, 2008.
- “Epigraphy and the Public Library,” invited chapter for the book *Augmented Urban Spaces*. Alessandro Aurigi, ed., Newcastle UK: Newcastle University Press. 2008.

PEER-REVIEWED JOURNAL AND CONFERENCE PAPERS

- “On the Nature of Attention with Embodied Interfaces at Street Level.” *Continuum: Journal of Media & Cultural Studies*, summer 2013.
- “Attention in Urban Foraging.” *IXD&A Interaction Design and Architecture(s)* (Italy), issue on “Smart City Learning,” summer 2013.
- “Implied Environmental Criticism.” *FibreCulture*, Issue 19, December 2011.
- “New Media Urbanism—Grounding ambient computing,” *Environment and Planning B*, June 2007.
- “On the Urbanism of Locative Media,” *Places* (journal of the Environmental Design Research Association (EDRA)), September 2006.
- “Urban Markup: Frames of reference in location models for participatory urbanism,” *Leonardo Electronic Almanac*, Summer 2006.
- “A Typology Of Situated Interactions,” *Human-Computer Interaction*, Spring 2001.
- “On Place, Community, Brand, and Ecology,” Proceedings of *Digital Cities*, MIT School Of Architecture and Planning, September 1998. Part of a publication series sponsored by MIT Communications Forum.
- “Describable Versus Decidable Processes in Design,” Proceedings of *Descriptive Models of Design*. Spring 1996.
- “Dynamic Data Sets for Collaboration in Urban Design,” Proceedings of Computer-Aided Architectural Design (CAAD) Futures 1995, Singapore, September 1995.
- “Interactive Urban Models,” Proceedings of Association for Computer Aided Design in Architecture (ACADIA) '93, College Station, TX, October 1993.
- “Architectural Tours in Texture Space,” Proceedings of Association for Computer Aided Design in Architecture (ACADIA) '91, Los Angeles, October 1991.
- “Technology, Modernity, and Computer-Aided Design,” Marc Angelil, ed., *Technology, Modernity, and the City*. Proceedings of ACSA Technology conference, Tempe, AZ, March 1990.
- “Low-Threshold Modeling,” Proceedings of Computer-Aided Architectural Design (CAAD) Futures, Harvard, July 1989.
- “Representation in the Computer-Aided Design Studio,” Proceedings of ACADIA 1988.

SELECTED ARTICLES

- “Seeking Infrastructures,” solo editorial essay in the spring 2023 drop of *Gradient*, the online architecture faculty journal of Taubman College of Architecture and Urban Planning.
- “Why Infrastructures,” joint editorial essay, with Vyta Pivo and Cyrus Peñarroyo, in the spring 2023 drop of *Gradient*, the online architecture faculty journal of Taubman College of Architecture and Urban Planning.
- “(Retrospect on) Downtime on the Microgrid,” in *Gradient Papers*, in the fall 2022 drop of *Gradient*, the online architecture faculty journal of Taubman College of Architecture and Urban Planning.
- “Exercising Spatial Ability” Invited article for *Graz Architecture Magazine (GAM13)*, issue focus on Urban Expeditions. April 2017.
- “Must Media Mean Remoteness?” invited paper for *New Geographies 7*, Harvard Graduate School of Design, November 2015.
- “Ambient Attention amid Urban Screens.” for I.N.A. Global, *The Review of Creative Industries and Media*. (ina.global.fr). French National Audiovisual Institute. March 2014.
- “On Attention to Surroundings,” cover story for *ACM Interactions*, XIX (6). November-December 2012.
- “On Ambient Information,” leadoff essay for the *Ars Electronic* symposium proceedings: *Inscribing a Square—Urban Data as Public Space*. Dietmar Offenhuber and Katja Schnecter, eds., Berlin: Springer, 2012.
- “Twenty Years of Scripted Space,” invited article for an issue of *A.D.* magazine, “Programming Cultures,” August 2006. Included in reprint anthology, *A.D. Classics*, 2012.
- “The Connectivity Project and beyond—a response to distributed actions.” Invited critique in the catalogue of the project and related exhibition, “Challenging Craft.” Gray’s School of Art, Aberdeen, Scotland, 2005.
- “Digital Craft : Technological Saturation and the Applied Arts.” Pamphlet version of Peter Dormer Lecture, held and published by the Royal College of Art, London, 2004.
- "Fixity, Flow and Engagement with Context", feature article in *Archis*, October 2002, to accompany *Doors of Perception 7: Flow*.
- “Alternative Futures for Pittsburgh’s Strip District,” CD-ROM publication, Carnegie Mellon, February 1999.
- “Play” In Janet Abrams, ed., 1998, *If / Then*, (companion volume to the conference *Doors of Perception 5: Play*), Amsterdam: Netherlands Design Institute.
- "On Genetic Code: Design And Computing," *Harvard Design Magazine*, Summer 1997.
- "Digital Media In Urban Design," *Architecture*, April 1995.
- "Computer Applications To Urban Design," *Educators' Technical Exchange*, 1993.
- "On Visual Accuracy," *Computer Graphics World*, 1992.
- Various short articles, in *CADalyst* and *Cadence*, (AutoCAD trade magazines), 1987-91.
- "CAD And The Studio Philosophy," *Academic Computing*, 1987.
- "Color in Computer-Aided Design," with William Mitchell, *Architecture Contemporaine*, Summer 1985.

Illustrations of student work in magazines: *Architecture* (1989, '91, '94, '95); *CADalyst* (1987, '90, '91); *Progressive Architecture* (1991, '92).

KEYNOTE LECTURES

“Walking, The City, and Ambient Literature.” closing keynote, Ambient Literature conference, Watershed Cultural Center/University of Western England, May 2017.

“Notes on the Augmented City,” keynote, SWARM ubiquitous computing retreat, University of California, Berkeley, May 2013.

“On the Humanism of Networked Cities,” keynote, Networked Humanities conference, University of Kentucky, February 2013.

“Situated Technology Too,” opening keynote, Processing/Android conference, University of Illinois Chicago, October 2010.

“Urban Inscriptions,” opening keynote, Mobile City conference, Netherlands Architecture Institute, Rotterdam, February 2008.

“Dense Notation, in Context,” closing keynote, Interaction Design Association (IXDA) conference, Savannah, Georgia, February 2008.

“Embodiment, Ambient Media, and Information Anxiety,” opening keynote, Pervasive Learning 07 conference, Odense, Denmark, November 2007.

“Digital Ground,” opening keynote, MediaCity conference, Bauhaus-Weimar, Germany, November 2006.

“Ambient, Embodied, and Participatory,” closing keynote, *Ubiquitous Content* symposium, School of Environmental Information, Keio University, Tokyo, February 2006.

“On Embodiment in Interaction Design,” opening keynote, first biennial *Nordes* design conference (nordes.org), Copenhagen, May 2005.

“On Knowledge of Media.” Opening keynote at *Pixel Raiders 2* (a British arts educators’ conference), Sheffield, April 2004.

“Haptics and Abstract Craft,” keynote for *Eurohaptics*, University of Edinburgh, endowed lecture in the College of Art as a crossover contribution to this conference in the College of Computer Science, July 2002.

“On Design Education,” closing keynote, *American Institute of Crafts in Design*, Cleveland Institute of Art, October 2001.

“Bridging the Divide,” closing keynote/summary address, *ACM Designing Interactive Systems 2000*, New York, August 2000.

“Digital Craft,” opening keynote, *Society Of North America Goldsmiths*, Cambridge, March 2000.

“Quiet Architecture,” closing keynote, *Cooperative Buildings*, Pittsburgh, October 1999.

OTHER INVITED LECTURES

“On the Sites of Digital Temperance,” invited talk in the conference “Unrelating: Infrastructures, Imaginaries, and Politics of Disconnection.” University of Hamburg + Leuphania Digital Studies Institute, Germany, November 2021.

- “Living Well With Architecture,” invited talk in the conference “Living Well– A Political Question,” Diafora Foundation, Bergamo, Italy, November 2021. “Downtime on the Microgrid,” invited talk in “The City 2.0” conference, Kennedy
- “Downtime on the Microgrid,” invited talk in “The City 2.0” conference, Kennedy School of Public Policy, Harvard University, Cambridge, November 2019.
- “Data Formation,” invited talk in the Architecture and Information Design and Visualization programs, Northeastern University, Boston, January 2018.
- “Communities of Practice or Inclusive Technologies,” invited talk in the annual President’s Symposium, Lawrence Technical University, metro Detroit, September 2017.
- “Activating the Microgrid: Response and Repose in Architecture,” guest affiliate talk while a sabbatical visitor at Lawrence Berkeley Labs, Building Technology and Urban Systems group, September 2016.
- “Information Environmentalism?,” invited talk in “key thinkers” student lecture series, School of Media Studies, The New School, New York, November 2015.
- “Procedural Literacy and its Discontents,” closing session plenary lecture, “Public, Private, Protected,” symposium on code in design education, College of Environmental Design, University of California, Berkeley, April 2014.
- “On Attention to Surroundings.” *Excess*, the 5th annual Anthropology and History symposium, University of Michigan, February 2014.
- “Critical Urban Computing”, leadoff lecture for UBI Summer School urban computing workshops, University of Oulu, Finland, June 2013.
- “The Locus of Digital Craft,” leadoff lecture for a faculty symposium at the Royal College of Art, Copenhagen, entitled “What does it mean to make an experiment?” May 2013.
- “What architecture does: how form informs and inhabitation inspires,” *World Information Architecture Day 2013*, Ann Arbor session, February 2013.
- “City as Platform,” *American Institute of Graphic Artists (AIGA)* conference. Phoenix, October 2011.
- “On Ambient Information,” *Placing Sense / Sensing Place* symposium, as a part of the annual *Ars Electronica* conference. Linz, Austria, September 2011.
- “Attention, Architecture, and Overload,” fall lecture series, School of Architecture, Bowling Green State University, September 2010.
- “Walkable Urban Computing,” Design Community lectures, ACM Computer-Human Interaction (CHI) conference, Boston, April 2009.
- “Architecture, Urban Screens, and Information Pollutions,” Media Architecture conference, Central St. Martin’s, London, September 2007.
- “Dense Notation,” industrial design lecture series, Rhode Island School of Design, April 2007.
- “Locative Media Urbanism,” “Interactive City” symposium, International Society of Electronic Arts (ISEA) biennial, San Francisco/San Jose, August 2006.
- “Urban Markup,” MediaMatic Foundation, Amsterdam, May 2006.
- “Responses to Digital Ground,” internal lecture series, Nokia research headquarters, Helsinki, November 2005.
- “Digital Craft and Technological Saturation,” interdepartmental studio lecture, Cranbrook Academy of Art, April 2005.

- “Context and Pervasive Computing,” *Computational Tools for Design* series, Massachusetts Institute of Technology, March 2005.
- “A Theory of Place for Interaction Design,” Center for Research on Electronic Work (CREW), University of Michigan, October 2004.
- “New Media Urbanism.” *New Urbanism and Beyond* conference, Royal Technical University, Stockholm, October 2004.
- “On Place and Computing.” Plenary lecture at Environmental Design Research Association (EDRA) conference, Albuquerque, June 2004.
- “On Context.” Lecture at Usability Professionals’ Association (UPA) 2004 conference, Minneapolis, June 2004.
- “A Theory of Place for Interaction Design.” Michigan-Ohio chapter of ACM interest group on Computer-Human Interaction (CHI), University of Michigan, February 2004.
- “Design Work Practices”, Interdisciplinary Committee on Organizational Studies (ICOS), University of Michigan, January 2004.
- “Digital Craft : Technological Saturation and the Applied Arts” annual Peter Dormer Lecture, Royal College of Art, London, December 2003.
- “Alternative Futures in Design Computing,” Universidad Iberoamericana, Mexico City. Conference and charette in honor of university’s 60th anniversary. October 2003.
- “On Giving Form” and “The Design Challenge of Pervasive Computing.” Oslo Institute of Architecture. Sponsored lectures in mid-career professional program. Oslo, Norway, June 2003.
- “In the Making: Retrospect on Abstract Craft,” for architecture lecture series in accompaniment to exhibition of digital fabrications, “In the Making,” California College of Arts and Crafts, San Francisco, December 2002.
- “On Fixity,” *Doors of Perception 7: Flow*, Amsterdam, November 2002.
- “Architecture, Local Technology, and Interaction Design.” 1 of 3 invited speakers to accompany year-end reviews in the first year of the new institute, Interaction Design Institute Ivrea, Italy, June 2002.
- “On Digital Craft,” *What is it Worth*, Museum of Applied Arts, Frankfurt, Germany, February 2002
- “Context And Premise,” *Design ReCast*, Jan Van Eyck Institute, Maastricht, Netherlands, April 2002
- “Building A Culture On Digital Craft,” *Numer.02*, Pompidou Center, Paris, April 2002. With television and web interviews.
- "Digital Ground and Knowledge Capital," *Metropolis: Business Unusual*, New York, October 2001.
- "Craft And Interaction Design," *Hallmark Symposiums*, Kansas City, April 2001.
- "Art, Craft And Industry," University Of Kansas, School Of Art, April 2001.
- "No place like anywhere-environmental knowing and design," *Doors of Perception 6: Lightness*, Amsterdam, November 2000. Web and radio interviews.
- "Location Awareness," Microsoft Research noon lecture series, Redmond, WA., January 2000.
- "Social History of Computing," *Global Villages / The Bangalore Declaration*. Indian Institute Of Science, Bangalore, October 1998.

SELECTED COLLOQUIA, WORKSHOPS, AND PANELS

- “The Statistical Imaginary,” panelist on book launch event for Mark Shepard, *There Are No Facts—Attentive Algorithms, Extractive Data Practices, and the Quantification of Everyday Life* (MIT Press, Fall 2022). University at Buffalo, November 2022.
- “Keeping it Human,” a career retrospective interview, online, Welsh School of Architecture, MSc Computational Methods in Architecture program, Cardiff University. UK, November 2021.
- “Augmented and Tangible Interface,” two invited online interviews/workshops, IDEO Tokyo, Japan, August 2021.
- “Why Grid Awareness?—A Science-Technology-Society Inquiry,” invited talk in the Penn doctoral program in architecture speaker series, March 2021
- “Smart City Islands,” plenary seminar series, Design Science program, University of Michigan, November 2019.
- “Intrinsic and Indexical,” graduate student colloquium, Information Design and Visualization program, Northeastern University, Boston, January 2018.
- “Spaces for Design Thinking in Peer-to-Peer Learning.” Invited online roundtable, organized by aformalacademy.org (Milano) for the Hong Kong-Shenzhen Architecture Biennial. January 2016.
- “Public Interactives Research,” invited roundtable, School of Media Studies, The New School, New York, November 2015.
- “Three-phase Power: Hughes, Nye, then what?” invited short talk in a session “re-Firing the Canon,” Science-Technology-Society (STS) program, University of Michigan, March 2015.
- “Manifest Data-City,” respondent in the symposium “City by Numbers: Big Data and the Urban Future,” Pratt Institute, New York, October 2014.
- “Governing the Ambient,” lightning talk at MLCities: Technology Innovation in Michigan Municipalities and Beyond. University of Michigan (co-hosted by School of Information and program in Urban and Regional Planning, October, 2014.
- “Motives and methods in writing Ambient Commons” internal colloquium, doctoral studies in architecture, Taubman College, University of Michigan, March 2013.
- “Pervasive Computing as Seen By Architects,” invited colloquium, Embedded Systems group, College of Engineering, University of Michigan, March 2013.
- “Futures of Situated Work,” invited colloquium and consultation, design strategy initiative, Steelcase research, Grand Rapids, April 2012.
- “Ambient Commons,” manuscript reading by Science-Technology-Society program, University of Michigan, March 2012.
- “Hackers and Commons” respondent in New Media/Social Change, symposium, International Institute, University of Michigan, November 2011.
- “Urban Informatics and Attention,” invitational workshop for the launch of the journal *Architecture, Technology, Culture*, American Academy in Munich, June 2011.
- “Ambient Information,” invited colloquium and consultation, Steelcase research, Grand Rapids, November 2010.
- “Embodiment and Tagging,” doctoral colloquium series, College of Environmental Design, University of California Berkeley, February 2010.

- “Ambient Commons,” Berkeley Center for New Media roundtable talks, University of California Berkeley, January 2010.
- “Ambient Information and Surveillance” session keynote, surveillance studies seminars, Economic and Social Research Council, University of Newcastle, UK, September 2009.
- “Ambient Information,” faculty colloquium, Edinburgh College of Art, September 2009.
- “Program strategies for Interaction Design Education,” invitational workshop, as a part of IxDA 09 conference, Vancouver, February 2009.
- “Digital Transformations of Urban Spaces,” invitational workshop, Temple University, Philadelphia, November 2007.
- “Scripted Form and Parametric Design,” respondent at symposium, Cranbrook Academy of Art, October 2006.
- “The Urbanism of Locative Media,” invitational workshop *Sketching in Hardware*, at The Henry Ford, Dearborn, June 2006.
- “Ambient but not Uniform,” invitational workshop *Design Engaged*, Berlin, November 2005.
- “Situated Computing,” invited speaker, “Digital Revolution” speakers’ series, University of Michigan, School of Communications, December 2005.
- “On Urban Markup,” invited colloquium, Oslo School of Architecture, department of informatics, Norway, December 2005.
- “Design for interactivity in the physical city,” short course for doctoral program, Information Technology Institute, Aarhus University, Denmark, May 2005.
- “A review of sustainable access,” respondent in symposium “From Mobility to Access,” sponsored by Ford, University of Michigan, December 2004.
- “On mobile media and play,” invited participant in creative workshop, sponsored by Nokia, Vancouver, October 2004.
- “On Value,” panelist in the 2001 web design symposium, Jaffe Center for Creative Work, University of Michigan Business School, September 2001.
- “Digital design, beyond cyberspace,” Istanbul Technical University, Istanbul, November 2000.
- “Interactivity and the City” School of Industrial Design, Technical University of Delft, Netherlands. November 1999.
- “Ubiquitous computing and its implications for architectural education,” Swiss Federal Institute of Technology (ETH), School of Architecture, September 1999.
- “Interactive urban models, digital civics, and the networked studio.” University of Miami, School of Architecture, March 1999.
- “Digital craft and the human-computer interaction community.” Human-computer Interaction Institute, Carnegie Mellon, March 1999.
- “Web urbanism,” panelist, Second International Harvard Conference on Internet and Society. Berkman Center, Harvard Law School, 1998.
- “Giving form,” panelist. *Doors of Perception 5: Play*, Netherlands Design Institute, Amsterdam 1998.
- “Planning for the next digital decade.” School of Architecture, Technical University of Delft, Netherlands. November 1997.
- “Space, place, and ubiquitous computing.” Xerox Palo Alto Research Center (PARC), May 1996.

"Collaborative systems," panel at ACADIA 1995 conference, Seattle, October 1995..

"Design computing futures," UCLA School of Architecture and Planning, Los Angeles, November 1995.

DISTANT PAST FUNDED RESEARCH & SCHOLARSHIP

(Disclaimer: This is long past, as in not in the last decade. Grantsmanship is just not what I do. Harvard GSD conditioned its junior faculty away from that, and I found I could still have impact without it.)

"The Digital Life: Virtuality and Pervasive Computing Environments." One of three coordinators across schools of information, engineering, and architecture. Rackham Distinguished Seminar Series, University of Michigan. 2003.

"On Digital Ground." Seed research for a book on the relationship between architecture and pervasive computing. Principal investigator. Grant by the Graham Foundation for the Advancement of the Arts. 1999.

"Tacit Knowledge." A study of creativity in knowledge workers conducted at Harvard Business School. Was one of 10 participants prior to leaving the university. (Principal investigator, Dorothy Leonard, Harvard Business School.) Sponsored by Harvard provost's fund for inter-school research. 1998.

"A Multimedia Historical Database." Application of interactive urban models to unusually complex problems of land ownership in the Old City of Jerusalem. Multimedia presentation and online prototypes for a sample spatial database used for political consensus-building. Primary media developer. (Principal investigator: Francois Vigier.) Sponsored by the Royal Scientific Society Of Jordan. 1997-98.

"Interactive Urban Models." Synthesis of geometric modeling, geographic information systems, and interactive multimedia to support urban design. Research included interface development, dataset design, CAD utilities, and content development for demonstrations. Unfunded, but with active cooperation with City of Pittsburgh Planning Department, Boston Redevelopment Authority, and Center for Landscape Research, University of Toronto. 1992-1995.

"Daedalus Network." Harvard Graduate School of Design. Development of school-wide computer literacy using a multimedia design network. emphasis on institutional learning rather than software development. (Principal investigator, William Mitchell.) Grant from Toda Corporation, Tokyo. 1989-94.

"Type, Prototype, And Parametric Modeling." Technical and theoretical extension of knowledge representation issues raised by the design software Topdown (Mitchell and Liggett). Tool development sponsored as teaching relief, Department of Architecture, Harvard Graduate School of Design. 1989-90.

"Sculptural Solids." 1990. Exploration of AutoCAD C interface for courseware feasibility. Developed plug-ins for incremental carving and slicing of geometric form. Sponsored by summer faculty development fund, Department of Architecture, Harvard Graduate School of Design.

"Site Development." Principal investigator (1 of 4; led by David Maidment, University of Texas, School of Civil Engineering). prototype for integration of digital modeling

architecture, terrain, hydrology, and zoning. Grant by the National Science Foundation. 1987-88.

"Computer Applications In Architectural Design Studios." Principal investigator (1 of 2) with Richard Dodge, University of Texas School of Architecture and Planning. Creative applications of early three-dimensional modeling and digital image processing. Grant under project *Quest* by IBM. 1986-87.

COURSES TAUGHT

at the University of Michigan:

Graduate elective studios in architectural design, 2001–2011; 2017–2019, coordinator, F2005.

Undergraduate senior studio in architectural design, 2012–2015, 2020; coordinator, F2013–2015, F2021–F2022.

Networked Cities/American Space, interdisciplinary graduate seminar, 2001–>present.
Representation, required graduate entry course, coordinator, 2004–2011. Pre architecture introductory course, 2012–2013.

Why Cities?, introductory/inaugural course for the new undergraduate program in Urban Technology, W2022–>present.

Representation*Robotics. A new undergraduate required course, coordinator, 2016–2020.

Responsive Surfaces, workshop in tangible interface, 2008–2015.

Environment and Technology, core lower-division academic lecture in Art and Design, 2003-2004.

Graduate thesis studio, 2005, 2021.

Information Design for Architects, 2001-2004, 2007, 2014–2019 as “Spatial Data Formation,” 2022 as “Revealing Data.”

Undergraduate special courses in interaction design (School of Art and Design), 2001, 2002.

at Carnegie Mellon:

(each of these was a one-time offering)

Place Identity in Digital Productions, graduate elective in interaction design, (School of Design)

Undergraduate fifth year studio in urban design

Freshman studio in architecture

Seminar: Theories of digital space

Geometric Modeling (computer aided design)

at Harvard Graduate School of Design:

Fundamentals of Computer-aided Design, (the first required course of its kind in a school of its kind), 1989–98.

Interactive Urban Models, a pioneering course in CAD+GIS+Interactivity. 1992–1997.

Geometric Modeling, 1989–93.

Graduate elective studios in architectural design, 1989, 1993, 1996, 1998.

Seminar: Theories of digital space, 1996-98.

Proseminar: advanced topics in computer-aided design, (varying annually among topics such CAD programming, digital fabrication, and multimedia authoring) 1989–1995.

at the University of Texas:

Elective, mixed graduate and senior undergraduate studios in architectural design
Geometric modeling

DOCTORAL STUDIES

at the University of Michigan:

Yung-Ju Stanley Chang, (SI), Environmental learning/information channel selection. Field preliminary committee only. Completed 2013.

Nick Senske, Procedural literacy. Candidate, withdrew.

Jennifer Chamberlin, Studio sociology. Completed 2011.

Jina Huh, (SI), Visual memory. Field preliminary committee only. Completed 2011.

Kris Luce, History of drawing. Completed 2009.

Elizabeth Vandermark, Social curiosity in design culture. Candidate, withdrew.

Charles Kaylor, Infrastructure planning. Candidate, withdrew.

Paul Hartzog, (SI), Virtual community, pre-candidate, withdrew.

at Harvard

SungAh Kim, Version histories in design

Warren Wake, Tool-structured interfaces

Branko Kolarevic, Relational modeling

Sangyun Lee, Publish-and-subscribe project management

Renata Onasick, Micromovie maps in urban design

Daniel Tsao, Image database structures

Pau Sola-Morales, Critical history of decision tools

Tom Kurmel, Decision tools for facility planning

External Examiner

Marc Bilandzic, Queensland University of Technology. Australia. External examiner. 2013.

Birger Sevaldson, Oslo College of Architecture, Norway. Primary invited opponent. 2007.

Jenice Paay, Royal Melbourne Institute of Technology. Australia. External examiner. 2007.

VERY EARLY PROFESSIONAL EXPERIENCE

1995–96. Visitor in Residence, Xerox Palo Alto Research Center (PARC). Working in collaborative systems group, on sabbatical, studying information design for media space and network place, and the beginnings of pervasive computing.

1985–86. Software Product Manager, Autodesk Inc., Sausalito, CA. (Also special projects consultant, summers 1983, 1984.) Autodesk was BusinessWeek's number one

small growth company two years running. Computer-aided design as we know it was being shaped at the time. I was the first product manager for architecture, engineering, and construction (AEC) applications. I oversaw design and production of architectural applications templates for world-standard AutoCAD. Responsibilities included project coordination, software development, production management, conferences and promotions, and occasional scripting and coding.

1979–83. Intern experiences: as architectural designer, draftsman, model builder, etc.: Kaplan, McLaughlin, & Diaz, San Francisco; Graphic Blade Studio, San Francisco; Pioneer Technology Services, Seattle; Jung-Brannen Architects, Boston; United Engineers, Boston; Digilab, Cambridge.

ACADEMIC SERVICE

at the University of Michigan, Taubman College:

Executive Committee, 2005–07, 2012–13.

Promotion and Tenure Committee, 2004–05, 2007–2009, chair 2010–11, 2013–14, 2014–15, chair 2017–18, chair 2018–19, 2020–21.

Promotion and Tenure subcommittee on professors of practice, chair 2011–12.

Promotion and Tenure committee on interim midterm tenure track review, 2015–16.

Promotion and Tenure policies (“Appendix C”) task force 2022–23.

Lecturer (LEO) review committee, 2018–19.

Fellowships Search Committee, chair, 2012–13.

Faculty Search Committee, tenure track, 2001–03, chair 2006–08.

Faculty Cluster Search Committee, 2007–08, 2010–12, chair 2011–12, 2022–23.

Faculty Search Committee, Academic-Studio Appointments, School Of Art And Design, 2003.

Architecture Program Chair Selection Advisory Committee, chair 2019.

Chair Advisory Committee, 2004–05, 2006–07, 2014–15.

Dean’s Architectural Advisory Committee, 2012–13.

Student Fellowships and Scholarships Committee, 2017, 2019–20, 2020–21

UM Science-Technology Society Program, steering committee, 2009?–2016.

Technology Committee/ Computer Policy Committee, 2001–2007. 2009–2017

Educational Policy (Curriculum) Committee, 2002–05, convener 2004–05, 2011, 2014–15, 2017–18.

Urban Technology Degree, curriculum planning committee, 2020, 2021

Advisor to curriculum committees, School Of Art And Design, 2001, 2004.

Taubman Gift Task Force, 2003.

Taubman College Faculty Service Award (recipient), 2007.

at the University of Michigan, university-wide:

International Institute Fellowship review committee, 2011, 2013, 2015.

Fulbright Fellowship review committee, 2013, 2017.

Provost's Task Force on University Strategy, Ross School of Business, 2011.

University Library Council, 2003–05.

Science-Technology-Society program, 2007–>present, steering committee 2008–13, 2015–17.

at Carnegie Mellon:

Advisor to graduate thesis program in design, 1999.

Web development committee and acting webmaster for School of Architecture, 1999.

at Harvard Graduate School of Design:

Program Coordinator, Master in Design Studies (Mid-Career) Program.

Advisor for Design Computing Track, 1992–1995. (28 M.Des.S. students and 4 Dr.Des.S. students)

Technology Resources Committee, 1989–1998.

Faculty Search Committees, 1992, 1993.

Harvard Office for Information Technology, Faculty Advisory Board. 1994.

Provost's Committee on Campus Networking. 1992-94.

Web Development. Sole designer and developer of first officially acknowledged GSD website. 1994–95

M.Arch. Admissions Committee, 1989–1998.

at the University of Texas, Austin:

Computer resources committee, 1987–88.

Curriculum development committee, 1987.

MISCELLANEOUS

Peer review:

ACM Computer-Human Interaction (CHI and TOCHI), 2006–10, 2012, 2016 2017;

ACM Computer Supported Cooperative Work (CSCW), 1997, 2003, 2013, 2015.

Artifact, (a journal of interaction design), 2009, 2011;

Architectural Research Quarterly, 2018.

Association for Computer Aided Design in Architecture (ACADIA): 1991–95, 2005, 2007, 2008, 2016, 2018, 2020;

Association of Collegiate Schools of Architecture (ACSA): 1995, 2018; ACSA Technology, 1992, '96, '98;

CAAD Futures, 1989, 1997, 2008, 2010, 2013;

Crafts Journal, Taylor and Francis, 2008, 09.

Cultural Geographies, 2012.
Design Issues, 1999, 2018;
Footprints—Delft School of Design Journal. 2010.
Environment and Planning A, B: 2007–09.
Leonardo, journal of the international society of arts, sciences, and technology, 2011, 2016, 2017
Intelligent Buildings International, 2012
IET The Institution of Engineering and Technology (UK), 2014.
International Journal of Architectural Computing, 2012
International Journal of Electronic Planning Research, 2011, 2012, 2014.
Journal of the *Media City* biennial conferences (Bauhaus-Weimar), 2008, 2010, 2012.
Journal of Urban Technology, 2015.
Journal of Design History, 2018.
MIT Press, 1998-2000, '04, '05, 2007–09, 2011–18, 2020, 2021.
Morgan Kaufmann, 2005, 2006.
Oxford University Press, 2016.
Routledge, 2009, 2012–2016.
University of Virginia Press, 2014.
University of Minnesota Press, 2016, 2017.
Usability Professionals Association, 2004, 07.

Design juries:

Cranbrook Academy of Art, University of California, Berkeley; Southern California Institute of Architecture (SCI-ARC); University of California, Los Angeles; Rhode Island School of Design; Interaction Design Institute Ivrea; Technical University Delft. All very long ago.

Sabbatical visits:

Lawrence Berkeley National Laboratory, Building Technology and Urban Systems group, September 2016.
Berkeley Center for New Media, University of California, January–March 2010.
Xerox Palo Alto Research Center, September 1995–April 1996.

Advisory boards:

International Journal of Ambient Computing and Intelligence, editorial review board, 2008–2015;
Media City, academic society and proceedings, Bauhaus-Weimar, Germany, editorial review board, 2008–2013;
Situated Technologies, pamphlet series, Architectural League of New York, editorial review board, 2007–2012.
Interactivity: Journal of Interaction Design, editorial review board, 2007-2010.
"Broadening Access," advisory board on NSF Grant to Institute for Research and Learning (IRL), Menlo Park, CA, 1997.
Cadalyst, (AutoCAD professional magazine), 1992–1995, editorial review board;
Technology Window, (Harvard Campus Computing News Monthly) faculty advisory board 1994;

ACADIA (Association For Computer-Aided Design In Architecture), steering committee.
1991–92.

Consulting (early work, very long ago):

Boston, Redevelopment Authority, 1996, 1997; Sasaki Associates, Watertown, Ma, 1995;
Daniel, Mann, Johnson, Mendenhall, Los Angeles, 1994; Perry, Dean, Rogers, &
Partners, Boston, 1993; Ellenzweig Associates, Cambridge, 1991; Shepley, Bulfinch,
Richardson, Abbott, Boston, 1990; Arup Associates (Architecture Group), London,
1989.

Professional development (early work):

Lectures in Career Discovery Program, Harvard Graduate School of Design, 1995, 1993.
Lecture/workshop for “Autodesk University,” 1995.
Short courses at Kodak/Adobe Center for Creative Imaging, Camden, ME, 1990, 1991.
Individual courses in professional development (now called executive education)
program, Harvard Graduate School of Design 1990, '91, '92.
Summer institute in computer-aided design, Harvard Graduate School of Design, 1990.
Lecture/workshop for Boston Society of Architects, 1989.

Conference planning:

ACADIA'16, (Association for Computer-Aided Design in Architecture), held at
Taubman College of Architecture and Urban Planning, University of Michigan,
October 2016, organizing committee.
“The Future of Technology,” Taubman College of Architecture and Urban Planning,
University of Michigan, September 2010, organizing committee.
“Global Place; Politics, Polis, and Practice,” Taubman College of Architecture and Urban
Planning centennial conference, University of Michigan, January 2007, organizing
committee.
“From Mobility to Access,” University of Michigan, December 2004, organizing
committee.
“Computer-Aided Architectural Design (CAAD) Futures ‘89,” Harvard University, lead
faculty organizer, July 1989.

Community service:

Historic District Commission, City of Ann Arbor, 2006-07.
“Boston 400,” Mayor's Advisory Council (1 of 20 people citywide). Mayor Menino's 2-
year grassroots initiative for a 30-year city plan, 1997-98.

International exposure:

Participation (through events listed various places above in this CV) in the following
countries: Australia, Austria, Canada, Denmark, Finland, France, Germany, India,
Italy, Japan, Jordan, Mexico, Netherlands, Norway, Singapore, Sweden, Switzerland,
Turkey, United Kingdom, United States.

SEVEN MAIN ACCOMPLISHMENTS

1. Three critically acclaimed books on digital design culture.
2. A textbook that became a standard, sold over twelve thousand copies, and remained in print for 20 years in a field where any of those is unusual.
3. A pioneer in commercial computer-aided design in its formative years of the 1980s.
4. A pioneer of digital media in studio-based education in architecture and urban design.
5. Innovative course development, ongoing in four distinct decades, based on continuous exploration and contact outside the ranks of my nominal discipline.
6. Peer review and editorial boards across a wide range of fields and formats.
7. Nearly 50 invited lectures, including 15 keynotes, in over a dozen countries.