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# Curriculum Vitae

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## Saul Greenberg

Full Professor,  
NSERC/iCore/SMART Industrial Research  
Chair in Interactive Technologies

Human-Computer Interaction &  
Computer Supported Cooperative Work

Department of Computer Science  
University of Calgary  
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*Last updated June, 2011. Information is relatively complete, but minor errors and/or omissions may occur due to the constant stream of activities.*

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# Executive Summary

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Saul Greenberg is a Full Professor in the Department of Computer Science at the University of Calgary. He holds the NSERC/iCORE/Smart Technologies Industrial Chair in Interactive Technologies, and a University Professorship - a distinguished University of Calgary award recognizing research excellence. He received the CHCCS Achievement award in May 2007, and was also elected to the prestigious ACM CHI Academy in April 2005 for his overall contributions to the field of Human Computer Interaction.

His work is heavily cited in his discipline. Microsoft Academic Search lists him as the 3rd most highly rated author in Human Computer Interaction over all years, where it records 5,232 citations. The HCI Bibliography lists him as the 5th in its 'Hot Authors' list. His uncorrected H-number is 61 according to Harzing's Publish or Perish.

## Research Overview

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While he is a computer scientist by training, the work by Saul Greenberg and his talented students typify the cross-discipline aspects of Human Computer Interaction, Computer Supported Cooperative Work, and Ubiquitous Computing. His many research contributions are bound by the common thread of situated interaction, which considers how computer technology fits within the fabric of people's day to day activities. This includes how such technology blends naturally in the flow of people's work practices, how people socialize and work together through technology, and how that technology fits within people's physical environment. He and his crew are well known for various significant contributions to the field, all necessary to pursue the broad goal of situated interaction:

- Articulation of design-oriented social science theories that serve as a requirements specification.
- Innovative and seminal system designs based on observations of social phenomenon.
- Toolkits enabling rapid prototyping of innovative groupware and ubiquitous appliances, and that exploit capabilities of multi-touch surfaces.
- Refinement of evaluation methods.

## Education

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- PhD Computer Science, 1989, The University of Calgary
- MSc Computer Science, 1984, The University of Calgary
- Diploma of Education, 1978, McGill University
- BSc Microbiology and Immunology, 1976, McGill University

## Appointments and Employment

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- Full Professor in Computer Science, University of Calgary
- Adjunct Professor / Scientist in Dept Psychology (Calgary), Dept Computer Science (Saskatchewan) and TRILabs (Calgary)
- Expert witness on patent infringement / trade secret cases (various times)
- Independent consultant applying Human Computer Interaction to contract work (1989 - present)
- Course instructor in Continuing Education, University of Calgary, Many times since 1991
- Researcher (post-doctorate position), Alberta Research Council, 1988-1990
- Software designer and research assistant at various times
- Teacher for High School and Wilderness School, Montreal, 1978-1980

## Publications

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5 books, 37 articles in refereed journals, 102 refereed full conference papers, 32 fully refereed videos, 36 refereed short conference papers, 17 refereed or invited book chapters (excludes reprints), 5 edited journals/proceedings/video proceedings, 15 other invited publications, 22 refereed/invited workshops, 57 non-refereed publications, 29 theses, and 25 independent papers produced by people under my supervision.

## Teaching and Supervision

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Dr. Greenberg teaches undergraduate and graduate courses in the Department of Computer Science. As an independent consultant, he has also taught external courses for continuing education and for industry. He has received a teaching award, and has been nominated twice for other awards. Student evaluations consistently rate him as well above our department's norm.

He currently supervises 3 PhD students, 3 MSc students, 1 Post-Doctoral Fellow, 1 NSERC USRA student. He has supervised 4 Postdoctoral Fellows, 4 PhD, and 23 MSc students to successful conclusions. He regularly supervise a good number of other graduate and undergraduate students and research employees in various capacities. He regularly participate as an advisor and/or an examiner in PhD supervisory committees, thesis defences, candidacy examinations and PhD transfer committees.

## Major Recent Grants

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Dr. Greenberg holds a joint NSERC/iCORE Research Chair worth \$2,000,000 (Fall 2006 - 2011), an NSERC Discovery Grant worth \$370,000 over 5 years (\$74,000 yearly), and was a theme leader of the recently completed \$5,500,000 NSERC NECTAR Research Networks Grant. He is also a member of the recently awarded \$5,000,000 / 5 year SURFNET NSERC Strategic Network Grant (began in 2010). Various industries have funded his research in the past, e.g., Smart Technologies, Inc., Microsoft Research, and Intel.

## Major Service Roles

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### Academic

- Editorial board member for ACM Trans. Computer Human Interaction (TOCHI), International Journal of Human Computer Studies (IJHCS), the CSCW Journal (JCSCW), and Cognitive Technologies.
- Extensive affiliation with ACM SIGCHI Conference on Human Factors in Computing Systems, including Papers Chair, Associate Chair of the technical papers program committee (several times), regular member of the technical papers and video review committee, member of the Doctorial Colloquium
- Extensive affiliation with ACM CSCW Conference on Computer Supported Cooperative Work, including: Program Co-Chair (twice), Associate Chair of the technical papers program committee (several times); and Co-chair and Chair of the video program committee.
- Served on technical program committees for many other conferences
- Refereed for many well known journals related to Human Computer Interaction

### Grants

- Panel member of the EPSCRC International Review of ICT in the UK (2006-2007)
- Chaired the NSERC GSC-330 Grant Selection Committee, 2002 - 2003

### University

- Associate Department Head / Graduate Director, 2003-2006
- Co-chair, Ethics Committee Faculty of Science / Management, 1997 - 2005
- Member, myriads of other committees over time

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# Brief Bio / Research Overview

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Saul Greenberg is a Full Professor in the Department of Computer Science at the University of Calgary. He holds the NSERC/iCORE/Smart Technologies Industrial Chair in Interactive Technologies, and a University Professorship - a distinguished University of Calgary award recognizing research excellence. He received the CHCCS Achievement award in May 2007, and was also elected to the prestigious ACM CHI Academy in April 2005 for his overall contributions to the field of Human Computer Interaction.

While he is a computer scientist by training, the work by Saul Greenberg and his talented students typify the cross-discipline aspects of Human Computer Interaction, Computer Supported Cooperative Work, and Ubiquitous Computing. His many research contributions are bound by the common thread of *embodied interaction*, which considers how computer technology fits within the fabric of people's day to day activities and practices. This includes how such technology blends naturally in the flow of people's work practices, how people socialize and work together through technology, and how that technology fits within people's physical environment. For example, he and his team are currently researching *proxemic interaction*, where interaction design is driven by the distance, orientation, identity and movement relationships between people and devices.

Dr. Greenberg is a prolific author (he is listed as the 5th / 6th top author in the HCI Bibliography and the HCI section of Microsoft Academic Search respectively) with a high impact factor (his uncorrected H-number is 57 according to Harzing's Publish or Perish). He and his crew are well known for various significant contributions to the field, all necessary to pursue the broad goal of situated interaction.

- **Articulation of design-oriented social science theories** that serve as a requirements specification. For example, his team's work on the nuances of awareness in distributed groupware has been used extensively by others as the theoretical foundation behind their work.
- **Innovative and seminal system designs** based on observations of social phenomenon. For example, his team's work on digital surfaces (large, interactive touch-sensitive digital wall and tables, touch-sensitive tablets) led to various innovations in interaction technology, as well as the notion of mixed-presence groupware that let multiple co-located groups work with each other across distance. Another example is the commercialized Teamrooms system, and the later Notification Collage and Community Bar systems; these developed notions of room metaphors and of sidebars as a means to allow a group to stay aware of each other and easily move into real-time interaction.
- **Toolkits enabling rapid prototyping of innovative groupware and ubiquitous appliances.** For example, the Proximity Toolkit tracks the spatial relationships and identity of people, digital devices and other entities in a room-sized space. The Haptic Puck Toolkit and the Fiduciary Glove Toolkit both enable haptics and hand part identification on a multi-touch surface. Phidgets are a hardware/software toolkit that lets designers rapidly build computer-controlled physical interfaces. They have been commercialized, and have become the de-facto standard for teaching and for prototyping such systems. Earlier, the Groupkit groupware toolkit was the first such system that allowed developers to rapidly create and experiment with distributed groupware.
- **Refinement of evaluation methods**, where a plethora of methods have been developed to help researchers and developers rapidly evaluate the systems they were building. Examples include discount usability methods specific to groupware, and debates about the limits of usability evaluation as a testing method.

Dr. Greenberg is also known for his strong commitment in making his tools, systems, and educational material readily available to other researchers and educators.

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*Last updated June, 2011 by Saul Greenberg*



# Education

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## Ph.D. (Computer Science)

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University of Calgary

Department of Computer Science / Faculty of Science

- Dissertation: Tool use, reuse and organization in command-driven interfaces
- Supervisor: Dr. Ian H. Witten
- May, 1989

## M.Sc. (Computer Science)

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University of Calgary

Department of Computer Science / Faculty of Science

- Thesis: User modeling in interactive computer systems
- Supervisor: Dr. Ian H. Witten
- May, 1984

## Diploma of Education

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McGill University

Faculty of Education

- April, 1978

## B.Sc. (Microbiology & Immunology)

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McGill University

Faculty of Science

- April, 1976

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*Last updated June, 2011 by Saul Greenberg*

# Appointments and Employment

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## Current

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<b>Full professor</b>	Department of Computer Science University of Calgary, Calgary, Canada <ul style="list-style-type: none"> <li>• 1997 - present: Full professor (as Industrial Research Chair since 2006)</li> <li>• 1993 - 1997: Associate professor</li> <li>• 1990 - 1993: Assistant professor</li> <li>• 1989 - 1990: Adjunct professor</li> </ul>
<b>Independent consultant</b>	Greenberg Consulting Inc. 709 Larch Place, Canmore, Canada <ul style="list-style-type: none"> <li>• expert witness in various patent infringement and trade secret cases.</li> <li>• consulting, contract projects and staff training in areas related to interactive technologies</li> <li>• 1989 - present</li> </ul>
<b>Adjunct professor</b>	Department of Computer Science University of Saskatoon, Saskatoon, Canada <ul style="list-style-type: none"> <li>• 1999 - present</li> </ul>
<b>Adjunct professor</b>	Department of Psychology University of Calgary, Calgary, Canada <ul style="list-style-type: none"> <li>• 1998 - present</li> </ul>
<b>Adjunct scientist</b>	TR Laboratories Calgary, AB Canada <ul style="list-style-type: none"> <li>• 2001 – present</li> </ul>

## Past

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<b>Senior artist / researcher</b>	Media & Visual Arts Department Human Centered Interface Project-ASRA & Code Zebra project Banff Center, Banff, Canada <ul style="list-style-type: none"> <li>• 2002-2004</li> </ul>
<b>Visiting professor</b>	Universite du Paris-Sud Orsay, France <ul style="list-style-type: none"> <li>• 2003 (October)</li> </ul>
<b>Visiting professor</b>	Faculty of Technology Middlesex University, London, UK <ul style="list-style-type: none"> <li>• 1996 - 2002</li> </ul>
<b>Course instructor</b>	Faculty of Continuing Education University of Calgary, Calgary, Canada <ul style="list-style-type: none"> <li>• 1991-1998 (occasional)</li> <li>• taught various courses in telecommunication and graphical user interface design</li> </ul>

<b>Industrial</b>	Head of the Learning and Collaboration Group
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**researcher**

Alberta Research Council  
6815 8 St NE, Calgary, Canada

- 1988-1990
- Held as part of NSERC Post-doctorate research grant
- Responsibilities included establishing a working foundation in collaboration technologies; exploring fundamental research issues and the design of computer systems that support collaborative work; and technology transfer of collaboration technologies to industry. The position was partially funded by an NSERC Industrial Research Fellowship.

**Sessional instructor** Department of Computer Science  
University of Calgary, Calgary, Canada

- winter, 1990

**Instructor** Advanced Programming Techniques for the Knowledge Engineering Project  
University of Calgary, Calgary, Canada

- July 1987

**Research associate** For various people, departments, and projects

- 1980-1989
- many duties, mostly including software design

**Teacher** For a regular high school and for a wilderness school for juvenile delinquents.

- 1978-1980

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*Last updated June, 2011 by Saul Greenberg*

# Teaching and Supervision

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I teach undergraduate and graduate courses in the Department of Computer Science. As an independent consultant, I have also taught external courses for continuing education and for industry. I have received a teaching award, and have been nominated twice for other awards. Student evaluations consistently rate me as well above our department's norm.

I currently supervise 1 Post-Doctoral Fellow, 3 PhD students, 3 MSc students, and 1 NSERC USRA student. I have supervised 5 Postdoctoral Fellows, 4 PhD, and 25 MSc students to successful conclusions. I regularly supervise a good number of other graduate and undergraduate students and research employees in various capacities. I regularly participate as an advisor and/or an examiner in PhD supervisory committees, thesis defences, candidacy examinations and PhD transfer committees.

## Teaching Awards

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- 1997 Faculty of Science Award of Excellence in Teaching "for consistently outstanding contributions in teaching"
- 1996 Graduate Teaching Award: Honourable Mention. Presented by GSA Graduate Student Association.

## Student Surveys

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- Receive consistently high ratings, e.g., 7 / 7 and 6.7 / 7 for overall instructions for several undergraduate courses.

## Courses Taught

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### Undergraduate

- CPSC 441 Computer communications
- CPSC 481 Human computer interaction I
- CPSC 502 Honors project supervised many students
- CPSC 547 Technology of office information
- CPSC 581 Human computer interaction II
- CPSC 503 Honours Project (as project Advisor / Examiner)
- COOP 511 Student COOP Internship (as overall Advisor / Grader)
- INTERN 503 Student Internship (as overall Advisor / Grader)
- Other courses: numerous guest lectures

### Graduate

- CPSC 601.13 Computer supported cooperative work
- CPSC 601.48 Heuristic evaluation
- CPSC 601.56a Media spaces and casual interaction
- CPSC 601.56b Physical user interfaces
- CPSC 681 Research methods in human computer interaction
- CPSC 699 Research methodologies in computer science
- CPSC 701.81 Ubiquitous, Domestic and Tangible Computing
- CPSC 781 Computer Supported Cooperative Work
- SENG 609.05 Graphical user interfaces: design and usability
- SENG 609.06 Special topics in human computer interaction: Real time groupware
- COSC 814: Computer supported cooperative work at the University of Canterbury, NZ with Dr. A. Cockburn
- Other courses: numerous guest lectures

### Continuing

- Graphical User Interfaces (GUIs): Design and Usability

**Education**

taught through the Faculty of Continuing Education and through Saul Greenberg Consulting

- Data Communications: Technical Aspects  
taught through the Faculty of Continuing Education

## Current Graduate Students, Post Doctoral Fellows, and Other Supervision

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**Postdocs**

- Boring, Sebastian (PDF): November 2010 -

**PhD Students**

- Marquardt, Nicolai, fall 2008 -
- Fung, Richard, fall 2010 -
- Jota, Ricardo (co-supervised, Technical University of Lisbon), fall 2008 -

**MSc Students**

- Chen, Anthony (Xiang), fall 2010 -
- Dunlap, Matthew, fall 2010 -
- Wang, Miaosen, fall 2009 -

**Research  
Associates  
and Assistants**

- Ledo, David (Undergrad, NSERC USRA): April - August 2011
- Au Yeung, June (Administrative Assistant): Nov 2007 -

## Completed Graduate Student and Other Supervision

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**Post Doctoral  
Fellows**

- Nacenta, Miguel, PDF: April 2009 -
- Stephen Volda, PDF, December 2007 - October 2009
- Amy Volda, PDF, December 2007 - October 2009
- Carman Neustaedter, PDF (2007) - now a Researcher, Kodak Research
- Jeremy Birnholtz, PDF co-supervision (2007) - now a Professor

**PhD Students**

- Edward Tse (2007), now a Project Research Leader, SMART Technologies, Inc.
- Carman Neustaedter (2007) - Professor, SFU, previously as Researcher (Kodak research)
- Michael Boyle (2005)- now a Distinguished Developer, SMART Technologies, Inc.
- Carl Gutwin (1997) - now a Tier II Chair, Assoc. Prof, U. Saskatchewan

**MSc Students**

- Saulnier, Paul (co-supervised) (2010) - now a Software Engineer
- Au Yeung, Tim (2010) - now Manager, Digital Object Repository Technologies, U. Calgary
- Sun, Yibo (2010) - now Software Developer, SMART Technologies, Inc.
- He, Helen (co-supervised) (2010) - now Software Developer, SMART Technologies, Inc.
- Bertram, Dane (2009) - now Software Engineer, Fogg Creek Software, NY
- Rob Diaz-Marino (2008) - now Software Developer, SMART Technologies, Inc.
- Michael Nunes (2008) - now pursuing parallel Masters in Library Science
- Kimberly Tee (2007) - now a User Experience Specialist, SMART Technologies, Inc.
- Stephanie Smale (2007) - now Research Associate, University of Saskatchewan
- Katherine Elliot (2006) - now a User Experience Specialist, SMART Technologies, Inc.
- Gregor McEwan (2006) - now a Researcher, National ICT, Australia
- Edward Tse (2005) - continued to PhD

- Anthony Tang (2005) - continued to PhD, now Professor, Computer Science, U. Calgary
- Michael Rounding (2004) - now a Senior User Experience Specialist, SMART Technologies, Inc.
- Carman Neustaedter (2003) - continued to PhD
- Charlotte Tang (2003) - continued to PhD, now Post-Doctoral Fellow, UBC
- Chester Fitchett (incomplete, 2002) - Founder and President, Phidgets Inc., Calgary
- James Tam (2002) - now an Instructor II, University of Calgary
- Kevin Baker (2002) - Human Factors Engineer, Greenley and Associates
- Sean Kaasten (2001) - Interaction Designer (various: General Dynamics Calgary, Microsoft)
- Donald Cox (1998) - Usability engineer (various: IBM Canada, In Context)
- Theodore O'Grady (1996) - Systems architect (various: Teamwave Software Ltd)
- Linda Tauscher (1996) - Director, NetStart Consulting
- Douglas Schaffer (1995) - Quality Assurance Leader, Schlumberger/Merak
- Mark Roseman (1993) - Founder and chief technology officer, TeamWave Software Ltd which has since been bought out by Sonexis Inc (Boston).

#### Research Associates and Assistants

Partial list is below. These range from undergraduates hired for part-time work, to graduates in a temporary but full time capacity, to post-graduates, to NSERC USRA students

- Ledo, David: May - December 2010 (NSERC USRA)
- Trotter, Eileah: 2009 - 2010
- He, Helen: August - October 2010
- de Alwis, Brian: 2009-2010
- Diaz-Marino, Roberto: January 2009 - October 2010
- Wang, Xin: July - August 2009
- Tat, Annie: Jan-April 2009
- Stehr, Nathan: Feb-April 2008
- Au Yeung, Tim: 2008
- Tee, Kimberly: 2008
- Watson, Mark: May 2006 - August 2007
- Agarawal, Ananad: ~2004
- Elliot, Katherine: 2003 (NSERC USRA)
- Fitchett, Chester: 2002
- Tse, Edward: 2001, 2002 (NSERC USRA)
- Tang, Charlotte: 2001 (NSERC USRA)

#### International Graduate Research Interns

Most visits range from at least a month to up to a year. The list below is partial.

- Ballendat, Till, LMU, Munich, October 2009 - Jan 2009; April 2010 - December 2010
- Kiemer, Johanne, LMU, Munich; April 2010 - December 2010
- Marquardt, Nicolai, Bauhaus-University, Weimar, 2008
- Jota, Ricardo, Technical University of Lisbon, 2009
- Alexander, Jason, Univeristy of Canterbury, New Zealand, 2008

## Graduate Committee and Examiner Involvement

*Excludes students I supervise directly. This is a partial list*

#### PhD Committees

- A. Wiethoff, PhD committee member, Ludwig-Maximilians-Universitaet, Institut fuer Informatik, Germany, 2011
- B. Ploderer, PhD examination committee, University of Melbourne, Australia, 2011
- M. Dork, PhD candidacy committee, 2010
- L. Fyfe, PhD sperisory committee, Computational Media Design, 2010 -

- S. Junuzovic, PhD supervisory committee, PhD examination committee, Univ. North Carolina, 2010
- M. Hancock, PhD supervisory committee, PhD examination committee, 2010
- J. Young, PhD candidacy committee, Computer Science, 2010
- P. Isenberg, PhD examination committee, Computer Science, 2009
- C. Tang, PhD supervisory committee, PhD examination committee, Computer Science, 2009
- J. Young, PhD candidacy committee, Computer Science, Dec 2008
- R. Holmes, PhD examination committee, Computer Science, 2008
- T. Apter, PhD examination committee, School of Information Technology, University of Sydney, Nov. 2008
- M. Dork, PhD supervisory committee, 2008 -
- M. Dork, PhD transfer committee, 2008
- R. Holmes, PhD supervisory committee/examiner, Computer Science, 2005-2008
- S. Junuzovic, PhD supervisory committee, Univ. North Carolina, 2008 -
- G. Ramos, PhD examination committee, University of Toronto, 2007
- N. Romero, PhD supervisory committee/examiner, Univ. TU/e - Tech. Univ. Eindhoven, Netherlands, 2007-08
- U. Heinrich, PhD supervisory committee, Computer Science, 2007 -
- P. Neumann, PhD supervisory committee, Computer Science, 2006 -
- J. Eagan, PhD supervisory committee/examiner, Computer Science, Georgia Inst. Technology, 2005-08
- N. Roussel, Habilitation appraiser, Univ. du Paris Sud, France, 2007
- N. Nova, PhD thesis examiner, Ecole Polytechnique Federale de Lausanne, Switzerland, 2007
- R. Holmes PhD supervisory committee, Computer Science, 2006
- C. Tang, PhD supervisory committee, Computer Science, 2006
- M. Hancock, PhD supervisory committee, Computer Science, 2006 -
- J. Young, PhD supervisory committee, Computer Science, 2006 -
- C. Latulipe, PhD examination committee, Computer Science, U. Waterloo, 2006
- G. Phillip, PhD examination committee, Computer Science, Queens U., 2006
- M. Hong Tran, PhD examination committee, Computer Science, 2006
- S. Scott, PhD examination and supervisory committee, Computer Science, 2005
- A. L. Moran y Solares, PhD examination committee, Computer Science, 2005
- J. Rowan, PhD supervisory committee, Georgia Tech, Computer Science 2003-
- G. Ho, PhD examination and supervisory committee, Psychology 2005
- C. Smith, PhD candidacy committee, Computer Science 2004
- J. McGrenere, PhD examination committee, U Toronto 2002
- R. Flores-Mendez, PhD supervisory committee, Computer Science 2002
- X. Liang, PhD supervisory examination committee / examiner, Computer Science 2002
- P. Boechler, PhD thesis examiner, Psychology, University of Alberta 2002
- A. Wei Tien, PhD external examiner, Information Technology, Bond University (Australia), 2000
- R. Kremer, PhD supervisory committee / examiner, Computer Science 1997
- B. Harrison, PhD thesis examiner, Industrial Engineering, University of Toronto, 1996
- Y. Leung, PhD thesis examiner, Computer Science, Massey University (NZ), 1995
- L. Chen, PhD candidacy examiner, Computer Science, 1995
- Y. Sun, PhD thesis examiner, Computer Science, University of Alberta, 1994
- M. Hammel, PhD candidacy examiner, Computer Science, 1993
- Y. Liu, PhD candidacy examiner, Computer Science, 1993
- S. Branskat, PhD supervisory and transfer committee, Computer Science 1993
- K. Ferguson, PhD candidacy examiner, Computer Science, 1992

## MSc Committees

- N. Edworthy, MSc examiner, ProSem examiner, Psychology, 2011
- T. Ballendat, Diplom examiner, Ludwig-Maximilians-Universitaet, Institut fuer Informatik, Germany 2011
- R. Kierner, Diplom examiner, Ludwig-Maximilians-Universitaet, Institut fuer Informatik,

## Germany 2011

- C. Zorilla, MDP, EVDS, 2010
- Z. Wang, MSc examiner, Computer Science, 2009
- C. Guo, MSc Examiner, Computer Science, 2008
- D. Polanski, MDP committe member and thesis examiner, EVDS, 2007
- C. Hudson, MSc thesis examiner, Psychology, 2007
- J. Stromer, MSc thesis examiner, Psychology, 2007
- S. Chisholm, MSc thesis examiner, Psychology, 2006
- D. Polanski, MDP committee, EVDS, 2006
- M. Gong, MSc thesis, Computer Science, 2003
- G. Lu MSc thesis examiner, Computer Science, 2000
- R. McCuaig MDP committee member, EVDS, 1998
- B. Johnson MA thesis examiner, Psychology, 1998
- J. Chugh MA thesis examiner, Psychology, 1998
- A. Guy MSc thesis examiner, Computer Science, 1998
- D. Herlea MSc thesis examiner, Computer Science, 1997
- K. Hotz PhD thesis examiner, Computer Science, University of Manitoba, 1996
- E. Pedro MDP thesis examiner, Environmental Designs, 1996
- S. Chander MSc incomplete
- S. Brandenburg MSc incomplete, 1996
- E. Lowe MSc thesis examiner, Computer Science, 1994.
- C. Wang MSc thesis examiner, Computer Science, 1993
- C. Schock MSc thesis examiner, Computer Science, 1993
- M. Sharp MSc thesis examiner, Computer Science, 1992
- C. Dong MSc interim supervisor,
- B. Olson MBA thesis examiner, MIS, 1992
- N. Malcom MSc thesis examiner, Computer Science, 1991
- D. Freedman MSc thesis examiner, Computer Science, 1991
- L. Mercer MSc thesis examiner, Computer Science, University of Regina, 1991

*Last updated June, 2011 by Saul Greenberg*



# External Presentations

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This is a partial list. Presentations associated with conference publications are not listed, and some presentations are not noted.

## Plenary / Keynote talks

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- Interact 2011: IFIP Conference on Human Computer Interaction, Lisbon, Portugal, The New Ubicomp, September 2011 (forthcoming)
- Latin-American Conference on Human-Computer Interaction (CLIHIC'09) and LA-Web Joint Latin American Conf. On HCI and Latin Web Congress CPS, Mérida, Yucatán, Mexico, Promoting Creative Design Through Toolkits, November 2009.
- HCI Educators Conference, Portugal, The Role of Toolkits in Educational Creativity, March 2007
- Interacción 2006. Congreso Internacional de Interacción Persona-Ordenador, Spain, Creativity Through Toolkits, November 2006
- ACM UIST Conference (Survey), 2004
- Australasian User Interface Conference (AUIC), 2004
- CRIWG Conference on Groupware, 2003
- Graphics Interface, May, 2002
- Engineering for Human-Computer Interaction, May 2001
- MICON Conference (Mitel), August 2001
- Microsoft Research Summit, 2001
- Groups collaborating on computers: Perspectives from Social Psychology and Computer Science (Switzerland), 2000
- Australian Conference on Human Computer Interaction (OZCHI), 1996, 1999
- NEC Symposium on Human-Centric Multimedia, August 1998
- Brazilian Symposium on Computers in Education 97

## University - Distinguished Lecture Series and Seminars

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- University of Toronto, Distinguished Lecture Series, Department of Computer Science, The New Ubicomp,, September 2011 (forthcoming)
- University of Waterloo, Distinguished Lecture Series, Department of Computer Science, The New Ubicomp, September 2011 (forthcoming)
- Queens University, Distinguished Lecture Series, Department of Computer Science, Proxemic Interactions, January 2010
- Simon Fraser University, Faculty of Interactive Arts and Technology, Proxemic Interactions, November 2010
- Stanford University, Symbolic Systems Forum, Palo Alto, California, USA, Proxemic Interactions, October 2010
- University of Toronto, Knowledge Media Design Institute & Dynamic Graphics Laboratory, Proxemic Interactions, August 2010
- MIT Massachusetts Institute of Technology, Computer Science and AI Laboratory, Creativity Through Toolkits, December 2008
- University of Washington, Distinguished Lecture Series, Creativity Through Toolkits, 2007
- University of Aveiro, Portugal, Department Seminar, Creativity Through Toolkits, 2007
- University of Lisbon, Portugal, Department Seminar, Creativity Through Toolkits, 2007
- University of British Columbia, Distinguished Lecture Series in Computer Science, 2003
- University du Paris-Sud, France, 2003
- University of Michigan, School of Information, February, 1999.
- University of Calgary, Department of Psychology (Brown Bag Seminar), Spring 1998.
- University of York, Department of Computer Science, Spring 1996
- University of Calgary, President's 1996 Celebration of Excellence, 1996
- University of Waikato (NZ), Department of Computer Science, Winter, January and June 1995.
- University of Canterbury (NZ), Department of Computer Science, March and June 1995.

- University of Otago (NZ), Department of Computer Science, May 1995.
- Massey University (NZ) , Department of Computer Science, April 1995
- Lincoln University (NZ) , Department of Computer Science, April 1995
- University of British Columbia, Faculty of Commerce, Summer, 1994.
- Simon Fraser University, Department of Computer Science, Summer, 1994
- Brigham Young University, Utah, Spring, 1994.
- University of Guelph, Department of Computer Science, Summer 1994 and Winter 1990.
- York University (UK), Fall 1991.
- University of Toronto, Dynamics Graphics Group, Winter 1990.

## Panels, Workshops, Demonstrations and other Academic Events

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Excludes conference paper presentations

- AITF 2010 Research and Commercialization Summit, Banff Centre, Selected Projects in Interaction Design, August 2010
- Microsoft Research Faculty Summit 2010, Redmond, Washington, USA, "Proxemic Interactions", July 2010
- CLIHC & LA-Web Joint Latin American Conf. On HCI and Latin Web Congress panel on Social & Cultural Issues in Web and HCI, November 2009
- ACM UIST Panel on Evaluating User Interface Systems Research, ACM UIST Conference, November 2007
- iCORE Summit, Banff Centre, Alberta, with S. Greenberg, Interaction and Visualization @ iLab, August 2007
- Microsoft Research, Winter 2002
- Microsoft Research Summit, August 2001
- Microsoft Research Seminar Series, 2001
- ACM CAPCHI Special Interest Group (Ottawa), 2001
- Microsoft Research, March, 1999
- Introduction to Douglas Engelbart's ACM Turing Award Presentation, ACM CSCW Conference, November, 1998
- Workshop on Handheld CSCW, November, 1998
- Banff New Media Institute - many times e.g.:
  - Intimate Technologies / Dangerous Zones, April 2002
  - Banff Human Generosity Project, 2001
  - Living Architectures: Designing for Immersion and Interaction, 2000
  - Curating and Conserving New Media at the Symposium, May 1998
  - Out of the Box Symposium, September, 1998 (Invited Speaker)
- ACM CHI'97 Workshop on Awareness in Collaborative Systems, Spring, 1997
- CSCL Panel on Computer Supported Cooperative Work and Learning, Indiana, Fall 1995.
- Formal Demonstrations at CSCW 1994 and CSCW 1992.
- CSCW Workshop on Group Drawing and Writing Tools, Toronto, Fall 1992.
- CHI Workshop on HCI and Users with Special Needs, New Orleans 1991.
- ECSCW Implementor's Workshop on CSCW Applications, Amsterdam, 1991.

## Industrial Seminars / Professional Groups

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- Smart Technologies (various over the years)
- Cadius – Professional Group on Human Computer Interaction (Madrid, Spain), 2006
- Metso Automation
- Smart Developers Conference, February 2002
- Chevron Laboratories, La Habra, USA, August 1998
- Intel Research Workshop, Intel Corporation, Portland USA, February, 1997
- NorTel (Northern Telecom), Ottawa, February, 1997
- Intel Architecture Group, Intel Corporation, Portland USA, Spring, 1996
- NorTel (Northern Telecom), Ottawa, Spring, 1996
- Smart Technologies, Calgary, 1998 and 1996
- Intel Architecture Group, Intel Corporation, Summer, 1994
- Palliser District Convention, Alberta Teacher's Association, 1992. ~300 people
- Convention '91: Calgary City Teachers Convention, Calgary, Winter 1991.

- CASS/Alberta Education Zone 5 Summer Workshop '91, Fairmont, BC. 1991.
- Alberta Telecommunications Research Centre, Fall 1990.
- Alberta Research Council, 1988 and 1989

## Community Presentations

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- Radio interviewe for CBC national program SPARK (various times)
  - Radio interviewe for CBC provincial program The Eye Opener (various times)
    - Shad Valley Summer Computer Program, 1991, 1992, 1998.
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*Last updated June, 2011 by Saul Greenberg*

# Major Awards and Grants

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## Individual Awards of Distinction

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### **NSERC/iCore/SMART Industrial Co-Chair in Interactive Technologies**

- Awarded to the Greenberg/Carpendale team, 2006-2012 (see below)

### **CHCCS Achievement Award**

- For his overall contributions to the field of Human Computer Interaction
- May 2007

### **CHI Academy**

- Elected to the ACM CHI Academy for his overall contributions to the field of Human Computer Interaction
- April, 2005

### **University Professorship**

- Endowed Program
- University of Calgary award for excellence in research
- 2006 - 2011

## Current Individual Grants

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### **NSERC Discovery Grant**

- Mediating Interaction in Ubiquitous Computing through Proximity
- 2010 - 2015,
- \$370,000 over 5 years
- \$74,000 / year

### **University Professorship**

- University of Calgary
- July 2006 - June 2011
- \$110,000 over 5 years (100%)
- \$22,000/year (100%)

## Current Shared Grants

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### **iCORE / NSERC / SMART Technologies Industrial Chair in Interactive Technologies**

- S. Greenberg and S. Carpendale, co-Chairs
- Total: \$2,000,000 over 5 years (75% under direct control of Chairs; 25% funds faculty hire in support of the Chair)
- Yearly: \$400,000 / year (75%), staggered from 2006 - 2013 as follows
  - SMART Technologies ULC
    - \$500,000 / 5 years (100%), 2006-2011, \$100,000 / year (100%)
  - iCORE Industrial Chair Establishments Grant
    - \$500,000 / 5 years (100%), 2006-2011
    - \$500,000 / 5 years (60%), 2007-2013 (40% towards faculty hire )
  - NSERC Industrial Research Chairs Program
    - \$500,000 / 5 years (40%), Sept 2006 - Aug 2012 (60% towards faculty hire )

**NSERC Strategic Networks Grant**

- Digital Surface Software Application Network (SURFNET)
- Frank Maurer PI + 12 others
- Role: Investigator
- Total: \$5,000,000 + industrial contributions over 5 years (~5%), March 1 2010 - 2015
  - 2011 allocation: \$33,000 (20K HQP, 5K travel, 7K hardware, 1.5K other)
  - 2012 allocation: \$30,000 (16K HQP, 10K travel, 2.5K hardware, 1.5K other)

**NSERC Network Center of Excellence Grant**

- NCE: GRAND: Graphics, Animation & New Media
- K. Booth PI + 49 others
- Role: Collaborating Researcher, Human Centred Technologies for Sustainable Living Project
- \$23,000,000 over 5 years (.02%), \$1,000 allocated / year, 2010 - 2014

## Past Individual Grants

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**NSERC Discovery Grant**

- An Embodied Groupware Environment
- 248,500 total over 5 years, 2004-2010 (\$49,700 / year)

**NSERC Operating Grants**

- \$200,200 total over 5 years (1998-2003), \$40,425 / year (99-03) and \$38,500 / year (1998)
- \$60,000 total over 3 years (1994-1998), \$20,000/ year
- \$60,000 total over 3 years (1991-1994), \$20,000/year
- \$11,896 total over 1 year (1990)

**NSERC Equipment Grant**

- \$84,947 (2003-2004): An embodied groupware environment
- \$44,624 (1998-1999): A usability laboratory
- \$49,726 (1991-1992), with I. Witten PI

**Mitsubishi Electric Research Laboratories (MERL)**

- \$1852. unrestricted one-time gift

**TR Laboratories, Canada**

- \$36,000 in student scholarships (\$24,000 in 2004, 12,000 in 2005)

**Microsoft Research**

- \$235,000 (approx value in CDN)
- (US25K in 2001; US50K + ~20K Equipment/Software in 2000; US58K in 1999)

**Microsoft Inc**

- Project Neptune Shell Group
- \$74,000 for 1999 (\$45K US)

**Intel Research Council Grant**

- \$US 195,000 total over 3 years, 1995-1998; \$US 65,000/year, renewed on an annual basis
- ~\$US 30,000 of equipment

**Equipment Donations by Industry**

- **SMART Technologies, Inc.:** Two Plasma Overlay Enhancements (4-camera) (2005) - Value ~\$9,000. LightRaise (2002) and 72" Rear Projection Smart Board (1998) - Value ~\$26,000.
- **Mitsubishi Research Laboratories (MERL) USA:** Two DiamondTouch displays (2002 and 2003), Value ~\$16,000 (5K US each)
- **3Com:** Several Palm Pilots, Value ~\$1,200. (~2000)

**STEP Grant**

- ~\$3,000 (partial funding for Summer Student), May 1 - August 31, 1998

**Summer Career Placement (SCP 2000)**

- \$2,380 (partial funding for Summer Student), Human Resources Canada

**The University of Calgary Faculty of Science Research Fellowship**

- Teaching and service relief for one semester, September to December, 1996

**The University of Canterbury Erskine Fellowship**

- NZ 11,000 plus travel grant for ~\$NZ 4,600, March-May, 1995

**University of Calgary Starter Grant**

- \$4,000, 1990

## Past Shared Grants

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**NSERC Research Networks Grant**

- Network for Effective Collaboration Technologies Thorough Advanced Research
- Smart Technologies and Microsoft Research as Major Industrial Sponsors
- 2004 - 2009
- Total: \$5,500,000 over 5 years (~11%)
- Yearly:\$1,100,000 / year (~11%)

**NSERC Research Tools and Instruments Grant**

- Input and Object Tracking for Large Displays, Domestic Environments, and Robotic Interfaces
- April 1, 2007 - March 21, 2008
- \$90,747
- Saul Greenberg, PI., with Sheelagh Carpendale and Ehud Sharlin

**Innovation and Science Research Investments Program (ASRA & AIS)**

- PACE: Prototyping Advanced Collaborative Environments
- Hewitt (PI), Greenberg, Montgomerie, Anderson, Bruno, Finley, Bosch.
- 2003 - 2004
- Total: \$250,000 over 2 years (10%),
- Yearly: \$125,000 / year (10%)

**Alberta Software Engineering Consortium**

- Alberta Science and Research Authority (ASRA)
- Paul Sorenson P.I. and others
- 2000-2002
- Total: \$1,800,000 over 3 years (6%)
- Yearly: \$600,000 (6%)

**TeleLearning Institute Pilot Study**

- Office of Learning Technologies (Ontario, Canada) with Tom Carey (PI) and others
- 1997 - 1998
- Total: \$95,000 (4.7%),

**NSERC Infrastructure Grant**

- \$198,000 over 3 years, 1994 - 1997, B. Gaines (PI)
- \$279,303 over 3 years, 1991 - 1994, I. Witten (PI)

**NSERC Strategic Operating Grant**

- \$360,000 over three years, 1992 - 1995, R. Baecker (PI)

**NSERC Strategic Equipment Grant**, (with R. Baecker and others) - University of Toronto,

- \$93,101, 1992, R. Baecker (PI)

## Other Awards, Grants and Scholarships Prior to Joining University of Calgary Faculty

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- NSERC Industrial Research Fellowship (Postdoctorate), \$24,000/year for two years, 1989-1990
  - Honorary Izaak Walton Killam Scholarship, 1988
  - Province of Alberta Graduate Fellowship, 1987
  - NSERC Postgraduate Scholarship, \$11,600/year for three years, 1984-1986
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# Academic Service

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This is a partial list of my academic service over the years. Aside from my formal roles (some of them providing considerable service), I typically review about 50-70 papers per year. I also satisfy about 40-70 letters of appraisal per year, ranging from tenure and faculty promotion applications, to award nominations, to grant applications, and to faculty job applications.

## Grant committees

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- EPSRC International Review of ICT Research within the UK  
2006-2007: Panel member
- NSERC National Science and Engineering Research Council  
2011: Panel member, NSERC RTI Research Tools and Instruments (Computer Science)  
2005: Chair, NSERC Industrial Chair Review Committee  
2002-2003: Chair, Computing & Information Sciences Committee GSC-330  
2001-2002: Member, Computing & Information Sciences Committee GSC-330  
every year since 1992: Referee, operating grants
- Member, Scientific Advisory Board, NSERC Nectar Research Networks Grant (2004 - 2008)
- Refereed grants for:  
NSERC, many capacities (various years)  
New Zealand FRC (various years)  
Ontario Research Fund - Research Excellence(2009)  
MITACS - Accelerate  
United Kingdom EPSRC/ESRC (various years)  
NATO (1993)  
Ontario Research Fund (2009)  
many others...

## Journal affiliations

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- ACM Transactions on Computer-Human Interaction, ACM Press  
Associate Editor, editorial board 2009 -
- International Journal of Human Computer Studies, Academic Press  
Member, advisory board 2009 -  
Associate Editor, editorial board 1988 - 2009
- Journal of Computer Supported Cooperative Work, Kluwer Press  
Member, editorial board since its conception.  
Member, advisory board since its conception.
- Cognitive Technologies Journal (PMI)  
Consulting editor since 1998
- Chair, ACM TOCHI Editor Selection Committee  
Formed a committee to solicit, interview and recommend to serve as the new Editor in Chief for ACM TOCHI journal (2003)
- SIGCHI Publications Board  
Former member, (~1998 - 2006)



- Canadian Artificial Intelligence  
Past section editor (1989).

## Journal refereeing

The list below is incomplete, but should give a flavour for the many journals that have asked Greenberg to serve as a referee

- AACE Webnet '97 World Conference of the WWW, Internet, and Intranet
- ACM Computing Surveys
- ACM TOCHI Transactions on Computer Human Interaction
- ACM TOIS Transactions on Information Systems
- Applied Ergonomics
- Automated Software Engineering Journal
- Behaviour and Information Technology
- Computers and Industrial Engineering: An International Journal
- Computing Surveys
- Distributed Systems Engineering Journal
- Human Computer Interaction
- IBM Systems Journal
- IEEE/ACM Transactions on Networking
- IEEE Computer
- IEEE Computer Graphics & Applications
- IEEE Internet Computing
- IEEE Multimedia
- IEEE Systems, Man & Cybernetics
- Interacting with Computers
- International Journal of Human Computer Studies
- Journal of Collaborative Computing
- Journal of Computer Supported Cooperative Work
- Journal of Digital Information
- Journal of Group Decision and Negotiation
- Journal of Management Information Systems
- NOW: Foundations and Trends in HCI
- Personal Technologies
- Software Practice and Experience
- Usenix Computing Systems

## Conference affiliations

- ACM SIGCHI Conference on Human Factors in Computing Systems:  
co-Chair, Doctorial Consortium (2011)  
Program co-chair, Technical Papers / Notes program committee (2009)  
Associate Chair, Technical Papers Program Committee (2004, 2002, 1998, 1994,)  
Member, Technical Papers / Review Committee / Reviewer (every year since 1990)  
Member, Doctorial Consortium (1999)  
Member, Video Program Committee (1990, 1993, 1996, 1998)  
Technical Area Coordinator for computer supported cooperative work (1990)
- ACM CSCW Conference on Computer Supported Cooperative Work:  
Program Co-chair, Technical Papers Committee (2006)  
Program Co-chair, Technical Papers Committee (1998)  
Associate Chair, Technical Papers Committee (1996)  
Video Co-chair (1994), Refereed Technical Video Program  
Video Chair (1992), Refereed Technical Video Program  
Member, Technical Video Review Committee (1996, 1998)  
Member, Technical Papers and Panels committee (1992, 1994)

Member, CSCW Doctorial Colloquium (2002, 1994)  
 Workshop Organizer (2000, 1992)  
 Reviewer, every conference

- ACM TEI Conference on Tangible, Embedded and Embodied Interaction  
 General Co-chair (2013, in proposal process thus not finalized)
- European CSCW Conference on Computer Supported Cooperative Work  
 North American Liason, 1998-1999  
 Member, Technical Program Committee (2003, 2001, 1999, 1997)
- CollabTech  
 International Advisory Board, 2011  
 Member, International Program Committee, 2005
- Technical Program Committee Membership for other conferences include:  
 14th International Conference on Distributed Computing Systems (1994)  
 ACM Group International Conference on Supporting Group Work (2001)  
 ACM International Workshop on Intelligent User Interfaces (1993)  
 ACM Conference on Organizational Computing (1993)  
 ACM Conference on Office Information Systems (1990)  
 ACM Symposium on User Interface Software and Technology (2005)  
 Active Web Workshop (1999)  
 Collab Tech (2010, 2005)  
 CRIWG International Workshop on Groupware Technologies (2004)  
 Design and CSCW Workshop (2006)  
 Graphics Interface (1997)  
 IEEE 9th International WetICE Workshop on Enabling Technologies: Infrastructure for Collaborative Enterprises (2001, 2000)  
 IFIP Interact'99 Conference (1999)  
 Interaccion Spanish Conference on Human-Computer Interaction (2007)  
 OzCHI Australian Conference on Human Computer Interaction (1997)  
 Symposium on Applications and the Internet (SAINT 2002), IEEE  
 Symposium on Human Machine Systems (ISA'2000)
- Refereed for a variety of other conferences in various roles, including:  
 ACM CHI Conference on Human Factors in Computing Systems (every year since 1990)  
 ACM DIS (2008)  
 ACM Group (various years)  
 ACM ITS Conference on Interactive Tables and Surfaces (most years since its inception)  
 ACM SIGCHI Conference on Universal Usability (2000)  
 ACM Symposium on User Interface Software and Technology (most years since 1991)  
 Graphics Interface (most years since 1991)  
 DCNet '2000  
 EICS, 2010  
 Handheld CSCW workshop, 1998  
 IEEE Hawaii International Conference on System Sciences (1992)  
 IEEE Tabletop Conference most years since its inception  
 Interact (2011)  
 ACM ITS 2010  
 Next Generation CSCW Systems Workshop, 1996  
 Pervasive (2010)  
 OzCHI Australian Conference on Human Computer Interaction (1996)

## Other contributions

- Awards Committee, for Alain Fournier Ph.D. Thesis Annual Award, 2011
- Regularly referee a large number of tenure and promotion cases.
- Successful sponsor for Dr. I.H. Witten as an ACM Fellow (1995)
- Regularly referee a variety of book and journal proposals.
- Member of the Association for Computing Machinery (ACM)

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# University Service

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## Faculty Level

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- Member, Research Development and Policy Committee (RPDC), 2009 - 2010
- Co-chair, Ethics Committee Faculty of Science / Management, 1997 - 2005  
-I formed this committee and laid out the guidelines for studies involving human subjects, in accordance with university protocols.
- Member, Faculty of Graduate Studies Council, 2003-2006
- Reviewer, Conjoint Faculties Research Ethics Board
- Member, Task Force on the Tri-Council Guidelines, 1998-1999  
-also member, subcommittee for web-based research
- Member, RCMP: Research Critical Mass Panel, Faculty of Science, 1994.

## Department Level

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- Member, Research and Planning Committee, 2010-2011  
Provide guidance to the research and planning process in Computer Science
- Member, Hiring Committee, 2010 - 2011, 2008 - 2009  
-Evaluate applicants for several entry-level professorial positions in Computer Science
- Associated Department Head / Graduate Director, 2003 - 2006  
-Managed the graduate program in Computer Science, comprising ~160 graduate students
- Member, Academic Awards Committee (2003 - 2007)  
-Deciding on grants / awards for graduate students
- Member, Department of Computer Science CHAMPS committee (~2003)  
-advices the Head of the Department on various matters regarding Strategic Areas within Computer Science
- Member, Hiring Committee, 2001-2002  
-an intensive year of interviews and resume reading in this period of massive departmental expansion
- Member, Review Committee / Advisory Committee on the Headship of the Department of Computer Science (2001)  
-Review and recommend candidates for department head
- Internship Representative/Cooperative Education, 1991-2000  
-The Department of Computer Science typically contributes one of the largest body of students (excepting Engineering) to the Coop/Internship Program at the University of Calgary. Managing the large number of applicants is a significant effort, and much time has been spent defining and streamlining both the administrative and academic components of the program.
- Member, Appointments Selection Committee (1997-1999)  
-This committee is responsible for new faculty appointments.
- Member, Strategic Committee (1999)  
-This committee is responsible for planning and setting strategic directions to influence the major department expansion.
- Member, Graduate Committee (various years)

-This group sets various policies, and evaluates applications and scholarships related to graduate students

- Member, "Increment" Committee
  - This three-person team review ed year end reports by Department faculty and recommended increments.
- Member, Heads Advisory Committee (1995-1996, 2003 - 2006)
  - This group advises the head of department on both short and long term issues.
- Member, Computer Resources Uses and Development Committee, 1998, 1994
  - Computing resources are especially important to the Department of Computer Science. This committee, w hich met for the first time in summer '93, is responsible for overseeing the use and development of computing resources.
- Target '92 and '98 Representative
  - The Target Programpurpose is to attract high caliber Canadian students to the computer science graduate programs of Western Canadian universities. The top 2 undergraduates from each Canadian University are invited to attend I prepared and presented a multi-media show to the students, which w as well received. A simpler in-house presentation w as done in 1998.

## Hosted Department Visitors (extended stays)

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- J. Ichino (University of Electro-Communications, Tokyo, Japan) for ~1 year visit (2010 - 2011)
- R. Jota (IST/Technical University of Lisbon) for 1 year visit (2009)
- T. Ballendat (Ludwig Maximilian University, Munich) for 2 ~4 month visit (2010, 2009)
- J. Kierner (Ludwig Maximilian University, Munich) for 4 month visit (2010)
- S. Viller (University of Queensland Ipswich, Australia for 4 month visit (2007)
- A. Cockburn (University of Canterbury, NZ) for 4 month visit (1998-1999) and several other month long visits (2008)
- J. Alexander (University of Canterbury, NZ) for 1 month visit (2008)
- H. Kuzuoka (Tsukuba University) for a 1 year visit (1997-1998)
- T. Urnes (York University, Toronto) for ~1 month visit
- S. Brewster (University of York, UK) for ~1 month visit
- R. Potter (University of Maryland, USA) for a 1 month visit

## Other services

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- Invited and hosted many national and international speakers to the departmental
- Worked on the department planning document
- Co-coordinator of the KSI Seminar Series (1991-1992)
- Regularly review graduate applications for the Graduate Committee
- Presented at the University of Calgary's President's 1996 Celebration of Excellence
- Presented at the University of Calgary 25th Anniversary Open House

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# Publications

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5 books, 38 articles in refereed journals, 105 refereed full conference papers, 32 fully refereed videos, 38 refereed short conference papers, 17 refereed or invited book chapters (excludes reprints), 7 edited journals/proceedings/video proceedings, 15 other invited publications, 22 refereed/invited workshops, 58 non-refereed publications, 33 theses, 26 independent papers produced by people under my supervision, and various software and research data releases.

## A. Books and Monographs Authored and Edited

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1. Greenberg, S., Carpendale, S., Marquardt, N. and Buxton, B. (In preparation)  
**Sketching User Experiences: The Workbook**, Morgan-Kaufmann, Elsevier Science & Technology. ISBN: 978-0-12-381959-8. Expected release date, Winter 2012
2. Baecker, R., Grudin, J., Buxton, B. and Greenberg, S. (1995)  
**Readings in Human Computer Interaction: Towards the Year 2000, Second edition**. 950 pages. Morgan-Kaufman, San Francisco, USA. ISBN 1-55860-246-1.
3. Greenberg, S., Hayne, S. and Rada, R. (1995)  
**Groupware for Real-Time Drawing: A Designer's Guide**. 248 pages. McGraw-Hill Book Company Europe, Berkshire, England. ISBN 0-07-707899-3. L
4. Greenberg, S. (1993)  
**The Computer User as Toolsmith: The Use, Reuse, and Organization of Computer-Based Tools**. 187 Pages. Cambridge University Press, Cambridge. ISBN 0-521-40430-4.
5. Greenberg, S. (1991)  
**Computer supported cooperative work and groupware**. 423 pages. Academic Press, London, UK. ISBN 0-12-299220-2.

## B. Articles in Refereed Journals

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1. Greenberg, S., Marquardt, N., Ballendat, T., Diaz-Marino, R. and Wang, M. (2011)  
**Proxemic Interactions: The New Ubicomp?** ACM Interactions, 18(1):42-50. ACM, January-February. Invited cover story.
2. Volda, A. and Greenberg, S. (2011)  
**Console Gaming Across Generations: Exploring Intergenerational Interactions in Collocated Console Gaming**. Universal Access in the Information Society Journal - JUAICS. Springer, January.
3. Neustaedter, C., Brush, A.J. and Greenberg, S. (2009)  
**'The Calendar is Crucial': Coordination and Awareness through the Family Calendar**. ACM Transactions on Computer Human Interactions - ACM TOCHI, 6(1):6:1 - 6:48, April.
4. Nunes, M., Greenberg, S. and Neustaedter, C. (2009)  
**Using Physical Memorabilia as Opportunities to Move into Collocated Digital Photo Sharing**. International Journal of Human Computer Studies-IJHCS (Special Issue on Collocated Social Practices Surrounding Photos, Eds: S. Linley, A. Durrant, D. Kirk and A. Taylor), 67:1087-1111, December.
5. Pawson, M. and Greenberg, S. (2009)  
**Extremely Rapid Usability Testing**. Journal of Usability Studies, 4(3):124-135, May.

6. Tee, K., Greenberg, S. and Gutwin, C. (2009)  
**Artifact Awareness through Screen Sharing for Distributed Groups.** International Journal of Human Computer Studies - IJHCS, 67:677-702, September (on-line: April 18).
7. Gutwin, C., Greenberg, S., Blum, R., Dyck, J., Tee, K. and McEwan, G. (2008)  
**Supporting Informal Collaboration in Shared-Workspace Groupware.** Journal of Universal Computing (JUCS), 14(9):1411-1434, May.
8. Greenberg, S. (2007)  
**Toolkits and Interface Creativity.** Journal Multimedia Tools and Applications (JMTA), 32(2):139-159. Springer, February.
9. Tse, E., Greenberg, S., Shen, C. and Forlines, C. (2007)  
**Multimodal Multiplayer Tabletop Gaming.** ACM CIE Computers in Entertainment, 5(2) ACM Press, April.
  - Reprinted from Proc. 3rd Inter' Workshop on Pervasive Gaming Applications (PerGames'2006) pages 139-148.
10. Greenberg, S. (2006)  
**Creating Stories Over Distance.** THEN Journal: Technologies, Humanities, Education, & Narrative, Issue 4, September. Commentary.
11. Neustaedter, C., Greenberg, S. and Boyle, M. (2006)  
**Blur Filtration Fails to Preserve Privacy for Home-Based Video Conferencing.** ACM Transactions on Computer Human Interactions - ACM TOCHI, 13(1):1-36, March.
12. Tam, J. and Greenberg, S. (2006)  
**A Framework for Asynchronous Change Awareness in Collaborative Documents and Workspaces.** International Journal of Human Computer Studies - IJHCS, 64(7):583-598. Elsevier.
13. Boyle, M. and Greenberg, S. (2005)  
**The Language of Privacy: Learning from Video Media Space Analysis and Design.** ACM Transactions on Computer-Human Interaction - ACM TOCHI, 12(2):328-370. ACM Press, June.
14. Tang, A., Boyle, M. and Greenberg, S. (2005)  
**Display and Presence Disparity in Mixed Presence Groupware.** Journal of Research and Practice in Information Technology - JRPIT, 37(2):71-88, May.
  - Reprinted from Proceedings Fifth Australasian User Interface Conference, Volume 28 in the CRPIT Conferences in Research and Practice in Information Technology Series, Dunedin, NZ, January, Australian Computer Society Inc., pages 73-82.
15. Kruger, R., Carpendale, M.S.T., Scott, S.D. and Greenberg, S. (2004)  
**Roles of Orientation in Tabletop Collaboration: Comprehension, Coordination and Communication.** Computer Supported Cooperative Work: The Journal of Collaborative Computing, 13(5-6):501-537. Kluwer Press.
16. Cockburn, A., Greenberg, S., Jones, S., McKenzie, B. and Moyle, M. (2003)  
**Improving WEB Page Revisitation: Analysis, Design and Evaluation.** IT&Society, 3(1):159-183, B. Shneiderman, J. Lazar, M. Ivory (Eds): Special Issue on Web Navigation Skills, SIQSS, Stanford, Winter.
17. Pinelle, D., Gutwin, C. and Greenberg, S. (2003)  
**Task Analysis for Groupware Usability Evaluation: Modeling Shared-Workspace Tasks with the Mechanics of Collaboration.** ACM Transactions on Human Computer Interaction - ACM TOCHI, 10(4):281-311, Special issue on multiple and collaborative tasks, December.
18. Gutwin, C. and Greenberg, S. (2002)  
**A Descriptive Framework of Workspace Awareness for Real-Time Groupware.** Computer Supported

Cooperative Work: The Journal of Collaborative Computing, 11(3-4):411-446, Kluwer Academic Press.

19. Greenberg, S. (2001)  
**Context as a Dynamic Construct.** Human-Computer Interaction, 16(2-4):257-268. Lawrence Erlbaum Associates Inc.
20. Cockburn, A. and Greenberg, S. (2000)  
**Issues of Page Representation and Organisation in Web Browser's Revisitation Tools.** Australian Journal of Information Systems (AJIS), 7(2):120-127, May.
  - Reprinted from Proceedings of the Australian Conference on Human Computer Interaction - OZCHI'99 , November 28-30, Wagga Wagga Australia.
21. Greenberg, S., Fitzpatrick, G., Gutwin, C. and Kaplan, S. (2000)  
**Adapting the Locales Framework for Heuristic Evaluation of Groupware.** Australian Journal of Information Systems (AJIS), 7(2):102-108, May.
  - Reprinted from Proceedings of the Australian Conference on Human Computer Interaction - OZCHI'99, November 28-30, Wagga Wagga Australia.
22. Greenberg, S. and Kuzuoka, H. (2000)  
**Using Digital but Physical Surrogates to Mediate Awareness, Communication and Privacy in Media Spaces.** Personal Technologies, 4(1):182-198. Elsevier, January.
23. Greenberg, S. (1999)  
**Designing Computers As Public Artifacts.** International Journal of Design Computing: Special Issue on Design Computing on the Net (DCNet'99) University of Sydney, November 30 - December 3.
24. Greenberg, S., Boyle, M. and LaBerge, J. (1999)  
**PDA's and Shared Public Displays: Making Personal Information Public, and Public Information Personal.** Personal Technologies, 3(1):54-64, March. Springer-Verlag.
25. Gutwin, C. and Greenberg, S. (1999)  
**The Effects of Workspace Awareness Support on the Usability of Real-Time Distributed Groupware.** ACM Transactions on Computer-Human Interaction (TOCHI), 6(3):243-281, September.
26. Cockburn, A. and Greenberg, S. (1998)  
**The Design and Evolution of TurboTurtle, a Collaborative Microworld for Exploring Newtonian Physics.** International Journal of Human Computer Studies, 48(6):777-801. Academic Press.
27. Tauscher, L. and Greenberg, S. (1997)  
**How People Revisit Web Pages: Empirical Findings and Implications for the Design of History Systems.** International Journal of Human Computer Studies - IJHCS, 47(1):97-138. Academic Press.
28. Greenberg, S. (1996)  
**Teaching Human Computer Interaction to Programmers.** ACM Interactions, 3(4):62-76. ACM Press, July-August.
  - Earlier much shorter version in ACM SIGCHI Bulletin, 28(2), pp. 5-6, April, ACM Press.
29. Roseman, M. and Greenberg, S. (1996)  
**Building Real Time Groupware with GroupKit, A Groupware Toolkit.** ACM Transactions on Computer Human Interaction - ACM TOCHI, 3(1):66-106. ACM Press, March.
30. Schaffer, D., Zuo, Z., Greenberg, S., Bartram, L., Dill, J., Dubs, S. and Roseman, M. (1996)  
**Navigating Hierarchically Clustered Networks Through Fisheye and Full-Zoom Methods.** ACM Transactions on Computer-Human Interaction - ACM TOCHI, 3(2):162-188. ACM Press, June.
31. Hayne, S., Pendergast, M. and Greenberg, S. (1994)



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36. Greenberg, S. and Chang, E. (1990)  
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**On frequency-based menu-splitting algorithms.** International Journal of Man Machine Studies, 21(2):135-148, August.

## C. Full Papers in Refereed Conference/Symposium Proceedings

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1. Lin, E., Greenberg, S., Trotter, E., Ma, D. and Aycock, J. (2011)  
**Does Domain Highlighting Help People Identify Phishing Sites?** Proc. ACM Conference on Human Factors in Computing Systems - ACM CHI'2011. (Vancouver, Canada), ACM Press, 10 pages, May 7-12.
2. Marquardt, N., Jota, R., Greenberg, S. and Jorge, J. (2011)  
**The Continuous Interaction Space: Interaction Techniques Unifying Touch and Gesture On and Above a Digital Surface.** In Proceedings of the 13th IFIP TCI3 Conference on Human Computer Interaction - INTERACT 2011. (Lisbon, Portugal), 16 pages, September 5-9.
3. Saulnier, P. Sharlin, E. and Greenberg, S. (2011)  
**Exploring Minimal Nonverbal Interruptions in HRI.** Proc. IEEE International Symposium on Robot and Human Interactive Communication (Ro-Man 2011). (Atlanta, Georgia), IEEE Press, 8 pages, July 31-Aug 3. Includes video figure.
4. Ballendat, T., Marquardt, N. and Greenberg, S. (2010)  
**Proxemic Interaction: Designing for a Proximity and Orientation-Aware Environment.** Proc. ACM Interactive Tabletops and Surfaces (ITS'2010), November.

5. Bertram, D., Volda, A., Greenberg, S. and Walker, R. (2010)  
**Communication, Collaboration, and Bugs: The Social Nature of Issue Tracking in Small, Collocated Teams.** In Proceedings of the ACM Conference on Computer Supported Cooperative Work - ACM CSCW'2010. ACM Press, 10 pages, February.
6. Greenberg, S., Volda, S., Stehr, N. and Tee, K. (2010)  
**Artifacts as Instant Messaging Buddies.** In Proceedings of the Hawaii International Conference on System Sciences - HICSS'2010, 11th Persistent Conversation Minitrack, Digital Media and Content. IEEE Computer Society, January 5-8.
7. He, H.A., Greenberg, S. and Huang, E.M. (2009)  
**One size does not fit all: Applying the Transtheoretical Model to Energy Feedback Technology Design.** In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI '2010. ACM Press. 10 pages, April.
8. Jota, R., Nacenta, M., Jorge, J., Carpendale, S. and Greenberg, S. (2010)  
**A Comparison of Ray Pointing Techniques for Very Large Displays.** In Proceedings of Graphics Interface - GI'2010. ACM Press, 8 pages, May 31 - June 2.
9. Marquardt, N., Kiemer, J. and Greenberg, S. (2010)  
**What Caused That Touch? Expressive Interaction with a Surface through Fiduciary-Tagged Gloves.** Proc. ACM Interactive Tabletops and Surfaces (ITS'2010), November.
10. Marquardt, N., Talor, A., Villar, N. and Greenberg, S. (2009)  
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11. Marquardt, N., Gross, T., Carpendale, S. and Greenberg, S. (2010)  
**Revealing the Invisible: Visualizing the Location and Event Flow of Distributed Physical Devices.** In Proceedings of the Fourth International Conference on Tangible, Embedded and Embodied Interaction - TEI'10. (Cambridge, MA, USA), ACM Press, 8 pages, January 25-27.
12. Sun, Y. and Greenberg, S. (2010)  
**Places for Lightweight Group Meetings: The Design of Come Together.** In Proceedings of the ACM Conference on Supporting Group Work - ACM Group'2010. ACM Press, 10 pages, November 7-10.
13. Volda, A., Carpendale, S. and Greenberg, S. (2010)  
**The Individual and the Group in Console Gaming.** In Proceedings of the ACM Conference on Computer Supported Cooperative Work - ACM CSCW'2010. ACM Press, 10 pages, February.
14. Alexander, J., Cockburn, A., Fitchett, S., Gutwin, C. and Greenberg, S. (2009)  
**Revisiting Read Wear: Analysis, Design, and Evaluation of a Footprints Scrollbar.** In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'09. ACM Press, 10 pages plus video figure, April 4-9.
15. de Alwis, B., Gutwin, G. and Greenberg, S. (2009)  
**GT/SD: Performance and Simplicity in a Groupware Toolkit.** In Proceedings of the ACM SIGCHI Symposium on Engineering Interactive Computing Systems - ACM EICS'09. ACM Press, 10 pages, July 14-17.
16. Marquardt, N., Nacenta, M., Young, J., Carpendale, S., and Greenberg, S. and Sharlin, E. (2009)  
**The Haptic Tabletop Puck: Tactile Feedback for Interactive Tabletops.** In Proceedings of Interactive Tabletops and Surfaces - ITS'09. (Banff, Canada), ACM Press, pages 93-100, November 23-25.
17. Marquardt, N., Nacenta, M., Young, J., Carpendale, S., and Greenberg, S. and Sharlin, E. (2009)  
**The Haptic Tabletop Puck: The Video.** In DVD Proceedings of Interactive Tabletops and Surfaces - ITS'09.

(Banff, Canada), ACM Press, November 23-25

18. Tang, A., Lanir, J., Greenberg, S. and Fels, S. (2009)  
**Supporting Transitions in Work: Informing Large Display Application Design by Understanding Whiteboard Use.** In Proceedings of the ACM International Conference on Supporting Group Work - ACM GROUP'09. ACM Press, pages 149-158, May 10-13.
19. Volda, A. and Greenberg, S. (2009)  
**Wii All Play: The Console Game as a Computational Meeting Place.** In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'09. ACM Press, 10 pages, April 4-9.
20. Volda, S. and Greenberg, S. (2009)  
**WikiFolders: Augmenting the Display of Folders to Better Convey the Meaning of Files.** In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'09. ACM Press, 10 pages, April 4-9.
21. Au Yeung, T., Carpendale, S. and Greenberg, S. (2008)  
**Preservation of Art in the Digital Realm.** In Proceedings of iPRES2008: The Fifth International Conference on Digital Preservation. (London), British Library, 8 Pages, Sept 29-30.
22. Birnholtz, J.P., Mak, C., Greenberg, S. and Baecker, R. (2008)  
**Attention By Proxy? Issues in Audience Awareness for Webcasts to Distributed Groups.** In Proc. ACM Conference on Human Factors in Computing Systems - ACM CHI'08. (Florence, Italy), ACM Press, pages 103-106, April 5-10.
23. Greenberg, S. and Buxton, B. (2008)  
**Usability Evaluation Considered Harmful (Some of the Time).** In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'08. (Florence, Italy), ACM Press, pages 111-120, April 5-10.
  - Honorable Mention (Best paper nominee).
24. Nunes, M., Greenberg, S. and Neustaedter, C. (2008)  
**Sharing Digital Photographs in the Home through Physical Mementos, Souvenirs, and Keepsakes.** In Proceedings of the ACM Conference on Designing Interactive Systems - ACM DIS'08. (Cape Town, South Africa), ACM Press, pages 250-260, February 25-27.
25. Tang, A., Greenberg, S. and Fels, S. (2008)  
**Exploring Video Streams Using Slit-Tear Visualizations.** In Proceedings of Advanced Visual Interfaces (AVI'08). (Napoli, Italy), pages 191-198, May 28-30.
26. Tse, E., Greenberg, S., Shen, C., Forlines, C. and Kodama, R. (2008)  
**Exploring True Multi-User Multimodal Interaction over a Digital Table.** In Proceedings of the ACM Conference on Designing Interactive Systems - ACM DIS'08. (Cape Town, South Africa), ACM Press, pages 109-118, February 25-27.
27. Volda, A., Volda, S., Greenberg, S. and He, H.A. (2008)  
**Asymmetry in Media Spaces.** In Proc. ACM Conference on Computer Supported Cooperative Work - ACM CSCW'08. (San Diego, CA), ACM Press, 10 pages, Nov. 8-12. CSCW Honorable Mention (Best Paper Nomineee).
28. Cockburn, A., Gutwin, C. and Greenberg, S. (2007)  
**A Predictive Model of Menu Performance.** In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'07. ACM Press, pages 627-636, Apr 28-May 3. Full paper plus published video figure, duration 4:03.
29. Elliot, K., Neustaedter, C. and Greenberg, S. (2007)

**StickySpots: Using Location to Embed Technology in the Social Practices of the Home.** In Proceedings of the 1st Int'l Conference on Tangible and Embedded Interaction - TEI'07. ACM Press, pages 79-86, Feb 15-17.

30. Elliot, K., Watson, M., Neustaedter, C. and Greenberg, S. (2007)  
**Location-Dependent Information Appliances for the Home.** In Proceedings of Graphics Interface - GI'07, pages 151-158, May 28-30.
31. Marquardt, N. and Greenberg, S. (2007)  
**Distributed Physical Interfaces with Shared Phidgets.** In Proc. 1st International Conference on Tangible and Embedded Interaction. (Baton Rouge, Louisiana, USA), ACM Press, pages 13-20, February 15-17.
32. Neustaedter, C., Brush, A.J. and Greenberg, S. (2007)  
**A Digital Family Calendar in the Home: Lessons from Field Trials of LINC.** In Proc. Graphics Interface, pages 199-206, May 28-30.
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33. Nunes, M., Greenberg, S., Carpendale, S. and Gutwin, C. (2007)  
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34. Romero, N., McEwan, G. and Greenberg, S. (2007)  
**A Field Study of Community Bar: (Mis)-matches between Theory and Practice.** In Proc ACM Group 2007. (Sanibel Island, Florida, USA), ACM Press, pages 89-98, November 4-7.
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36. Tse, E., Shen, C., Greenberg, S. and Forlines, C. (2007)  
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39. Hancock, M., Miller, J., Greenberg, S. and Carpendale, S. (2006)  
**Exploring Visual Feedback of Change Conflict in a Distributed 3D Environment.** In Proceedings of Advanced Visual Interfaces - AVI'06. (Venezia, Italy), ACM Press, pages 209-216, May 23-26.
40. McEwan, G., Greenberg, S., Rounding, M. and Boyle, M. (2006)  
**Groupware Plug-ins: A Case Study of Extending Collaboration Functionality through Media Items.** In Proceedings of 2nd International Conference on Collaboration Technologies - CollabTech 2006. (Tsukuba, Japan), IPSJ SIG Groupware and Network Services, pages 42-47, July 13-14.
  - Best paper nominee.
41. Neustaedter, C., Elliot, K. and Greenberg, S. (2006)  
**Interpersonal Awareness in the Domestic Realm.** In Proceedings of OZCHI. (Sydney, Australia), pages 15-22, November 20-24.
42. Smale, S. and Greenberg, S. (2006)

- Transient Life: Collecting and sharing personal information.** In Proceedings of OZCHI'06. (Sydney, Australia), pages 31-38, November 20-24.
43. Tang, A., Neustaedter, C. and Greenberg, S. (2006)  
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  44. Tee, K., Greenberg, S. and Gutwin, C. (2006)  
**Providing Artifact Awareness to a Distributed Group through Screen Sharing.** In Proceedings of the ACM Conference on Computer Supported Cooperative Work - ACM CSCW 2006, pages 99-108, November 4-8.
  45. Tse, E., Greenberg, S. and Shen, C. (2006)  
**GSI DEMO: Multiuser Gesture / Speech Interaction over Digital Tables by Wrapping Single User Applications.** In Proceedings of the Eighth International Conference on Multimodal Interfaces - ICMI'06. (Banff, Canada), ACM Press, pages 76-83, November 2-4.
  46. Tse, E., Shen, C., Greenberg, S. and Forlines, C. (2006)  
**Enabling Interaction with Single User Applications through Speech and Gestures on a Multi-User Tabletop.** In Proceedings of Advanced Visual Interfaces - AVI'06. (Venezia, Italy), ACM Press, pages 336-343, May 23-26.
  47. Boyle, M. and Greenberg, S. (2005)  
**Rapidly Prototyping Multimedia Groupware.** In Proceedings of the 11th International Conference on Distributed Multimedia Systems - DMS'05. (Conference held in Banff, Alberta, Canada), Knowledge Systems Institute, Illinois, USA, September 5-7.
  48. Elliot, K., Neustaedter, C. and Greenberg, S. (2005)  
**Time, Ownership and Awareness: The Value of Contextual Locations in the Home.** In Beigl, M. and Intille, S. and Rekimoto, J. and Tokuda, H. (Eds.) Ubicomp 2005: Ubiquitous Computing, 7th International Conference on Ubiquitous Computing, pages 251-268. Springer, Conference held in Tokyo, Japan, September 11-14.
  49. McEwan, G. and Greenberg, S. (2005)  
**Supporting Social Worlds with the Community Bar.** In Proceedings of the Conference on Supporting Group Work - ACM GROUP'05. (Sanibel Island, Florida), ACM Press, pages 21-30, November 6-9.
  50. Smale, S. and Greenberg, S. (2005)  
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  51. Tam, J. and Greenberg, S. (2004)  
**A Framework for Asynchronous Change Awareness in Collaboratively-Constructed Documents.** In X International Workshop on Groupware, Lecture Notes in Computer Science - CRIWG'04, LNCS Number 3198. (San Carlos, Costa Rica), Springer Verlag, pages 67-83, September 5-9.
  52. Tse, E. and Greenberg, S. (2004)  
**Rapidly Prototyping Single Display Groupware through the SDGToolkit.** In Proc Fifth Australasian User Interface Conference, Volume 28 in the CRPIT Conferences in Research and Practice in Information Technology Series. (Dunedin, NZ), Australian Computer Society Inc., pages 101-110, January.
  53. Tse, E., Histon, J., Scott, S. and Greenberg, S. (2004)  
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54. Kruger, R., Carpendale, S., Scott, S. and Greenberg, S. (2003)  
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55. Neustaedter, C. and Greenberg, S. (2003)  
**The Design of a Context-Aware Home Media Space.** In Proceedings of the Fifth International Conference on Ubiquitous Computing - UBICOMP 2003, LNCS Vol 2864. Springer-Verlag, pages 297-314. ISBN: 3-540-20301-X
56. Tang, C., McEwan, G. and Greenberg, S. (2003)  
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57. Wong, N., Carpendale, S. and Greenberg, S. (2003)  
**EdgeLens: An Interactive Method for Managing Edge Congestion in Graphs.** In Proceedings of IEEE Symposium on Information Visualization (INFOVIS 2003) IEEE Press, pages 51-58.
58. Baker, K., Greenberg, S. and Gutwin, C. (2002)  
**Empirical Development of a Heuristic Evaluation Methodology for Shared Workspace Groupware.** In Proceedings of the ACM Conference on Computer Supported Cooperative Work - ACM CSCW'02. ACM Press, pages 96-105, November 16-20.
59. Greenberg, S. and Boyle, M. (2002)  
**Customizable Physical Interfaces for Interacting with Conventional Applications.** In Proceedings of the 15th Annual ACM Symposium on User Interface Software and Technology - ACM UIST'02. ACM Press, pages 31-40, October 27-30. Includes video figure, duration 6:04.
60. Kaasten, S., Greenberg, S. and Edwards, C. (2002)  
**How People Recognize Previously Seen WWW Pages from Titles, URLs and Thumbnails.** In X Faulkner, J. Finlay, F. Detienne (Ed.) People and Computers XVI (Proceedings of Human Computer Interaction 2002 - HCI'02), pages 247-265. BCS Conference Series, Springer Verlag.
61. Baker, K., Greenberg, S. and Gutwin, C. (2001)  
**Heuristic Evaluation of Groupware Based on the Mechanics of Collaboration.** In Engineering for Human-Computer Interaction (EHCI 2001, 8th IFIP International Conference, Toronto, Canada, May), pages 123-139. Lecture Notes in Computer Science: LNCS 2254, Springer-Verlag.
62. Greenberg, S. and Fitchett, C. (2001)  
**Phidgets: Easy Development of Physical Interfaces through Physical Widgets.** In Proceedings of the 14th Annual ACM Symposium on User Interface Software and Technology - ACM UIST'01. (Orlando, Florida), ACM Press, pages 209-218, November 11-14.
  - Best paper award.
63. Greenberg, S. and Rounding, M. (2001)  
**The Notification Collage: Posting Information to Public and Personal Displays.** In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'01. ACM Press, pages 515-521. See also video shown at the conference. Earlier version as Report 2000-667-19, September.
64. Steves, M.P., Morse, E., Gutwin, C. and Greenberg, S. (2001)  
**A Comparison of Usage Evaluation and Inspection Methods for Assessing Groupware Usability.** In Proceedings of ACM International Conference on Supporting Group Work - ACM Group'01. ACM Press, pages 125-134, September 30-October 3.
65. Zanella, A. and Greenberg, S. (2001)  
**Reducing Interference in Single Display Groupware through Transparency.** In Proceedings of the Sixth

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67. Cox, D. and Greenberg, S. (2000)  
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68. Gutwin, C. and Greenberg, S. (2000)  
**The Mechanics of Collaboration: Developing Low Cost Usability Evaluation Methods for Shared Workspaces.** In IEEE 9th International Workshop on Enabling Technologies: Infrastructure for Collaborative Enterprises - WET-ICE'00. (held at NIST, Gaithersburg, MD USA), June 14-16.
  - Best Paper Award.
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70. Greenberg, S. and Cockburn, A. (1999)  
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71. Johnson, B. and Greenberg, S. (1999)  
**Judging People's Availability for Interaction from Video Snapshots.** In Proceedings of the Hawaii International Conference on System Sciences. (Distributed Group Support Systems Minitrack), IEEE Press, January.
72. Kuzuoka, H. and Greenberg, S. (1999)  
**Mediating Awareness and Communication through Digital but Physical Surrogates.** In Proceedings of the SIG-HI of Information Processing Society of Japan, October 15.
73. Gutwin, C. and Greenberg, S. (1998)  
**Design for Individuals, Design for Groups: Tradeoffs Between Power and Workspace Awareness.** In Proceedings of the ACM Conference on Computer Supported Cooperative Work - ACM CSCW'98. ACM Press, pages 207-216, November 14-18.
74. Herlea, D. and Greenberg, S. (1998)  
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75. Roseman, M. and Greenberg, S. (1997)  
**Simplifying Component Development in an Integrated Groupware Environment.** In Proceedings of the ACM Symposium on User Interface Software and Technology - ACM UIST'97. (Banff, Alberta, Canada), ACM Press, pages 65-72, October 14-17.
76. Tauscher, L. and Greenberg, S. (1997)  
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77. Greenberg S., Gutwin, C. and Cockburn, A. (1996)  
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Interface - GI'96. (Toronto, Canada), Distributed by Morgan-Kaufmann, pages 28-38, May 21-24.

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**Using Distortion-Oriented Displays to Support Workspace Awareness.** In A. Sasse, R.J. Cunningham, and R. Winder (Eds.) People and Computers XI (Proceedings of the HCI'96), pages 299-314, London, August 20-23.
79. Greenberg, S., Gutwin, C. and Roseman, M. (1996)  
**Semantic Telepointers for Groupware.** In Proceedings of the Sixth Australian Conference on Computer-Human Interaction - OZCHI'96. (Hamilton, New Zealand), IEEE Computer Society Press, pages 54-61, November 24-27.
80. Gutwin, C., Greenberg, S. and Roseman, M. (1996)  
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81. Gutwin, C., Roseman, M. and Greenberg, S. (1996)  
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83. Tauscher, L. and Greenberg, S. (1996)  
**Design Guidelines for Effective WWW History Mechanisms.** In Microsoft Workshop, Designing for the Web: Empirical Studies. Microsoft Corporation, Redmond, WA, October 30.
84. Cockburn, A. and Greenberg, S. (1995)  
**TurboTurtle: A Collaborative Microworld for Exploring Newtonian Physics.** In Proceedings of the 1st Conference on Computer Supported Collaborative Learning - CSCL'95. (Bloomington, Indiana), Lawrence Erlbaum Associates, pages 62-66, October 17-20.
85. Gutwin, C. and Greenberg, S. (1995)  
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86. Gutwin, C., Stark, G. and Greenberg, S. (1995)  
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87. Greenberg, S. (1994)  
**Real Time Groupware on the Information Highway.** In Proceedings of the Canadian Multimedia Conference. (Calgary, Canada), Nov 7-9.
88. Greenberg, S. and Marwood, D. (1994)  
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89. Cockburn, A. and Greenberg, S. (1993)  
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Conference on Organizational Computing Systems - ACM COCS'93. (Milpitas, California), ACM Press, pages 31-41, November.

90. Hayne, S., Pendergast, M. and Greenberg, S. (1993)  
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92. Roseman, M. and Greenberg, S. (1993)  
**Building Flexible Groupware Through Open Protocols.** In Proceedings of the ACM Conference on Organizational Computing Systems (ACM COCS'93). (Milpitas, California), pages 279-288.
93. Schaffer, D., Zuo, Z., Bartram, L., Dill, J., Dubs, S., Greenberg, S. and Roseman, M. (1993)  
**Comparing Fisheye and Full-Zoom Techniques for Navigation of Hierarchically Clustered Networks.** In Proceedings of Graphics Interface (GI '93) Morgan-Kaufmann, pages 87-96.
94. Greenberg, S., Roseman, M., Webster, D. and Bohnet, R. (1992)  
**Issues and experiences designing and implementing two group drawing tools.** In Proceedings of Hawaii International Conference on System Sciences, Volume 4. (Kuwaii, Hawaii), IEEE Press, pages 138-150.
  - Reprinted in R. Baecker, ed. Readings in CSCW and Groupware, Morgan Kaufmann, 1992.
95. Roseman, M. and Greenberg, S. (1992)  
**GroupKit: A groupware toolkit for building real-time conferencing applications.** In Proceedings of the ACM CSCW Conference on Computer Supported Cooperative Work, November 1-4. (Toronto, Canada), ACM Press, pages 43-50. A
  - Reprinted in Greenberg, S., Hayne, S. and Rada, R. (eds) (1995). Groupware for Real-Time Drawing: A Designer's Guide, p37-62, McGraw-Hill.
96. Greenberg, S. (1991)  
**Personalizable groupware: Accomodating individual roles and group differences.** In Proceedings of the ECSCW '91 European Conference of Computer Supported Cooperative Work. (Amsterdam), Kluwer Academic Press, pages 17-32.
  - Earlier version presented at ACM CSCW 1990 Workshop on Groupware Implementation in Computing Systems and Social Systems, Los Angeles, October 7, 1990.
97. Greenberg, S. and Bohnet, R. (1991)  
**GroupSketch: A multi-user sketchpad for geographically-distributed small groups.** In Proceedings of Graphics Interface '91. ((Calgary, Alberta, Canada)), Morgan-Kaufmann, pages 207-215, June 5-7.
98. Greenberg, S. (1990)  
**Sharing views and interactions with single-user applications.** In Proc. ACM/IEEE Conference on Office Information Systems (ACM/IEEE COIS). (Cambridge, Massachusetts), pages 227-237.
99. Greenberg, S. and Witten, I. H. (1988)  
**Directing the user interface: How people use command-based systems.** In Proc. IFAC 3rd Man Machine Systems Conference. (Oulou, Finland), June 14-16.

100. Greenberg, S. and Witten, I. H. (1988)  
**How users repeat their actions on computers: Principles for design of history.** In Proc. ACM SIGCHI Conference on Human Factors in Computing Systems (ACM CHI'88). (Washington), ACM Press, pages 171-178, May 15-19.
101. Witten, I. H., MacDonald, B. A. and Greenberg, S. (1987)  
**Specifying procedures to office systems.** In Proc. Automating Systems Development Conference. (Leicester), April 14-16.
102. Greenberg, S., Peterson, M. and Witten, I. H. (1986)  
**Issues and experiences in the design of a window management system.** In Proc. Canadian Information Processing Society Edmonton Conference. (Edmonton, Alberta), pages 33-44, October 21-23.
103. Greenberg, S. and Witten, I. H. (1985)  
**Interactive end-user creation of workbench hierarchies within a window interface.** In Proc. Canadian Information Processing Society National Conference. (Montreal, Quebec), pages 408-416, June 3-5.
104. Greenberg, S. and Witten, I. H. (1984)  
**Comparison of menu displays for ordered lists.** In Proc. Canadian Information Processing Society National Conference. (Calgary, Canada), pages 464-469, May 9-11.
105. Witten, I. H., Greenberg, S. and Cleary, J. (1983)  
**Personalizable directories: A case study in automatic user modelling.** In Proc. Graphics Interface (GI'83). (Edmonton, Alberta), pages 183-190.

## D. Videotapes in Refereed Video Publications

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1. Diaz-Marino, R. and Greenberg, S. (2010)  
**The Proximity Toolkit and ViconFace: The Video.** Video Showcase, DVD Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'10. (Atlanta, Georgia), ACM Press, 5 pages, April 10-15.
2. Marquardt, N., Taylor, A., Villar, N. and Greenberg, S. (2010)  
**Visible and Controllable RFID Tags.** In Video Showcase, DVD Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'10. (Atlanta, Georgia), ACM Press, 6 pages, April 10-15.
3. Greenberg, S. and Nunes, M. (2009)  
**Sharing Digital Photographs in the Home by Tagging Memorabilia.** In Video Showcase, DVD Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'09. (Boston, USA), ACM Press, April 4-9. Video and extended abstract, duration 4:20.
4. Tang, A., Greenberg, S. and Fels, S. (2009)  
**Exploring Video Streams using Slit-Tear Visualization.** In Video Showcase, DVD Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'09. (Boston, USA), ACM Press, April 4-9. Video and extended abstract, duration 4:28.
5. Elliot, K., Neustaedter, C. and Greenberg, S. (2007)  
**Location-Dependant Domestic Information Appliances.** In Adjunct Proceedings of the 5th International Conference on Pervasive Computing - PERVASIVE'07, May 13-16. Video plus 4 page paper, duration 4:44.
6. Young, J., Young, N., Greenberg, S. and Sharlin, E. (2007)  
**Feline Fun Park: A Distributed Tangible Interface for Pets and Owners.** In Adjunct Proceedings of the 5th International Conference on Pervasive Computing - PERVASIVE'07. (Toronto, Canada), May 13-16. Video plus 4 page paper, duration 1:13.

7. Young, J., McEwan, G., Greenberg, S. and Sharlin, E. (2007)  
**Moving a Media Space into the Real World through Group-Robot Interaction.** In Adjunct Proceedings of the 5th International Conference on Pervasive Computing - PERVASIVE'07. (Toronto, Canada), May 13-16. Video plus 4 page paper, duration 1:50. Earlier version as Report 2006-827-20, March.
8. Diaz-Marino, R. and Greenberg, S. (2006)  
**Cambience: A Video-Driven Sonic Ecology for Media Spaces.** In Video Proceedings of ACM Conference on Computer Supported Cooperative Work - ACM CSCW'06. ACM Press. Video and two page paper, duration 3:52.
9. Elliot, K., Neustaedter, C. and Greenberg, S. (2006)  
**Sticky Spots: A Location-Based Messaging System for the Home.** In Video Proceedings of ACM Conference on Computer Supported Cooperative Work - ACM CSCW'06. ACM Press, November. Video and two page paper, duration 4:55.
10. Greenberg, S. and Tse, E. (2006)  
**SDGToolkit in Action.** In Video Proceedings of ACM Conference on Computer Supported Cooperative Work - ACM CSCW'06. ACM Press, November. Video and two page paper, duration 7:14.
11. Neustaedter, C., Brush, A.J. and Greenberg, S. (2006)  
**LINC, An Inkable Digital Family Calendar.** In Video Proceedings of ACM Conference on Computer Supported Cooperative Work - ACM CSCW'06. ACM Press, November. Video and two page paper, duration 3:34.
12. Nunes, M., Greenberg, S., Carpendale, S. and Gutwin, C. (2006)  
**Timeline: Video Traces for Awareness.** In Video Proceedings of ACM Conference on Computer Supported Cooperative Work - ACM CSCW'06. ACM Press, November. Video and two page paper, duration 4:44.
13. Tee, K., Greenberg, S., Gutwin, C. and McEwan, G. (2006)  
**Shared Desktop Media Item: The Video.** In Demonstration and short paper, Adjunct Proceedings ACM CSCW 2006, November. Video and two page paper, duration 4:00.
14. Tse, E., Greenberg, S. and Shen, C. (2006)  
**Motivating Multimodal Interaction Around Digital Tabletops.** In Video Proceedings of ACM Conference on Computer Supported Cooperative Work - ACM CSCW'06. ACM Press, November. Video and two page paper, duration 3:25.
15. McEwan, G. and Greenberg, S. (2005)  
**Community Bar.** In Video Proceedings of the European Conference on Computer Supported Cooperative Work - ECSCW'05. (Paris), September 18-22. Video and two page paper, duration 5:04.
16. Tang, A., Pattison, E. and Greenberg, S. (2005 )  
**DartMail: Digital Information Transfer through Physical Surrogates.** In Video Proceedings of the European Conference on Computer Supported Cooperative Work - ECSCW'05. (Paris), September 18-22. Video and two page paper, duration 4:39.
17. Agarawala, A., Greenberg, S. and Ho, G. (2004)  
**The Context-Aware Pill Bottle and Medication Monitor.** In Video Proceedings / Proceedings Supplement of the UBIComp 2004 Conference. ((September 7-10, Nottingham, England)), May. Video and two page paper, duration 3:58.
18. Diaz-Marino, R., Tse, E. and Greenberg, S. (2004)  
**The Grouplab DiamondTouch Toolkit.** In Video Proceedings of the ACM CSCW Conference on Computer Supported Cooperative Work - ACM CSCW'04. (Chicago, Illinois), ACM Press, November 6-10. Video and abstract, duration 3:12.

19. Elliot, K. and Greenberg, S. (2004)  
**Building Flexible Displays for Awareness and Interaction.** In Video Proceedings and Proceedings Supplement of the UBICOMP 2004 Conference. (Nottingham, England), September 7-10. 6 minute video and two page paper.
  - The same paper also appears in Ubicomp Workshop on Ubiquitous Display Environments, held at UBICOMP 2004.
20. Tang, A., Neustaedter, C. and Greenberg, S. (2004)  
**VideoArms: Supporting Remote Embodiment in Groupware.** In Video Proceedings of the ACM Conference on Computer Supported Cooperative Work - ACM CSCW'04. (Chicago, Illinois), ACM Press, November 6-10. Video and abstract, duration 5:20.
21. Tse, E. and Greenberg, S. (2004)  
**SDG Toolkit.** In Video Proceedings of the ACM Conference on Computer Supported Cooperative Work - ACM CSCW'04. (Chicago, Illinois), ACM Press, November 6-10. Video and abstract, duration 3:55.
22. Neustaedter, C. and Greenberg, S. (2003)  
**The Design of a Context-Aware Home Media Space: The Video.** In Video Proceedings of the Fifth International Conference on Ubiquitous Computing - UBICOMP'03. Video plus two page paper.
23. Wong, N., Carpendale, S. and Greenberg, S. (2003)  
**EdgeLens: An Interactive Method for Managing Edge Congestion in Graphs (The Video).** In Video Proceedings of IEEE Symposium on Information Visualization - INFOVIS 2003. IEEE Press. Duration 3:36.
24. Neustaedter, C., Greenberg, S. and Carpendale, S. (2002)  
**IMVis: Instant Messenger Visualization.** In Video Proceedings of the ACM Conference on Computer Supported Cooperative Work - ACM CSCW'02. ACM Press, page 6, November 20-24. Video plus one page paper.
25. Kuzuoka, H. and Greenberg, S. (1999)  
**Mediating Awareness and Communication through Digital but Physical Surrogates.** In Video Proceedings of the ACM Conference on Human Factors in Computing Systems (7 minute video) and Extended Abstracts Proceedings of the ACM Conference on Human Factors in Computing Systems (two page summary) - ACM CHI'99, May 15-20.
26. Gutwin, C. and Greenberg, S. (1998)  
**Focus and Awareness in Groupware.** In Video Proceedings of the ACM Conference on Computer Supported Cooperative Work - ACM CSCW'98. ACM Press, November 14-18. Video and abstract, duration 7:25.
27. Roseman, M. and Greenberg, S. (1997)  
**A Tour of TeamRooms.** In Video Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'97. (Atlanta, Georgia), ACM Press, March 22-27. Video (8.4 minutes) and two page summary.
28. Greenberg, S., Gutwin, C. and Cockburn, A. (1996)  
**Applying Distortion-Oriented Displays to Groupware.** In Video Proceedings of ACM Conference on Computer Supported Cooperative Work - ACM CSCW'96. (Boston, USA), ACM Press. Video and two page summary, duration 9:18.
29. Greenberg, S. and Roseman, M. (1996)  
**GroupWeb: A Groupware Web Browser.** In Video Proceedings of ACM Conference on Computer Supported Cooperative Work - ACM CSCW'96. ACM Press. Video plus 2 page paper, duration 7:41.
30. Gutwin, C., Greenberg, S. and Roseman, M. (1996)  
**Staying Aware in Groupware Workspaces.** In Video Proceedings of ACM Conference on Computer

Supported Cooperative Work - ACM CSCW'96. (Boston, USA), ACM Press. 7:36 minute video and two page summary.

31. Greenberg, S. and Roseman, M. (1994)  
**GroupKit**. In ACM SIGGRAPH Video Review: Special Edition of the ACM CSCW '94 Technical Video Program, 106, November. Duration 10:15. Abstract appears in CSCW'94 Technical Program.
32. Greenberg, S., Bohnet, R., Roseman, M. and Webster, D. (1992)  
**GroupSketch**. In ACM SIGGRAPH Video Review: Special Edition of the ACM CSCW '92 Technical Video Program, 87. ACM Press, November. Video and 2 page paper.

## E. Short Papers, Posters or Demonstrations in Fully Refereed Conference Proceedings

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1. Ledo, D., Marquardt, N., Nacenta, M. and Greenberg, S. (2010)  
**Application Programming Interface (API) for the Haptic Tabletop Puck**. In 5th Annual Students' Union Undergraduate Research Symposium. (Calgary, AB, Canada), 1 page poster, November 24.
2. Marquardt, N. and Greenberg, S. (2010)  
**Applying Proxemics to Mediate People's Interaction with Devices in Ubiquitous Computing Ecologies**. In ACM Proc. Interactive Tabletops and Surfaces: ACM ITS Doctoral Symposium. (Saarbrücken, Germany), ACM, 4 pages + poster, November 7.
3. Saulnier, P., Sharlin, E. and Greenberg, S. (2010)  
**Exploring Interruption in HRI using Wizard of Oz**. In DVD Proc. 5th ACM/IEEE Int'l Conf on Human-Robot Interaction - HRI'2010. (Osaka, Japan), IEEE/ACM, 2 pages, March 2-5. Late Breaking Report.
4. Lapides, P., Sharlin, E. and Greenberg, S. (2009)  
**HomeWindow: An augmented reality domestic monitor**. In Adjunct Proc. Human Robot Interaction (Late Breaking Abstracts) - HRI'09. (San Diego, California), 2 pages, March 11-13.
5. Marquardt, N., Young, J., Sharlin, E. and Greenberg, S. (2009)  
**Situated Messages for Asynchronous Human-Robot Interaction**. In Adjunct Proc. Human Robot Interaction (Late Breaking Abstracts) - HRI'09. (San Diego, California), 2 pages, March 11-13.
6. Saulnier, P., Sharlin, E. and Greenberg, S. (2009)  
**Using Bio-electrical Signals to Influence the Social Behaviours of Domesticated Robots**. In Adjunct Proc. Human Robot Interaction (Late Breaking Abstracts) - HRI'09. (San Diego, California), 2 pages, March 11-13.
7. Guo, C., Boyd, J., Greenberg, S. and Sharlin, E. (2007)  
**Monitoring the Home Environment using a Domestic Robot**. In Adjunct Proc. Graphics Interface - GI. (Montreal, Canada), May 28-30.
8. Xin, M., Sharlin, E., Costa Sousa, M., Greenberg, S. and Samavati, F. (2007)  
**Purple Crayon - From Sketches to Interactive Environment**. In Proceedings of the International Conference on Advances in Computer Entertainment Technology - ACE'07. (Salzburg), ACM Press, pages 208-211, June 13-15. Short paper with accompanying video, duration 9:32.
9. Diaz-Marino, R. and Greenberg, S. (2006)  
**Demonstrating How to Construct a Sonic Ecology for Media Spaces through Cambience**. In Demonstration and short paper, Adjunct Proceedings ACM CSCW 2006.
10. Isenberg, T., Neumann, P., Carpendale, S., Nix, S. and Greenberg, S. (2006)

**Interactive Annotations on Large, High-Resolution Information Displays.** In Conference Compendium of IEEE VIS, IEEE InfoVis, and IEEE VAST, pages 124-125. IEEE Computer Society, November. Two page paper and poster.

11. Neustaedter, C., Brush, A.J. and Greenberg, S. (2006)  
**A Demo of Family Calendaring using LINC.** In Demonstration and short paper, Adjunct Proceedings ACM CSCW 2006.
12. Nunes, M., Greenberg, S., Carpendale, S. and Gutwin, C. (2006)  
**Demonstrating Timeline: Video Traces for Awareness.** In Demonstration and short paper, Adjunct Proceedings ACM CSCW 2006.
13. Tee, K., Greenberg, S., McEwan, G. and Gutwin, C. (2006)  
**Sharing Desktops with the Community Bar.** In Demonstration and short paper, Adjunct Proceedings ACM CSCW 2006.
14. Tse, E., Greenberg, S. and Shen, C. (2006)  
**Multi User Multimodal Tabletop Interaction over Existing Single User Applications.** In Demonstration and short paper, Adjunct Proceedings ACM CSCW 2006.
15. Tse, E., Greenberg, S. and Shen, C. (2006)  
**Exploring Interaction with Multi User Speech and Whole Handed Gestures on a Digital Table.** In Demonstration and short paper, Adjunct Proceedings ACM UIST 2006.
16. Young, J., McEwan, G., Greenberg, S. and Sharlin, E. (2006)  
**Aibo Surrogate - A Group-Robot Interface.** In Demonstration and short paper, Adjunct Proceedings ACM CSCW 2006.
17. Tee, K., Carpendale, S. and Greenberg, S. (2005)  
**Interactive Poster: Visualizing Online Interaction.** In IEEE Symposium on Information Visualization: Poster published in IEEE Information Visualization Symposium Compendium - Infovis'2005, Minneapolis, October 23-25.
18. Diaz-Marino, R.A., Tse, E. and Greenberg, S. (2003)  
**Programming for Multiple Touches and Multiple Users: A Toolkit for the DiamondTouch Hardware.** In Companion Proceedings of ACM Conference on User Interface Software and Technology - ACM UIST'03. 2-page paper plus poster.
19. Kruger, R., Carpendale, S. and Greenberg, S. (2002)  
**Collaborating over Physical and Electronic Tables.** In Poster in ACM Conference on Computer Supported Cooperative Work - ACM CSCW'02, November.
20. Tang, C. and Greenberg, S. (2002)  
**VisStreams: Visualizing Temporal Multimedia Conversations.** In Poster Presentation at Graphics Interface - GI'02, May. 2 page paper plus poster.
21. Tse, E. and Greenberg, S. (2002)  
**SDGToolkit: A Toolkit for Rapidly Prototyping Single Display Groupware.** In Poster in ACM Conference on Computer Supported Cooperative Work - ACM CSCW'02, November. 2 page paper plus poster presented at the conference.
22. Kaasten, S. and Greenberg, S. (2001)  
**Integrating Back, History and Bookmarks in Web Browsers.** In Extended Abstracts of the ACM Conference of Human Factors in Computing Systems - ACM CHI'01, pages 379-380. ACM Press.
23. Zanella, A. and Greenberg, S. (2001)

**Avoiding Interference through Translucent Interface Components in Single Display Groupware.** In Extended Abstracts of the ACM Conference of Human Factors in Computing Systems - ACM CHI'01, pages 375-376. ACM Press.

24. Cox, D., Chugh, J.S., Gutwin, C. and Greenberg, S. (1998)  
**The Usability of Transparent Overview Layers.** In Summary Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'98, Late-breaking short paper. ACM Press, pages 301-302.
25. Cox, D. and Greenberg, S. (1998)  
**Dealing with Heuristic Evaluation Data.** In Proceedings of the UPA '98 Usability Professionals' Association Conference, Poster Presentation.
26. Cockburn, A. and Greenberg, S. (1996)  
**Children's Collaboration Styles in a Newtonian MicroWorld.** In ACM Conference on Human Factors in Computing System, Companion Proceedings - ACM CHI'96. ACM Press, pages 181-182.
27. Greenberg, S. (1996)  
**Peeppholes: Low Cost Awareness of One's Community.** In ACM Conference on Human Factors in Computing System, Companion Proceedings - ACM CHI'96, pages 206-207, April 13-17.
28. Greenberg, S. (1996)  
**A Fisheye Text Editor for Relaxed-WYSIWIS Groupware.** In ACM Conference on Human Factors in Computing System, Companion Proceedings - ACM CHI'96, pages 212-213, April 13-17.
29. Greenberg, S. and Roseman, M. (1996)  
**GroupWeb: A WWW Browser as Real Time Groupware.** In ACM Conference on Human Factors in Computing System, Companion Proceedings - ACM CHI'96, pages 271-272.
30. Gutwin, C. and Greenberg, S. (1996)  
**Workspace Awareness for Groupware.** In ACM Conference on Human Factors in Computing System, Companion Proceedings - ACM CHI'96, pages 208-209, April 13-17.
31. Gutwin, C., Greenberg, S. and Roseman, R. (1996)  
**Supporting Awareness of Others in Groupware.** In ACM Conference on Human Factors in Computing System, Companion Proceedings - ACM CHI'96, page 205, April 13-17.
32. Gutwin, C. and Roseman, R. (1996)  
**A Usability Study of Workspace Awareness Widgets.** In ACM Conference on Human Factors in Computing System, Companion Proceedings - ACM CHI'06, pages 214-215, April 13-17.
33. Gutwin, C., Roseman, R. and Greenberg, S. (1996)  
**Workspace Awareness Support With Radar Views.** In ACM Conference on Human Factors in Computing System, Companion Proceedings - ACM CHI'96, pages 210-211, April 13-17.
34. Roseman, M. and Greenberg, S. (1996)  
**TeamRooms: Groupware for Shared Electronic Spaces.** In ACM Conference on Human Factors in Computing System, Companion Proceedings - ACM CHI'96. ACM Press, pages 275-276.
35. O'Grady, T. and Greenberg, S. (1994)  
**A Groupware Environment for Complete Meetings.** In ACM Conference on Human Factors in Computing Systems, Conference Companion Proceedings - ACM CHI'94. (Boston), ACM Press, pages 307-308.
36. Schaffer, D. and Greenberg, S. (1993)  
**Sifting Through Hierarchical Information.** In Proceedings of ACM INTERCHI Conference on Human Factors in Computing Systems – Adjunct Proceedings, April 24-29. (Amsterdam, The Netherlands), ACM Press, pages 173-174.

37. Greenberg, S. and Bohnet, R. (1992)  
**GroupSketch Demonstration.** In Demonstration track of the ACM CSCW'92 Conference on Computer Supported Cooperative Work. Appended is Muller, M. and Salasco, A. (eds) CSCW'92 Demonstrations, a synopsis of demonstrations, published in Proc CSCW'92, p11-13.
38. Greenberg, S. and Thimbleby, H. (1992)  
**The weak science of human-computer interaction.** In Proceedings of the CHI '92 Research Symposium on Human Computer Interaction. (Monterey, California).

## F. Refereed or Invited Chapters in Books

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1. Boyle, M., Neustaedter, C. and Greenberg, S. (2009)  
**Privacy Factors in Video-based Media Spaces.** In Media Space: 20+ Years of Mediated Life. (S. Harrison, Ed.), Springer, pages 97-122.
2. Greenberg, S., McEwan, G. and Rounding, M. (2009)  
**Reflecting on Several Metaphors of MUD-based Media Spaces.** In Media Space: 20+ Years of Mediated Life. (S. Harrison, Ed.), Springer, pages 425-440.
3. Greenberg, S., Neustaedter, C., Elliot, K. (2009)  
**Awareness in the Home: The Nuances of Relationships, Domestic Coordination and Communication.** In Awareness Systems: Advances in Theory, Methodology and Design. (P. Markopoulos and B. de Ruyter and W. Mackay, Ed.), Springer-Verlag, July.
4. Greenberg, S. (2009)  
**Embedding A Design Studio Course in A Conventional Computer Science Program.** In Creativity and HCI: From Experience to Design in Education. (Kotze, P., Wong, W., Jorge, J., Dix, A. and Alexandra Silva, P., Ed.), Springer, pages 23 - 41. Selected Contributions from HCIED, March 29-30, 2007, Aveiro, Portugal.
5. Greenberg, S. (2008)  
**Observing Collaboration: Group-Centered Design.** In HCI Remixed: Reflections on Works That Have Influenced the HCI Community. (T. Erickson and D. W. McDonald, Ed.). Cambridge, Mass, MIT Press, pages 111-118.
6. Greenberg, S. (2005)  
**Collaborative Physical User Interfaces.** In Communication and Collaboration Support Systems. (K. Okada, T. Hoshi and T. Inoue, Ed.). Amsterdam, The Netherlands, IOS Press, pages 24-42, June. ISBN: 1-58603-514-2.
7. Greenberg, S. (2004)  
**Working through Task-Centered System Design.** In The Handbook of Task Analysis for Human-Computer Interaction. (Diaper, D. and Stanton, N., Ed.), Lawrence Erlbaum Associates, pages 49-66.
8. Gutwin, C. and Greenberg, S. (2004)  
**The Importance of Awareness for Team Cognition in Distributed Collaboration.** In Team Cognition: Understanding the Factors that Drive Process and Performance. (E. Salas and S. M. Fiore, Ed.). Washington, APA Press, pages 177-201.
9. Greenberg S. and Roseman, M. (2003)  
**Using a Room Metaphor to Ease Transitions in Groupware.** In Sharing Expertise: Beyond Knowledge Management. (M. Ackerman, V. Pipek, V. Wulf, Ed.). Cambridge, MA, MIT Press, pages 203-256, January.
10. Greenberg, S. and Roseman, M. (1999)  
**Groupware Toolkits for Synchronous Work.** In Computer-Supported Cooperative Work (Trends in Software 7). (M. Beaudouin-Lafon, Ed.), John Wiley & Sons Ltd, pages 135-168.



11. Greenberg, S. (1997)  
**Collaborative Interfaces for the Web.** In Human Factors and Web Development. (C. Forsythe, E. Grose and J. Ratner, Ed.), LEA Press, pages 241-254. ISBN 0-8058-2823-0.
12. Roseman, M. and Greenberg, S. (1997)  
**Building Groupware with GroupKit.** In Tcl/Tk Tools. (M. Harrison, Ed.), O'Reilly Press, pages 535-564, September.
13. Greenberg, S., Darragh J. J., Maulsby D. and Witten I. H. (1995)  
**Predictive Interfaces: What will they think of next?** In A. D. N. Edwards (Ed.), Extra-Ordinary Human Computer Interaction: Interfaces for Users with Disabilities. Cambridge, Cambridge University Press, pages 103-140.
14. Greenberg, S., Witten, I. H. and Finlay, J. (1993)  
**Software Personalization.** In A. Ralston and E. D. Reilly (Eds.) Encyclopaedia of Computer Science, pages 1240-1241. Van Nostrand Reinhold, New York.
15. Witten, I. H. and Greenberg, S. (1993)  
**User Interfaces.** In A. Ralston and E. D. Reilly (Eds.) Encyclopaedia of Computer Science, pages 1411-1414. Van Nostrand Reinhold, New York.
16. Greenberg, S. (1991)  
**An annotated bibliography of computer supported cooperative work.** In Computer Supported Cooperative Work and Groupware. (Greenberg, S., Ed.), Academic Press, pages 359-413.  
◦ Published earlier in ACM SIGCHI Bulletin 23(3), pp. 29-62, July, 1991.
17. Witten, I. H. and Greenberg, S. (1985)  
**User interfaces for office systems.** In **Oxford Surveys in Information Technology.** (P. Zorkoczy, Ed.), Oxford University Press, pages 69-104.

## G. Edited Collections (Journals / Conference / Symposium / Video Proceedings)

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1. Greenberg, S. and Rosson, M.B. (2011)  
**Proceedings of ACM CHI Doctorial Consortium.** 84 pages ACM Press, New York, NY, May 7-8. Includes schedule, student proposals, and student posters. This is an informal proceedings of doctoral consortium papers formally published in ACM CHI 2011 adjunct proceedings.
2. Greenberg, S., Hudson, S., Hinckley, K., Ringel Morris, M. and Olson, D. (2009)  
**Proceedings of the 27th International Conference on Human Factors in Computing Systems** (ACM CHI 2009). Papers and Notes, 2390 pages ACM Press, New York, NY, April 4-9.
3. Inkpen, K., Greenberg, S., Mandryk, R., Scott, S. and Zanella, A. (2000)  
**Proceedings ACM CSCW 2000: Workshop on Shared Environments to Support Face-to Face Collaboration.** see On-line proceedings, Philadelphia, Pennsylvania, USA, December. Workshop held at the ACM CSCW 2000 conference.
4. Harrison, B. and Greenberg, S. (1994)  
**CSCW '94 Formal Video Program.** In ACM Conference on Computer Supported Cooperative Work - ACM CSCW'94. (Chapel Hill, North Carolina), ACM Press, pages 9-10. Summary of videos published in Harrison, B. and Greenberg, S. (Eds), ACM SIGGRAPH Video Review (an optional supplement of Computer Graphics). Volume 106, ACM Press. Special Edition of the CSCW '94 Technical Video Program. Videotape.
5. Greenberg, S. (1992)

**The CSCW '92 Formal Video Program.** In ACM Conference on Computer Supported Cooperative Work - ACM CSCW'91. ACM Press. Summary of videos published in Greenberg, S. (Ed), ACM SIGGRAPH Video Review (an optional supplement of Computer Graphics, Volume 87, ACM Press. Special Edition of the CSCW '92 Technical Video Program, Videotape.

6. Greenberg, S. and Hayne, S. (1992)  
**Proceedings of the Workshop on Group Drawing and Writing Tools.** Workshop held at the ACM CSCW Conference, Toronto, October 31.
7. Greenberg, S., (Guest Editor) (1991).  
**International Journal of Man Machine Studies: Special Issue on Computer supported cooperative work and groupware.** February, Volume 34(2) and March, Volume 34(3).
  - Subsequently revised and republished as Greenberg, S. ed (1991), Computer Supported Cooperative Work and Groupware, Academic Press.

## H. Other Invited Publications

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1. Greenberg, S. (2009)  
**Promoting Creative Design Through Toolkits.** In Proceedings of the Latin-American Conference on Human-Computer Interaction (CLIH'09) CPS, pages 92-93, November 9-11. Invited keynote
2. Greenberg, S. (2006)  
**Reconsidering HCI in the Age of Social, Ubiquitous and Domestic Computing.** In Proceedings of VII Congreso Internacional de Interaccion Persona-Ordenador - Interraccion'06. AIPO-Asociacion Interaccion Persona-Ordenador, 4 pages, November 13-17.
3. Greenberg, S., Mark, G., Fussell, S. and Inkpen, K. (2006)  
**From the Papers and Notes Chairs.** In Proceedings of ACM Conference on Computer Supported Cooperative Work - ACM CSCW'06. ACM Press, v-vi.
4. Greenberg, S. (2004)  
**Physical User Interfaces: What they are and how to build them.** In ACM UIST'04 Symposium on User Interface Software and Technology, page 161, Santa Fe, New Mexico, October 24-27.
5. Greenberg, S. (2004)  
**Enhancing Creativity with (Groupware) Toolkits.** In Proc Fifth Australasian User Interface Conference, Volume 28 in the CRPIT Conferences in Research and Practice in Information Technology Series. (Dunedin, NZ), Australian Computer Society Inc., page 3, January. Abstract of Keynote Presentation.
6. Greenberg, S. (2003)  
**Enhancing Creativity with Groupware Toolkits.** In Proceedings of the 9th International Workshop on Groupware - CRIWG'03, pages 1-9. Springer-Verlag, Atrians, France, September 28 - October 2. Invited keynote talk.
7. Greenberg, S. (2002)  
**Rapid Prototyping of Physical User Interfaces (invited presentation).** In Proceedings of Graphics Interface (GI'02) Distributed by ACM and Morgan-Kaufmann, May.
8. Greenberg, S. (2001)  
**Supporting Casual Interaction between Intimate Collaborators.** In M.R. Little and L. Nigay (Eds.) Engineering for Human-Computer Interaction (EHCI 2001, 8th IFIP International Conference, Toronto, Canada, May), page 3. Lecture Notes in Computer Science: LNCS 2254, Springer-Verlag.
9. Greenberg, S. (1999)  
**The Ebb and Flow of Collaboration in Groupware - Invited Plenary.** In Proceedings of the Australian

Conference on Human Computer Interaction - OZCHI'99. (Wagga Wagga, Australia),, November 28-30.

10. Greenberg, S. and Gutwin, C. (1998)  
**From Technically Possible to Socially Natural Groupware.** In Proceedings of the 9th NEC Research Symposium: The Human-Centric Multimedia Community. (Nara, Japan),, August 31-September 1.
11. Crow, D., Parsowith, S., Bowden Wise, G. [with Paul Dourish, Saul Greenberg, Jonathan Grudin and Yvonne Rogers] (1997)  
**Students: The Evolution of CSCW - Past, Present and Future Developments.** ACM SIGCHI Bulletin, 29(2), April.
12. Greenberg, S. and Roseman, M. (1992)  
**Support for group work.** IEEE Potentials, 11(2):20-22. IEEE Press, April.
13. Greenberg, S. (1991)  
**Computer supported cooperative work and groupware: An introduction to the special edition.** International Journal of Man Machine Studies, 34(2):133-143, February. Also describes IJMMS 34(3). Republished in a revised form in Greenberg, S. ed (1991), Computer Supported Cooperative Work and Groupware, Academic Press, p1-10.
14. Greenberg, S. (1989)  
**The 1988 conference on computer-supported cooperative work: Trip report.** ACM SIGCHI Bulletin, 21(1):49-55, July. Republished in Canadian Artificial Intelligence, No 19, April.
15. Greenberg, S. and Masrani, R. (1988)  
**Iconic interfaces for office systems based on video games.** Canadian Artificial Intelligence, 17, October.

## I. Papers in Refereed or Invited Workshops

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1. He, H.A. and Greenberg, S. (2009)  
**Motivating Sustainable Energy Consumption in the Home.** In ACM CHI Workshop on Defining the Role of HCI in the Challenges of Sustainability. (Workshop held at the ACM CHI Conference), 5 Pages, April. Also in: ACM CSCW Workshop on Designing for Families (Workshop held at the ACM CSCW Conference), November, 2008.
2. Saulnier, P., Sharlin, E. and Greenberg, S. (2009)  
**Using brain-robot interfaces for controlling implicit social patterns.** In Workshop on Brain Machine Interfaces for Neuroprostheses and Robot Control, held at the IEEE International Conference on Robotics and Automation. (Kobe, Japan), 3 pages plus poster, May 12.
3. Greenberg, S. and McEwan, G. (2006)  
**Reflecting on Several Metaphors for Media Spaces.** In CSCW'06 Workshop on Media Space - Reflecting on 20 Years - A workshop held at ACM CSCW'06. Steve Harrison, Organizer.
4. Nunes, M., Greenberg, S., Carpendale, S. and Gutwin, C. (2006)  
**Video Traces.** In Karahalios, K. and Viegas, F. (Eds.) ACM CHI 2006 Workshop on Social Visualization: Exploring Text, Audio, and Video Interactions. On-line proceedings. Includes video shown at the workshop.
5. Greenberg, S. (2005)  
**HCI Graduate Education in a Traditional Compute Science Department.** In ACM CHI 2005 Workshop on Graduate Education in Human-Computer Interaction. Organized by Beaudouin-Lafon, M., Foley, J., Grudin, J., Hudson, S., Hollan, J., Olson, J. and Verplank, B., April.
6. McEwan, G. and Greenberg, S. (2005)  
**Community Bar Places for Collaboration.** In Luigina Ciolfi, Geraldine Fitzpatrick and Liam Bannon (Eds.)

Workshop Proceedings Settings for Collaboration: The Role of Place, held in conjunction with ECSCW'2005, Paris, September 18. Poster included with paper.

7. McEwan, G. and Greenberg, S. (2005)  
**Community Bar: Designing for Awareness and Interaction.** In Workshop on Awareness systems: Known Results, Theory, Concepts and Future Challenges - held at ACM CHI'05. Organized by Panos Markopoulos, de Ruyter, Boris, and Mackay, Wendy, April.
8. Neustaedter, C., Elliot, K. and Greenberg, S. (2005)  
**Understanding Interpersonal Awareness in the Home.** In Workshop on Awareness systems: Known Results, Theory, Concepts and Future Challenges - held at ACM CHI'05. Organized by Panos Markopoulos, de Ruyter, Boris, and Mackay, Wendy, April.
9. Tang, A. and Greenberg, S (2005)  
**Supporting Awareness in Mixed Presence Groupware.** In Workshop on Awareness systems: Known Results, Theory, Concepts and Future Challenges - held at ACM CHI'05. Organized by Panos Markopoulos, de Ruyter, Boris, and Mackay, Wendy, April. Also compiled in Report 2005-772-03.
10. Neustaedter, C. and Greenberg, S. (2003)  
**Balancing Privacy and Awareness in Home Media Spaces.** In Workshop on Ubicomp Communities: Privacy as Boundary Negotiation. Held as part of the 5th International Conference on Ubiquitous Computing - UBIComp'2003. (Seattle),, October 12.
11. Boyle, M. and Greenberg, S. (2002)  
**GroupLab Collabrary: A Toolkit for Multimedia Groupware.** In Workshop on Network Services for Groupware, Held at ACM Conference on Computer Supported Cooperative Work - ACM CSCW'02. (J. Patterson, Ed.), November 17.
12. Neustaedter, C. and Greenberg, S. (2002)  
**Supporting Coherence with a 3D Instant Messenger Visualization.** In Workshop on Discourse Architectures, held at that ACM CHI Conference on Human Factors in Computing Systems - ACM CHI'02.
13. Fitchett, C. and Greenberg, S. (2001)  
**The Phidget Architecture: Rapid Development of Physical User Interfaces.** In UbiTools'01 Workshop on Application Models and Programming Tools for Ubiquitous Computing - Held at UBIComp'01 Conference.
14. Greenberg, S. and Fitchett, C. (2001)  
**Phidgets: Incorporating Physical Devices into the Interface.** In Proceedings of the Workshop on Building the Ubiquitous Computing User Experience. (Held at ACM CHI'01, Seattle), (M. Newman, K. Edwards and J. Sediwy, Ed.).
15. Rounding, M. and Greenberg, S. (2000)  
**Using the Notification Collage for Casual Interaction.** In Workshop on Shared Environments to Support Face-to-Face Collaboration, held at ACM Conference on Computer Supported Cooperative Work - ACM CSCW'00. (Philadelphia, Pennsylvania, USA), December.
16. Zanella, A. and Greenberg, S. (2000)  
**Using Translucent Interface Components to Lessen Interference Effects in Single Display Groupware.** In Workshop on Shared Environments to Support Face-to-Face Collaboration, held at ACM Conference on Computer Supported Cooperative Work - ACM CSCW'00. (Philadelphia, Pennsylvania, USA), December.
17. Greenberg, S. and Kuzuoka, H. (1999)  
**Bootstrapping Intimate Collaborators.** In Issues of Use in CSCW Technology Design: A Workshop at the Australian Conference on Computer Human Interaction - OZCHI'99. (Wagga Wagga, Australia), (Robertson, T. and Fitzpatrick, G. and Greenberg, S., Ed.), November 27.

18. Kaasten, S. and Greenberg, S. (1999)  
**Designing an Integrated Bookmark / History System for Web Browsing.** In History Keeping in Computer Applications: A Workshop. (Maryland, USA),, December 3.  
<http://www.cs.umd.edu/hcil/about/events/history-workshop/>.
19. Greenberg, S. and Boyle, M. (1998)  
**Moving Between Personal Devices and Public Displays.** In Workshop on Handheld CSCW, held at ACM Conference on Computer Supported Cooperative Work - ACM CSCW'98, November 14. Also available as Report 98/630/21, August.
20. Greenberg, S. and Johnson, B. (1997)  
**Studying Awareness in Contact Facilitation.** In ACM CHI'97 Workshop on Awareness in Collaborative Systems. (Atlanta, Georgia), (Susan E. McDaniel and Tom Brinck, Ed.), March 22-27.
21. Gutwin, C. and Greenberg, S. (1997)  
**Workspace Awareness.** In ACM CHI'97 Workshop on Awareness in Collaborative Systems. (Atlanta, Georgia), (Susan E. McDaniel and Tom Brinck, Ed.), March 22-27.
22. Tauscher, L. (1996)  
**Supporting World Wide Web Navigation Through History Mechanisms.** In CHI 96 Workshop: HCI and the Web, Vancouver, BC, April.

## J. Papers / Videos in Non-Refereed Publications

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*Research reports that have been published elsewhere in its original or revised form are not listed.*

1. Grasberger, H., Shirazian, P., Wyvill, B. and Greenberg, S. (2011)  
**Sketch-based collaborative interactive implicit modelling at a distance.** Research report 2011-1002-14, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, May. Includes video figure, duration ~1:19..
2. Marquardt, N., Diaz-Marino, R., Boring, S. and Greenberg, S. (2011)  
**The Proximity Toolkit: Prototyping Proxemic Interactions in Ubiquitous Computing Ecologies.** Research report 2011-1001-13, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April. Include video figure, duration ~4 minutes.
3. Romero, N.A., Markopoulos, P. and Greenberg, S. (2011)  
**Grounding Privacy in Mediated Communication.** Research report 2011-999-11, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, March.
4. Greenberg, S. (2010)  
**The ME-dia Space: Exploiting Real-World Proxemics for Tele-Communting.** Research report 2010-967-16, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, July. Duration 2:11
5. Sun, Y. and Greenberg, S. (2010)  
**Come Together: Places for Lightweight Meetings (The Video).** Research report 2010-979-28, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, September.
6. Volda, A. and Greenberg, S. (2010)  
**A Gameroom of Our Own: Exploring The Domestic Gaming Environment.** Research report 2010-961-10, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, June.
7. Ghanam, Y., Shouman, M., Greenberg, S. and Maurer, F. (2009)  
**Object-Specific Interfaces in Smart Homes.** Research report 2009-937-16, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, August.
8. Jota, R., Nacenta, M.A., Jorge, J.A., Carpendale, S. and Greenberg, S. (2009)

- A Comparison of Ray Pointing Techniques for Very Large Displays.** Research report 2009-942-21, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, September.
9. Marquardt, N., Jota, R., Greenberg, S. and Jorge, J. (2009)  
**The Continuous Interaction Space: Integrating Gestures Above a Surface with Direct Touch.** Research report 2009-925-04, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April.
  10. Greenberg, S., Stehr, N. and Tee, K. (2008)  
**Artifacts as Instant Messenger Buddies.** Research report 2008-896-09, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada.
  11. Nunes, M., Greenberg, S. and Neustaedter, C. (2008)  
**Using Physical Memorabilia as Opportunities to Move into Collocated Digital Photo Sharing.** Research report 2008-919-32, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada.
  12. Tang, A., Lanir, J., Greenberg, S. and Fels, S. (2008)  
**Uncovering Activity and Patterns in Video using Slit-Tear Visualizations.** Research report 2008-08, Department of Computer Science, University of British Columbia (UBC), Vancouver, BC, Canada, July 31.
  13. Tang, A., Lanir, J., Greenberg, S. and Fels, S. (2008)  
**Supporting Transitions in Work: Informing Groupware Design by Understanding Whiteboard Use.** Research report TR-2008-04, Department of Computer Science, University of British Columbia, Vancouver, BC., Canada V6P 1Z4, April.
  14. Tee, K., Greenberg, S. and Gutwin, C. (2008)  
**Artifact Awareness through Screen Sharing for Distributed Groups.** Research report 2008-898-11, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, June.
  15. Tse, E., Greenberg, S., Shen, C., Forlines, C. and Kodama, R. (2008)  
**Designers Environment.** Research report iLab-2008-1, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 2:53.
  16. Greenberg, S., Brush, A.J., Carpendale, S., Diaz-Marino, R., Elliot, K., Gutwin, C., McEwan, G., Neustaedter, C., Nunes, M., Smale, S. and Tee, K. (2007)  
**Collected Posters from the Nectar Annual General Meeting.** Research report 2007-887-39, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
  17. Guo, C., Greenberg, S., Boyd, J. and Sharlin, E. (2007)  
**Aibo Monitor.** Research report iLab-2007-1, Grouplab, Dept. Computer Science, University of Calgary.
  18. Tang, A., Greenberg, S. and Fels, S. (2007)  
**Exploring Video Streams using Slit-Tear Visualizations.** Research report 2007-886-38, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December. Paper and Video.
  19. Tse, E., Hancock, M. and Greenberg, S. (2007)  
**Speech-Filtered Bubble Ray: Improving Target Acquisition on Display Walls.** Research report iLab-2007-2, Grouplab, Dept. Computer Science, University of Calgary.
  20. Elliot, K., Neustaedter, C. and Greenberg, S. (2006)  
**Sticky Spots and Flower Pots: Two Case Studies in Location-Based Home Technology Design.** Research report 2006-830-23, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April.
  21. Greenberg, S. and Boyle, M. (2006)

**Custom Notification.** Research report iLab-2006-1, Grouplab, Dept. Computer Science, University of Calgary. Duration 6:54.

22. Diaz-Marino, R., Carpendale, S. and Greenberg, S. (2005)  
**Lyric Text.** Research report iLab-2005-1, Grouplab, Dept. Computer Science, University of Calgary. Video and 2-page paper, duration 3:42.
23. Elliot, K. and Carpendale, S. (2005)  
**Awareness and Coordination: A Calendar for Families.** Research report 2005-791-22, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, May.
24. Tse, E. and Greenberg, S. (2005)  
 Supporting Lightweight Customization for Meeting Environments. Research report 2005-784-15, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April. Paper and video, video report, duration 4:34.
25. Rounding, M. and Greenberg, S. (2004)  
 The Notification Collage. Research report iLab-2004-1, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 1:44.
26. Boyle, M. and Greenberg, S. (2003)  
**Grouplab Collabrory Toolkit: Rapid Prototyping Toolkit for Multimedia Groupware.** Research report iLab-2003-3, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 1:18.
27. Greenberg, S. and Carpendale, S. (2003)  
**Multiple Lenses in Single Display Groupware.** Research report iLab-2003-6, Grouplab, Dept. Computer Science, University of Calgary, May. Video report, duration 0:48.
28. McEwan, G. and Greenberg, S. (2003)  
**SideNC.** Research report iLab-2003-4, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 0:41.
29. Tang, A., Kratt, D., Carpendale, S. and Dunning, A. (2003)  
 Sensing and Visualising Physiological Arousal. Research report iLab-2003-2, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 1:28.
30. Tang, C., McEwan, G. and Greenberg, S. (2003)  
**VisStreams: Visualizing Temporal Multimedia Conversations.** Research report iLab-2003-1, Grouplab, Dept. Computer Science, University of Calgary. Presented publicly in Tang's Graphics Interface presentation.
31. Greenberg, S. (2002)  
**Real Time Distributed Collaboration.** Research report Grouplab, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada.
32. Boyle, M. and Greenberg, S. (2001)  
**A Privacy-Preserving Reactive Media Space.** Research report iLab-2001-3, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 1:40.
33. Kaasten, S. and Greenberg, S. (2001)  
**Integrating History, Bookmarks and Back.** Research report iLab-2001-2, Grouplab, Dept. Computer Science, University of Calgary, June. Video report, duration 4:41.
34. Rounding, M. and Greenberg, S. (2001)  
**Notification Collage.** Research report iLab-2001-01, Grouplab, Dept. Computer Science, University of Calgary. Presented publicly in Greenberg and Rounding's ACM CHI 2001 presentation.

35. Boyle, M. and Greenberg, S. (2000)  
**Balancing Awareness and Privacy in a Video Media Space Using Distortion Filtration.** In Proceedings of the Western Computer Graphics Symposium 2000. (Panorama Mountain Village, BC, Canada),, March 26-29. Also collected in Report 2000-652-04, March.
36. Greenberg, S., Ho, G. and Kaasten, S. (2000)  
**Contrasting Stack-Based and Recency-Based Back Buttons on Web Browsers.** Research report 2000-666-18, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, August. This version was updated in January 2002, original report is also available.
37. Kaasten, S. and Greenberg, S. (2000)  
**Designing an Integrated Bookmark / History System for Web Browsing.** In Proceedings of the Western Computer Graphics Symposium 2000. (Panorama Mountain Village, BC, Canada), March 26-29. Also collected in: GroupLab at Skigraph, Report 2000-652-04, March.
38. Rounding, M., Greenberg, S. and Carpendale, S. (2000)  
**Awareness Projected: Moving Awareness to a Public Space.** In Proceedings of the Western Computer Graphics Symposium 2000. (Panorama Mountain Village, BC, Canada), March 26-29. Also collected in: GroupLab at Skigraph, Report 2000-652-04, March.
39. Tam, J., Greenberg, S. and Maurer, F. (2000)  
**Change Management. In Proceedings of the Western Computer Graphics Symposium 2000.** (Panorama Mountain Village, BC, Canada),, March 26-29. Also collected in Report 2000-652-04, March.
40. Tam, J., McCaffrey, L., Maurer, F. and Greenberg, S. (2000)  
**Change Awareness in Software Engineering Using Two Dimensional Graphical Design and Development Tools.** Research report 2000-670-22, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, October.
41. Zanella, A. and Greenberg, S. (2000)  
**A Single Display Groupware Widget Set.** In Proceedings of the Western Computer Graphics Symposium 2000. (Panorama Mountain Village, BC, Canada),, March 26-29. Also collected in Report 2000-652-04, March.
42. Cockburn, A. and Greenberg, S. (1999)  
**Beyond the 'Back' Button: Issues of Page Representation and Organisation in Graphical Web Navigation Tools.** Research report 1999-640-03, Dept of Computer Science, University of Calgary, Calgary, Alberta, Canada.
43. Cockburn, A. and Greenberg, S. (1999)  
**Beyond the Back Button.** Research report iLab-1997-2, GroupLab, Dept. Computer Science, University of Calgary. Video report, duration 6:35.
44. Kuzuoka, H. and Greenberg, S. (1998)  
**Mediating Awareness and Communication through Digital but Physical Surrogates.** Research report 98-631-22, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada. See also companion 7 minute video of the same title, published at CHI 1999.
45. Gutwin, C. and Greenberg, S. (1997)  
**Interactive Fisheye Views for Groupware.** Research report GroupLab, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada.
46. Gutwin, C. and Greenberg, S. (1997)  
**Active Radar Overview.** Research report iLab-1997-2, GroupLab, Dept. Computer Science, University of Calgary. Video report, duration 2:30.
47. Gutwin, C. and Greenberg, S. (1997)



**Groupware Fisheye.** Research report iLab-1997-3, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 2:16.

48. Wyvill, B. and Greenberg, S. (1997)  
Things That Go Beep (Humour). Research report iLab-1997-1, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 1:12.
49. Gutwin, C. and Greenberg, S. (1995)  
**Workspace Awareness in Real-Time Distributed Groupware.** Research report 95-575-27, Dept. of Computer Science, University of Calgary, Calgary, Alberta, Canada.
50. Roseman, M. and Greenberg, S. (1994)  
**Registration for Real-Time Groupware.** Research report 94-533-02, Dept of Computer Science, University of Calgary, Calgary, Alberta, Canada, February.
51. Roseman, M. and Greenberg, S. (1993)  
**User-Centered Design of Interface Toolkits.** Research report 93/501/06, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, January.
52. Roseman, M., Yitbarek, S. and Greenberg, S. (1993)  
**GroupKit Tutorial.** Research report, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, May. Updated periodically; other versions posted over time available on request.
53. Roseman, M., Yitbarek, S. and Greenberg, S. (1993)  
**The GroupKit Reference Manual.** Research report, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April. Updated periodically; other versions posted over time available on request..
54. Greenberg, S. (1990)  
**Feasibility study of a national high speed communications network for research and development: Future applications.** Research report, Learning and Collaborating Group, Advanced Computing and Engineering Department, Alberta Research Council, Alberta, Canada, January.
55. Greenberg, S. (1990)  
**Casual Interaction in a Hallway.** Research report iLab-1990-1, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration: 2:37.
56. Greenberg, S. (1988)  
**Using Unix: Collected traces of 168 users.** Research report 1988-333-45, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
57. Greenberg, S. (1985)  
**The toolbox manual: A high level approach to the Jade window manager.** Research report, Research Report of the Software Research and Development Group, Department of Computer Science, University of Calgary, Calgary, Canada.
58. Greenberg, S. and Wyvill, B. (1983)  
**A tutorial guide to GROPER.** Research report 1983-131-20, Department of Computer Science, University of Calgary, Calgary, Canada, October.

## K. Ph.D. and M.Sc. Theses (produced by people supervised by Greenberg)

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1. Au Yeung, Timothy Chung Yin (2010)  
**The Gap between Personal vs Institutional Digital Archives of Researchers.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.

2. Ballendat, T. (2011)  
**Visualization of and Interaction with Digital Devices around Large Surfaces as a Function of Proximity.** Diplom (Master's) thesis, Dept Institut fur Informatik, Ludwig-Maximilians-Universitat Munchen, Munich, Germany, February. Supervisors: Nicolai Marquardt and Saul Greenberg, Professor in charge: Andreas Butz.
3. He, Helen Ai (2010)  
**One Size Does Not Fit All: Extending the Transtheoretical Model to Energy FeedbackTechnology Design.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April.
4. Kiemer, J.L. (2011)  
**The Fiduciary Glove Toolkit.** Master's thesis, Dept Institut fur Informatik, Ludwig-Maximilians-Universitat Munchen, Munich, Germany, March. Supervisors: Nicolai Marquardt and Saul Greenberg, Professor in charge: Andreas Butz.
5. Saulnier, P. (2011)  
**Exploring Socially Appropriate Nonverbal Robotic Interruption.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, January.
6. Sun,, Yi. (2010)  
**The Design of Come Together"** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, October.
7. Bertram, D. (2009)  
**The Social Nature of Issue Tracking in Software Engineering.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
8. Diaz-Marino, R. (2008)  
**A Visual Programming Language for Live Video Sonification.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, March.
9. Marquardt, Nicolai (2008)  
**Developer Toolkit and Utilities for Rapidly Prototyping Distributed Physical User Interfaces.** Diplom Thesis, Bauhaus-University Weimar, Faculty of Media, Media Systems Science, Germany, March 10. *Part of this work was done during a research internship at the University of Calgary.*
10. Nunes, Michael (2008)  
**Sharing Digital Photographis in the Home Through Physical Memorabilia.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, September.
11. Neustaedter, C. (2007)  
**Domestic Awareness and the Role of Family Calendars.** PhD thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, February.
12. Smale, Stephanie (2007)  
**Collecting and Sharing Transient Personal Information Online.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, November.
13. Tee, Kimberly (2007)  
**Artifact Awareness for Distributed Groups through Screen Sharing.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
14. Tse, E. (2007)  
**Multimodal Co-located Interaction.** PhD thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.

15. Elliot, K. (2006)  
**Contextual Locations in the Home.** Master's thesis, Dept. Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
16. McEwan, G. (2006)  
**Community Bar: Designing for Informal Awareness and Casual Interaction.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, September.
17. Boyle, M. (2005)  
**Privacy in Media Spaces.** PhD thesis, Department of Computer Science, University of Calgary, Calgary, Alberta Canada, April.
18. Tang, Anthony Hoi Tin (2005)  
**Embodiments in Mixed Presence Groupware.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, January.
19. Rounding, M. (2004)  
**Informal Awareness and Casual Interaction with the Notification Collage.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April.
20. Tse, E. (2004)  
**The Single Display Groupware Toolkit.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, November.
21. Neustaedter, C (2003)  
**Balancing Privacy and Awareness in a Home Media Space.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta Canada, May.
22. Tang, C. (2003)  
**Capturing and Visualizing Histories of Multimedia-based Casual Interactions.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta Canada, December.
23. Baker, K. (2002)  
**Heuristic Evaluation of Shared Workspace Groupware based on the Mechanics of Collaboration.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, May.
24. Tam, J. (2002)  
**Change Awareness in 2D Graphical Workspaces.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, February.
25. Kaasten, S. (2001)  
**Integrating Back, History and Bookmarks in Web Browsers.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, September.
26. Cox, D. (1998)  
**Supporting Results Synthesis in Heuristic Evaluation.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, November.
27. Gutwin, C. (1997)  
**Workspace Awareness in Real-Time Distributed Groupware.** PhD thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
28. O'Grady, T. (1996)  
**Flexible Data Sharing in a Groupware Toolkit.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, November.

29. Tauscher, L. (1996)  
**Evaluating History Mechanisms: An Empirical Study of Reuse Patterns in WWW Navigation.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, June.
30. Schaffer, D. (1995)  
**Visualizing Large, Loosely-Structured, Hierarchical Information Spaces.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Canada, September.
31. Roseman, M. (1993)  
**Design of a Real-Time Groupware Toolkit.** Master's thesis, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, February.
32. Greenberg, S. (1988)  
**Tool use, reuse and organization in command-driven interfaces.** PhD thesis, Department of Computer Science, University of Calgary, 2500 University Drive NW, Calgary, Alberta, Canada, December.  
◦ Republished with revisions as the book "The computer user as toolsmith".
33. Greenberg, S. (1984)  
**User modeling in interactive computer systems.** Master's thesis, Department of Computer Science, University of Calgary, Calgary.

## L. Independent papers (produced by people supervised by Greenberg)

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1. Marquardt, N. (2011)  
**Proxemic Interactions in Ubiquitous Computing Ecologies.** In ACM Proc. CHI Extended Abstracts: ACM CHI Doctoral Symposium. (Vancouver, BC, Canada), ACM, 4 pages + poster, May 7-12.
2. Patel, N., Clawson, J., Volda, A. and Lyons, K. (2009)  
**Mobiphos: A study of user engagement with a mobile collocated-synchronous photo sharing application.** International Journal of Human Computer Studies-IJHCS (Special Issue on Collocated Social Practices Surrounding Photos, Eds: S. Linley, A. Durrant, D. Kirk and A. Taylor), 67:1048-1059, December.
3. Clawson, J., Volda, A., Patel, N. and Lyons, K. (2008)  
**Mobiphos: A collocated-synchronous mobile photo sharing application.** In Proc. Conference on Human-Computer Interaction with Mobile Devices and Services - MobileHCI 2008. (Amsterdam, The Netherlands), ACM Press, September 2-5.
4. Goecks, J., Volda, A., Volda, S. and Mynatt, E. (2008)  
**Charitable Technologies: Opportunities for Collaborative Computing in Nonprofit Fundraising.** In Proc. ACM Conference on Computer Supported Cooperative Work - ACM CSCW'08. (San Diego, CA), ACM Press, 10 pages, Nov. 8-12.
5. Neustaedter, C. (2008)  
**Reflecting on Domestic Displays for Photo Viewing and Sharing.** In Workshop on Collocated Social Practices Surrounding Photos - held at ACM CHI'08. Organized by Sian Lindley, Abigail Durrant, Dave Kirk, and Alex Taylor, April.
6. Volda, S., Mynatt, E. and Edwards, W.K. (2008)  
**Re-framing the Desktop Interface Around the Activities of Knowledge Work.** In Proc. ACM Symposium on User Interface Software and Technology - ACM UIST'08. (Monteray, CA), ACM Press, 10 pages, October 19-22.
7. Neustaedter, C. and Brush, A.J. (2006)  
**"LINC-ing" the Family: The Participatory Design of an Inkable Family Calendar.** In Proceedings of the ACM Conference on Computer-Human Interaction - ACM CHI'06. (Montreal, Quebec), ACM Press, pages 141-

150, April 24-27. *This work was done while Neustaedter was an MSR intern.*

8. Shen, C., Ryall, K., Forlines, C., Esenther, A., Vernier, F.D., Everitt, K., Wu, M., Wigdor, D., Morris, M.R., Hancock, M. and Tse, E. (2006)  
**Informing the Design of Direct-Touch Tabletops.** IEEE Computer Graphics and Applications - IEEE CG&E, 26(5):36-46. IEEE Press, September.
9. Tse, E. (2006)  
**Multimodal Co-located Collaboration.** In UIST Doctorial Consortium, Adjunct Proceedings of ACM UIST 2006. See also minute madness video presented at the conference.
10. Tse, E. (2005)  
**Employing Usability, Efficiency and Evolvability in the CEXI Toolkit.** Research report 2005-783-14, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April.
11. Tse, E. (2005)  
**Using Aspects to Convert Single User Applications into Multiple User Applications.** Research report 2005-785-16, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, April.
12. Cadiz, J.J., Narin, A., Jancke, G., Gupta, A. and Boyle, M. (2004)  
**Exploring PC-telephone convergence with the enhanced telephony prototype.** In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'04. (Vienna, Austria), ACM Press, pages 215-222, April 24 - 29. *This work was done while Boyle was an MSR intern.*
13. McEwan, G. (2004)  
Community Bar: Awareness, Interaction and Everything Between. In Western Canadian Computer Graphics Symposium (SkiGraph'04), March 28-31.
14. Boyle, M. (2003)  
**Collabrary Shared Dictionary v1.0.17: Programming Paradigm and Wire Protocol.** Research report 2003-731-34, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, January.
15. Boyle, M. (2003)  
**A Shared Vocabulary for Privacy.** In Workshop on Ubicomp Communities: Privacy as Boundary Negotiation. Held as part of the 5th International Conference on Ubiquitous Computing, UBICOMP'03. (Seattle), October 12.
16. Simon, H. and Tse, E. (2003)  
**The Shape of Conversation: An Interactive Installation.** Research report iLab-2003-5, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 2:49.
17. Venolia, G. and Neustaedter, C. (2003)  
**Understanding Sequence and Reply Relationships within Email Conversations: A Mixed-Model Visualization.** In Proceedings of the ACM Conference on Human Factors in Computing Systems - ACM CHI'03. ACM Press, April 5-10. Earlier version as Microsoft Research Report MSR-TR-2002-102, September 2002. This research was done at Microsoft Research.
18. McPhail, S. (2002)  
**Buddy Bugs: A Physical User Interface for Windows Instant Messenger.** In Proceedings of Western Computer Graphics Symposium - Skigraph'02, March. Note that iLab-2002-1 video was also shown during the conference talk.
19. McPhail, S. (2002)  
**BuddyBugs: An MSN Messenger Interface.** Research report iLab-2002-1, Grouplab, Dept. Computer Science, University of Calgary. Video report, duration 2:44. Presented publicly in McPhail's Western Computer Graphics Symposium 2002 presentation.

20. Boyle, M. (2001)  
**The Effects of Capture Conditions on the CAMSHIFT Face Tracker.** Research report 2001-691-14, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, December.
21. Boyle, M. (2001)  
 Ubiquitous Awareness Spaces. Research report 2001-682-05, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, February.
22. McCaffrey, L. (1998)  
**Representing Change in Persistent Groupware Environments.** Research report GroupLab, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, January.
23. Roseman, M. (1996)  
**Managing Complexity in TeamRooms, a Tcl-Based Internet Groupware Application.** In Proceedings of the 1996 Tcl/Tk Workshop. Usenix Press.
24. Jaeger, S. (1995)  
**Mega-Widgets in Tcl/Tk: Evaluation and Analysis.** In Proceedings of the 1995 Tcl/Tk Workshop. (Toronto), Usenix Press, July 6-8.
25. Roseman, M. (1995)  
**When is an Object Not an Object?.** In Proceedings of the 1995 Tcl/Tk Workshop. (Toronto), Usenix Press, July 6-8. Also as Report 1995-553-5, March.
26. Roseman, M. (1993)  
**Tcl/Tk as a Basis for Groupware.** In Proceedings of the 1993 Tcl/TK Workshop. June 10-11. (Berkely, California).

## M. Software and Research Data made available to other researchers

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Good science requires replication, validation, and continuation of research by others. Because of the complexity of software, I believe that it is critical to provide other researchers with toolkits for rapidly prototyping innovative software, copies of significant research applications, and any of the usage data collected. A sampling of software is listed below. This list is by no means complete. Most software has been used by others. For example, the various toolkits we created have been used all around the world by a quite diverse set of researchers. The usage data (listed last) has been used as a central part of both a PhD and a Masters thesis at other Canadian universities. In addition, the Timelapse Image Analyzer is current being used by Biologists working with Freshwaters Fisheries Society (BC), while TeamRooms and Phidgets have been commercialized.

1. Timelapse Image Analyzer, software that helps biologists visualize and analyze timelapse image data
2. Proximity Toolkit, a system and API for gathering proxemic information
3. Fiduciary Glove Toolkit, a system and API for gathering multi-touch information identifying different hands and hand parts
4. Haptic Puck Toolkit, a system, API and hardware description for a haptic device that adds haptics to a multi-touch table
5. .NetworkingGT, a new version of .Networking built upon the GT network layer
6. Shared Phidgets, a new version of Phidgets that handles distributed devices
7. Phidgets, a rapid prototyping toolkit for physical user interfaces
8. SDG Toolkit, for rapidly prototyping Single Display Groupware
9. DiamondTouch Toolkit, for rapidly prototyping applications on the DiamondTouch Surface
10. .Networking, for rapidly prototyping distributed applications
11. Community Bar groupware sidebar
12. Community Bar Media items for rapidly building groupware multimedia items for the above system
13. EasyImages for video capture as bitmap frames and basic image processing of frames and images
14. Collabrary, for rapidly prototyping distributed multimedia applications

15. Souvenirs domestic appliance for photo-sharing in the home
16. TimeLine, an interactive visualization of long video sequences in a single screen
17. TeamRooms, a groupware environment based on virtual rooms.
18. GroupKit. A groupware toolkit.
19. Data collection of client side web-browser use, capturing people's Web navigation patterns
20. Concurrency control management software for groupware.
21. GroupSketch and XGroupSketch. Two groupware drawing programs.
22. Share. A terminal sharing system with flexible floor control.
23. GIC. A graphical front end for a concurrent version control system.
24. Data collected of 168 people using Unix for 4 months.

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*Last updated June, 2011 by Saul Greenberg*