

**HARVEY J. MILLER**

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**EDUCATION**

1991. Ph.D. (Geography), The Ohio State University, Columbus, Ohio.  
1987. M.A. (Geography), Kent State University, Kent, Ohio.  
1985. B.A., Honors (Geography), Kent State University, Kent, Ohio.

**RESEARCH AND TEACHING INTERESTS**

Geographic Information Systems for Transportation (GIS-T), Geographic Information Science (GISci), time geography, spatial analysis and geocomputation.

**PROFESSIONAL ACTIVITIES****Main Academic Appointments**

- 2004 – present. Chair, Department of Geography, University of Utah.  
2001 - present. Professor, Department of Geography, University of Utah.  
1996 – 2001. Associate Professor, Department of Geography, University of Utah  
1991 – 1996. Assistant Professor, Department of Geography, University of Utah.

**Other Professional Appointments**

- 2008 – present. Guest Professor, Lab for Earth and Space Information Technologies, Shenzhen Institute for Advanced Technology, Chinese Academy of Sciences.  
2005 – 2011. Committee on Visualization in Transportation (ABJ95), Transportation Research Board , U.S. National Academies.  
2005 – 2011. Co-chair, Committee on Geographic Information Science and Applications (ABJ60), Transportation Research Board, U.S. National Academies.  
2003 - 2005. Committee on Spatial Data and Information Science (ABJ60), Transportation Research Board , U.S. National Academies.  
2002 - 2004. Task force on Visualization in Transportation (ABJ95T), Transportation Research Board , U.S. National Academies.  
2003. Visiting scholar, Institute for Geoinformatics, University of Münster, Münster, Germany.  
2000 – 2003. Board member, University Consortium for Geographic Information Science.  
2000 – 2003. Councilor-at-large, North American Regional Science Association.  
1998 – 2001. Director, Certificate Program in Geographic Information Science, Department of Geography and Department of Computer Science, University of Utah.  
1998 – 2000. Chair, Spatial Analysis and Modeling Specialty Group, Association of American Geographers (formerly known as the Mathematical Modeling and Quantitative Methods specialty group).  
1996 – 1998. Adjunct Associate Professor, Department of Civil and Environmental Engineering, Utah State University.  
1996 - 1998. Vice-chair/Treasurer, Mathematical Modeling and Quantitative Methods Specialty Group, Association of American Geographers.

1995. Research Fellow, Bureau of Transportation Statistics, U.S. Department of Transportation, Washington, D.C.
1995. Interim Director, Digitally Integrated Geographic Information Technologies Laboratory, Department of Geography, University of Utah.
- 1994 - 1996. Board Member, Mathematical Modeling and Quantitative Methods Specialty Group, Association of American Geographers.

### **Journal Boards and Editorships**

- 2009 – present. *Journal of Spatial Information Science.*
- 2009 – present. *International Regional Science Review.*
- 2008 – present. *Journal of Transport and Land Use*
- 2000 – 2004. North American Editor, *International Journal of Geographical Information Science.*
- 2000 – present. *URISA Journal.*
- 1999 – present. *Transportation.*
- 1998 - present. *International Journal of Geographical Information Science.*
- 1997 – present. *Journal of Regional Science.*
- 1996 - present. *Geographical Analysis.*

### **Honors and Awards**

2009. Edward L. Ullman Award for Significant Contributions to Transportation Geography, Transportation Geography specialty group, Association of American Geographers.
2004. Superior Research Award, College of Social and Behavioral Sciences, University of Utah.
1997. Geoffrey J. D. Hewings Award for Outstanding Young Scholar, North American Regional Science Council.
1996. Springer-Verlag Award for Best Paper Presented at the 35th Annual Meeting of the Western Regional Science Association, Napa, California.
1996. ESRI Award for Best Scientific Paper in Geographic Information Systems, American Society for Photogrammetry and Remote Sensing (with J. Lowry and G. Hepner).
1994. Superior Research Award, College of Social and Behavioral Sciences, University of Utah.
1991. Huntington Memorial Award for Outstanding Graduate Student, Department of Geography, Ohio State University.
1991. First place, GIS specialty group student paper competition, Association of American Geographers.

### **PUBLICATIONS**

#### **Books**

2009. Harvey J. Miller and Jiawei Han (eds.) *Geographic Data Mining and Knowledge Discovery*, second edition, London: CRC Press.
2008. Thomas J. Cova, Harvey J. Miller, Kate Beard, Andrew U. Frank, and Michael F. Goodchild, (eds.) *Geographic Information Science - 5th International Conference, GIScience 2008, Park City, Utah*. Lecture Notes in Computer Science (LNCS)

- 5266, Berlin: Springer.
2007. Harvey J. Miller (ed.) *Societies and Cities in the Age of Instant Access*, Berlin: Springer.
2006. Martin Raubal, Harvey J. Miller, Andrew U. Frank, and Michael F. Goodchild, (eds.) *Geographic Information Science - Fourth International Conference, GIScience 2006, Münster, Germany, September 2006, Proceedings*. Lecture Notes in Computer Science 4197, Berlin: Springer
2004. Max J. Egenhofer, Christian Freska and Harvey J. Miller (eds.) *Geographic Information Science – Third International Conference, GIScience 2004, Adelphi, MD, USA, October 2004, Proceedings*, Lecture Notes in Computer Science 3234, Berlin: Springer.
2001. Harvey J. Miller and Shih-lung Shaw *Geographic Information Systems for Transportation: Principles and Applications*, New York: Oxford University Press.
2001. Harvey J. Miller and Jiawei Han (eds.) *Geographic Data Mining and Knowledge Discovery*, London: Taylor and Francis.

### **Papers in Peer-refereed Journals**

- In press. Bart Kuijpers, Harvey J. Miller, Tijs Neutens and Walied Othman “Anchor uncertainty and space-time prisms on road networks,” *International Journal of Geographical Information Science*.
- In press. Harvey J. Miller, “The data avalanche is here. Shouldn't we be digging?” *Journal of Regional Science* (50<sup>th</sup> anniversary issue).
- In press. Tijs Neutens, Tim Schwanen and Harvey J. Miller, “Dealing with timing and synchronization in opportunities for joint activity participation,” *Geographical Analysis*.
2009. Harvey J. Miller and Scott A. Bridwell, “A field-based theory for time geography,” *Annals of the Association of American Geographers*, 99, 49-75.
2007. Harvey J. Miller, “Place-based versus people-based geographic information science,” *Geography Compass*, 1, 503-535.
2007. Nobbir Ahmed and Harvey J. Miller, “Time-space transformations of geographic space for exploring, analyzing, and visualizing transportation systems,” *Journal of Transport Geography*, 15, 2-17.
2006. Adam Sobek and Harvey J. Miller, “U-Access: A web-based system for routing pedestrians of differing abilities,” *Journal of Geographical Systems*, 8, 269-287.
2005. Harvey J. Miller, “Necessary space-time conditions for human interaction,” *Environment and Planning B: Planning and Design*, 32, 381-401.
2005. Harvey J. Miller, “A measurement theory for time geography,” *Geographical Analysis*, 37, 17-45.
2004. Martin Raubal, Harvey J. Miller and Scott Bridwell, “User-centered time geography for location-based services,” *Geografiska Annaler-B*, 86, 245-265.
2004. Harvey J. Miller “Tobler’s First Law and spatial analysis,” *Annals of the Association of American Geographers*, 94(2), 284-289.
2003. Harvey J. Miller and Elizabeth A. Wentz, “Representation and spatial analysis in geographic information systems,” *Annals of the Association of American Geographers*, 93, 574-594.
2001. Yi-Hwa Wu and Harvey J. Miller, "Computational tools for measuring space-time

- accessibility within transportation networks with dynamic flow," *Journal of Transportation and Statistics* (special issue on methodological issues in accessibility), 4 (2/3), 1-14.
2001. Yi-Hwa Wu, Harvey J. Miller and Ming-Chih Hung, "A GIS-based decision support system for dynamic network congestion analysis and routing," *Journal of Geographical Systems*, 3, 3-24.
2000. Harvey J. Miller and Yi-Hwa Wu, "GIS software for measuring space-time accessibility in transportation planning and analysis," *GeoInformatica*, 4, 141-159.
2000. Harvey J. Miller, "Geographic representation in spatial analysis," *Journal of Geographical Systems*, 2, 55-60.
1999. Harvey J. Miller, "Potential contributions of spatial analysis to geographic information systems for transportation (GIS-T)," *Geographical Analysis*, 31, 373-399.
1999. Harvey J. Miller, "Measuring space-time accessibility benefits within transportation networks: Basic theory and computational methods," *Geographical Analysis*, 31, 187-212.
1998. Harvey J. Miller, "Emerging themes and research frontiers in GIS and activity-based travel demand forecasting," *Geographical Systems*, 5, 189-198.
1998. Sean J. Cannon, Thomas Kontuly and Harvey J. Miller, "GIS-based emergency response planning in a Mexico/U.S. border community," *Applied Geographical Studies*, 2, 111-130.
1996. Atsuyuki Okabe and Harvey J. Miller, "Exact computational methods for calculating distances between objects in a cartographic database," *Cartography and Geographic Information Systems*, 23, 180-195.
1996. Harvey J. Miller and John D. Storm, "GIS design for network equilibrium-based travel demand models," *Transportation Research C*, 4C, 373-389.
1996. Harvey J. Miller, "Pricing policy reactions to agglomeration in a market with spatial search," *Journal of Regional Science*, 36, 393-415.
1996. Harvey J. Miller, "GIS and geometric representation in facility location problems," *International Journal of Geographical Information Science*, 10, 791-816.
1995. John H. Lowry, Harvey J. Miller and George F. Hepner, "A GIS-based sensitivity analysis of community vulnerability to hazardous contaminants on the Mexico/U.S. border," *Photogrammetric Engineering and Remote Sensing* (Special GIS Issue), 61, 1347-1359.
1995. Harvey J. Miller and Mark V. Finco, "Spatial search and spatial competition: A probability analysis of basic results from the spatially-restricted theory," *Annals of Regional Science*, 29, 67-89.
1994. Harvey J. Miller, "Probability-based models of spatial search," *Environment and Planning A*, 26, 383-405.
1994. Morton E. O'Kelly and Harvey J. Miller, "The hub network design problem: A review and synthesis," *Journal of Transport Geography*, 2, 31-40.
1994. Harvey J. Miller "Market area delimitation within networks using geographic information systems," *Geographical Systems*, 1, 157-173.
1993. Harvey J. Miller, "Consumer search and retail analysis," *Journal of Retailing*, 69, 160-192.
1993. Harvey J. Miller, "Modeling strategies for the spatial search problem," *Papers in*

- Regional Science*, 72, 63-85.
1992. Harvey J. Miller, "Human wayfinding, environment-behavior relationships, and artificial intelligence," *Journal of Planning Literature*, 7, 139-150.
1991. Harvey J. Miller, "Modeling accessibility using space-time prism concepts within geographical information systems," *International Journal of Geographical Information Systems*, 5, 287-301.  
Reprinted in P. Fisher (2007) (ed.) *Classics from IJGIS: Twenty Years of the International Journal of Geographical Information Science and Systems*, London: Taylor and Francis, 157-173.
1991. Morton E. O'Kelly and Harvey J. Miller, "Solution strategies for the single facility minimax hub location problem," *Papers in Regional Science*, 70, 367-380.
1991. Harvey J. Miller and Morton E. O'Kelly, "Properties and estimation of a production constrained Alonso model," *Environment and Planning A*, 23, 127-138.
1990. Harvey J. Miller and Morton E. O'Kelly, "Incorporating situational effects into retail market area delimitation," *The Operational Geographer*, 8(2), 9-12.
1989. Randall W. Jackson, Harvey J. Miller and Martin Hynes, "A formal procedure for generating regional product accounts for U.S. regions," *Socio-Economic Planning Science*, 23, 271-281.
1989. Morton E. O'Kelly and Harvey J. Miller, "A synthesis of some market area delimitation models," *Growth and Change*, 20(3), 14-33.

### Book Chapters

- In press. Scott A. Bridwell and Harvey J. Miller, "Location-based services," in L. Liu and M. Tamer Özsu (eds.) *Encyclopedia of Database Systems*, Springer.
- In press. Harvey J. Miller, "Spatial analysis," *Encyclopedia of Human Geography*, Sage Publications.
2009. Harvey J. Miller, "Geocomputation," in A. S. Fotheringham and P.A. Rogerson (eds.) *Handbook of Spatial Analysis*, Sage Publications, 397-418.
2009. Harvey J. Miller "Space-time measures of transportation vulnerability," in M. Tahmisoglu and Ç.Özen (eds.) *Transportation Security Against Terrorism*, NATO Science for Peace and Security Series E: Human and Societal Dynamics, Vol. 54, IOS Press, 61-74.
2008. Harvey J. Miller "Time geography," in S. Shekhar and H. Xiong (eds.) *Encyclopedia of GIS*, 1151-1156
2007. Harvey J. Miller, "Geographic data mining and knowledge discovery," in J. P. Wilson and A. S. Fotheringham (eds.) *Handbook of Geographic Information Science*, Blackwell.
2007. Harvey J. Miller "Societies and cities in the age of instant access," in H.J. Miller (ed.) *Societies and Cities in the Age of Instant Access*, Berlin: Springer, 3-37.
2007. Harvey J. Miller "Modeling accessibility using space-time prism concepts with geographical information systems: Fourteen years on," in P. Fisher (ed.) *Classics from IJGIS: Twenty Years of the International Journal of Geographical Information Science and Systems*, London: Taylor and Francis, 175-179.
2007. Harvey J. Miller, "Social exclusion in space and time," in K.W. Axhausen (ed.) *Moving through Nets: The Social and Physical Aspects of Travel*, Elsevier, 353-380.

2005. Harvey J. Miller, "Place-based versus people-based accessibility," in D. Levinson and K. J. Krizek (eds.) *Access to Destinations*, Elsevier, 63-89
2005. Harvey J. Miller, "What about people in geographic information science?" in P. Fisher and D. Unwin (eds.) *Re-Presenting Geographic Information Systems*, John Wiley, 215-242.
2005. Arthur Getis, Luc Anselin, Anthony Lea, Mark Ferguson and Harvey J. Miller "Spatial analysis and modeling in a GIS environment," in R. B. McMaster and E. Lynn Userly (eds.) *A Research Agenda for Geographic Information Science*, Boca Raton, FL: CRC Press, 157-196.
2005. May Yuan, Barbara P. Buttenfield, Mark Gahegan and Harvey J. Miller "Geospatial data mining and knowledge discovery," in R. B. McMaster and E. Lynn Userly (eds.) *A Research Agenda for Geographic Information Science*, Boca Raton, FL: CRC Press, 365-388.
2004. Harvey J. Miller, "Activities in space and time," *Handbook of Transport 5: Transport Geography and Spatial Systems*, Pergamon/Elsevier Science, 647-660.
2003. Harvey J. Miller, "Transportation and communication lifeline disruption," in S. L. Cutter, D. B. Richardson and T. Wilbanks (eds.) *The Geographic Dimension of Terrorism*, New York: Routledge, 145-152.
2001. Harvey J. Miller and Jiawei Han, "Geographic data mining and knowledge discovery: An overview," in H. J. Miller and J. Han (eds.) *Geographic Data Mining and Knowledge Discovery*, London: Taylor and Francis, 3-32.
2000. Michael Batty and Harvey J. Miller, "Representing and visualizing physical, virtual and hybrid information spaces" in D. Janelle and D. Hodge (eds.) *Information, Places, and Cyberspace: Issues in Accessibility*, Berlin: Springer-Verlag, 133-146.

### Conference Proceedings

2008. Bart Kuijpers, Harvey J. Miller, Tijs Neutens and Walied Othman, "Anchor uncertainty and space-time prisms on road networks", *Proceedings of the Dagstuhl seminar 08471 "Geographic Privacy-Aware Knowledge Discovery and Delivery."*
2001. George F. Hepner, Tom Cova, Richard Forster and Harvey J. Miller, "Use of remote sensing and geospatial analysis for transportation hazard assessment: An integrated university, government and private sector consortium," *Proceedings, IEEE/ISPRS Joint Workshop on Remote Sensing and Data Fusion over Urban Areas*, IEEE-01EX482, Rome, Italy, pp.241-244.
1999. Harvey J. Miller, "GIS software for measuring space-time accessibility in transportation planning and analysis, " *Proceedings, International Workshop on geographic information systems for transportation and intelligent transportation systems*, Joint Laboratory for GeoInformation Science of the Chinese Academy of Sciences and the Chinese University of Hong Kong, China, and the National Center for Geographic Information and Analysis, USA.
1999. Harvey J. Miller, Yi-Hwa Wu and Ming Hung, "GIS-based dynamic traffic congestion modeling to support time-critical logistics," *Proceedings of the Hawaii International Conference on Systems Science*, Los Alamitos, CA: Institute of Electrical and Electronics Engineers Computer Society.
1997. Harvey J. Miller and Julian Ray, "GIS software for dynamic transportation

- congestion analysis in time-critical logistics," *GIS/LIS'97 Proceedings*, 163-170.
1996. Harvey J. Miller, "Solving location and layout problems using GIS and simulated annealing," *GIS/LIS'96 Proceedings*, 310-324.
1995. Harvey J. Miller, John D. Storm and Mace Bowen, "GIS design for multimodal network analysis," *GIS/LIS '95 Proceedings*, 750-759.
1994. Mark V. Finco, George F. Hepner and Harvey J. Miller, "GIS modeling of contaminant pathways and human exposure in the Nogales region of the Mexico - U.S. border," *GIS/LIS '94 Proceedings*, 312-321.
1993. Harvey J. Miller, "GIS and the geometry of facility location problems," *GIS/LIS '93 Proceedings*, 530-539.

### **Book Reviews**

2002. P. Atkinson and D. Martin (eds.) *GIS and Geocomputation*, Taylor and Francis, Innovations in GIS 7; reviewed in *Geographical Analysis*, 34, 286-288.
2001. A. S. Fotheringham and M. Wegener (eds.) *Spatial Models and GIS: New Potential and New Models*, Taylor and Francis, GISDATA 7; reviewed in *Environment and Planning B: Planning and Design*, 28, 623-636.
1999. Stan Openshaw and Christine Openshaw, *Artificial Intelligence in Geography*, New York: John Wiley; reviewed in *Journal of Regional Science*, vol 39.

### **Other Publications**

2009. "Transport 2.0: Meeting grand transportation challenges with geographic information science," *ArcNews* 30(4), 1-5.
2003. Harvey J. Miller, "What about people in geographic information science?" guest editorial, *Computers, Environment and Urban Systems*, 27, 447-453.
2000. Harvey J. Miller and Jiawei Han, "Discovering geographic knowledge in data rich environments: A report on a specialist meeting," *SIGKDD Explorations: Newsletter of the (Association for Computing Machinery) Special Interest Group on Knowledge Discovery and Data Mining*, 1(2), 105-108; available at <http://www.acm.org/sigs/sigkdd/explorations/>
1999. Harvey J. Miller and Jiawei Han, "Discovering geographic knowledge in data-rich environments," Specialist Meeting Report, National Center for Geographic Information and Analysis – Project Varenus.
1997. Harvey J. Miller "Towards consistent travel demand estimation in transportation planning: A guide to the theory and practice of equilibrium travel demand modeling," Research Report, Bureau of Transportation Statistics, U. S. Department of Transportation.
1993. George F. Hepner and Harvey J. Miller, "Using GIS for environmental assessment," *ACSM Bulletin*, 146 (November/December), 42-46.

### **OTHER RESEARCH ACTIVITIES**

#### **Keynote, Plenary and Endowed Lectures**

2009. "What about people in geographic information science?" *Arthur H. Robinson lecture*, Department of Geography, The Ohio State University, Columbus, Ohio, February 19.
2008. "Geographic theory and geospatial knowledge discovery," keynote address, 8<sup>th</sup>

*International Conference on Data Mining*, Institute of Electrical and Electronics Engineers, Pisa, Italy, December 18<sup>th</sup>.

- 2008. “Place-based versus people-based accessibility,” *Reta A. Hayes Lecture*, College of Geosciences, Texas A&M University, College Station, Texas, November 21.
- 2005. “Place-based versus people-based accessibility: The role of geospatial technologies,” keynote lecture, *GISPlanet: Second International Conference and Exposition on Geographic Information*, Estoril, Portugal, May 30 – June 2.
- 2004. “Place-based versus people-based accessibility,” plenary lecture, *Accessibility to Destinations: Re-thinking the Transportation Future of our Region*, Center for Transportation Studies, University of Minnesota, November 8-9.
- 2003. “Trends in geographic information systems and science,” keynote address, *Geographic Information Systems for Transportation (GIS-T) annual conference and symposium*, Colorado Springs, CO, March 17-19.
- 2002. “What about people in geographic information science?” plenary lecture, workshop on *Action-oriented Approaches in Geographic Information Science*, Holden, ME, November 2-4

### **Other Invited Lectures**

- 2009. “What about people in geographic information science?” Regional Research Institute, West Virginia University, Morgantown, WV, October 8.
- 2009. “What about people in geographic information science?” Department of Theoretical Computer Science, Hasselt University, Hasselt, Belgium, May 19.
- 2008. “GIS tools for measuring accessibility in real and virtual spaces,” Department of Geography and Department of Civil Engineering, University of Connecticut, February 29.
- 2008. “GIS tools for measuring accessibility in real and virtual spaces,” Geographic Information Science and Technology Group, Computational Sciences and Engineering Division, Oak Ridge National Laboratory, January 25.
- 2008. “GIS tools for measuring accessibility in real and virtual spaces,” Department of Geography, University of Tennessee, January 24.
- 2007. “GIS tools for measuring accessibility in real and virtual spaces,” Department of Geography, Florida State University, Tallahassee, Florida. November 16.
- 2007. “GIS tools for measuring accessibility in real and virtual spaces,” National e-Science Centre, University of Edinburgh, Edinburgh, Scotland, U.K., September 6.
- 2006. “Measuring space-time accessibility in network and multi-dimensional spaces,” Institute of Remote Sensing Applications, Chinese Academy of Sciences, Beijing, China, May 16.
- 2006. “Necessary space-time conditions for human interaction,” Institute of Geographical Science and Resource Research, Chinese Academy of Sciences, Beijing, China, May 16.
- 2006. “Place-based versus people-based accessibility,” Department of Space Information Science and Department of Geography, Peking University, May 18.
- 2006. “Place-based versus people-based science: The role of geo-spatial technologies,” School of Architecture, Tsinghua University, Beijing, China, May 19.
- 2006. “Measuring space-time accessibility in network and multidimensional spaces,” Department of Geography, East China Normal University, Shanghai, China, May

- 20.
2006. "Place-based versus people-based science: The role of geo-spatial technologies," International Institute for Earth System Science, Nanjing, China, May 24.
2006. "Geographic information systems and their role in health research," Cancer Control and Population Sciences research group, Huntsman Cancer Institute, Salt Lake City, UT, January 18.
2005. "Place-based versus people-based accessibility," Department of Geography, University of Iowa, March 4.
2004. "Geospatial and spatio-temporal knowledge discovery: Overview and agenda," National Geospatial-Intelligence Agency (Oct. 19), Central Intelligence Agency (Oct. 19) and National Security Agency (Oct. 20), Washington, DC (co-sponsored by the University Consortium for Geographic Information Science).
2004. "Place-based versus people-based science: The role of geospatial technologies," research roundtable, Department of Family and Preventive Medicine, University of Utah, September 17.
2004. "What are geographic information systems? And where are they going?" public health seminar, Department of Family and Preventive Medicine, University of Utah, September 9.
2004. "What are geographic information systems? And where are they going?" *Guy F. Atkinson Distinguished Lecture Series*, Department of Geology and Geophysics, University of Utah, January 22.
2003. "Geospatial and spatio-temporal knowledge discovery: Overview and agenda," plenary lecture *Geospatial Visualization and Knowledge Discovery Workshop*, Lansdowne, VA, November 17-20.
2003. "Mapping and measuring space-time accessibility in network and multidimensional spaces," Department of Geography, Arizona State University, November 7.
2003. "Mapping and measuring space-time accessibility in network and multidimensional spaces," seminar on "Accessibility: New perspectives and practices," sponsored by the Netherlands Graduate School of Housing and Urban Research (NETHUR), University of Utrecht, The Netherlands, October 30.
2003. "GIS tools for measuring space-time accessibility in transportation networks," Institute for Geoinformatics, University of Münster, Münster, Germany, May 23.
2002. "GIS tools for measuring space-time accessibility in transportation networks," Institute for Transportation Studies and Department of Urban and Regional Planning, University of California – Irvine, March 1.
2001. "GIS tools for measuring space-time accessibility in transportation networks," Institute for Infrastructure, Royal Institute of Technology, Stockholm, Sweden, December 4.
2001. "GIS tools for measuring space-time accessibility in transportation networks," Centre for Advanced Spatial Analysis (CASA), University College London (co-sponsored by CASA, Birkbeck College School of Geography and the U. K. Association for Geographic Information), September 3.
2001. "GIS tools for measuring space-time accessibility in transportation networks," University of Oregon (February 8) and Oregon State University (February 9), Association of American Geographers *Visiting Geographic Scientist Program*.
2000. "GIS tools for measuring space-time accessibility within transportation networks,"

- Geographic Information Science and the Disciplines Lecture Series*, Program for Spatial Analysis/GIS, University of Michigan, Ann Arbor, December 8.
2000. "Extending geographic representation in spatial analysis," Department of Geography, University of Hawaii, March 5.
1999. "Measuring space-time accessibility within transportation networks," Department of Geography, San Diego State University, October 15.
1999. "Measuring space-time accessibility within transportation networks," Center for Spatial Information Science, University of Tokyo, April 23.
1997. "Developing a GIS toolbox for solving complex location and layout problems," Department of Geography, Arizona State University, April 11.
1997. "GIS and logistics: How the new digital geography can change the way you do business," Council of Logistics Management, Salt Lake Roundtable, January 7.
1996. "GIS design for a simultaneous transportation equilibrium model," Annual Meeting of the Institute of Transportation Engineers, Utah Chapter, Salt Lake City, January 23.
1996. "GIS design for a simultaneous transportation equilibrium model," Department of Geography and Regional Development, University of Arizona, January 19.
1995. "A GIS-based simultaneous transportation equilibrium model," Department of Geography and Earth Resources, Utah State University, Logan, Utah, May 12.
1993. "Applications of geographic information systems in retail analysis," Department of Marketing, University of Utah, May 6.

#### **Invited Participation at Workshops and Research Symposia**

2009. "The data avalanche is here," invited paper, *Regional Science: The Next Fifty Years. A Symposium on the Occasion of the 50<sup>th</sup> Anniversary of the Journal of Regional Science*, Federal reserve Bank of New York, New York City, NY, 23-24 April.
2008. "Space-time measures of transportation network vulnerability," invited paper, *Transportation Security Against Terrorism*, NATO Advanced Research Workshop, hosted by Center of Excellence – Defense Against Terrorism, Ankara, Turkey, 5-6 May.
2005. *Confidentiality Issues Arising from the Integration of Remotely Sensed and Self-Identifying Data*, Committee on the Human Dimensions of Global Change, National Research Council, U.S. National Academies, Washington DC, December 9-10.
2005. *GPS and Time-Geography Applications for Activity Modeling and Microsimulation*, Center for Spatially Integrated Social Sciences, University of California – Santa Barbara, Santa Barbara, CA 10-11 October.
2004. *Information and Communication Technologies, Innovation and the Transport System*, Sustainable Transport in Europe and Links and Liaisons with America (STELLA) network, Budapest, Hungary, April 22-23.
2003. "Travel chances and social exclusion," invited resource paper, *10<sup>th</sup> International Conference on Travel Behavior Research*, Lucerne, Switzerland, August 10-14.
2002. *Geographic Dimensions of Terrorism*, Association of American Geographers, Washington, DC, January 24-27.
2002. *Information and Communication Technologies, Innovation and the Transport*

- System, Sustainable Transport in Europe and Links and Liaisons with America (STELLA) and Sustainable Transportation Analysis and Research (STAR) research networks, Arlington, VA, January 15-17.*
2001. *Representing Space and Time in Digital Geography*, Loughborough University, sponsored by Birkbeck College School of Geography and the (U.K.) Economic and Social Research Council.
1999. "GIS software for measuring space-time accessibility in transportation planning and analysis," invited paper, *Geographic Information Systems for Transportation (GIS-T) and Intelligent Transportation Systems (ITS)*, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, April 26-28.
1999. *Geography in the 21<sup>st</sup> Century*, Association of American Geographers, Washington, DC, December 11-12.
1999. *Applications of Remotely Sensed Data to Transportation*, Center for Mapping, The Ohio State University, Columbus, OH, August 12-13.
1999. *Geographic Information Science and Geospatial Activities at the NSF*, National Science Foundation, Arlington, VA, January 14-15.
1998. *Spatial Analysis: Status and Trends*, Project Varenus, National Center for Geographic Information and Analysis (NCGIA), Santa Barbara, CA, December 10-12.
1998. "Measuring space-time accessibility benefits within transportation networks," invited paper, *Symposium on Analytical Economic Geography and Regional Change*, Storrs, CT, March 23-24.
1995. *GIS and Disaggregate Individual and Behavioral Transportation Modeling*, National Center for Geographic Information Analysis (NCGIA) I-10 Workshop on Santa Barbara, CA, June 7-8.

### **Guest Professorships and Instruction**

2008. NordGIScience workshop, University of Gävle, Sweden, August 17-21.
2005. GIScience Fall School, Institute for Geoinformatics, University of Münster, Münster, Germany, September.

### **U.S. National Academies Policy Committees**

- 2001 – 2003. *Spatial Information Infrastructure for Multi-Modal Transportation Systems*, Transportation Research Board, National Research Council.
- 2000 – 2002. *Identifying Data Needs for Place-based Decision Making*, Commission on Geosciences, Environment and Resources, National Research Council.

### **Conference and Workshop Organization**

#### Organizer/Program Director

2007. Organizer and chair, workshop on *Advanced Research in Geospatial Information Technologies for Transportation*, Keck Center, U.S. National Academies, Washington, DC, September 20-21; sponsored by the U.S. Federal Highway Administration and the Transportation Research Board.
2006. Program co-chair (with Andrew Frank and Michael Goodchild), *GIScience 2006*:

2005. *Fourth International Conference*, Münster, Germany, September 20-23.  
Organizer and Chair, *Societies and Cities in the Age of Instant Access*, research symposium, University of Utah, Salt Lake City, UT, November 10-12.
2004. Program co-chair (with Max Egenhofer and Christian Freska) *GIScience 2004: Third International Conference*, Adelphi, MD, October 20-23.
2003. Co-organizer (with Barbara Buttenfield and Lynn Usery), *Geospatial Visualization and Knowledge Discovery Workshop*, sponsored by the University Consortium for Geographic Information Science, United States Geological Survey and the Advanced Research and Development Activity center, Lansdowne, VA, November 17-20.
- 1998 – 1999. Co-leader (with Jiawei Han), *Discovering Geographic Knowledge in Data-rich Environments*, Research Initiative, Project Varenus, National Center for Geographic Information and Analysis (NCGIA).
1998. Conference co-director (with George Hepner), *University Consortium for Geographic Information Science (UCGIS) Summer Assembly*, Park City, UT, June 23-27.
1994. Program director, *Annual Meeting of the Great Plains/Rocky Mountains Division of the Association of American Geographers*, Salt Lake City, Utah, October 13-15.

#### Steering/Program Committees

2009. *Conference on Spatial Information Theory*, Aber Wrac'h, France, September 21-25.
2008. *First International Workshop on Computational Transportation Science*, Trinity College, Dublin, Ireland, July 21.
2008. *GI Days* Münster, Germany, June 16-17.
2008. The 16<sup>th</sup> International Conference on Geoinformatics and Joint Conference on GIS and Built Environment, Guangzhou, P.R. China, June 28-30.
2007. *GI Days: Young Researcher Forum*, Münster, Germany, September 9-12.
2007. *Conference on Spatial Information Theory*, Mt Eliza, Melbourne, Australia, September 20-23.
2002. Workshop on *Action-oriented Approaches in Geographic Information Science*, Bar Harbor, ME, November 2-4.
2002. *GIScience2002*, Boulder, Colorado, September 26-28.
2002. Workshop on *Multimodal Transportation Requirements for Spatial Information Infrastructure*, Transportation Research Board, National Research Council.
2001. *Specialist Meeting on Location-Based Services*, co-sponsored by the Center for Spatially Integrated Social Science and the University Consortium for Geographic Information Science, Santa Barbara, CA, December 14-15.
2001. *Fifth International Conference on Spatial Information Theory (COSIT 2001)*, September 19-23, Morro Bay, California, USA.
2000. *GIScience2000*, Savannah, Georgia, October 28-31.
2000. *International Workshop on Temporal, Spatial and Spatio-Temporal Data Mining - TSDM2000*, Lyon, France, September 12-16.
2000. *Spatial Data Handling 2000*, Beijing, China
- 1997 – 1998. *Measuring and Representing Accessibility in the Information Age*, Research Initiative, Project Varenus, National Center for Geographic Information and Analysis (NCGIA).

- 1999. *37<sup>th</sup> annual meeting of the Western Regional Science Association, Monterey, CA, February 18-22.*
- 1998. *36<sup>th</sup> annual meeting of the Western Regional Science Association, Big Island of Hawai'i, February 23-27.*
- 1997. *36<sup>th</sup> annual meeting of the Western Regional Science Association, Big Island of Hawai'i, February 23-27.*
- 1996. *35<sup>th</sup> annual meeting of the Western Regional Science Association, Napa, California, February 25-29*
- 1995. *34<sup>th</sup> annual meeting of the Western Regional Science Association, San Diego, California, February 22-26*
- 1994. *33<sup>rd</sup> annual meeting of the Western Regional Science Association, Tucson, Arizona, February 23-27*
- 1993. *32<sup>nd</sup> annual meeting of the Western Regional Science Association, Wailea, Maui, Hawai'i, February 21-25.*

### **Organized Paper Sessions/Panels**

- 2006. Organizer and Chair, "Transportation data visualization: Opportunities and challenges," 5<sup>th</sup> International Symposium on Visualization in Transportation, Denver, CO, October 23-26.
- 2005. Organizer and Chair, "Research frontiers in time geography: A tribute to Torsten Hägerstrand," 101<sup>st</sup> annual meeting of the Association of American Geographers, Denver CO, April 5-9.
- 2002. Organizer, Arthur Getis, "Invention as the father of necessity: A brief history of quantitative methods in geography," Spatial Analysis and Modeling specialty group Plenary Address, 98<sup>th</sup> annual meeting of the Association of American Geographers, Los Angeles, CA, March 19-23.
- 2002. Co-organizer (with Chandra Bhat, civil engineering University of Texas), "Spatial analysis and travel," paper sessions sponsored by the Committee on Passenger Travel Demand Forecasting and the Committee on Spatial Data and Information Systems, 81<sup>st</sup> annual meeting of the Transportation Research Board, Washington, DC, January 13-17.
- 2001. Organizer, Michael Batty, "Generating urban landscapes at the fine scale: Cells, agents, form and development," Spatial Analysis and Modeling specialty group Plenary Address, 97<sup>th</sup> annual meeting of the Association of American Geographers, New York, New York, February 27 – March 3.
- 2001. Co-organizer (with Chandra Bhat, civil engineering University of Texas), "Spatial analysis and travel," paper sessions sponsored by the Committee on Passenger Travel Demand Forecasting and the Committee on Spatial Data and Information Systems, 80<sup>th</sup> annual meeting of the Transportation Research Board, Washington, DC, January 7-11.
- 2000. Co-organizer (with Alan Murray, geography, Ohio State University and Brigitte Waldorf, geography, University of Arizona) and Discussant, Michael F. Goodchild, "Spatial analysis for a communicating worlds," Mathematical Modeling and Quantitative Methods specialty group Plenary Address, 96<sup>th</sup> annual meeting of the Association of American Geographers, Pittsburgh, Pennsylvania, 4-8 April.
- 1999. 95<sup>th</sup> Annual Meeting of the Association of American Geographers, Honolulu,

- Hawai'i, March 23-27. Two paper sessions: i) "Scale, pattern and sampling in spatial analysis"; ii) "Accessibility in physical and virtual spaces."
1997. Student paper competition organizer, Mathematical Modeling/Quantitative Methods Specialty Group, 93rd Annual Meeting of the Association of American Geographers, Ft. Worth, Texas, April 1-5.
1996. "Research Agendas in GIS and urban transportation management," Panel discussion, GIS/LIS'96, Denver, Colorado, November 19-21.
1996. Student paper competition co-organizer (with Morton O'Kelly, geography, Ohio State University), "Mathematical Modeling and Quantitative Methods Specialty Group Student Paper Competition," 92nd Annual Meeting of the Association of American Geographers, Charlotte, North Carolina, April 9-13.
1994. Paper session co-organizer (with Thomas M. Kontuly, geography, University of Utah), "GIS for the U.S./Mexico border II: Environmental analysis," 90th Annual Meeting of the Association of American Geographers, San Francisco, California, March 29 - April 2.

### **Presentations at Professional Conferences**

#### Papers

2009. Harvey J. Miller, "Measuring accessibility in complex travel environments using tiem geographic fields, annual meeting of the Utah Geographic Information Council, Midway, Utah, April 13-17.
2009. Harvey J. Miller, Tetsuo Kobayashi and Walied Othman, "Error in space-time prisms and their intersections," 105<sup>th</sup> annual meeting of the Association of American Geographers, Las Vegas, Nevada, March 22-27.
2009. Tetsuo Kobayashi and Harvey J. Miller, "An interactive visualization tool for mobile objects," 105<sup>th</sup> annual meeting of the Association of American Geographers, Las Vegas, Nevada, March 22-27 (presented by first author).
2008. Harvey J. Miller, "Error and uncertainty in time geographic queries," 104<sup>th</sup> annual meeting of the Association of American Geographers, Boston, MA, April 15-19.
2008. Christopher Upchurch and Harvey J. Miller, "Dynamic accessibility using space-time paths for public and private transit," 104<sup>th</sup> annual meeting of the Association of American Geographers, Boston, MA, April 15-19 (presented by first author).
2008. Tetsuo Kobayashi and Harvey J. Miller, "An interactive visualization tool for mobile objects," 104<sup>th</sup> annual meeting of the Association of American Geographers, Boston, MA, April 15-19 (presented by first author).
2008. Tijs Neutens, Tim Schwanen and Harvey J. Miller, "Measuring meeting possibilities," 104<sup>th</sup> annual meeting of the Association of American Geographers, Boston, MA, April 15-19 (presented by first author).
2007. Harvey J. Miller and Scott Bridwell, "Time geographic fields: A general velocity theory for time geography," GeoComputation 07, Maynooth, Ireland, 3-5 September.
2007. Harvey J. Miller "Time geographic fields: A continuous velocity theory for time geography," 103<sup>rd</sup> annual meeting of the Association of American Geographers, San Francisco, CA, April 17-21.
2007. Scott A. Bridwell and Harvey J. Miller (presented by first author) "Disclosure

- limitation methods for activity-travel data,” 103<sup>rd</sup> annual meeting of the Association of American Geographers, San Francisco, CA, April 17-21
2007. Adam Sobek and Harvey J. Miller (presented by first author) “Methods for comparing space-time paths,” 103<sup>rd</sup> annual meeting of the Association of American Geographers, San Francisco, CA, April 17-21.
2007. Christopher Upchurch and Harvey J. Miller (presented by first author) “Optimum Facility Location and Scheduling Using Space-Time Prisms,” 103<sup>rd</sup> annual meeting of the Association of American Geographers, San Francisco, CA, April 17-21.
2006. Phoebe B. McNeally and Harvey J. Miller (presented by first author), “Holistic geographic visualization of spatial data with applications in avalanche stability monitoring,” 102<sup>nd</sup> annual meeting of the Association of American Geographers, Chicago, IL March 7-11.
2006. Scott A. Bridwell and Harvey J. Miller (presented by first author), “Representation and analysis of activities with varying discretion,” 102<sup>nd</sup> annual meeting of the Association of American Geographers, Chicago, IL March 7-11.
2005. Adam D. Sobek and Harvey J. Miller (presented by first author), “A solution to exclusion: A web-based spatial decision support system for routing pedestrians of differing abilities in built environments,” 101<sup>st</sup> annual meeting of the Association of American Geographers, Denver CO, April 5-9.
2005. Scott A. Bridwell and Harvey J. Miller (presented by first author), “Locational privacy metrics for mobile objects,” 101<sup>st</sup> annual meeting of the Association of American Geographers, Denver CO, April 5-9.
2004. Harvey J. Miller, “Necessary space-time conditions for social interaction,” 100<sup>th</sup> annual meeting of the Association of American Geographers, Philadelphia, PA, March 14-19.
2004. Harvey J. Miller, “A measurement theory for time geography,” 43<sup>rd</sup> annual meeting of the Western Regional Science Association, Maui, Hawai’i, February 25-28.
2003. Harvey J. Miller, Yi-Hwa Wu and Ming-Chih Hung, “A GIS toolkit for assessing vulnerability transportation network disruption,” 99<sup>th</sup> annual meeting of the Association of American Geographers, New Orleans, LA, March 5-8.
2002. Harvey J. Miller, “Accessibility and uncertainty: Space-time paths and prisms under perfect and imperfect information,” GIScience 2002, Boulder, CO, September 25-29.
2002. Harvey J. Miller, “Accessibility and uncertainty: Space time paths and prisms under imperfect information,” 98<sup>th</sup> annual meeting of the Association of American Geographers, Los Angeles, CA, March 19-23.
- 2001 Yi-Hwa Wu and Harvey J. Miller (presented by second author), “Computational tools for measuring space-time accessibility in networks with dynamic flow,” 48<sup>th</sup> North American meetings of the Regional Science Association International, Charleston, SC, November 15-17.
- 2001 Thomas Cova and Harvey J. Miller, “A spatial framework for modeling hazards to transportation systems, 97<sup>th</sup> annual meeting of the Association of American Geographers, New York, New York, February 27 – March 3.
2000. Yi-Hwa Wu and Harvey J. Miller (presented by second author) "GIS tools for measuring space-time accessibility in networks with dynamic flow," GIScience 2000 International Conference, Savannah, Georgia, October 28 - 31.

2000. Harvey J. Miller and Yi-hwa Wu, "Assessing the impacts of transportation congestion using dynamic space-time accessibility measures, Institute for Management Science and Operations Research (INFORMS 2000), Salt Lake City, UT, May 7-10.
2000. Harvey J. Miller, "Extending geographic representation in spatial analysis," 39<sup>th</sup> annual meeting of the Western Regional Science Association, Poipu, Kaua'i, February 26 – March 1.
1999. Harvey J. Miller, "Extending geographic representation in spatial analysis," 11<sup>th</sup> European Colloquium on Quantitative and Theoretical Geography, Durham Castle, England, September 3-7.
1999. Harvey J. Miller and Yi-Hwa Wu, "Measuring space-time accessibility in the presence of dynamic network congestion," 39<sup>th</sup> European Congress of the European Regional Science Association, Dublin, Ireland, August 23-27.
1999. Harvey J. Miller, Yi-Hwa Wu and Ming Hung, "GIS-based dynamic traffic congestion modeling to support time-critical logistics," 95<sup>th</sup> Annual Meeting of the Association of American Geographers, Honolulu, Hawai'i, March 23-27.
1999. Vickie Solomon and Harvey J. Miller, ""Non-uniform spatial propagation in facility location techniques using GIS," 95<sup>th</sup> Annual Meeting of the Association of American Geographers, Honolulu, Hawai'i, March 23-27 (presented by first author).
1999. Harvey J. Miller, Yi-Hwa Wu and Ming Hung, "GIS-based dynamic traffic congestion modeling to support time-critical logistics," 32<sup>nd</sup> Annual Hawai'i International Conference on System Science (HICSS-32), Maui, Hawai'i, January 5-8.
1998. Harvey J. Miller, Yi-Hwa Wu and Ming Hung, "GIS-based dynamic traffic congestion modeling," 45<sup>th</sup> North American Meetings of the Regional Science Association International, Santa Fe, New Mexico, November 11-14.
1998. Harvey J. Miller, "Measuring space-time accessibility benefits within transportation networks: Basic theory and computational methods," 38<sup>th</sup> European Regional Science Association Congress, Vienna, Austria, August 28 - September 1.
1998. Harvey J. Miller and Yi-Hwa Wu, "Beyond throughput: Using GIS to model and map accessibility in transportation planning and analysis," GISPlaNNet '98, Lisbon, Portugal, September 9 - 12.
1998. Harvey J. Miller, Yi-Hwa Wu and Ming Hung, "GIS-based dynamic traffic congestion modeling," GIS-T '98, Snowbird, UT, April 20-24.
1998. Harvey J. Miller, "Measuring space-time accessibility benefits within transportation networks," 94<sup>th</sup> annual meeting of the Association of American Geographers, Boston, MA, March 25-29.
1998. Harvey J. Miller, "Measuring space-time accessibility benefits within transportation networks: Basic theory and computational procedures," 37<sup>th</sup> annual meeting of the Western Regional Science Association, Monterey, CA, February 28-22.
1997. Harvey J. Miller and Julian Ray, "GIS software for dynamic congestion analysis in time-critical logistics, GIS/LIS'97, Cincinnati, Ohio, October 28-30.
1997. Vickie Solomon and Harvey J. Miller, "Using GIS to locate emergency warning sirens in rugged terrain," GIS/LIS'97, Cincinnati, Ohio, October 28-30 (presented by first author).

1997. Atsuyuki Okabe and Harvey J. Miller, "Exact computational methods for calculating distances between objects in a cartographic database," 36th Annual Meeting of the Western Regional Science Association, Big Island of Hawai'i, February 23-27 (presented by second author).
1996. Harvey J. Miller, "Solving location and layout problems using GIS and simulated annealing," GIS/LIS'96, Denver Colorado, November 19-21.
1996. Harvey J. Miller, "Solving facility location problems using adaptive simulated annealing," 92nd Annual Meeting of the Association of American Geographers, Charlotte, North Carolina, April 9-13.
1996. Harvey J. Miller and John D. Storm, "GIS design for a simultaneous transportation equilibrium model," Geographic Information Systems for Transportation (GIS-T) '96, Kansas City, Missouri, March 31-April 4.
1996. Harvey J. Miller, "Solving complex facility location problems using adaptive simulated annealing," 35th Annual Meeting of the Western Regional Science Association, Napa, California, February 25-29.
1996. Harvey J. Miller and John D. Storm, "A GIS-based simultaneous transportation equilibrium model," 75th Annual Meeting of the Transportation Research Board, Washington, D.C., January 7-11.
1995. Harvey J. Miller, John D. Storm and Mace Bowen, "GIS design for multimodal network analysis," GIS/LIS'95, Nashville, Tennessee, November 14-16.
1995. George J. LaBonty and Harvey J. Miller, "Modeling the accessibility of public health facilities using GIS," GIS/LIS'95, Nashville, Tennessee, November 14-16 (presented by first author)
1995. Harvey J. Miller, John D. Storm and Mace Bowen, "GIS design for multimodal transportation network analysis," joint meeting of the Applied Geography Conference and the Mid-Atlantic Division of the Association of American Geographers, Washington, D.C., November 8-11th.
1995. Harvey J. Miller, John D. Storm and Brian L. Haslam, "A GIS-based simultaneous transportation equilibrium model," 91st Annual Meeting of the Association of American Geographers, Chicago, Illinois, March 14-18th.
1995. Harvey J. Miller, John D. Storm and Brian L. Haslam, "A GIS-based simultaneous transportation equilibrium model and its application in an urban-scale travel demand analysis," 34th Annual Meeting of the Western Regional Science Association, San Diego, California, February 22-26th.
1994. Mark V. Finco, George F. Hepner and Harvey J. Miller, "GIS modeling of contaminant pathways and human exposure in the Nogales region of the Mexico - U.S. border," GIS/LIS '94, Phoenix, Arizona, October 25-27 (presented by first author).
1994. Harvey J. Miller, "Towards fuller geometric representation in facility location problems using GIS," 90th Annual Meeting of the Association of American Geographers, San Francisco, California, March 29 - April 2.
1994. John H. Lowry and Harvey J. Miller, "GIS modeling of hazardous material vulnerability at the U.S.-Mexico border," presented at the 90th Annual Meeting of the Association of American Geographers, San Francisco, California, March 29 - April 2 (presented by first author).

1994. Harvey J. Miller and Mark V. Finco, "Spatial search and spatial competition: A probability analysis of basic results from the spatially-restricted theory," 33rd Annual Meeting of the Western Regional Science Association, Tucson, Arizona, February 23-27.
1993. Harvey J. Miller, "GIS and the geometry of facility location problems," presented at GIS/LIS '93, Minneapolis, Minnesota, November 2-4.
1993. Harvey J. Miller, "Market area delimitation within network structures using geographic information systems," 89th Annual Meeting of the Association of American Geographers, Atlanta, Georgia, April 6-10.
1993. George F. Hepner, Thomas Kontuly, Roger McCoy and Harvey J. Miller, "Geographic information systems development - U.S./Mexico border project," presented at the Southwest Center for Environmental Research and Policy Technical Conference, Chandler, Arizona, March 24-26 (presented by first author).
1993. Harvey J. Miller, "Probability-based models of spatial search," presented at the 32nd Annual Meeting of the Western Regional Science Association, Wailea, Maui, Hawaii, February 21-25.
1992. Harvey J. Miller, "Consumer spatial search behavior: A general modeling framework and operational models," 88th Annual Meeting of the Association of American Geographers, San Diego, California, April 18-22.
1992. Harvey J. Miller, "Dynamic programming and stochastic network approaches to modeling spatial search," 31st Annual Meeting of the Western Regional Science Association, February 23-27, South Lake Tahoe, Nevada.
1991. Harvey J. Miller, "Modeling accessibility using space-time prism concepts within GIS," 87th Annual Meeting of the Association of American Geographers, Miami, Florida, April 13-17.
1990. Harvey J. Miller, "Path selection in spatial search behavior," presented in a special session on "Models of Spatial Choice and Decision Making," 86th Annual Meeting of the Association of American Geographers, Toronto, Ontario, April 19-22.
1990. Morton E. O'Kelly and Harvey J. Miller, "Routing problems in hub networks," presented at the 86th Annual Meeting of the Association of American Geographers, Toronto, Ontario, April 19-22 (presented by first author).
1989. Harvey J. Miller and Morton E. O'Kelly, "An investigation into the use and properties of the Alonso spatial interaction framework as a market area delimitation tool," 85th Annual Meeting of the Association of American Geographers, Baltimore, Maryland, March 19-22.
1989. Randall W. Jackson, Harvey J. Miller and Martin Hynes, "Regional accounts for the Columbus metropolitan area," 85th Annual Meeting of the Association of American Geographers, Baltimore, Maryland, March 19-22 (presented by first author).
1988. Harvey J. Miller, "An application of the Alonso spatial interaction framework to market area delimitation," 11th Annual Applied Geography Conference, St. Paul, Minnesota.

## Panels

2007. "Honoring Atsuyuki Okabe: Applications, developments, and future research on spatial analysis and GIScience I," 103<sup>rd</sup> annual meeting of the Association of American Geographers, San Francisco, CA, April 17-21.
2006. "Transport geography: Identifying emerging research trends and new directions in the subdiscipline," 102<sup>nd</sup> annual meeting of the Association of American Geographers, Chicago, IL March 7-11.
2003. "On Tobler's first law," 99<sup>th</sup> annual meeting of the Association of American Geographers, New Orleans, LA, March 5-8.
2003. "Rethinking geospatial research," 82<sup>nd</sup> annual meeting of the Transportation Research Board, Washington, DC, January 11-16.
2002. "GIS in higher education," annual meeting of the Utah Geographic Information Council, Bryce Canyon, Utah, September 18-20.
2002. "Who am I? The changing GIS professional," annual meeting of the Utah Geographic Information Council, Bryce Canyon, Utah, September 18-20.
2002. "GIS for transportation education needs," 98<sup>th</sup> annual meeting of the Association of American Geographers, Los Angeles, CA, March 19-23.
2000. "GIScience Editors' Panel," GIScience 2000 International Conference, Savannah, Georgia, October 28 - 31.
2000. "Education in Geographic Information Systems for Transportation: Needs, Challenges and Solutions," 79<sup>th</sup> annual meeting of the Transportation Research Board, Washington, DC, January 9-13.
1998. "GIS and Spatial Analysis," University Consortium for Geographic Information Science (UCGIS) Annual Assembly, Park City, UT, June 24-27.
1997. "*The Geography of Transportation*: Review and comment," sponsored by the Transportation Geography Specialty Group, 93<sup>rd</sup> Annual Meeting of the Association of American Geographers, Ft. Worth, Texas, April 1-5.

## GRANTS AND CONTRACTS

### Funded

2002. "DIGIT lab geographic visualization platform and supporting input/output hardware," Research Instrumentation Fund, Vice President for Research, University of Utah, \$20,825.
- 2000-2004. "National Consortia for Remote Sensing in Transportation: Disaster, Accidents, Safety and Hazards Consortium (NCRST-DASH)," U.S. Department of Transportation, in response to DTRS56-00-BAA-004. Consortium consisting of University of New Mexico, George Washington University, Oak Ridge National Laboratory and University of Utah, \$678,261 (with University of Utah investigators Thomas Cova, Rick Forster and George Hepner (PI)).
1999. "Server upgrades and graphic workstation for geographic visualization," Research Instrumentation Fund, Vice President for Research, University of Utah, \$45,800.
1999. "GIS Professional Education Program," Division of Continuing Education, University of Utah, up to \$272,522 in initial program support (with Gregory Gault, DIGIT Lab, University of Utah).
1998. "GIScience research data server," Research Instrumentation Fund, Vice President for Research, University of Utah, \$53,100.

1997. "Measuring space-time accessibility within transportation networks using geographic information systems," Faculty Research Grant, University Research Committee, University of Utah, \$5997.
1997. "DIGIT Lab workstations for spatial data processing," Research Instrumentation Fund, Vice President for Research, University of Utah, \$47,640.
1997. "Dynamic congestion analysis module for the Strategic Flow Analysis System (STAFLO) GIS software package," Military Traffic Management Command - Transportation Engineering Agency through the Transportation Center at the University of Tennessee, \$40,714.
1996. "DIGIT Lab High-end Graphics Workstations," Research Instrumentation Fund, Vice President for Research, University of Utah, \$32,016.
1995. "Department of Geography file server upgrade and cartographic output device," Research Instrumentation Fund, Vice President for Research, University of Utah, \$30,300
1995. "Solving complex facility location problems using geographic information systems and simulated annealing," Proposal Initiative Grant, College of Social and Behavioral Science, University of Utah, \$4000.
1995. "Solving complex facility location problems using geographic information systems and simulated annealing," University Research Committee, University of Utah, \$4390.
1994. "Spatial search and spatial competition," National Science Foundation (revision of 1992 proposal), SBR-9320126, \$43,882.
1992. "Locational impacts of spatial search behavior," Faculty Research Grant, University Research Committee, University of Utah, \$4440.
1991. "Probabilistic modeling of consumer spatial search behavior," Utah Supercomputer Institute, computer resource allocation (reallocations in 1992, 1993, 1994 and 1995).
- 1991 - 1995. Co-investigator, "GIS development for U.S./Mexico border environmental problems," U.S. Environmental Protection Agency (George Hepner (principal investigator), Thomas Kontuly, Roger McCoy, University of Utah). \$61,000 (1991), \$84,000 (1992), \$90,000 (1993), \$144,700 (1994) and \$130,000 (1995).
- Not funded**
2004. "Synoptic analysis of space-time urban activity systems," National Science Foundation, Human and Social Dynamics competition (Donald Janelle (principal investigator), Helen Couclelis, Michael Goodchild, Val Norohna, UC-Santa Barbara), \$787,168.
2004. "The expansion, consolidation and integration of transnational corporate power and its impact on national economic development and income inequality, 1960-2000: A global spatial analysis," National Science Foundation, Human and Social Dynamics competition (Jeff Kentor, principal investigator), \$325,102.
2002. "Space-time measures of network vulnerability," Geography and Regional Science program, National Science Foundation, (Harvey J. Miller (PI) and Thomas Cova), \$221,548.
2000. "Discovering knowledge about lifestyles and activities in the information age," ITR, National Science Foundation (Harvey J. Miller, (PI), Meipo Kwan (Ohio State University), Peter T. Martin (University of Utah), Michael G. McNally (UC-Irvine)

2004. and Shashi Shekhar (University of Minnesota), \$2,756,509 (pre-proposal).  
Center for Engineering Research on Intermountain Urban Sustainability, Engineering Research Center program, National Science Foundation, JoAnn Lighty (Director), Brenda Scheer (Deputy Director), Joseph Klewicki, Martin Berzins, Harvey J. Miller (University of Utah), \$17,750,000 (pre-proposal)

## **SERVICE**

### **Professional Service**

2009. Committee of Visitors, Behavioral and Cognitive Sciences Directorate, National Science Foundation.
- 2000 – 2003. Long Range Planning Committee, Association of American Geographers
- 1998 – 2000. Geographic Information Science Model Curriculum Committee, University Consortium for Geographic Information Science.
1998. Working Group on Technical GIS Education, Environmental Systems Research Institute (ESRI).
- 1996 – 1998. Education Committee, University Consortium for Geographic Information Science.

### **Community Service**

2003. UrbanSim Scenario Review Committee, Governor's Office of Planning and Budget, State of Utah.
- 2001 – 2002. Review committee, Utah Process Economic and Demographic (UPED) model review, Governor's Office of Planning and Budget, State of Utah.
1994. Expert Panel, Salt Lake County Council of Governments Public Hearing on Transit Technology Alternatives, Salt Lake City, Utah, September 20-22.

### **University Service**

- 2000 – 2001. Information Technology task force, Office of Undergraduate Studies, University of Utah.
- 1996 – 1999. University Research Committee, Office of the Vice-president for Academic Affairs, University of Utah.
1998. Chair, Graduate Research Fellowship Committee, Graduate School, University of Utah.
- 1997 – 2000.. Faculty Advisory Board, Center for High Performance Computing, University of Utah.
- 1997 – 1998. Graduate Research Fellowship Committee, Graduate School, University of Utah.
- 1996 – 1998. Task Force on Large Data/Statistical High Performance Computing, High Performance Computing Center, University of Utah.
- 1994 – 1995. Ad Hoc Committee on High Performance Computing, University of Utah.
- 1992 – 1995. Academic Senate, University of Utah.
- 1992 – 1993. University Environmental Affairs Committee, University of Utah

### **College Service**

- 2000 – 2004. Chair, College Computing Advisory Committee, College of Social and Behavioral Science, University of Utah.
- 1995 - 1996. Research Committee, College of Social and Behavioral Science, University of Utah.
- 1994 - 1995. Superior Teaching Award Committee, College of Social and Behavioral Science,

1991 - 1993. University of Utah.  
Superior Research Award Committee, College of Social and Behavioral Science,  
University of Utah.

### **Departmental Service**

2001 – 2004. Graduate Director, Department of Geography, University of Utah  
1999 -2001. Director, interdisciplinary Certificate in Geographic Information Science,  
Department of Geography and School of Computing, University of Utah.  
1992 - 2001. Chair, Geographic Information Science Committee, Department of Geography,  
University of Utah.

### **EDUCATION**

#### **Chaired Ph.D. committees**

2005 – present Kobayashi, Tetsuo. “An interactive visualization toolkit for mobile objects.”  
2004 – present. Bridwell, Scott. “Synoptic measures of collective space-time accessibility.”  
2005 – present. Upchurch, Christopher. “Dynamic accessibility analysis using space-time paths for  
public and private transportation”  
2004 – 2008. Sobek, Adam. “Generating synthetic space-time paths using a cloning algorithm on  
activity behavior data.”  
2001 – 2007. McNeally, Phoebe. “Holistic geographical visualization of spatial data with  
applications in avalanche forecasting”  
1998 - 2005. Ahmed, Nobbir. “Time-space transformations of geographic space to explore,  
analyze and communicate transportation systems”  
1995 – 2003. Wu, Yi-Hwa. "Dynamic models of space-time accessibility."

#### **Membership on Ph.D. committees**

2006 – present. Kim, Tae. Geography  
2005 – present. Dearden, Bradley. Geography  
2004 – present. Bratkova, Margarita. Topic – “Automated map generation,” Computer science.  
2006 – present. Medina, Richard. Geography  
1998 – 2001. White, William Scott. Topic - "Dynamic visualization of the Upper Mississippi  
Floods of 1993," Geography.  
1997 – 2000. He, Xiotian. “Stochastic modeling and its applications in the selected sites in the  
Colorado River,” Geography.  
1994 – 2005. Atwood, Genevieve. "Geomorphic processes and landforms along the shores of  
closed-basin lakes, specifically Great Salt Lake, UT." Geography.  
1996 - 1998. Perrin, Joseph. "Network turning flow estimation in real-time." Civil Engineering .  
1994 - 1998. Finco, Mark V. "Watershed sediment yield estimation from surface irrigated  
agriculture: Imperial Valley, California." Geography.  
1993 - 1997. Jitprasithsiri, Siriphan. "Pavement crack image analysis based on fractal theory."  
Civil Engineering.  
1991 - 1993. Card, Don. "Quantitative methods for characterizing urban morphology using  
remote sensing and VIS modeling." Geography.

#### **Chaired Master's committees**

- 2004 – 2007. Gillman, Tina. "Evaluating transportation alternatives using a time geographic accessibility measure."
- 2002 – 2004. Bridwell, Scott "Space-time masking techniques for privacy protection in location-based services"
- 2002 – 2004. Sobek, Adam. "Access-U: A web-based navigation tool for disabled students at the University of Utah."
- 1998 – 2001. McNeally, Phoebe. "Avalanche slide path stability modeling."
- 1996 – 2001. Granberg, Bertrand. "Automated routing and truck permitting system for Utah Department of Transportation" (supported by Utah Department of Transportation).
- 1996 – 2000. Sheehan, Mathew. "Networked multimedia GIS: A framework for creation of an interactive internet application" (supported by U.S. Forest Service Remote Sensing Research Center, Salt Lake City).
- 1996 – 1999. Hofmann, James. "A GIS data browser for economic development and location decisions" (supported by City of Salt Lake Information Management Services)
- 1995 – 1999. Siebeneck, Jeni. "Spatial interaction-based trade area delimitation using GIS" (supported by American Stores Properties, Inc.)
- 1994 – 1998. LaBonty, George J. "Improving accessibility of public health care facilities."
- 1993 – 1995. Lowry, John. "GIS modeling of hazardous material vulnerability at the U.S.-Mexico border."

#### **Membership on Master's committees**

- 1995 - 1996. Cannon, Sean. "Emergency response capability analysis using a GIS: The U.S.-Mexico border," Geography.
- 1994 - 2000. Wambeam, Tamara. – "Modeling Lake Bonneville morphometry using digital elevation models," Geography.
- 1993 - 1995. Andersen, Natalie. "Integrated GIS and groundwater modeling approach to wellhead protection analysis: Nogales wash study site." Geography.
- 1993 -1994. Borgione, Joseph. "Network analysis and dam safety inspections in Utah: A technical report." Geography.
- 1992 - 1995. Barickman, Patrick. "Linking a diagnostic wind model with a geographic information system" Geography.
- 1991 - 1994. McMullen, Kathleen. "Equity of transit in Salt Lake County." Geography.

#### **External Thesis Examinations**

2009. PhD jury, Department of Theoretical Computer Science, Hasselt University, Belgium. (Candidate – Wallied Othman. Thesis – "Uncertainty management in trajectory databases.")
2004. Dissertation examiner, School of Geography and Geology, McMaster University, Canada. (Candidate – Ronald Buliung. Thesis – "Data organization and the design of measures for exploration and analysis of household daily activity")
2003. Habilitation thesis examiner, Faculty of Geosciences, University of Münster, Germany (Candidate - Hardy Pundt. Thesis: "Modeling, acquiring and sharing environmental information under mobility constraints.")
2002. Dissertation examiner, School of Electrical Engineering and Computer Science, The University of Newcastle, Callaghan, Australia (Candidate – Ickjai Lee; Thesis – "Multipurpose Boundary-based Clustering on Proximity Graphs for Geographical

2001. Data Mining.”)  
Dissertation opponent, Department of Infrastructure and Planning, Royal Institute of Technology), Stockholm, Sweden, November 30 (Candidate – Svante Berglund; topic – “GIS in Transport Modeling”)