

Curriculum Vitae

Alan T. Murray

Contact Details

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Education

- Ph.D. 1995, *University of California at Santa Barbara*, Department of Geography, Santa Barbara, California, USA
- M.A. 1992, *University of California at Santa Barbara*, Department of Statistics and Applied Probability, Santa Barbara, California, USA
- B.S. 1990, *University of California at Santa Barbara*, Department of Mathematics, Santa Barbara, California, USA

Positions

- 2010-present Senior Sustainability Scientist, School of Sustainability, Arizona State University
- 2010-present Member of the Industrial Engineering Graduate Faculty, School of Computing, Informatics, and Decision Systems Engineering, Arizona State University
- 2008-present Professor, School of Geographical Sciences and Urban Planning, Arizona State University
- 2008-present Guest Professor, Laboratory for Earth and Space Information Technologies, Shenzhen Institute for Advanced Technology (SIAT), The Chinese Academy of Sciences, China
- 2005-2008 Director, Center for Urban and Regional Analysis, The Ohio State University
- 2005-2008 Professor, Department of Geography, The Ohio State University
- 2002-2005 Associate Professor, Department of Geography, The Ohio State University
- 1999-2002 Assistant Professor, Department of Geography, The Ohio State University
- 1997-1999 Research Fellow and Lecturer, Australian Housing and Urban Research Institute, Department of Geographical Sciences and Planning, University of Queensland

- 1996-1997 Postdoctoral Research Fellow, Australian Housing and Urban Research Institute, Faculty of Built Environment and Engineering, Queensland University of Technology
- 1991-1995 Research Associate and Teaching Assistant, Department of Geography, University of California at Santa Barbara

Editorial Appointments

- 2010-present Associate Editor, *Socio-Economic Planning Sciences*
- 2009-present Editor, *International Regional Science Review*
- 2009-present Executive Editorial Board, *International Journal of Mathematical and Computational Forestry & Natural-Resource Science*
- 2002-2008 Editor, *Geographical Analysis*
- 2001-2004 Associate Editor, *Forest Science*
- 2001-2002 Associate Editor, *Geographical Analysis*

Themed Issues

- 2011 Guest Editor, *Socio-Economic Planning Sciences*, Modeling Public Sector Facility Location Problems
- 2010 Guest Editor, *International Regional Science Review*, volume 33 – Location Analysis
- 2009 Guest Editor, *Socio-Economic Planning Sciences*, volume 43 – The Contributions of Charles S. ReVelle
- 2001 Guest Editor, *Journal of Geographical Systems*, volume 3 – Spatial Modeling and GIScience.
- 2001 Guest Editor, *Studies in Regional and Urban Planning*, volume 9
- 2000 Guest Editor, *Forest Science*, volume 46 – Modeling in Natural Resource Management and Planning

Honors and Awards

- 2007 Best Publication Award in Forestry (Awarded by Energy, Natural Resources, and the Environment section of Institute for Operations Research and the Management Science [INFORMS]) - Goycoolea, M., A.T. Murray, F. Barahona, R. Epstein and A. Weintraub (2005), “Harvest scheduling subject to maximum area restrictions: exploring exact approaches”, *Operations Research* 53, 490-500.
- 2004 Geoffrey J.D. Hewings Award for Outstanding Young Scholar, North American Regional Science Council.

Teaching and Research Interests

Geographic information science; urban, regional, and natural resource planning and development; quantitative methods; infrastructure and transportation systems; spatial optimization; location

modeling; databases, data structures, spatial representation, and techniques to support interactive planning and decision making.

Publications

Books and Edited Volumes

- 2012 R.L. Church and A.T. Murray. *Location Covering Models: History, Applications, and Advancements* (under contract with Springer).
- 2009 R.L. Church and A.T. Murray. *Business Site Selection, Location Analysis and GIS* (New York: Wiley).
- 2007 A.T. Murray and T.H. Grubestic (editors). *Critical Infrastructure: Reliability and Vulnerability* (Berlin: Springer).

Refereed Articles and Book Chapters

- 2013 N. Xiao and A.T. Murray. "Interpolation." In *Cartography in the Twentieth Century*, edited by M. Monmonier (Chicago: University of Chicago), accepted for publication.
- 2011 A.T. Murray. "Geographic space and choropleth display." In *Advances in GIS Research*, edited by P. Forer, A. Yeh and J. He, in press (Springer-Verlag: Berlin).
- 2011 T.H. Grubestic, A.T. Murray and E. Mack. "Sex offenders, residence restrictions, housing and urban morphology: a review and synthesis." *Cityscape*, to appear.
- 2011 X. Wu, A.T. Murray and N. Xiao. "A multiobjective evolutionary algorithm for optimizing spatial contiguity in reserve design." *Landscape Ecology* **26**, 425-437.
- 2011 S.J. Rey, A.T. Murray and L. Anselin. "Visualizing regional income distribution dynamics." *Letters in Spatial and Resource Sciences*, to appear.
- 2011 A.T. Murray and T.H. Grubestic. "Spatial optimization and geographic uncertainty: implications for sex offender management strategies." In *Community-Based Operations Research: Decision Modeling for Local Impact and Diverse Populations*, edited by M. Johnson, to appear (Berlin: Springer).
- 2011 T.H. Grubestic, T.C. Matisziw and A.T. Murray. "Market coverage and service quality in digital subscriber lines infrastructure planning." *International Regional Science Review*, to appear.
- 2011 Corcoran, J., A.T. Murray and R.J. Stimson. "Spatially disaggregating employment growth estimates." *International Regional Science Review* **34**, 138-156.
- 2011 A.T. Murray. "An overview of network vulnerability modeling approaches." *GeoJournal*, to appear.
- 2010 A.T. Murray. "Location-allocation modeling." *Encyclopedia of Geography*, edited by B. Warf (Thousand Oaks: Sage).
- 2010 A.T. Murray. "Advances in location modeling: GIS linkages and contributions." *Journal of Geographical Systems* **12**, 335-354.
- 2010 T.C. Matisziw, A.T. Murray and T.H. Grubestic. "Strategic network restoration." *Networks and Spatial Economics* **10**, 345-361.

- 2010 T.H. Grubestic and A.T. Murray. "Methods to support policy evaluation of sex offender laws." *Papers in Regional Science* **89**, 669-684.
- 2010 A.T. Murray. "Quantitative geography." *Journal of Regional Science* **50**, 143-163.
- 2010 G. Lee and A.T. Murray. "Maximal covering with network survivability requirements in wireless mesh networks." *Computers, Environment and Urban Systems* **34**, 49-57.
- 2010 A.T. Murray, D. Tong and K. Kim. "Enhancing classic coverage location models." *International Regional Science Review* **33**, 115-133.
- 2009 A.T. Murray. "Location theory." In *International Encyclopedia Of Human Geography*, volume 1, edited by R. Kitchin and N. Thrift, 270-276 (Oxford: Elsevier).
- 2009 M. Goycoolea, J.P. Vielma, A.T. Murray and A. Weintraub. "Evaluating approaches for solving the area restriction model in harvest scheduling." *Forest Science* **55**, 149-165.
- 2009 T.C. Matisziw and A.T. Murray. "Area coverage maximization in service facility siting." *Journal of Geographical Systems* **11**, 175-189.
- 2009 D. Tong, A.T. Murray and N. Xiao. "Heuristics in spatial analysis: a genetic algorithm for coverage maximization." *Annals of the Association of American Geographers* **99**, 698-711.
- 2009 T.C. Matisziw and A.T. Murray. "Connectivity change in habitat networks." *Landscape Ecology* **24**, 89-100.
- 2009 A.T. Murray and D. Tong. "GIS and spatial analysis in the media." *Applied Geography* **29**, 250-259.
- 2009 T.C. Matisziw, A.T. Murray and T.H. Grubestic. "Exploring the vulnerability of network infrastructure to disruption." *Annals of Regional Science* **43**, 307-321.
- 2009 T.C. Matisziw and A.T. Murray. "Siting a facility in continuous space to maximize coverage of continuously distributed demand." *Socio-Economic Planning Sciences* **43**, 131-139.
- 2009 T.C. Matisziw, A.T. Murray and J.P. Osleeb. "The Contributions of Charles S. ReVelle." *Socio-Economic Planning Sciences* **43**, 90-91.
- 2009 D. Tong and A.T. Murray. "Maximizing coverage of spatial demand for service." *Papers in Regional Science* **88**, 85-97.
- 2009 T.C. Matisziw and A.T. Murray. "Modeling s-t path availability to support disaster vulnerability assessment of network infrastructure." *Computers and Operations Research* **36**, 16-26.
- 2008 A.T. Murray. "A note on 'A review of the status and use of validation procedures for heuristics used in forest planning'". *International Journal of Mathematical and Computational Forestry & Natural-Resource Science* **1**, 37-38.
- 2008 T.H. Grubestic and A.T. Murray. "Sex offender residency and spatial equity." *Applied Spatial Analysis and Policy* **1**, 175-192.
- 2008 A.T. Murray and H. Kim. "Efficient identification of geographic restrictions in location modeling using GIS." *Letters in Spatial and Resource Sciences* **1**, 159-169.

- 2008 A.T. Murray, T.C. Matisziw, H. Wei and D. Tong. "A GeoComputational heuristic for coverage maximization in service facility siting." *Transactions in GIS* **12**, 757-773.
- 2008 T.H. Grubestic, A.T. Murray and E.A. Mack. "Sex offenders, housing and spatial restriction zones." *GeoJournal* **73**, 255-269.
- 2008 A.T. Murray, T.C. Matisziw and T.H. Grubestic. "A methodological overview of network vulnerability analysis." *Growth and Change* **39**, 573-592.
- 2008 J.A. Downs, R.J. Gates and A.T. Murray. "Estimating carrying capacity for sandhill cranes using habitat suitability and spatial optimization models." *Ecological Modelling* **214**, 284-292.
- 2008 D.E. Snediker, A.T. Murray and T.C. Matisziw. "Decision support for network disruption mitigation." *Decision Support Systems* **44**, 954-969.
- 2008 K. Kim and A.T. Murray. "Enhancing spatial representation in primary and secondary coverage location modeling." *Journal of Regional Science* **48**, 745-768.
- 2008 K. Kim, A.T. Murray and N. Xiao. "A multi-objective evolutionary algorithm for surveillance sensor placement." *Environment and Planning B* **35**, 935-948.
- 2008 T.H. Grubestic, T.C. Matisziw, A.T. Murray, and D. Snediker. "Comparative approaches for assessing network vulnerability." *International Regional Science Review* **31**, 88-112.
- 2008 A.T. Murray, M.E. O'Kelly and R.L. Church. "Regional service coverage modeling." *Computers and Operations Research* **35**, 339-355.
- 2008 B. Farhan and A.T. Murray. "Siting park-and-ride facilities using a multi-objective spatial optimization model." *Computers and Operations Research* **35**, 445-456.
- 2008 X. Wu and A.T. Murray. "A new approach to quantifying spatial contiguity using graph theory and spatial interaction." *International Journal of Geographical Information Science* **22**, 387-407.
- 2007 X. Wu and A.T. Murray. "Spatial contiguity optimization in land acquisition." *Journal of Land Use Science* **2**, 243-256.
- 2007 A.T. Murray, T.C. Matisziw and T.H. Grubestic. "Critical network infrastructure analysis: interdiction and system flow." *Journal of Geographical Systems* **9**, 103-117.
- 2007 T.H. Grubestic, E. Mack and A.T. Murray. "Geographic exclusion: spatial analysis for evaluating the implications of Megan's Law." *Social Science Computer Review* **25**, 143-162.
- 2007 A.T. Murray and D. Tong. "Coverage optimization in continuous space facility siting." *International Journal of Geographical Information Sciences* **21**, 757-776.
- 2007 A.T. Murray, K. Kim, J.W. Davis, R. Machiraju and R. Parent. "Coverage optimization to support security monitoring." *Computers, Environment and Urban Systems* **31**, 133-147.
- 2007 C. ReVelle, A.T. Murray and D. Serra. "Location models for ceding market share and shrinking services." *Omega* **35**, 533-540.
- 2007 J.P. Vielma, A.T. Murray, D.M. Ryan and A. Weintraub. "Improving computational capabilities for addressing volume constraints in forest harvest scheduling problems." *European Journal of Operational Research* **176**, 1246-1264.

- 2007 C. Wu and A.T. Murray. "Population estimation using Landsat Enhanced Thematic Mapper imagery." *Geographical Analysis* **39**, 26-43.
- 2007 A.T. Murray. "Optimization." In *Encyclopedia of Geographic Information Science*, edited by K. Kemp, p. 333-334 (Thousand Oaks: Sage)(<http://www.sage-reference.com/geoinfoscience/>).
- 2007 A.T. Murray and T.H. Grubestic. "Overview of reliability and vulnerability in critical infrastructure." In *Critical Infrastructure: Reliability and Vulnerability*, edited by A. Murray and T. Grubestic, p. 1-8 (Berlin: Springer).
- 2007 T.H. Grubestic, A.T. Murray and J. Mefford. "Continuity in critical network infrastructures: accounting for nodal disruptions." In *Critical Infrastructure: Reliability and Vulnerability*, edited by A. Murray and T. Grubestic, p. 197-220 (Berlin: Springer).
- 2007 T.C. Matisziw, A.T. Murray and T.H. Grubestic. "Bounding network attack vulnerability through cutset identification." In *Critical Infrastructure: Reliability and Vulnerability*, edited by A. Murray and T. Grubestic, p. 243-256 (Berlin: Springer).
- 2007 A.T. Murray. "Spatial environmental concerns." In *Handbook of Operations Research in Natural Resources*, edited by A. Weintraub, C. Romero, T. Bjorndal and R. Epstein, p. 419-429 (New York: Springer).
- 2007 F. Janoos, R. Machiraju, R. Parent, J.W. Davis, A. Murray. "Sensor orientation for coverage optimization for surveillance applications." In *Proceedings of the IS&T/SPIE Symposium on Electronic Imaging*, vol. 6491.
- 2007 T.C. Matisziw, A.T. Murray and T.H. Grubestic. "Evaluating vulnerability and risk in interstate highway operation." In *Proceedings of the Transportation Research Board Annual Meeting* (Washington, DC.: TRB).
- 2006 T.C. Matisziw and A.T. Murray. "Promoting species persistence through spatial association optimization in nature reserve design." *Journal of Geographical Systems* **8**, 289-305.
- 2006 H. Wei, A.T. Murray and N. Xiao. "Solving the continuous space p-center problem: planning application issues." *IMA Journal of Management Mathematics* **17**, 413-425.
- 2006 B. Farhan and A.T. Murray. "Distance decay and coverage in facility location planning." *Annals of Regional Science* **40**, 279-295.
- 2006 T.H. Grubestic and A.T. Murray. "Vital nodes, interconnected infrastructures and the geographies of network survivability." *Annals of the Association of American Geographers* **96**, 64-83.
- 2006 T.C. Matisziw, A.T. Murray and C. Kim. "Strategic route extension in transit networks." *European Journal of Operational Research* **171**, 661-673.
- 2006 A. Weintraub and A.T. Murray. "A review of combinatorial problems induced by spatial forest harvesting planning." *Discrete Applied Mathematics* **154**, 867-879.
- 2005 A.T. Murray. "Geography in coverage modeling: exploiting spatial structure to address complementary partial service of areas." *Annals of the Association of American Geographers* **95**, 761-772.
- 2005 E.G. Lobao and A.T. Murray. "Exploratory analysis of the homeless shelter system in Columbus, Ohio." *Geografiska Annaler: Series B* **87**, 61-73.

- 2005 C. Wu and A.T. Murray. "Optimizing public transit quality and system access: the multiple route maximal covering/shortest path problem." *Environment and Planning B* **32**, 163-178.
- 2005 T.H. Grubestic and A.T. Murray. "Spatial-historical landscapes of telecommunication network survivability." *Telecommunications Policy* **29**, 801-820.
- 2005 C. Wu and A.T. Murray. "A cokriging method for estimating population density in urban areas." *Computers, Environment and Urban Systems* **29**, 558-579.
- 2005 T.H. Grubestic and A.T. Murray. "Geographies of imperfection in telecommunication analysis." *Telecommunications Policy* **29**, 69-94.
- 2005 B. Farhan and A.T. Murray. "A GIS-based approach for delineating market areas for park-and-ride facilities." *Transactions in GIS* **9**, 91-108.
- 2005 M. Goycoolea, A.T. Murray, F. Barahona, R. Epstein and A. Weintraub. "Harvest scheduling subject to maximum area restrictions: exploring exact approaches." *Operations Research* **53**, 490-500.
- 2005 T.-K. Shyy, R.J. Stimson, J. Western, A.T. Murray and L. Mazerolle. "Web GIS for mapping community crime rates: approaches and challenges." In *Geographic Information Systems and Crime Analysis*, Chapter 14, edited by F. Wang, p. 236-252 (Hershey, PA: IRM Press).
- 2005 A.T. Murray and X. Wu. "Assessing landscape contiguity in reserve design." *Systems Analysis in Forest Resources: Proceedings of the 2003 Symposium*, edited by M. Bevers and T.M. Barrett, 85-88 (Gen. Tech. Rep. PNW-GTR-656. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station).
- 2005 J.P. Vielma, A.T. Murray, D. Ryan and A. Weintraub. "Improved solution techniques for multi-period area-based forest harvest scheduling problems." *Systems Analysis in Forest Resources: Proceedings of the 2003 Symposium*, edited by M. Bevers and T.M. Barrett, 285-290 (Gen. Tech. Rep. PNW-GTR-656. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station).
- 2004 W.V. Ackerman and A.T. Murray. "Assessing spatial patterns of crime in Lima, Ohio." *Cities* **21**, 423-437.
- 2004 M.W. Horner and A.T. Murray. "Spatial representation impacts in transit service assessment." *Environment and Planning B* **31**, 785-797.
- 2004 A.T. Murray, M. Goycoolea and A. Weintraub. "Incorporating average and maximum area restrictions in harvest scheduling models." *Canadian Journal of Forest Research* **34**, 456-464.
- 2004 T.H. Grubestic and A.T. Murray. "'Where' matters: Location and Wi-Fi access." *Journal of Urban Technology* **11**, 1-28.
- 2004 R.W. Jackson and A.T. Murray. "Alternative formulations for updating input-output matrices." *Economic Systems Research* **16**, 135-148.
- 2004 T.H. Grubestic and A.T. Murray. "Waiting for broadband: local competition and the spatial distribution of advanced telecommunication services in the United States." *Growth and Change* **35**, 139-165.

- 2004 M.E. O’Kelly and A.T. Murray. “A lattice covering model for evaluating existing service facilities.” *Papers in Regional Science* **83**, 565-580.
- 2004 T.H. Grubestic and A.T. Murray. “Assessing positional uncertainty in geocoded data.” *Proceedings of the 24th Urban Data Management Symposium* (Netherlands: UDMS).
- 2003 A.T. Murray. “A coverage model for improving public transit system accessibility and expanding access.” *Annals of Operations Research* **123**, 143-156.
- 2003 P.T. Shyy, R.J. Stimson and A.T. Murray. “An Internet GIS and spatial model to benchmark local government socio-economic performance.” *Australasian Journal of Regional Studies* **9**, 29-45.
- 2003 A.T. Murray and X. Wu. “Accessibility tradeoffs in public transit planning.” *Journal of Geographical Systems* **5**, 93-107.
- 2003 M.P. Kwan, A.T. Murray, M.E. O’Kelly and M. Tiefelsdorf. “Research on accessibility in space and time: future prospects.” *Journal of Geographical Systems* **5**, 129-139.
- 2003 C. Wu and A.T. Murray. “Estimating impervious surface distribution by spectral mixture analysis.” *Remote Sensing of Environment* **84**, 493-505.
- 2003 A.T. Murray. “Site placement uncertainty in location analysis.” *Computers, Environment and Urban Systems* **27**, 205-221.
- 2003 M.W. Horner and A.T. Murray. “Reducing congestion through strategic planning.” *Regional Studies* **37**, 135-146.
- 2003 D.P. Ward, A.T. Murray and S.R. Phinn. “Integrating spatial optimization and cellular automata for evaluating urban change.” *Annals of Regional Science* **37**, 131-148.
- 2003 T.H. Grubestic, M.E. O’Kelly and A.T. Murray. “A geographic perspective on telecommunication network survivability.” *Telematics and Informatics* **20**, 51-69.
- 2002 A.T. Murray and M.E. O’Kelly. “Assessing representation error in point-based coverage modeling.” *Journal of Geographical Systems* **4**, 171-191.
- 2002 A.T. Murray and A. Weintraub. “Scale and unit specification influences in harvest scheduling with maximum area restrictions.” *Forest Science* **48**, 779-789.
- 2002 A.T. Murray and T.H. Grubestic. “Identifying non-hierarchical spatial clusters.” *International Journal of Industrial Engineering* **9**, 86-95.
- 2002 T.H. Grubestic and A.T. Murray. “Constructing the divide: spatial disparities in broadband access.” *Papers in Regional Science* **81**, 197-221.
- 2002 M.W. Horner and A.T. Murray. “Excess commuting and the modifiable areal unit problem.” *Urban Studies* **39**, 131-139.
- 2002 B. Roberts and A.T. Murray. “National and regional spatial corporate structure.” *Annals of Regional Science* **36**, 347-368.
- 2002 S. Phinn, M. Stanford, P. Scarth, A.T. Murray and P.T. Shyy. “Monitoring the composition and form of urban environments based on the vegetation-impervious surface-soil (VIS) model by subpixel analysis techniques.” *International Journal of Remote Sensing* **23**, 4131-4153.

- 2002 A.T. Murray. "SDSS in the management of forest resources." In *The Encyclopedia of Life Support Systems* (Oxford, UK: EOLSS Publishers). [<http://www.eolss.net>].
- 2001 A.T. Murray and R. Davis. "Equity in regional service provision." *Journal of Regional Science* **41**, 577-600.
- 2001 H.-S. Cha and A.T. Murray. "Assessing public transit service equity in Columbus, Ohio." *Studies in Regional and Urban Planning* **9**, 69-83.
- 2001 T. Shyy, R. Stimson, S. Baum, R. Davis, A. Murray and R. Barker. "An Internet GIS for improving access to regional performance data: a decision support system to enhance location development and planning." *Australian Planner* **38(3/4)**, 158-166.
- 2001 A.T. Murray. "Strategic analysis of public transport coverage." *Socio-Economic Planning Sciences* **35**, 175-188.
- 2001 D.P. Ward, R.J. Stimson and A.T. Murray. "A spatial decision support system to visualize optimal patterns of future urban growth meeting sustainability criteria: a case study of the gold coast." *Australian Planner* **38(2)**, 80-89.
- 2001 A.T. Murray, I. McGuffog, J.S. Western and P. Mullins. "Exploratory spatial data analysis techniques for examining urban crime." *British Journal of Criminology* **41**, 309-329.
- 2001 V. Estivill-Castro, I. Lee and A.T. Murray. "Criteria on proximity graphs for boundary extraction and spatial clustering." *Advances in Knowledge Discovery and Data Mining (Proceedings of 5th Pacific-Asia Conference, PAKDD 2001)*, 348-357 (New York: Springer-Verlag).
- 2000 A.T. Murray and T. Shyy. "Integrating attribute and space characteristics in choropleth display and spatial data mining." *International Journal of Geographical Information Science* **14**, 649-667.
- 2000 D.P. Ward, A.T. Murray and S.R. Phinn. "A stochastically constrained cellular automata model of urban growth." *Computers, Environment and Urban Systems* **24**, 539-558.
- 2000 A. Weintraub, R.L. Church, A.T. Murray and M. Guignard. "Forest management models and combinatorial algorithms: analysis of state of the art." *Annals of Operations Research* **96**, 271-285.
- 2000 D.P. Ward, S.R. Phinn and A.T. Murray. "Monitoring growth in rapidly urbanizing areas using remotely sensed data." *Professional Geographer* **52**, 371-386.
- 2000 A.T. Murray and S. Snyder. "Spatial modeling in forest management and natural resource planning." *Forest Science* **46**, 153-156.
- 2000 R.L. Church, A.T. Murray and K.H. Barber. "Forest planning at the tactical level." *Annals of Operations Research* **95**, 3-18.
- 2000 A.T. Murray. "Spatial characteristics and comparisons of interaction and median clustering models." *Geographical Analysis* **32**, 1-18.
- 2000 R.L. Church, A.T. Murray, M.A. Figueroa and K. Barber. "Support system development for forest ecosystem management." *European Journal of Operational Research* **121**, 247-258.

- 2000 V. Estivill-Castro and A.T. Murray. "Clustering and capacitated facility location via hybrid optimization." *Intelligent Systems and Applications*, on CD-ROM (Canada: ICSC Academic Press).
- 2000 V. Estivill-Castro and A.T. Murray. "Hybrid optimization for clustering in data mining." *CLAIO 2000*, on CD-ROM (Mexico: IMSIO).
- 2000 A.T. Murray. "Spatially lagged choropleth display." *Proceedings of 9th International Symposium on Spatial Data Handling*, edited by P. Forer, A. Yeh and J. He, 1a40-49 (Beijing: International Geographical Union).
- 1999 A.T. Murray. "Spatial analysis using clustering methods: evaluating the use of central point and median approaches." *Journal of Geographical Systems* **1**, 367-383.
- 1999 A.T. Murray. "Spatial restrictions in harvest scheduling." *Forest Science* **45**, 45-52.
- 1999 A.T. Murray and R.L. Church. "Using proximity restrictions for locating undesirable facilities." *Studies in Locational Analysis* **12**, 81-99.
- 1998 A.T. Murray. "Ecosystem management or infeasible guidelines? Implications of adjacency restrictions for wildlife habitat and timber production." *Canadian Journal of Forest Research* **28**, 1093-1094.
- 1998 A.T. Murray, R. Davis, R.J. Stimson and L. Ferreira. "Public transportation access." *Transportation Research D* **3**, 319-328.
- 1998 A.T. Murray. "Route planning for harvest site access." *Canadian Journal of Forest Research* **28**, 1084-1087.
- 1998 R.L. Church, A.T. Murray and A. Weintraub. "Locational issues in forest management." *Location Science* **6**, 137-153.
- 1998 A.T. Murray, R.L. Church and A. Weintraub. "Operational forest planning and Steiner tree extensions." *Geographical Systems* **5**, 221-237.
- 1998 A.T. Murray and V. Estivill-Castro. "Cluster discovery techniques for exploratory spatial data analysis." *International Journal of Geographical Information Science* **12**, 431-443.
- 1998 A.T. Murray, R.L. Church, R.A. Gerrard and W.S. Tsui. "Impact models for siting undesirable facilities." *Papers in Regional Science* **77**, 19-36.
- 1998 A.T. Murray. "Minimizing aggregation error in input-output models." *Environment and Planning A* **30**, 1125-1128.
- 1998 V. Estivill-Castro and A.T. Murray. "Mining spatial data via clustering." *Proceedings of 8th International Symposium on Spatial Data Handling*, edited by T. Poiker and N. Chrisman, 522-532 (Vancouver: International Geographical Union).
- 1998 V. Estivill-Castro and A.T. Murray. "Discovering associations in spatial data – an efficient medoid based approach." *Research and Development in Knowledge Discovery and Data Mining: Second Pacific-Asia Conference*, edited by X. Wu, R. Kotagiri and K. Korb, 110-121 (New York: Springer).
- 1998 V. Estivill-Castro and A.T. Murray. "Spatial clustering for data mining with genetic algorithms." *International ICSC Symposium on Engineering of Intelligent Systems*, edited by E. Alpaydin and C. Fyfe, on CD-ROM (Canada: ICSC Academic Press).

- 1997 A.T. Murray and R.A. Gerrard. "Capacitated service and regional constraints in location-allocation modeling." *Location Science* **5**, 103-118.
- 1997 A.T. Murray and J.M. Gottsegen. "The influence of data aggregation on the stability of *p*-median location model solutions." *Geographical Analysis* **29**, 200-213.
- 1997 A.T. Murray and R.L. Church. "Facets for node packing." *European Journal of Operational Research* **101**, 598-608.
- 1997 A.T. Murray and R.L. Church. "Solving the anti-covering location problem using Lagrangian relaxation." *Computers and Operations Research* **24**, 127-140.
- 1996 A.T. Murray and R.L. Church. "Constructing and selecting adjacency constraints." *INFOR* **34**, 232-248.
- 1996 A.T. Murray and R.L. Church. "Applying simulated annealing to location planning models." *Journal of Heuristics* **2**, 31-53.
- 1996 A.T. Murray and R.L. Church. "Analyzing cliques for imposing adjacency restrictions in forest models." *Forest Science* **42**, 166-175.
- 1995 A.T. Murray and R.L. Church. "Measuring the efficacy of adjacency constraint structure in forest planning." *Canadian Journal of Forest Research* **25**, 1416-1424.
- 1995 A.T. Murray and R.L. Church. "Solid-waste-disposal site location." *Journal of Urban Planning and Development ASCE* **121**, 109-114.
- 1995 A.T. Murray and R.L. Church. "Heuristic solution approaches to operational forest planning problems." *OR Spektrum* **17**, 193-203.
- 1993 R.L. Church and A.T. Murray. "Modeling school utilization and consolidation." *Journal of Urban Planning and Development ASCE* **119**, 23-38.

Bulletins and Technical Reports

- 2002 A.T. Murray, *Airborne Techniques for Estimating Traffic Flow in the Private Sector*, National Consortia on Remote Sensing in Transportation – Flows (NCRST-F) (Center for Mapping, The Ohio State University, Columbus, Ohio).
- 1997 R.J. Stimson, M. Manicaros, A. Kabamba and A.T. Murray. *Ageing and Housing: ageing and retirement housing in Australia*. AHURI Research Monograph 4 (Brisbane: Australian Housing and Urban Research Institute).

Papers in Proceedings

- 2009 J.P. Vielma, M. Goycoolea, A.T. Murray and A. Weintraub. "Comparing Alternative Formulations for the ARM." *Proceedings of the 13th Symposium for Systems Analysis in Forest Resources*, to appear.
- 2007 T.H. Grubestic, A.T. Murray and E.A. Mack. "Geographic exclusion: spatial analysis for evaluating the implications of Megan's Law." Proceedings from the Ninth Annual International Crime Mapping Research Conference (Washington, D.C.: NIJ).
- 2003 J.P. Vielma, A.T. Murray, D.M. Ryan and A. Weintraub. "Improved solution techniques for multi-period area-based forest harvest scheduling problems." *Proceedings of the 38th*

Annual Conference of the Operational Research Society of New Zealand (ORSNZ'03), 21-28.

- 2003 R. Epstein, M. Goycoolea, A.T. Murray and A. Weintraub. "An adjacency-modeling problem based on constructing harvesting areas." *Systems Analysis in Forest Resources*, edited by G.J. Arthaud and T.M. Barrett, 279-289 (Dordrecht: Kluwer Scientific).
- 2000 A.T. Murray and R.L. Church. "Optimizing the location of harvesting equipment and access roads." *Seventh Symposium on Systems Analysis in Forest Resources*, edited by J. Fried, L. Leefers, and M. Vasievich, North Central Research Station General Technical Report NC-205, 361-363 (Washington D.C.: USDA Forest Service).
- 1998 A.T. Murray, J.S. Western, P. Mullins and I. McGuffog. "Analyzing patterns of regional criminal activity." *GIS/LIS' 98*, on CD-ROM, 611-617 (Maryland: American Society for Photogrammetry and Remote Sensing).
- 1998 A.T. Murray. "Transport access and environmental sustainability." *International Conference on Modeling Geographical and Environmental Systems with Geographical Information Systems*, edited by P. Lai, Y. Leung and W. Shi, 336-339 (Hong Kong: The Chinese University of Hong Kong).
- 1996 J.M. Gottsegen and A.T. Murray. "Analyzing the relationships of spatial structure in aggregated data." *GIS/LIS' 96*, 457-466 (Maryland: American Society for Photogrammetry and Remote Sensing).
- 1995 R.L. Church, A.T. Murray, K.H. Barber and R. Dyrland. "A spatial decision support system for doing hierarchical habitat planning." *Analysis in Support of Ecosystem Management*, 283-292 (Washington D.C.: USDA Forest Service).
- 1994 R.L. Church, A.T. Murray and K. Barber. "Designing a hierarchical planning model for USDA Forest Service planning." *Proceedings of the 1994 Symposium on Systems Analysis and Forest Resources*, edited by J. Sessions and J.D. Brodie, 401-409 (Maryland: Society of American Foresters).
- 1994 A.T. Murray, R.L. Church and M.A. Figueroa. "Designing a spatial decision support system for forest ecosystem management." *Proceedings of GIS'94 Eight Annual Symposium on Geographic Information Systems*, 651-658 (Canada:).
- 1993 A.T. Murray and R.L. Church. "Adjacency constraint aggregation." *International Symposium on Systems Analysis and Management Decisions in Forestry*, edited by G. Paredes, 131-138 (Chile: Universidad Austral de Chile).

Book Reviews

- 2002 Geographical Analysis, vol. 34, 91-92 – *GIS and Multicriteria Decision Analysis* by Jacek Malczewski, 1999 (New York: John Wiley and Sons)
- 2000 Papers in Regional Science, vol. 79, 103-104 – *The Economics of Industrial Location* by P. McCann, 1998 (Berlin: Springer-Verlag).

Publications in Progress

Courses Taught

- GCU/GPH 591 (ASU) – Geography Forum (Professional Development) (2010, 2011)
- GCU/GPH 591 (ASU) – Geography Colloquium (2009, 2010, 2011)

- GCU 494/598 (ASU) – Optimization Fundamentals for Spatial Analysis (2009, 2010)
- GPH 473/591 (ASU) – Geographic Information Science II (2009 Spring and Fall, 2010, 2011)
- GCU 494/598 (ASU) - Special Topics: Location Analysis and Modeling (2009, 2010)
- GCU 598/PUP 591 (ASU) - Special Topics: Location Analysis and Modeling (2010)
- Geog 200 (OSU) – World Regional Geography (2000 Winter and Autumn, 2001)
- Geog 607 (OSU) – Fundamentals of Geographic Information System (Team taught: 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007)
- Geog 647 (OSU) – Locational Analysis (2005, 2006, 2007, 2008)
- Geog 683 (OSU) – Introduction to Geographic Analysis (2002, 2003, 2004, 2005)
- Geog 685 (OSU) – Intermediate Geographical Information Systems (2000, 2001, 2002, 2003, 2004)
- Geog 740 (OSU) – Locational Analysis (2006, 2008)
- Geog 840.01 (OSU) – Seminar in Location Theory: Spatial representation issues (2006)
- Geog 840.01 (OSU) – Seminar in Location Theory: GIS and modeling (2007)
- Geog 840.02 (OSU) – Seminar in Locational Analysis (1999)
- Geog 840.02 (OSU) – Seminar in Locational Analysis: Natural resource management (2002)
- Geog 845.01 (OSU) – Seminar in Transportation Geography: Public transit (2001)
- Geog 889 (OSU) – Seminar in Geography: Professional development in geography (Co-taught: 2003, 2004, 2005)
- Geog 983 (OSU) – Special Topics in Quantitative Geography: Lagrangian relaxation (2000)
- Geog 983 (OSU) – Special Topics in Quantitative Geography: Voronoi diagrams and spatial optimization (2003)
- Geog 983 (OSU) – Special Topics in Quantitative Geography: Network analysis (2004)
- GN 342 (UQ) – Spatial Analysis and Geographical Information Systems (1998)
- GN 882 (UQ) – Natural Resources Information Systems (Co-taught 1998)
- ITN 357 (QUT) – Special Topic in Information Studies: GIS and Spatial Analysis (1997)

Students Advised

Postdoctoral (advisor)

- Timothy Matisziw – Ohio State University (2005-2008) (Assistant Professor, University of Missouri)
- Tony Grubestic – Ohio State University (2001-2002) (Associate Professor, Drexel University)

Doctoral (advisor)

- George Oliver – Arizona State University
- Xing Kang – Arizona State University
- Fan Li – Arizona State University
- Insu Hong – Arizona State University
- Stephanie Kleinschmidt – Arizona State University
- Jing Yao – Arizona State University
- Ran Wei – Arizona State University
- Yin Liu – Arizona State University
- Khaled Shammout – Ohio State University, ABD Spring 2008 (“Three-step approach to designing a comprehensive bus transit network”) (Superintendent of Transit Design and Development, Jacksonville Transportation Authority, Florida)
- Jessica Mefford – Ohio State University, ABD Summer 2006 (“Determining activity space: An integrative spatial and behavioral approach to identifying travel decision outcomes under conditions of uncertainty”) (Manager of Transit Research, Metro, St. Louis, Missouri)
- Ho-Seop Cha – Ohio State University, 2008 (“Enhancing equity in public transportation using geographic information systems and spatial optimization”) (Assistant Professor, University of Central Missouri)
- Hu Wei – Ohio State University, 2007, “Solving continuous space location problems” (Statistician, General Motors)
- Daoqin Tong – Ohio State University, 2007, “Continuous space facility location for covering spatial demand objects” (Assistant Professor, University of Arizona)
- Kamyong Kim – Ohio State University, 2007, “Spatial analytical approaches for supporting security monitoring” (Assistant Professor, Kyungpook National University)
- Xiaolan Wu – Ohio State University, 2005, “Quantification and optimization of spatial contiguity in land use planning” (Assistant Professor, Central Michigan University)
- Changshan Wu – Ohio State University, 2003, “Remote sensing, geographic information systems and spatial modeling for analyzing public transit services”; 2003 E. Willard and Ruby S. Miller Fellow (OSU); 2006 Intergraph UCGIS Young Scholar Award (Associate Professor, University of Wisconsin at Milwaukee)
- Bilal Farhan – Ohio State University, 2003, “Evaluation, modeling and policy assessment for park and ride services as a component of public transportation” (Transportation planner, Amman Institute for Urban Development)
- Ickjai Lee (co-advisor) – University of Newcastle, 2002, “Multi-purpose boundary-based clustering on proximity graphs for geographical data mining” (Senior Lecturer, James Cook University)
- Doug Ward (co-advisor) – University of Queensland, 2001, “Spatial form and dynamics of urban growth” (Research Scientist, Queensland Department of Natural Resources)

Doctoral (committee member)

- Xun Li – Arizona State University

- Nicholas Malizia – Arizona State University
- Paul Miszewski – Arizona State University
- Lawrence Joseph – Arizona State University
- Robert Oxley – Arizona State University (Civil and Environmental Engineering)
- Jong-Geun Kim – Arizona State University, 2010
- Gunhak Lee – Ohio State University, 2008 (Postdoctoral Researcher, Korea)
- Myung Jin Kim – Ohio State University, ABD Spring 2007
- Michael Niedzielski – Ohio State University, ABD Spring 2007
- Jung Hwi (David) Lee – Ohio State University (City and Regional Planning), ABD Spring 2006
- Hyun Kim – Ohio State University, 2008 (Visiting Assistant Professor, University of South Florida)
- Sunhee Sang – Ohio State University, ABD Spring 2005
- Sumei Zhang – Ohio State University (City and Regional Planning), 2008 (examination committee Spring 2004) (Assistant Professor, University of Louisville)
- Wook Lee – Ohio State University, 2005 (Assistant Professor, Edinboro University, San Marcos)
- Timothy Matisziw – Ohio State University, 2005 (Assistant Professor, University of Missouri)
- Hui Xie – Ohio State University (City and Regional Planning), ABD Summer 2002
- Sherrylyn Henry – Ohio State University, ABD Autumn 2001
- Hyun-Mi Kim – Ohio State University, 2005 (examination committee Winter 2002) (Lecturer, Seoul National University, South Korea)
- Changjoo Kim – Ohio State University, 2004 (Assistant Professor, University of Cincinnati)
- Sudhir Thakur – Ohio State University, 2004 (Assistant Professor, California State University, Sacramento)
- Mark Horner – Ohio State University, 2002 (Associate Professor, Florida State University)
- Tony Grubestic – Ohio State University, 2001 (Associate Professor, Drexel University)
- Jiyeong Lee – Ohio State University, 2001 (examination committee Winter 2000) (Assistant Professor, University of Seoul, South Korea)

Doctoral (external reviewer)

- Mustafa Canbolat – McMaster University, School of Business, 2010
- Mohan Akella – State University of New York at Buffalo, Department of Industrial Engineering, 2005

Master's (advisor)

- Paul Padegimas – Arizona State University
- Jeffrey Olson – Ohio State University, 2007, “Map projection and coverage modeling at a continental scale”
- Diane Snediker – Ohio State University, 2007, “Decision support for network disruption mitigation”
- Brian Chastain – Ohio State University, 2005, “A comparative analysis of methods for imposing spatial structure in forest harvest scheduling”
- Darlene Magold (now Scott) – Ohio State University, 2004, “Evaluating development in urban floodplains using geographical information systems and spatial analysis techniques”
- Amanda Trepac (now Zaza) – Ohio State University, 2004, “Comparative evaluation of environmental justice concerns in transportation project assessment”
- David Twehues – Ohio State University, 2004, “Evaluating the emergency warning siren system in Columbus, Ohio”
- Robert Henry – Ohio State University, 2003, “Linking spatial, temporal, and spatio-temporal aspects of auto thefts with criminological theory and time-specific analysis”
- Erick Lobao – Ohio State University, 2002, “Exploratory spatial analysis of homelessness and shelter system perceptions in Columbus, Ohio”
- Xiaolan Wu – Ohio State University, 2002, “Estimating balance velocities using GIS-based spatial analytical techniques”
- Ho-Seop Cha – Ohio State University, 2001, “Assessing public transit service equity in Columbus, Ohio”

Master’s (committee member)

- Jillian Elder – Arizona State University, 2009
- Miti Gupta – Ohio State University (Allied Medical Professions), 2008
- Mark Sundermeier – Ohio State University, 2008
- Dingmou Li – Ohio State University, 2007
- Michael Niedzielski – Ohio State University, 2005
- Daoqin Tong – Ohio State University (Civil Engineering), 2004
- Joni Downs – Ohio State University (Natural Resources), 2004
- Youngho Kim – Ohio State University, 2003
- Tzu-Lung Sun – Ohio State University (Civil Engineering), 2002
- Sunhee Sang – Ohio State University, 2002
- Richard Healy – Ohio State University, 2001
- Enzhou Wang – Ohio State University, 2001

Undergraduate (advisor)

- Alecia Radatz (honors thesis) – Arizona State University, 2010, “Public transit and faith communities: a transportation geography analysis with regards to the religious divisions of Belfast”

Research Funding

Submitted

Awarded

- 2010-2011 Agadjanian, V.(PI), S. Hayford and A. Murray. *Childbearing Dynamics in Setting of High HIV Prevalence and Massive ART Rollout*. National Institutes of Health, \$243,000.
- 2010-2015 Gober, P., C. Redman, C. Kirkwood, M. Nelson and D. White. *Decision Center For A Desert City II: Urban Climate Adaptation*. National Science Foundation, \$7,503,929 (Murray as Senior Project Personnel).
- 2009-2011 Murray, A. *Improving Survival From Sudden Cardiac Arrest: A Regional Geospatial Analysis*. American Heart Association (subcontract from Ohio State University), \$95,350.
- 2009-2011 Murray, A., M. Griffin, S. Rey and T. Grubestic. *Collaborative Research: Spatial Analytical Framework for Examining Sex Offender Residency Issues over Space and Time*. National Science Foundation, \$250,000.
- 2007-2009 Matisziw, T., A. Murray and T. Grubestic. *Collaborative Research: Mitigating disaster and terrorism impacts to critical infrastructure*. National Science Foundation, \$234,197.
- 2006-2007 Murray, A. and J. Borstad. *Exploration of spatio-temporal variation in sedentary lifestyles*. The Ohio State University (Initiative in Population Research), \$39,573.
- 2006-2008 Murray, A. *Housing Deed Transfers in Ohio*. Western Ohio Research Consortium and Ohio Urban University Program, \$85,000 (\$60K in 2006 and \$25K in 2007).
- 2005-2007 Murray, A. *Geographic representation in location coverage modeling*. National Science Foundation (BCS-0518967), \$180,000.

- 2004-2007 Parent, R., R. Machiraju, J. Davis, D. Woods and A. Murray. *Multi-level, active attention surveillance*. National Science Foundation (IIS-0428249), \$1,300,000.
- 2004-2009 Culver, D., J. Reutter, A. Randall, K. Bedford and E. Irwin. *Large lake ecosystems: modeling interactions among human, biological, and physical processes*. National Science Foundation - Biocomplexity, \$1,399,923 (A. Murray as Senior Personnel – Associate Investigator).
- 2004-2005 Murray, A. *Emergency warning siren coverage in Franklin County: Analysis and Modeling*. The Ohio State University (Center for Urban and Regional Analysis), \$30,258.
- 2004-2008 Stimson, R., M. Bell, J. Mangan, K. Burrage, T. Wilson, D. Pullar, A. Murray, A. Skinner, P. Crossman, R. Barker, A. Taylor. *An Integrated Large Scale Urban Model and Spatial Decision Support System Simulating Growth and Evaluating Sustainability Outcomes for Southeast Queensland*. Australian Research Council, AUD\$420,000 (Principal Investigator).
- 2002-2003 Kraybill, D., H. Morrow-Jones, A. Murray and L. Lobao. *Economic growth and local environmental policies*. The Ohio State University (Environmental Policy Initiative), \$27,975.
- 2001-2004 Murray, A. *Spatial representation and modeling in natural resource management*. National Science Foundation (BCS-0114362), \$130,009.
- 2001 Murray, A. *Airborne techniques for estimating traffic flow in the private sector*. US Department of Transportation through National Consortia on Remote Sensing in Transportation - Flows (NCRST-F), \$30,000
- 2001 Murray, A. *Spatial analysis of homeless shelters in Columbus, Ohio*. Community Shelter Board, \$5,520.
- 2000-2001 Murray, A. and W. Ackerman. *Geo-coding Lima crime data for 2000/2001 and preliminary analysis*. Lima Police Department, \$7,500 (\$3,000 in 2000 and \$4,500 in 2001).
- 2000 Murray, A. *Use and integration of geographic information systems and spatial analysis techniques for identifying patterns of urban crime*. The Ohio State University (Committee on Urban Affairs), \$20,000.
- 2000 Murray, A. *Geographic information systems based approaches for assessing regional public transportation coverage*. The Ohio State University (Office of Research Seed Grant), \$17,499.
- 1999-2001 Estivill-Castro, V. and A. Murray. *Clustering for knowledge discovery, pattern spotting and exploratory analysis in spatial databases*. Australian Research Council, AUD\$150,000 (Associate Investigator after 9/99).
- 1999 Stimson, R., D. Wadley, A. Murray and D. Rudd. *Potential roles for the retirement village industry in providing appropriate affordable housing alternatives in an ageing Australian society*. Australian Research Council, AUD\$50,000.
- 1999 Phinn, S. and A. Murray. *Monitoring urban growth using multi-temporal satellite images and spatial models*. Australian Research Council, AUD\$19,500.

- 1998-2000 Stimson, R. and A. Murray. *Spatial data systems for evaluating regional performance in Queensland to inform strategies for managing growth and decline*. Australian Research Council, AUD\$180,700 (Associate Investigator after 9/99).
- 1997-1999 Murray, A. *Decision support systems for planning urban growth and development*. Australian Research Council, AUD\$122,000.
- 1997 Estivill-Castro, V. and A. Murray. *Knowledge discovery, pattern spotting and data analysis in geographical information systems*. Australian Research Council, AUD\$14,000.
- 1997 Murray, A. and B. Roberts. *Analysing and modelling spatial corporate structure*. Australian Housing and Urban Research Institute, AUD\$15,200.
- 1997 Murray, A. *Modelling aggregation in input-output systems*. Queensland University of Technology, AUD\$6,000.

Meetings and Conference Presentations

- 2011 S.J. Rey, A.T. Murray and L. Anselin. "Visualizing regional income distribution dynamics." *Western Regional Science Association 50th Annual Meeting*, Monterey, California, USA, February 27-March 2, 2011.
- 2010 A.T. Murray. "Vulnerability reduction through strategic protection." *57th Annual North American Meetings of the Regional Science Association International*, Denver, Colorado, USA, November 11-13, 2010.
- 2010 T.H. Grubestic, T.C. Matisziw and A.T. Murray. "Optimizing essential air service (EAS) airport locations." *57th Annual North American Meetings of the Regional Science Association International*, Denver, Colorado, USA, November 11-13, 2010.
- 2010 J. Yao and A.T. Murray. "Siting a single facility to best serve an area." *57th Annual North American Meetings of the Regional Science Association International*, Denver, Colorado, USA, November 11-13, 2010.
- 2010 R. Wei and A.T. Murray. "Intelligent identification of dispersion constraints in spatial optimization problems." *57th Annual North American Meetings of the Regional Science Association International*, Denver, Colorado, USA, November 11-13, 2010.
- 2010 P.D. Padegimas and A.T. Murray. "Cooperative water management using spatial optimization." *57th Annual North American Meetings of the Regional Science Association International*, Denver, Colorado, USA, November 11-13, 2010.
- 2010 Y. Liu and A.T. Murray. "Local measures for assessing movement patterns." *57th Annual North American Meetings of the Regional Science Association International*, Denver, Colorado, USA, November 11-13, 2010.
- 2010 A.T. Murray. "Network infrastructure vulnerability mitigation." *INFORMS*, Austin, Texas, USA, November 7-10, 2010.
- 2010 A.T. Murray, D. Tong and T.H. Grubestic. "Spatial optimization: expanding emergency services to address regional growth and development." *International Geographical Union Applied Geography Commission (CO8.01)*, Ericeira, Portugal, July 18-22, 2010.

- 2010 A.T. Murray. "Enhancing location optimization modeling capabilities through the use of GIS." *24th European Conference on Operational Research*, Lisbon, Portugal, July 11-14, 2010.
- 2010 A.T. Murray, Y. Liu, J. Koschinsky and L.A. Brown. "Spatial contagion effects in socio-economic collapse: foreclosure in Columbus Ohio 2003-2007." *2010 Annual Meeting of the Association of American Geographers*, Washington, D.C., USA, April 14-18, 2010.
- 2010 T.H. Grubestic, T. Matisziw and A.T. Murray. "The impact of urban morphology on sex offender residence restrictions." *2010 Annual Meeting of the Association of American Geographers*, Washington, D.C., USA, April 14-18, 2010.
- 2010 R. Wei, A.T. Murray, S.J. Rey, T.H. Grubestic and E. Mack. "ESDA for identifying patterns in sex offender residential change." *2010 Annual Meeting of the Association of American Geographers*, Washington, D.C., USA, April 14-18, 2010.
- 2010 P. Padegimas, A.T. Murray, S. Rey, L. Anselin and P. Gober. "Modeling to support multi-district water management." *2010 Annual Meeting of the Association of American Geographers*, Washington, D.C., USA, April 14-18, 2010.
- 2010 J. Yao, A.T. Murray, S. Hayford, V. Agadjanian and B. Cau. "Regional Variability of Women's HIV/AIDS Risks: A Case Study of Gaza, Mozambique." *2010 Annual Meeting of the Association of American Geographers*, Washington, D.C., USA, April 14-18, 2010.
- 2010 Y. Liu, A.T. Murray, S. Rey and L. Anselin. "Exploring movement patterns." *2010 Annual Meeting of the Association of American Geographers*, Washington, D.C., USA, April 14-18, 2010.
- 2010 A.T. Murray, Y. Liu, S.J. Rey and L. Anselin. "Exploring movement object patterns." *Western Regional Science Association 49th Annual Meeting*, Sedona, Arizona, USA, February 21-24, 2010.
- 2009 A.T. Murray. "Evolving spatial detail and complexity in vulnerability assessment modeling." *56th Annual North American Meetings of the Regional Science Association International*, San Francisco, California, USA, November 18-21, 2009.
- 2009 A.T. Murray, P.D. Padegimas, L. Anselin, S. Rey and P. Gober. "A spatial optimization model for water supply allocation." *56th Annual North American Meetings of the Regional Science Association International*, San Francisco, California, USA, November 18-21, 2009.
- 2009 T.H. Grubestic, T. Matisziw and A.T. Murray. "Sex offender residence restrictions and urban morphology: a modeling framework and comparative analysis." *56th Annual North American Meetings of the Regional Science Association International*, San Francisco, California, USA, November 18-21, 2009.
- 2009 L. Brown, A. Murray, J. Koschinsky and Y. Liu. "Spatial contagion effects in socio-economic collapse: foreclosure in Columbus Ohio 2003-2007." *56th Annual North American Meetings of the Regional Science Association International*, San Francisco, California, USA, November 18-21, 2009.
- 2009 T.H. Grubestic and A.T. Murray. "Spatial uncertainty and location modeling: implications for sex offender mitigation strategies." *INFORMS*, San Diego, California, USA, October 11-14, 2009.

- 2009 A.T. Murray. "Quantitative geography." Symposium of the 50th Anniversary of the Journal of Regional Science, New York, New York, USA, April 23-24, 2009.
- 2009 A.T. Murray. "GIS contributions in advancing location science." Location and Network Design (LAND) Workshop, Pucon, Chile, March 22-25, 2009.
- 2009 A.T. Murray and Y. Liu. "Exploratory spatial data analysis of origin-destination patterns." *2009 Annual Meeting of the Association of American Geographers*, Las Vegas, Nevada, USA, March 22-27, 2009.
- 2009 P.D. Padegimas and A.T. Murray. "Location modeling software." *2009 Annual Meeting of the Association of American Geographers*, Las Vegas, Nevada, USA, March 22-27, 2009.
- 2009 J. Corcoran, A.T. Murray and R.J. Stimson. "Spatially disaggregating employment growth estimates." Western Regional Science Association 48th Annual Meeting, Napa Valley, California, USA, February 22-25, 2009.
- 2008 A.T. Murray. "Location analysis and GIS." *55th Annual North American Meetings of the Regional Science Association International*, Brooklyn, New York, USA, November 19-22, 2008.
- 2008 D. Tong, H. Wei and A.T. Murray. "Efficient vertex p-center problem solution." *55th Annual North American Meetings of the Regional Science Association International*, Brooklyn, New York, USA, November 19-22, 2008.
- 2008 T.C. Matisziw, A.T. Murray and T.H. Grubestic. "Accounting for uncertainty in network restoration planning." *55th Annual North American Meetings of the Regional Science Association International*, Brooklyn, New York, USA, November 19-22, 2008.
- 2008 A.T. Murray and T.C. Matisziw. "Optimizing network infrastructure service recovery." *INFORMS*, Washington, D.C., USA, October 12-15, 2008.
- 2008 T.H. Grubestic and A.T. Murray. "Optimization models for policy evaluation of sex offender laws." *INFORMS*, Washington, D.C., USA, October 12-15, 2008.
- 2008 A. Weintraub, M. Goycoolea, A. Murray and J. Vielma. "Imposing maximum clear-cut size constraints in harvest scheduling models: a comparison of three approaches." *CLAIO 2008 (XIV Latin-Ibero American Congress on Operations Research)*, Cartagena de Indias, Colombia, September 9-12, 2008.
- 2008 A.T. Murray and R.L. Church. "Location analysis and GIS." *International Symposium on Locational Decisions (ISOLDE) XI*, Santa Barbara, California, USA, June 26 - July 1, 2008.
- 2008 T.H. Grubestic, T.C. Matisziw and A.T. Murray. "Market coverage and service quality in digital subscriber lines infrastructure planning." *International Symposium on Locational Decisions (ISOLDE) XI*, Santa Barbara, California, USA, June 26 - July 1, 2008.
- 2008 T.C. Matisziw, A.T. Murray and T.H. Grubestic. "Prioritizing network service restoration." *International Symposium on Locational Decisions (ISOLDE) XI*, Santa Barbara, California, USA, June 26 - July 1, 2008.
- 2008 D. Tong, A.T. Murray, T.H. Grubestic and S. Dall'erba. "Coverage optimization for deploying an wireless mesh network." *International Symposium on Locational Decisions (ISOLDE) XI*, Santa Barbara, California, USA, June 26 - July 1, 2008.

- 2008 A.T. Murray, J. Corcoran and R.J. Stimson. "Estimating employment growth under commute minimization scenarios." *2008 Annual Meeting of the Association of American Geographers*, Boston, Massachusetts, USA, April 15-19, 2008.
- 2008 J. Olson, A.T. Murray and K. Kim. "Radar location: exploring coverage modeling issues." *2008 Annual Meeting of the Association of American Geographers*, Boston, Massachusetts, USA, April 15-19, 2008.
- 2008 T.C. Matisziw, A.T. Murray and T.H. Grubestic. "Strategic infrastructure restoration." *2008 Annual Meeting of the Association of American Geographers*, Boston, Massachusetts, USA, April 15-19, 2008.
- 2008 H.-S. Cha and A.T. Murray. "Public transit service equity and spatial representation." *2008 Annual Meeting of the Association of American Geographers*, Boston, Massachusetts, USA, April 15-19, 2008.
- 2008 D. Tong, A.T. Murray and N. Xiao. "Heuristics in facility location: a genetic algorithm for coverage maximization." *Western Regional Science Association 47th Annual Meeting*, Hawaii, USA, February 17-20, 2008.
- 2008 T.H. Grubestic and A.T. Murray. "Spatial equity in exposure to risk: sex offender residency." *Western Regional Science Association 47th Annual Meeting*, Hawaii, USA, February 17-20, 2008.
- 2007 A.T. Murray. "Extending the boundaries with location analysis and GIScience." *54th North American Regional Science Association International*, Savannah, Georgia, USA, November 7-10, 2007.
- 2007 T.H. Grubestic and A.T. Murray. "Spatial dispersion of convicted sex offenders." *54th North American Regional Science Association International*, Savannah, Georgia, USA, November 7-10, 2007.
- 2007 T.C. Matisziw, A.T. Murray and T.H. Grubestic. "Network vulnerability analysis: implications for planning and policy." *54th North American Regional Science Association International*, Savannah, Georgia, USA, November 7-10, 2007.
- 2007 J. Olson and A.T. Murray. "Continental scale radar siting." *54th North American Regional Science Association International*, Savannah, Georgia, USA, November 7-10, 2007.
- 2007 D. Tong, A.T. Murray and N. Xiao. "Incorporating spatial information for solving a coverage maximization siting problem." *54th North American Regional Science Association International*, Savannah, Georgia, USA, November 7-10, 2007.
- 2007 X. Wu, A.T. Murray and N. Xiao. "Optimizing relative contiguity in reserve design." *54th North American Regional Science Association International*, Savannah, Georgia, USA, November 7-10, 2007.
- 2007 A.A. Iqbal and A.T. Murray. "Locating emergency warning sirens: a new approach." *Association of Collegiate Schools of Planning 48th Annual Conference*. Milwaukee, Wisconsin, USA, October 18-21, 2007.
- 2007 A.T. Murray, T.C. Matisziw, D. Tong, H. Wei. "GeoComputational approaches to coverage maximization in service facility siting." *GeoComputation 2007*, Kildare, Ireland, September 3-5, 2007.

- 2007 K. Kim and A.T. Murray. "Spatial representation issues in surveillance sensor location modeling." *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21 2007.
- 2007 D.E. Snediker, A.T. Murray and T.C. Matisziw. "Decision support for network management." *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21 2007.
- 2007 J.N. Mefford and A.T. Murray. "Discrete choice and spatial analysis of travelers' responsiveness to urban land use and transportation system change." *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21 2007.
- 2007 H. Wei, R.C. Tiwari and A.T. Murray. "A spatial semiparametric Bayesian model for predicting cancer mortality rates." *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21 2007.
- 2007 G. Lee and A. Murray. "Municipal wireless broadband network design: facility location-network design approach." *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21 2007.
- 2007 D. Tong and A.T. Murray. "Addressing region-wide coverage issues." *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21 2007.
- 2007 T.C. Matisziw and A.T. Murray. "Assessing nature reserve vulnerability." *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21 2007.
- 2007 J. Olson and A.T. Murray. "Large scale set covering." *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21 2007.
- 2007 E. Delmelle and A. Murray. "Spatial sampling and location modeling." *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21 2007.
- 2007 T.H. Grubestic, A.T. Murray and E.A. Mack. "Geographic exclusion: spatial analysis for evaluating the implications of Megan's Law." *Ninth Annual International Crime Mapping Research Conference*, Pittsburgh, Pennsylvania, USA, March 28-31, 2007.
- 2007 F. Janoos, R. Machiraju, R. Parent, J.W. Davis, A. Murray. "Sensor orientation for coverage optimization for surveillance applications." *IS&T/SPIE 19th Annual Symposium on Electronic Imaging, Science and Technology*, San Jose, California, USA, January 28 – February 1, 2007.
- 2007 Matisziw, T.C., A.T. Murray, and T.H. Grubestic. "Evaluating vulnerability and risk in interstate highway operation." *Transportation Research Board 86th Annual Meeting*, Washington, D.C., USA, January 21-25, 2007.
- 2006 H. Wei and A.T. Murray. "A hierarchical spatial model to explore the effect of West Nile Virus on wild bird population." *53rd North American Meeting of the Regional Science Association International*, Toronto, Ontario, Canada, November 16-18, 2006

- 2006 D. Tong and A.T. Murray. "Maximizing regional coverage using spatial objects." *53rd North American Meeting of the Regional Science Association International*, Toronto, Ontario, Canada, November 16-18, 2006
- 2006 T.H. Grubestic, T.C. Matisziw and A.T. Murray. "Comparative approaches for assessing network performance and vulnerability." *53rd North American Meeting of the Regional Science Association International*, Toronto, Ontario, Canada, November 16-18, 2006
- 2006 T.C. Matisziw and A.T. Murray. "Reducing model complexity in the search for vital network facilities." *53rd North American Meeting of the Regional Science Association International*, Toronto, Ontario, Canada, November 16-18, 2006
- 2006 K. Kim, A.T. Murray and N. Xiao "A multi-objective evolutionary algorithm for surveillance sensor placement." *53rd North American Meeting of the Regional Science Association International*, Toronto, Ontario, Canada, November 16-18, 2006
- 2006 M. Goycoolea, J. Vielma, A.T. Murray and A. Weintraub. "Green up and adjacency issues in forest spatial harvesting." *INFORMS Annual Meeting*, Pittsburgh, Pennsylvania, USA, November 5-8, 2006.
- 2006 M. Goycoolea, J. Vielma, A.T. Murray and A. Weintraub. "Comparing two formulations for the ARM problem." *12th Symposium for Systems Analysis in Forest Resources*, Burlington, Vermont, USA, September 5-8, 2006.
- 2006 D. Tong and A.T. Murray. "Geographical information science to enhance location coverage modeling." *UCGIS Summer Assembly 2006*, Vancouver, Washington, USA, June 28 - July 1, 2006.
- 2006 D. Tong and A.T. Murray. "Partial coverage in continuous space facility siting." *102nd Annual Meeting of the Association of American Geographers*, Chicago, Illinois, USA, March 7-11, 2006.
- 2006 T.C. Matisziw and A.T. Murray. "The contributions of Professor Charles S. ReVelle." *102nd Annual Meeting of the Association of American Geographers*, Chicago, Illinois, USA, March 7-11, 2006.
- 2006 K. Kim and A.T. Murray. "Modeling to support 24/7 security monitoring." *102nd Annual Meeting of the Association of American Geographers*, Chicago, Illinois, USA, March 7-11, 2006.
- 2006 J. Mefford, A.T. Murray and T.H. Grubestic. "Multi-objective optimization for identifying vulnerability in critical network infrastructure." *102nd Annual Meeting of the Association of American Geographers*, Chicago, Illinois, USA, March 7-11, 2006.
- 2006 X. Wu and A.T. Murray. "Identifying critical network infrastructure: n most vital arc problem." *102nd Annual Meeting of the Association of American Geographers*, Chicago, Illinois, USA, March 7-11, 2006.
- 2006 H. Wei A.T. Murray and T.C. Matisziw. "An EM algorithm for inferring OD traffic matrix." *102nd Annual Meeting of the Association of American Geographers*, Chicago, Illinois, USA, March 7-11, 2006.
- 2006 A.T. Murray and D. Tong. "Analyzing structure fires in Massachusetts: regional science and the media." *45th Annual Meeting of the Western Regional Science Association*, Santa Fe, New Mexico, USA, February 22-26, 2006.

- 2005 J.P. Vielma, M. Goycoolea, A. Murray and A. Weintraub. "Comparison of methodologies for limiting opening sizes in forest harvest scheduling." *INFORMS Annual Meeting*, San Francisco, California, USA, November 13-16, 2005.
- 2005 A.T. Murray and K. Kim. "Modeling to support greater integration of surveillance system sensors." *52nd North American Meeting of the Regional Science Association International*, Las Vegas, Nevada, USA, November 10-12, 2005.
- 2005 A.T. Murray and D. Tong. "Coverage in continuous space facility siting." *52nd North American Meeting of the Regional Science Association International*, Las Vegas, Nevada, USA, November 10-12, 2005.
- 2005 A.T. Murray, T.C. Matisziw and T.H. Grubestic. "Simulating impacts of network interdiction on O-D flow activity." *52nd North American Meeting of the Regional Science Association International*, Las Vegas, Nevada, USA, November 10-12, 2005.
- 2005 X. Wu, A.T. Murray and N. Xiao. "A hybrid evolutionary algorithm for optimizing spatial contiguity in multiobjective land acquisition." *52nd North American Meeting of the Regional Science Association International*, Las Vegas, Nevada, USA, November 10-12, 2005.
- 2005 H. Wei and A.T. Murray. "Bayesian inference for origin-destination matrix estimation." *52nd North American Meeting of the Regional Science Association International*, Las Vegas, Nevada, USA, November 10-12, 2005.
- 2005 T. Grubestic, A.T. Murray and J. Mefford. "Continuity in critical network infrastructures: measuring nodal disruptions." *52nd North American Meeting of the Regional Science Association International*, Las Vegas, Nevada, USA, November 10-12, 2005.
- 2005 A.T. Murray and D. Tong. "Threshold coverage optimization." *ISOLDE X*, Spain (Sevilla and Islantilla), June 2-9, 2005.
- 2005 C. ReVelle, A.T. Murray and D. Serra. "Location models for ceding market share and shrinking services." *ISOLDE X*, Spain (Sevilla and Islantilla), June 2-9, 2005.
- 2005 A.T. Murray, K. Kim, J. Davis, R. Machiraju and R. Parent. "Coverage optimization to support security monitoring." *101st Annual Meeting of the Association of American Geographers*, Denver, Colorado, USA, April 5-9, 2005.
- 2005 H. Wei, A.T. Murray and N. Xiao. "Solving the continuous space p-center problem: planning application issues." *101st Annual Meeting of the Association of American Geographers*, Denver, Colorado, USA, April 5-9, 2005.
- 2005 B. Chastain and A.T. Murray. "Spatial structure in harvest scheduling optimization." *101st Annual Meeting of the Association of American Geographers*, Denver, Colorado, USA, April 5-9, 2005.
- 2005 X. Wu, A.T. Murray and N. Xiao. "Solution approaches for land use planning models addressing spatial contiguity." *101st Annual Meeting of the Association of American Geographers*, Denver, Colorado, USA, April 5-9, 2005.
- 2005 T.H. Grubestic and A.T. Murray. "Asset concentration and the geographic dimensions of cascading failure." *44th Annual Meeting of the Western Regional Science Association*, San Diego, California, USA, February 23-26, 2005.

- 2004 T.C. Matisziw and A.T. Murray. "Modeling continuous location and demand in the coverage of non-convex regions." *51th North American Meeting of the Regional Science Association International*, Seattle, Washington, USA, November 11-13, 2004.
- 2004 X. Wu and A.T. Murray. "Optimizing spatial contiguity in land use modeling." *51th North American Meeting of the Regional Science Association International*, Seattle, Washington, USA, November 11-13, 2004.
- 2004 T.H. Grubestic and A.T. Murray. "Vital nodes, interconnected infrastructures and the geographies of cascading failure." *51th North American Meeting of the Regional Science Association International*, Seattle, Washington, USA, November 11-13, 2004.
- 2004 X. Wu and A.T. Murray. "Spatial contiguity in land use planning." *GIScience 2004*, College Park, Maryland, USA, October 20-23, 2004.
- 2004 C. Wu and A.T. Murray. "Validating population estimates using remote sensing." *American Society for Photogrammetry & Remote Sensing - ASPRS 2004 Annual Conference*, Denver, Colorado, USA, May 23-28, 2004.
- 2004 A. Weintraub, D. Ryan, J. Vielma and A.T. Murray. "Exact formulation for spatial harvesting problems." *CORS/INFORMS Joint International Meeting*, Banff, Alberta, Canada, May 16-19, 2004.
- 2004 A.T. Murray. "Coverage modeling of geographic areas." *Centennial Meeting of the Association of American Geographers*, Philadelphia, Pennsylvania, USA, March 14-19, 2004.
- 2004 W.V. Ackerman and A.T. Murray. "A vector analysis of violent crime in Lima, Ohio." *Centennial Meeting of the Association of American Geographers*, Philadelphia, Pennsylvania, USA, March 14-19, 2004.
- 2004 T.C. Matisziw and A.T. Murray. "Enhancing species survivability in nature reserve design." *Centennial Meeting of the Association of American Geographers*, Philadelphia, Pennsylvania, USA, March 14-19, 2004.
- 2004 X. Wu and A.T. Murray. "Quantification of spatial contiguity." *Centennial Meeting of the Association of American Geographers*, Philadelphia, Pennsylvania, USA, March 14-19, 2004.
- 2003 A.T. Murray and B. Farhan. "Modeling coverage and distance decay." *50th North American Meeting of the Regional Science Association International*, Philadelphia, Pennsylvania, USA, November 20-22, 2003.
- 2003 T.H. Grubestic and Alan T. Murray. "Geocoding accuracy and its impact on location modeling and planning: a review of the critical issues." *50th North American Meeting of the Regional Science Association International*, Philadelphia, Pennsylvania, USA, November 20-22, 2003.
- 2003 C. Wu and A.T. Murray. "Addressing quality and coverage in transit system management." *50th North American Meeting of the Regional Science Association International*, Philadelphia, Pennsylvania, USA, November 20-22, 2003.
- 2003 A. Weintraub, D. Ryan, A. Murray and J.P. Vielma. "Solving a difficult exact formulation of a spatial forestry problem." *Mathematical Programming in Rio, A Conference in Honour of Nelson Maculan*, Buzios, Brasil November 9-12, 2003.

- 2003 A.T. Murray and C. Wu . “Using GIS to improve transit planning.” *Ohio Transportation Engineering Conference*, Columbus, Ohio, USA, November 5-6, 2003.
- 2003 A.T. Murray and X. Wu. “Assessing landscape contiguity in reserve design.” *Symposium for Systems Analysis in Forest Resources*, Stevenson, Washington, USA, October 7-9, 2003.
- 2003 A.T. Murray, J.P. Vielma, D. Ryan and A. Weintraub. “Improved solution techniques for multi-period area-based harvest scheduling problems.” *Symposium for Systems Analysis in Forest Resources*, Stevenson, Washington, USA, October 7-9, 2003.
- 2003 E. Lobao and A.T. Murray. “Examining spatial inequality within the homeless shelter system in Columbus, Ohio.” *66th Annual Meeting of the Rural Sociological Society*, Montreal, Quebec, Canada, July 27-30, 2003.
- 2003 A.T. Murray and R.W. Jackson. “Approaches for IO matrix updating.” *99th Annual Meeting of the Association of American Geographers*, New Orleans, Louisiana, USA, March 4-8, 2003.
- 2003 C. Wu and A.T. Murray. “A cokriging method for estimating population density in urban areas.” *99th Annual Meeting of the Association of American Geographers*, New Orleans, Louisiana, USA, March 4-8, 2003.
- 2003 B. Farhan and A.T. Murray. “A new approach for locating park and ride facilities.” *99th Annual Meeting of the Association of American Geographers*, New Orleans, Louisiana, USA, March 4-8, 2003.
- 2003 W.V. Ackerman and A.T. Murray. “Assessing spatial patterns of crime in Lima, Ohio.” *99th Annual Meeting of the Association of American Geographers*, New Orleans, Louisiana, USA, March 4-8, 2003.
- 2003 T.C. Matisziw, C. Kim and A.T. Murray. “Strategic bus route extension.” *99th Annual Meeting of the Association of American Geographers*, New Orleans, Louisiana, USA, March 4-8, 2003.
- 2003 B. Farhan and A.T. Murray. “A GIS-based approach for delineating market areas for park-and-ride facilities.” *Transportation Research Board 82nd Annual Meeting*, Washington, D.C., USA, January 12-15, 2003.
- 2002 A.T. Murray and T.H. Grubestic. “Assessing the reliability of crime analysis using imperfect spatial information.” *The Sixth International Crime Mapping Research Conference* (National Institute of Justice, Mapping and Analysis for Public Safety program), Denver, Colorado, USA, December 8-11, 2002.
- 2002 T.H. Grubestic and A.T. Murray. “Imperfect spatial information: implications for crime mapping and analysis.” *The Sixth International Crime Mapping Research Conference* (National Institute of Justice, Mapping and Analysis for Public Safety program), Denver, Colorado, USA, December 8-11, 2002.
- 2002 A.T. Murray, M. Goycoolea and A. Weintraub. “Modeling average and maximum area restrictions in harvest scheduling.” *INFORMS*, San Jose, California, USA, November 17-20, 2002.
- 2002 A.T. Murray and X. Wu. “Supporting public transit service provision planning: access and accessibility concerns.” *49th North American Meeting of the Regional Science Association International*, San Juan, Puerto Rico, November 13-16, 2002.

- 2002 T.H. Grubestic and A.T. Murray. "Broadband internet access and competition in the last-mile." *49th North American Meeting of the Regional Science Association International*, San Juan, Puerto Rico, November 13-16, 2002.
- 2002 T.C. Matisziw, C. Kim and A.T. Murray. "Strategic service extension in bus-based public transportation systems." *49th North American Meeting of the Regional Science Association International*, San Juan, Puerto Rico, November 13-16, 2002.
- 2002 M.W. Horner and A.T. Murray. "Rethinking estimates of spatial access to transit service." *49th North American Meeting of the Regional Science Association International*, San Juan, Puerto Rico, November 13-16, 2002.
- 2002 R.W. Jackson and A.T. Murray. "Alternative matrix updating formulations." *49th North American Meeting of the Regional Science Association International*, San Juan, Puerto Rico, November 13-16, 2002.
- 2002 B. Farhan and A.T. Murray. "A new approach for locating park-and-ride facilities." *2002 Annual Meeting of the East Lakes Division of the Association of American Geographers*, Central Michigan University, Mt. Pleasant, MI, USA, October 18-19, 2002.
- 2002 W.V. Ackerman and A.T. Murray. "Assessing spatial patterns of crime in Lima, Ohio." *Ohio Criminal Justice Research Conference*, Columbus, Ohio, USA, October 15, 2002.
- 2002 R.W. Jackson and A.T. Murray. "Alternate formulations for minimizing inter-matrix distances." *Fourteenth International Conference on Input-Output Techniques*, Montréal, Canada, October 10-15, 2002.
- 2002 A.T. Murray, M.E. O'Kelly and R.L. Church. "Exploring geometric representation in coverage modeling." *ISOLDE IX*, Fredericton, New Brunswick, Canada, June 12-18, 2002.
- 2002 A.T. Murray. "Overview of private sector approaches for estimating traffic flow using aerial photography and videography." *North American Travel Monitoring Exhibition and Conference*, Orlando, Florida, USA, May 12-16, 2002.
- 2002 A.T. Murray and T.H. Grubestic. "Spatial models for crime hot spot detection." *98th Annual Meeting of the Association of American Geographers*, Los Angeles, California, USA, March 19-23, 2002.
- 2002 C. Wu and A.T. Murray. "Estimating population distribution for transit planning using integrated GIS and RS technologies." *98th Annual Meeting of the Association of American Geographers*, Los Angeles, California, USA, March 19-23, 2002.
- 2002 R.W. Jackson and A.T. Murray. "Competition and complementarities in multi-regional economic development." *98th Annual Meeting of the Association of American Geographers*, Los Angeles, California, USA, March 19-23, 2002.
- 2002 X. Wu, K. Jezek and A.T. Murray. "Antarctic ice sheet balance velocities." *98th Annual Meeting of the Association of American Geographers*, Los Angeles, California, USA, March 19-23, 2002.
- 2002 E.G. Lobao and A.T. Murray. "Exploratory spatial data analysis of homeless services in Columbus, Ohio." *98th Annual Meeting of the Association of American Geographers*, Los Angeles, California, USA, March 19-23, 2002.

- 2002 B. Farhan and A.T. Murray. "An approach for delineating park and ride market areas." *98th Annual Meeting of the Association of American Geographers*, Los Angeles, California, USA, March 19-23, 2002.
- 2002 S.K. Thakur, A.T. Murray and R.W. Jackson. "Evaluating the spatial distribution of Research and Development facilities in India." *98th Annual Meeting of the Association of American Geographers*, Los Angeles, California, USA, March 19-23, 2002.
- 2002 H.-S. Cha and A.T. Murray. "Assessing public transit service equity in Columbus, Ohio." *98th Annual Meeting of the Association of American Geographers*, Los Angeles, California, USA, March 19-23, 2002.
- 2002 M. Goycoolea, A.T. Murray, J. Vielma, F. Barahona, R. Epstein and A. Weintraub. "An exact algorithm for the area restriction model." *Systems Analysis Forestry Symposium Chile 2002*, Punta de Tralca, Chile, March 4-7, 2002.
- 2001 T.H. Grubestic and A.T. Murray. "Detecting hot-spots using cluster analysis and GIS." *5th Annual International Crime Mapping Research Conference*, Dallas, Texas, USA, November 30 - December 4, 2001.
- 2001 A.T. Murray. "Addressing access and accessibility in public transit service." *48th North American Meeting of the Regional Science Association International*, Charleston, South Carolina, USA, November 15-17, 2001.
- 2001 M.W. Horner and A.T. Murray. "Reducing congestion through strategic planning." *48th North American Meeting of the Regional Science Association International*, Charleston, South Carolina, USA, November 15-17, 2001.
- 2001 M.E. O'Kelly and A.T. Murray. "Geometric models for planar covering with application to warning sirens." *48th North American Meeting of the Regional Science Association International*, Charleston, South Carolina, USA, November 15-17, 2001.
- 2001 T.H. Grubestic, M.E. O'Kelly and A.T. Murray. "Network reliability and the commercial Internet." *48th North American Meeting of the Regional Science Association International*, Charleston, South Carolina, USA, November 15-17, 2001.
- 2001 A.T. Murray. "A hybrid coverage model for accessing public transportation service provision." *INFORMS*, Miami, Florida, USA, November 4-7, 2001.
- 2001 A. Weintraub, M. Goycoolea, A.T. Murray, R. Epstein and F. Barahona. "Solving the adjacency problem constructing the harvesting units." *INFORMS*, Miami, Florida, USA, November 4-7, 2001.
- 2001 T. Shyy, R.J. Stimson and A.T. Murray. "Internet GIS to benchmark local government socio-economic performance." *7th Pacific Conference of the Regional Science Association International*. Portland, Oregon, USA, June 30 - July 4, 2001.
- 2001 A. Weintraub, M. Goycoolea, R. Epstein, F. Barahona and A. Murray. "A branch and price approach for a difficult combinatorial problem in spatial forestry." *CORS-OPTD 2001*, Quebec, Canada, May 7-9, 2001.
- 2001 V. Estivill-Castro, I. Lee and A.T. Murray. "Criteria on proximity graphs for boundary extraction and spatial clustering." *The fifth Asian Pacific Conference on Knowledge Discovery and Data Mining - PAKDD-01*, Hong Kong, China, April 16-18, 2001.

- 2001 A.T. Murray. "Extending access in public transportation service provision." *97th Annual Meeting of the Association of American Geographers*, New York, New York, USA, February 27 - March 3, 2001.
- 2001 A.T. Murray. "Spatial pattern detection and scale." *Spatial Statistics and Spatial Econometrics Conference* (sponsored by the Applied Econometrics Association and the Western Regional Science Association), Palm Springs, California, USA, February 24-28, 2001.
- 2000 V. Estivill-Castro and A.T. Murray. "Clustering and weighted facility location via hybrid optimization." *International ICSC Congress on Intelligent Systems and Applications*, Wollongong, NSW, Australia, December 11-15, 2000.
- 2000 A.T. Murray and W.V. Ackerman. "Assessing spatial patterns of crime in smaller communities." *4th Annual International Crime Mapping Research Conference*, San Diego, California, USA, December 9-12, 2000.
- 2000 A.T. Murray. "Suggested locations in space." *47th North American Meeting of the Regional Science Association International*, Chicago, Illinois, USA, November 9-12, 2000.
- 2000 T.H. Grubestic, A.T. Murray and M.E. O'Kelly. "Constructing the divide: spatial disparities in broadband access." *47th North American Meeting of the Regional Science Association International*, Chicago, Illinois, USA, November 9-12, 2000.
- 2000 S.K. Thakur, A.T. Murray and R.W. Jackson. "Evaluating the spatial distribution of Research and Development facilities in India." *47th North American Meeting of the Regional Science Association International*, Chicago, Illinois, USA, November 9-12, 2000.
- 2000 A.T. Murray and M.E. O'Kelly. "Spatial modeling and represented geographic space." *GIScience 2000 - First International Conference on Geographic Information Science*, Savannah, Georgia, USA, October 28-31, 2000.
- 2000 R. Epstein, M. Goycoolea, A.T. Murray and A. Weintraub. "An adjacency-modeling problem based on constructing harvesting areas." *2000 Symposium on Systems Analysis in Forest Resources*, Aspen, Colorado, USA, September 27-30, 2000.
- 2000 A.T. Murray and V. Estivill-Castro. "Hybrid optimization for clustering in data mining." *CLAIO 2000*, Mexico City, Mexico, September 4-8, 2000.
- 2000 A.T. Murray. "Spatially lagged choropleth display." *9th International Symposium on Spatial Data Handling (SDH)*, Beijing, P.R. China, August 10-12, 2000.
- 2000 D. Ward and R.J. Stimson and A.T. Murray. "A spatial decision support system model for planning real time optimal allocation of regional growth: a case study of the Gold Coast sub-region in South East Queensland." *6th World Congress of the Regional Science Association International*, Lugano, Switzerland, May 16-20, 2000.
- 2000 A.T. Murray. "Suitable access coverage in the provision of public transportation." *INFORMS*, Salt Lake City, Utah, USA, May 7-10, 2000.
- 2000 A.T. Murray and A. Weintraub. "Approaches for solving the area restriction model in harvest scheduling." *INFORMS*, Salt Lake City, Utah, USA, May 7-10, 2000.

- 2000 A.T. Murray. "Exploring crime patterns using quantitative methods." *96th Annual Meeting of the Association of American Geographers*, Pittsburgh, Pennsylvania, USA, April 4-8, 2000.
- 2000 T. Shyy, R. Davis, R.J. Stimson and A.T. Murray. "An internet geographical information system for revolutionizing access to regional development research." *Western Regional Science Association 39th Annual Meeting*, Kauai, Hawaii, USA, February 26 – March 1, 2000.
- 1999 A.T. Murray and T. Shyy. "Spatial patterns and choropleth mapping." *46th North American Meeting of the Regional Science Association International*, Montreal, Quebec, Canada, November 11-14, 1999.
- 1999 A.T. Murray, D.P. Ward, S.R. Phinn and R.J. Stimson. "Urban growth scenario evaluation using an integrated spatial optimization model." *46th North American Meeting of the Regional Science Association International*, Montreal, Quebec, Canada, November 11-14, 1999.
- 1999 R. Davis, T. Shyy, R.J. Stimson, A.T. Murray and C. Pettit. "Developing an interactive spatial database for decision makers in regional Queensland." *1999 Australia and New Zealand Regional Science Association International Annual Conference*, New Castle, New South Wales, Australia, September 19-22, 1999.
- 1999 D.P. Ward, A.T. Murray and S.R. Phinn. "Integrating cellular automata and spatial optimization for evaluating rapidly urbanizing regions." *4th International Conference on GeoComputation*, Fredericksburg, Virginia, USA, July 25-28, 1999.
- 1999 B. Hooper and A.T. Murray. "Social data for catchment management: integrating GIS, demographic and attitudinal surveys for improved catchment decision-making." *International Symposium on Society and Resource Management*, Brisbane, Australia, July 7-10, 1999.
- 1999 A.T. Murray and R. Davis. "Evaluating equity, fairness and justice concepts in public transport service provision." *95th Annual Meeting of the Association of American Geographers*, Honolulu, Hawaii, USA, March 23-27, 1999.
- 1999 A.T. Murray. "Public transport access efficiency and coverage." *Western Regional Science Association 38th Annual Meeting*, Ojai, California, USA, February 21-24, 1999.
- 1998 A.T. Murray. "Cluster analysis in the spatial domain." *45th North American Meeting of the Regional Science Association International*, Santa Fe, New Mexico, USA, November 11-14, 1998.
- 1998 A.T. Murray, J.S. Western, P. Mullins and I. McGuffog. "Analyzing patterns of regional criminal activity." *GIS/LIS'98*, Fort Worth, Texas, USA, November 10-12, 1998.
- 1998 R.J. Stimson, R. Davis and A.T. Murray. "Changing economic performance of urban centres in Queensland 1986-1996." *Australia and New Zealand Regional Science Association International 22nd Meeting*, Barossa Valley, South Australia, Australia, September 21-23, 1998.
- 1998 R. Davis and A.T. Murray. "Equity in public transport service provision." *Australia and New Zealand Regional Science Association International 22nd Meeting*, Barossa Valley, South Australia, Australia, September 21-23, 1998.

- 1998 A.T. Murray. "Assessing clustering methods for exploratory spatial data analysis." *38th European Regional Science Association Congress*, Vienna, Austria, August 28 – September 1, 1998.
- 1998 V. Estivill-Castro and A.T. Murray. "Mining spatial data via clustering." *Eighth International Symposium on Spatial Data Handling*, Vancouver, British Columbia, Canada, July 12-15, 1998.
- 1998 A.T. Murray. "Transport access and environmental sustainability." *International Conference on Modeling Geographical and Environmental Systems with GIS*, Hong Kong, China, June 23-25, 1998.
- 1998 A.T. Murray. "Forest modeling and spatial optimization." *CORS/INFORMS*, Montreal, Quebec, Canada, April 26-29, 1998.
- 1998 R. Davis and A.T. Murray. "Quantifying social justice: a transport example." *Social Justice/Social Judgment*, Sydney, New South Wales, Australia, April 25-26, 1998.
- 1998 V. Estivill-Castro and A.T. Murray. "Discovering associations in spatial data – an efficient medoid based approach." *2nd Pacific-Asia Conference on Knowledge Discovery and Data Mining*, Melbourne, Victoria, Australia, April 15-17, 1998.
- 1998 A.T. Murray, R. Davis and R.J. Stimson. "Regional development and public transport." *Western Regional Science Association 37th Annual Meeting*, Monterey, California, USA, February 18-22, 1998.
- 1998 V. Estivill-Castro and A.T. Murray. "Spatial clustering for data mining with genetic algorithms." *Engineering of Intelligent Systems – EIS'98*, Tenerife, Spain, February 11-13, 1998.
- 1997 A.T. Murray and R. Davis. "Environmental sustainability and urban growth management." *Pacific Regional Science Conference Organisation 15th Meeting/Australia and New Zealand Regional Science Association 21st Meeting*, Wellington, New Zealand, December 8-12, 1997.
- 1997 A.T. Murray and V. Estivill-Castro. "Spatial data analysis and clustering." *44th North American Meeting of the Regional Science Association International*, Buffalo, New York, USA, November 6-9, 1997.
- 1997 A.T. Murray. "Urban development: issues in integrated analysis and planning." *Fifth International Workshop on Technological Change and Urban Form – CIB W72/97*, Jakarta, Indonesia, June 18-20, 1997.
- 1997 A.T. Murray and R.L. Church. "Optimizing the location of harvesting equipment and access roads." *1997 Symposium on Systems Analysis in Forest Resources*, Traverse City, Michigan, USA, May 28-31, 1997.
- 1997 R.L. Church, K. Barber, M.A. Figueroa and A.T. Murray. "Generating alternatives in forestry modeling." *INFORMS*, San Diego, USA, May 4-7, 1997.
- 1997 A.T. Murray and R.L. Church. "Forest planning and Steiner tree extensions." *INFORMS*, San Diego, USA, May 4-7, 1997.
- 1997 A.T. Murray. "Aggregation error minimization in input-output modeling." *Western Regional Science Association 36th Annual Meeting*, Hawaii, USA, February 23-26, 1997.

- 1997 B. Roberts and A.T. Murray. "Mapping the spatial corporate." *Producer Services in the APEC Region*, Hawaii, USA, February 22-23, 1997.
- 1996 J.M. Gottsegen and A.T. Murray. "Analyzing the relationships of spatial structure in aggregated data." *GIS/LIS '96*, Denver, Colorado, USA, November 19-21, 1996.
- 1996 A.T. Murray and J.M. Gottsegen. "Location model solution stability and the use of aggregate data." *Forty-Third North American Meeting of the Regional Science Association International*, Washington D.C., USA, November 14-17, 1996.
- 1996 R.L. Church, K. Barber and A.T. Murray. "Modeling for desired future conditions in a National Forest." *Society of American Foresters 1996 Convention*, Albuquerque, New Mexico, USA, November 9-13, 1996.
- 1996 A.T. Murray and J.M. Gottsegen. "Aggregation effects on location modeling." *Australia and New Zealand Regional Science Association 20th Annual Conference*, Canberra, ACT, Australia, September 23-25, 1996.
- 1996 A.T. Murray, R.L. Church and A. Weintraub. "Locational issues in forest management." *ISOLDE VII*, Edmonton/Jasper, Alberta, Canada, June 25 - July 3, 1996.
- 1996 A.T. Murray and R.L. Church. "Optimizing harvesting operations: locating towers, skidders and roads." *ISOLDE VII*, Edmonton/Jasper, Alberta, Canada, June 25 - July 3, 1996.
- 1995 A.T. Murray and R.L. Church. "The *p*-impact problem for locating noxious and obnoxious facilities." *42nd North American Meeting of the Regional Science Association International*, Cincinnati, Ohio, USA, November 9-12, 1995.
- 1995 A.T. Murray and R.L. Church. "Modeling desired future conditions." *INFORMS National Meeting*, Los Angeles, California, USA, April 23-26, 1995.
- 1995 A.T. Murray, R.L. Church, M.A. Figueroa and K. Barber. "A hierarchical land use planning approach for the USDA Forest Service." *INFORMS National Meeting*, Los Angeles, California, USA, April 23-26, 1995.
- 1994 A.T. Murray and R.L. Church. "Expanding spatial detail and restrictions in public sector location models." *Regional Science Association International 41st North American Meetings*, Niagara Falls, Ontario, Canada, November 17-20, 1994.
- 1994 A.T. Murray, R.L. Church, M.A. Figueroa, A. Ager and R.J. McGaughey. "Artificial landscape visualization of ecosystem management plans." *Decision Support - 2001*, Toronto, Ontario, Canada, September 12-16, 1994.
- 1994 R.L. Church, A.T. Murray and K. Barber. "Designing a hierarchical planning model for USDA Forest Service planning." *Sixth Symposium on Systems Analysis and Management Decisions in Forestry*, Pacific Grove, California, USA, September 6-9, 1994.
- 1994 A.T. Murray, R.L. Church and M.A. Figueroa. "Developing a spatial decision support system for land use management." *TIMS/ORSA Joint National Meeting*, Boston, Massachusetts, USA, April 24-27, 1994.
- 1994 A.T. Murray, R.L. Church and M.A. Figueroa. "Designing a spatial decision support system for forest ecosystem management." *GIS'94 Eight Annual Symposium on Geographic Information Systems*, Vancouver, British Columbia, Canada, February 21-24, 1994.

- 1993 A.T. Murray and R.L. Church. "Simulated annealing as a solution methodology for location models." *Regional Science Association International Fortieth North American Meetings*, Houston, Texas, USA, November 11-14, 1993.
- 1993 A.T. Murray and R.L. Church. "Heuristic approaches for solving area-based forest planning problems." *ORSA/TIMS Joint National Meeting*, Phoenix, Arizona, USA, October 31 - November 3, 1993.
- 1993 A.T. Murray and R.L. Church. "Adjacency constraint aggregation." *International Symposium on Systems Analysis and Management Decisions in Forestry*, Valdivia, Chile, March 9-12, 1993.
- 1992 A.T. Murray and R.L. Church. "Vehicle availability and estimating service coverage." *Regional Science Association International Thirty-Ninth North American Meetings*, Chicago, Illinois, USA, November 13-15, 1992.
- 1992 A.T. Murray and R.L. Church. "The reliability of α -reliability." *ORSA/TIMS Joint National Meeting*, San Francisco, California, USA, November 1-4, 1992.
- 1992 R.L. Church, A.T. Murray and S.R. Loban. "Forest planning and management using large scale linear programming." *ORSA/TIMS Joint National Meeting*, San Francisco, California, USA, November 1-4, 1992.
- 1991 A.T. Murray and R.L. Church. "Modeling school utilization and consolidation." *Thirty-Eighth North American Meetings of the Regional Science Association International*, New Orleans, Louisiana, USA, November 7-10, 1991.

Invited Lectures

- 2011 iSchool, Drexel University, USA. "GIS and spatial analysis application challenges in addressing contemporary problems and issues."
- 2010 Department of Geography, University of Texas, USA. "Sex offender residency change behavior."
- 2010 School of Computing, Informatics, and Decision Systems Engineering, Decision Systems Seminar Series, Arizona State University, USA. "Network infrastructure fortification."
- 2010 Center for Population Dynamics, Arizona State University, USA. "Exploratory spatial data analysis of housing movement patterns."
- 2009 Department of Industrial and Systems Engineering, Texas A&M University, USA. "Geographic information systems (GIS) relevance in optimization."
- 2008 Department of Geography and Regional Development, University of Arizona, USA. "Sex offender exclusion laws: spatial analytical methods to support policy evaluation and formulation."
- 2008 School of Geographical Sciences, Arizona State University, USA. "Location modeling and GIScience".
- 2007 Criminal Justice Research Center and the Institute for Excellence in Justice, The Ohio State University, USA. "Evaluating sex offender exclusion laws."
- 2007 Initiative in Population Research, The Ohio State University, USA. "Geographic Information Systems (GIS): Introduction and Use in Population Research" (with N. Xiao).

- 2005 Department of Geography, San Diego State University, USA. "Spatial representation and location coverage optimization."
- 2005 Department of Geology and Geography, West Virginia University, USA. "The importance of spatial representation in emergency service planning."
- 2004 Department of Geography, University of Connecticut, USA. "A new perspective for coverage modeling."
- 2004 Department of Geography, University of Cincinnati, USA. "Rethinking coverage modeling in siting emergency warning sirens."
- 2004 Department of City and Regional Planning, The Ohio State University, USA. "Emergency warning siren coverage: planning and analysis."
- 2004 Department of Geography, University of California at Los Angeles, USA. "GIST in modeling spatial coverage."
- 2003 Center for Urban and Regional Analysis, The Ohio State University, USA. "Examining forecasted population growth by integrating regional modeling and local simulation."
- 2003 Criminal Justice Research Center and Center for Urban and Regional Analysis, The Ohio State University, USA. "Imperfect spatial information and the analysis of crime."
- 2002 Regional Research Institute, West Virginia University, USA. "Geographical considerations in forest management planning."
- 2002 Departamento de Ingenieria Industrial, Universidad de Chile, Chile. "Exploring alternative interpretations of maximum area restrictions in harvest scheduling."
- 2001 Bio-Complexity Workshop, Center for Mapping, The Ohio State University, USA. "Spatial modeling for evaluating urban growth."
- 2001 Departamento de Ingenieria Industrial, Universidad de Chile, Chile. "The importance of modeling to support forest planning and decision making."
- 2000 Institute of Remote Sensing Applications, Chinese Academy of Sciences, China. "Potential remote sensing applications in public transportation planning."
- 1999 Department of Geography, State University of New York at Buffalo, USA. "GIS based approaches for identifying patterns of suburban crime."
- 1999 Department of Geography, Ohio State University, USA. "Using GIS and spatial analysis for evaluating and planning public transportation."
- 1999 Department of Geography and Center for the Study of Institutions, Population, and Environmental Change, Indiana University, USA. "Evaluating sustainability issues using GIS and spatial analysis."
- 1999 Departamento de Ingenieria Industrial, Universidad de Chile, Chile. "Mathematical considerations for imposing spatial restrictions in harvest scheduling problems."
- 1998 Department of Earth and Atmospheric Sciences, University of Alberta, Canada. "Regional public transportation service access."
- 1998 Department of Earth and Atmospheric Sciences, University of Alberta, Canada. "Spatially restricted forest harvest scheduling."

- 1998 Department of Geography, University of Utah, USA. "Regional public transportation service access."
- 1998 Department of Geography, University of Kentucky, USA. "Regional public transportation service access."
- 1998 Department of Geography, University of Kentucky, USA. "GIS, spatial analysis and forest management."
- 1998 Department of Anthropology and Sociology, University of Queensland, Australia. "What every sociologist should know about geographical information systems."
- 1998 SEQ 2001, Queensland Government, Australia. "Modelling access to services and facilities."
- 1998 Department of Geography, Southern Illinois University, USA. "The use of GIS in natural resource management."
- 1998 Department of Systems and Industrial Engineering, University of Arizona, USA. "Location models for improving public transport services."
- 1997 Department of Geography, University of Florida, USA. "Systems analysis in forest management planning."
- 1997 Australian Housing and Urban Research Institute, Queensland University of Technology, Australia. "Systems analysis in environmental management planning."
- 1997 School of Forest Resources, University of Georgia, USA. "Analysis and modeling in forest resource management."
- 1997 Department of Geographical Sciences and Planning, University of Queensland, Australia. "Natural resource management."
- 1997 Forest Research Institute, Rotorua, New Zealand. "Harvest scheduling and spatial restrictions."
- 1996 CSIRO - Division of Building, Construction and Engineering, Australia. "Modelling impact in undesirable facility location."
- 1996 Department of Geography, University of Iowa, USA. "Data issues in medical geography: boundaries and aggregation."
- 1996 Department of Geography, University of Iowa, USA. "Land management and policy assessment using integrated optimization."
- 1996 Department of Geography and GISCA, University of Adelaide, Australia. "SDSS and GIS development for integrated analysis and planning."
- 1996 AHURI/CSIRO Knowledge Exchange Seminar, Mallacoota, Victoria, Australia. "GIS and SDSS for sustainable urban and regional planning."
- 1995 Department of Forest Science, Texas A&M University, USA. "Applying heuristic solution techniques to operational forest planning problems."
- 1995 Departamento de Ingenieria Industrial, Universidad de Chile, Chile. "Development and application of heuristics for spatial optimization: location and land management" (with R.L. Church).

1995 Department of Geography, University of California, Santa Barbara, USA. “Applying heuristic solution approaches to operational forest planning problems.”

Expert Testimony

John Doe vs. Jim Petro et al. (2005); United States District Court

Professional Service

1. Editorial Activities

- (i) Journal Boards and Editorships (see above)
- (ii) Edited Journal Special Issues (see above)
- (iii) Panelist

“Special Session to Honor Manfred M. Fischer’s Contributions to Geography: Spatial Analysis and Modeling 2”, *104th Annual Meeting of the Association of American Geographers*, Boston, Massachusetts, USA, April 15-19, 2008.

“Honoring Atsuyuki Okabe: Applications, Developments, and Future Research on Spatial Analysis and GIScience 1”, *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21, 2007.

“Meet the Journal Editors II”, *Centennial Meeting of the Association of American Geographers*, Philadelphia, Pennsylvania, USA, March 14-19, 2004.

- (iv) Book Proposal Reviewer

W.H. Freeman and Company (2000)

Springer (2007)

- (v) Journal Reviewer

4OR - A Quarterly Journal of Operations Research
Annals, Association of American Geographers
Annals of Operations Research
Annals of Regional Science
Applied Geography
Asia-Pacific Journal of Operational Research
Australasian Journal of Regional Studies
Biodiversity and Conservation
Canadian Journal of Earth Systems
Canadian Journal of Forest Research
Cartography and Geographic Information Science
Cities

Conflict Management and Peace Science
Computational Optimization and Applications
Computational Statistics and Data Analysis
Computer-Aided Civil and Infrastructure Engineering
Computers & Operations Research
Computers, Environment and Urban Systems
Crime Mapping: A Journal of Research and Practice
Defence & Peace Economics
Discrete Optimization
Earth Interactions
Ecological Applications
Economic Systems Research

*Electronics and Telecommunications
 Research Institute Journal*
Environment and Planning A
*Environment and Planning B:
 Planning and Design*
*European Journal of Operational
 Research*
Forest Policy and Economics
Forest Science
Geographical Analysis
*Geographical and Environmental
 Modelling*
Geography Compass
*Geoscience and Remote Sensing
 Letters*
International Forestry Review
*International Journal of Health
 Geographics*
*International Journal of Geographical
 Information Science*
*International Journal of Mathematical
 and Computational Forestry and
 Natural-Resource Sciences*
*International Journal of Remote
 Sensing*
*International Journal of Sustainable
 Transportation*
Journal of Advanced Transportation
Journal of Environmental Management
Journal of Geographical Systems
*Journal of Parallel and Distributed
 Computing*

Journal of Regional Science
*Journal of the Operational Research
 Society*
Landscape Ecology
Landscape and Urban Planning
Location Science
Networks
Networks and Spatial Economics
*Omega, The International Journal of
 Management Science*
Operations Research
Papers in Regional Science
*Photogrammetric Engineering and
 Remote Sensing*
Physica A
Professional Geographer
*Proceedings of the National Academy
 of Sciences of the United State of
 America*
Risk Analysis
Socio-Economic Planning Sciences
Southern Journal of Applied Forestry
*Spatial Cognition and Computation:
 An Interdisciplinary Journal*
Spatial Economic Analysis
Transactions in GIS
Transportation Research C
Transportation Science
Urban Geography
Water Resources Management

2. Grant Review Panel

National Institutes of Health (2009)
 National Science Foundation (2004-2005, 2009)

3. Grant Proposal Assessor

Australian Research Council
 Criminology Research Council
 Eidgenossische Technische Hochschule Zurich (Swiss Federal Institute of Technology
 Zurich) - Competence Center Environment and Sustainability
 Israel Science Foundation
 National Institutes of Health
 National Institute of Justice
 National Science Foundation
 Natural Sciences and Engineering Research Council of Canada

Qatar National Research Fund
Research Grants Council of Hong Kong
Regional Research Institute (West Virginia University)
U.S. Census Bureau

4. External Promotion and Tenure Review

5. Advisory Panels

- 2008-present GeoDA Center for Geospatial Analysis and Computation, Arizona State University (oversight committee member)
- 2005-2008 Initiative in Population Research, The Ohio State University (executive committee member)
- 2005-2008 Regents Advisory Committee on the Urban University Program, Ohio Board of Regents
- 2005-2008 Community Research Partners System Policy Group
- 2004-2005 Center for Urban and Regional Analysis, The Ohio State University (oversight and advisory committee member)

6. Professional Society Service

(i) Boards

- 2005-present Western Regional Science Association, Board of Directors

(ii) Offices

- 2009-2011 Councilor-at-Large, North American Regional Science Council
- 2000-2003 Chair, Spatial Analysis and Modeling Specialty Group of the Association of American Geographers
- 1999-2000 Newsletter Editor, Mathematical Models and Quantitative Methods Specialty Group of the Association of American Geographers

(iii) Committees

- 2010 Committee member, INFORMS - Energy and Natural Resources and the Environment Section Student Paper Competition
- 2005 Chair, UPS-SOLA Dissertation Committee (Section on Location Analysis of INFORMS)

- 2003 UPS-SOLA Dissertation Committee (Section on Location Analysis of INFORMS)
- 2003-2006 Census Advisory Committee, Association of American Geographers (Chair, 2006)
- 2002-2005 Standards for Geographic Data Committee, Association of American Geographers

(iv) International Conference Organization

- 2008 ISOLDE (with R. Church, Z. Drezner, H.A. Eiselt and J. Mesa), Santa Barbara, California, USA, June 23-28, 2008.
- 2002 Symposium on Models and Systems in Forestry (with A. Weintraub, R. Haight, M. Bevers, D. Martell and M. Ronnqvist), Punta de Tralca, Chile, March 4-7, 2002.

(v) International Conference Session Organization

- 2005 Charles S. ReVelle Sessions in Location Modeling and Spatial Analysis (with T. Matisziw) – 52nd North American Meeting of the Regional Science Association International, Las Vegas, Nevada, USA, November 10-12, 2005.
- 2004 Location and Spatial Modeling sessions – 51st North American Meetings of the Regional Science Association International, Seattle, Washington, USA, November 11-13, 2004.
- 2003 Location and Spatial Modeling sessions – 50th North American Meetings of the Regional Science Association International, Philadelphia, Pennsylvania, USA, November 20-22, 2003.
- 2003 Spatial Analysis and Modeling sessions (sponsored by Spatial Analysis and Modeling specialty group) – 99th Annual Meeting of the Association of American Geographers, New Orleans, Louisiana, USA, March 5-8, 2003.
- 2002 Location and Spatial Modeling sessions – 49th North American Meetings of the Regional Science Association International, San Juan, Puerto Rico, USA, November 14-17, 2002.
- 2002 Spatial Analysis and Modeling sessions (sponsored by Spatial Analysis and Modeling specialty group) – 98th Annual Meeting of the Association of American Geographers, Los Angeles, California, USA, March 12-23, 2002.
- 2001 Location and Spatial Modeling sessions – 48th North American Meetings of the Regional Science Association International, Charleston, South Carolina, USA, November 15-17, 2001.
- 2001 Spatial Analysis and Modeling, Population Analysis and Modeling, and Plenary Lecture (sponsored by Spatial Analysis and Modeling specialty group) – 97th Annual Meeting of the Association of American Geographers, New York, New York, USA, February 27 – March 3, 2001.
- 2000 Location Modeling sessions – 47th North American Meetings of the Regional Science Association International, Chicago, Illinois, USA, November 9-12, 2000.

- 2000 GIS and Modeling in the Analysis of Crime session and Plenary Lecture (sponsored by Mathematical Models and Quantitative Methods specialty group) – 96th Annual Meeting of the Association of American Geographers, Pittsburgh, Pennsylvania, USA, April 4-8, 2000.
- 1999 Location Modeling sessions – 46th North American Meetings of the Regional Science Association International, Montreal, Quebec, Canada, November 11-14, 1999.
- 1999 Transportation and Location Modeling session (co-sponsored by Mathematical Models and Quantitative Methods, Transportation Geography and Geographic Information System specialty groups) – 95th Annual Meeting of the Association of American Geographers, Honolulu, Hawaii, USA, March 23-27, 1999.
- 1998 Location Modeling sessions – 45th North American Meetings of the Regional Science Association International, Santa Fe, New Mexico, USA, November 11-14, 1998.

6. University Committees

- Executive Committee, School of Geographical Sciences and Urban Planning, Arizona State University (2010-2011)
- School of Geographical Sciences and Urban Planning ad hoc Bylaws Committee, Arizona State University (2009)
- Graduate Studies Committee – School of Geographical Sciences and Urban Planning, Arizona State University (2009-present)
- Colloquia Committee (chair) – School of Geographical Sciences and Urban Planning, Arizona State University (2008-present)
- Senate Government Affairs Committee – University Senate, The Ohio State University (2007-2008)
- Personnel Committee – Department of Geography, The Ohio State University (2006-2008)
- College of Social and Behavioral Sciences ad hoc Clinical Faculty Committee, The Ohio State University (2004)
- University Scholar Maximus Competition (2003, 2004)
- Office of International Affairs Graduate Student Travel Grants (2002, 2003)
- Infrastructure Committee (chair) – Department of Geography, The Ohio State University (2002-2008)
- Graduate Studies Committee – Department of Geography, The Ohio State University (2001-2004)
- Denman undergraduate research forum – The Ohio State University (2001, 2002)
- Speakers Committee – Department of Geography, The Ohio State University (1999-2002)
- Colloquia Committee – Department of Geography, University of California at Santa Barbara (1994-1995)

7. Workshops

- 2010 Santa Fe Institute. Emergent Properties and Resilience of Interacting Networks. Santa Fe, New Mexico, USA. June 21-23, 2010.
- 2010 National Research Council. Workshop on New Research Directions for the National Geospatial-Intelligence Agency. Washington, D.C., USA. May 17-19, 2010.

8. Extension and Continuing Education

Instructor, Spatial optimization and GIS (sponsored by Università degli Studi di Milano, University of Milan, and Politecnico of Milan). Milan, Italy. January 29 – February 2, 2007. The seminar had approximately 25 researchers and students.

Instructor, Spatial Perspectives on Analysis for Curriculum Enhancement (SPACE) program through Center for Spatially Integrated Social Science (CSISS) - “GIS & Spatial Modeling for Use in Undergraduate Education.” Columbus, Ohio, USA (June 28 - July 2, 2004; July 10-15, 2005; June 18-23, 2006; June 18-23, 2007). SPACE and CSISS are funded by NSF and the workshop had approximately 30 U.S. and international participants each year.

Instructor, Center for Spatially Integrated Social Science (CSISS) Workshop - “Accessibility in Space and Time: A GIS Approach.” Columbus, Ohio, USA (July 16-20, 2001; July 22-26, 2002; July 7-11, 2003). CSISS is funded by NSF and the workshops had approximately 30 U.S. and international participants each year.

9. Professional Society Membership

Institute for Operations Research and the Management Sciences
Regional Science Association International
Society of American Foresters
The Association of American Geographers
Western Regional Science Association