

**Curriculum Vitae
Hassan A. Karimi
Geoinformatics Laboratory
School of Computing and Information
University of Pittsburgh**

EDUCATION

- Ph.D. Geomatics Engineering, specializing in Geospatial Information Science and Systems. University of Calgary, Canada. 1992.
Dissertation title: Design and Implementation of Automatic Route Guidance Systems for Land Based Applications.
- MS Computer Science, specializing in distributed relational databases. University of Calgary, Canada. 1985.
Dissertation title: A Preprocessor Approach for Distributed Data Bases in INGRES.
- BS Computer Science with minor in Statistics (First Division). University of New Brunswick, Canada. 1982.

PROFESSIONAL EMPLOYMENT AND EXPERIENCE

1999- Professor/Associate Professor/Assistant Professor and Director of Geoinformatics Laboratory

School of Computing and Information, University of Pittsburgh, Pittsburgh, Pennsylvania.

Affiliate Faculty. Department of Computational Biology, University of Pittsburgh, Pittsburgh, Pennsylvania (2002-2008).

Faculty Associate. University Center for Social and Urban Research, University of Pittsburgh, Pittsburgh, Pennsylvania (2004-2014).

1995-2000 Adjunct Faculty

Center for Earth Observation, College of Natural Resources, North Carolina State University, Raleigh, North Carolina.

1997 Adjunct Faculty

Department of Earth Science, North Carolina Central University, Durham, North Carolina.

1994-1999 Senior Research Scientist, Head of Geomatics Program

North Carolina Supercomputing Center, Research Triangle Park, North Carolina.

1992-1994 Assistant Professor

Department of Computer Science and Information Systems, Athabasca University, Athabasca, Alberta, Canada.

1990-1994 **Faculty**

Continuing Education, Department of Computer Science, Northern Alberta Institute of Technology (N.A.I.T), Edmonton, Alberta, Canada.

1990-1992 **Faculty**

Department of Computer Science and Information Systems, Mount Royal College, Calgary, Alberta, Canada.

1988-1989 **Research Associate / Sessional Instructor**

Department of Geomatics Engineering, University of Calgary, Calgary, Alberta, Canada.

1987-1992 **Faculty**

Continuing Education, Southern Alberta Institute of Technology (S.A.I.T), Calgary, Alberta, Canada.

1986-1994 **Research Scientist / Director / Consultant**

AVL Systems Ltd., Calgary, Alberta, Canada.

Pulsearch Consolidated Technologies Ltd., Calgary, Alberta, Canada.

CompuMatic Computer Consulting Inc., Calgary and Edmonton, Alberta, Canada.

1986-1989 **Research Assistant / Project Coordinator**

Department of Geomatics Engineering, University of Calgary, Calgary, Alberta, Canada.

1985-1986 **Faculty**

Department of Computer Information Systems, DeVry Institute of Technology, Calgary, Alberta, Canada.

1983-1985 **Programmer**

Department of Geomatics Engineering, University of Calgary, Calgary, Alberta, Canada.

1983-1985 **Research Assistant**

Department of Computer Science, University of Calgary, Calgary, Alberta, Canada.

PUBLICATIONS

Books

Karimi, H. A. and Karimi, B. (Eds). *Geospatial Data Science Techniques and Applications*, Taylor & Francis (2018).

Karimi, H. A. (Ed.) *Indoor Wayfinding and Navigation*, Taylor & Francis (2015).

Karimi, H. A. (Ed.) *Big Data: Techniques and Technologies in Geoinformatics*, Taylor & Francis (2014).

Karimi, H. A. (Ed.) *Advanced Location-Based Technologies and Services*, Taylor & Francis (2013).

Karimi, H. A. *Universal Navigation on Smartphones*, Springer (2011).

Karimi, H. A. and Akinci, B. (Eds.) *CAD and GIS Integration*. Taylor & Francis (2010).

Karimi, H. A. (Ed.) *Handbook of Research on Geoinformatics*. IGI Global (2009).

Karimi, H. A. and Hammad, A. (Eds.) *Telegeoinformatics: Location-Based Computing and Services*. Taylor & Francis (2004).

Holt, P. and Karimi, H. A., *Data Base Management Systems: A Study Guide*. Athabasca University, Alberta, Canada (1993).

Book Chapters

1. Karimi, H. A. Wayfinding and Navigation Services for People with Disabilities. In Encyclopedia of GIS, Second Edition (Editors: Shekhar, Shashi, Xiong, Hui, Zhou, Xun, *Springer* (2017).
2. Sharker, M. H., Benner, J. G., and Karimi, H. A. On Reliability of Routes Computed Based on Crowdsourced Points of Interest. In Citizen Empowered Mapping (Editors: Leitner, Michael, Jokar Arsanjani, Jamal), *Springer* (2017).
3. Karimi, H. A., Zgibor, J.C., Piatt, G. A. and Socharoentum, M. A Novel Wayfinding Service for Empowering Physical Activity. In Smart City 360 [Ed: Leon-Garcia, A., Lenort, R., Holman, D., Stas, D., Krutilova, V, Wicher, P., Caganova, D., Spirkova, D., Golej, J., and Nguyen, K.), Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, *Springer*, pp. 192-200 (2016).
4. Hashemi, M. and Karimi, H. A. Seismic Source Modeling by Clustering Earthquakes and Predicting Earthquake Magnitudes. In Smart City 360 [Ed: Leon-Garcia, A., Lenort, R., Holman, D., Stas, D., Krutilova, V, Wicher, P., Caganova, D., Spirkova, D., Golej, J., and Nguyen, K.), Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, *Springer*, pp. 468-478 (2016).
5. Duval, J. A., Pearlman, J. L., and Karimi, H. A. Development of Route Accessibility Index to support Wayfinding for People with Disabilities. In Smart City 360 [Ed: Leon-Garcia, A., Lenort, R., Holman, D., Stas, D., Krutilova, V, Wicher, P., Caganova, D., Spirkova, D., Golej, J., and Nguyen, K.), Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, *Springer*, pp. 104-112 (2016).

6. Sharker, M. and Karimi, H. A. Distributed and Parallel Computing. In *Big Data: Techniques and Technologies in Geoinformatics* (Ed: Karimi, H. A.). *Taylor & Francis* (2014).
7. Ren, M. and Karimi, H. A. Multisensor Map Matching for Pedestrian and Wheelchair Navigation. In *Advanced Location-Based Technologies and Services* (Ed: Karimi, H. A.). *Taylor & Francis* (2013).
8. Kasemsuppakorn, P. and Karimi, H. A. Pedestrian Path Generation Through GPS Traces. In *Advanced Location-Based Technologies and Services* (Ed: Karimi, H. A.). *Taylor & Francis* (2013).
9. Benner, G. J. and Karimi, H. A. Geo-Crowdsourcing. In *Advanced Location-Based Technologies and Services* (Ed: Karimi, H. A.). *Taylor & Francis* (2013).
10. LaRue, E. M., Karimi, H. A., Mitchell, A. M., and Zang, J. Y. The Architecture and Early Findings of a Working SMS-Based System for Individuals with Mild to Moderate Depression. In *Information Systems and Technologies for Enhancing Health and Social Care* (Eds: Martinho, R, Rijo, R., Cruz-Cunha, M. M., and Varajao, J. E.). *IGI Global*, pp. 20-33 (2013).
11. Karimi, H. A. and Roongpiboonsopit, D. Are Clouds Ready for Geoprocessing? In *Cloud Computing and Services Science* (Eds: Ivanov, I, van Sinderen, M. and Shishkov, B.). *Service Science: Research and Innovations in the Service Economy. Springer*, pp. 295-312 (2012).
12. Dudas, P., Karimi, H. A., and Rezgui, A. Grid Query Optimization in the Analysis of Cone Penetration Testing Data. In *Societal Challenges and Geoinformatics* (Eds: Sinha, A.K., Gundersen, L., Jackson, I., and Arctur, D.). *Geological Society of America (GSA)* (2011).
13. Karimi, H. A. Location-Based Services. *Encyclopedia of Geography. SAGE Publications, Inc.* (2010).
14. Karimi, H. A. and Ghafourian, M. CampusLocator: A Mobile Location-Based Service for Learning Resources. In *Handbook of Research on Mobility and Computing: Evolving Technologies and Ubiquitous Impacts* (Eds: Cruz-Cunha, M. M. and Moreira, F.). *IGI Global* (2010).
15. Ghafourian, M. and Karimi, H. A. Mobile Location-Based Recommender: An Advertisement Case Study. In *Handbook of Research on Mobility and Computing: Evolving Technologies and Ubiquitous Impacts* (Eds: Cruz-Cunha, M. M. and Moreira, F.). *IGI Global* (2010).

16. Kasemsuppakorn, P., Roongpiboonsopit, D, and Karimi, H. A. Current Trends and Future Direction in GIS. In *CAD and GIS Integration* (Eds: Karimi, H.A. and Akinci, B.). *Taylor & Francis* (2010).
17. Ghafourian, M. and Karimi, H. A. CAD/GIS Integration Issues for Seamless Navigation between Indoor/Outdoor Environments. In *CAD and GIS Integration* (Eds: Karimi, H.A. and Akinci, B.). *Taylor & Francis* (2010).
18. Karimi, H. A., Sutovsky, P., and Durcik, M. Accuracy and Performance Assessment of a Window-Based Heuristic Algorithm for Real-Time Routing in Map-Based Mobile Applications. In *Map-Based Mobile Services—Design, Interaction and Usability* (Eds: Meng, L., Zipf, A., and Winter, S). *Springer* (2008).
19. Karimi, H. A., and Peachavanish, R. Interoperability in Geospatial Information Systems. *Encyclopedia of Information Science and Technology*, Idea Group (2005).
20. Karimi, H. A. Telegeoinformatics: Current Trends and Future Direction. In *Telegeoinformatics: Location-Based Computing and Services* (Eds: Karimi, H. A. and Hammad, A.). *Taylor & Francis* (2004).
21. Hammad, A., Garrett, J.H., and Karimi, H. A. Location-Based Computing for Infrastructure Field Tasks. In *Telegeoinformatics: Location-Based Computing and Services* (Eds: Karimi, H. A. and Hammad, A.). *Taylor & Francis* (2004).

Refereed Journals

1. Suffoletto, B., Gharani, P., Chung, T., and Karimi, H. A. Using Phone Sensors and an Artificial Neural Network to Detect Gait Changes During Drinking Episodes in the Natural Environment. *Gate & Posture*. Vol. 60, pp. 116-121 (2018).
2. Gharani, P. and Karimi, H. A. Context-Aware Obstacle Detection for Navigation by the Visually Impaired. *Image and Vision Computing*. Vol. 64, pp.103-115 (2017).
3. Hashemi, M. and Karimi, H. A. Collaborative Personalized Multi-Criteria Wayfinding for Wheelchair Users in Outdoors. *Transactions in GIS*. Vol. 21, No. 4, pp.782-795 (2017).
4. Guo, Q. and Karimi, H. A. A Novel Methodology for Prediction of Spatial-Temporal Activities Using Latent Features. *Computers, Environment and Urban Systems*. Vol. 62. pp. 74-85 (2017).
5. Gharani, P., Suffoletto, B., Chung, T., and Karimi, H. A. An Artificial Neural Network for Movement Pattern Analysis to Estimate Blood Alcohol Content Level. *Sensors* (2017).
6. Xia, H., Karimi, H. A., and Meng, L. Cloud-Based Implementation of Kaufman's Initialization for Clustering Massive Remote Sensing Imagery. *Special Issue:*

Geospatial Cloud Computing and Big Data. Journal of Computers, Environment and Urban Systems. Vol. 61. pp. 153-162 (2017).

7. Guo, Q., Palanisamy, B., and Karimi, H. A. and Zhang, L. Distributed Algorithms for Spatial Retrieval Queries in Geospatial Analysis. *Services Transactions of Cloud Computing.* Vol. 4, No. 3. (2016).
8. Hashemi, M. and Karimi, H. A. A Weight-Based Map-Matching Algorithm for Car Navigation in Complex Urban Networks. *Journal of Intelligent Transportation Systems: Technology, Planning, and Operations.* Vol. 20., No. 6., pp. 573-590 (2016).
9. Guo, Q. and Karimi, H. A. A Topology-Inferred Graph-Based Heuristic Algorithm for Map Simplification. *Transactions in GIS.* Vol. 20, No. 5, pp. 775-789 (2016).
10. Hashemi, M. and Karimi, H. A. Indoor Spatial Model and Accessibility Index for Emergency Evacuation of People With Disabilities. *ASCE Journal of Computing in Civil Engineering.* Vol. 30, No. 4 (2016).
11. Inagami, S., Gao, S., Karimi, H. A., Shendge, M. M., Probst, J. C., and Stone, R. A. Adapting the Index of Relative Rurality (IRR) to Estimate Rurality at the ZIP Code Level: A Rural Classification System in Health Services Research. *The Journal of Rural Health.* Vol. 32, No. 2, pp. 219-227 (2016).
12. Goldberg, M., Karimi, H. A., and Pearlman, J. L. Interactive, Mobile, Agile, and Novel Education (IMAGINE): A Conceptual Framework to Support Students with Mobility Challenges in Higher Education. *Journal of Disability and Rehabilitation: Assistive Technology.* Volume 11, Issue 1, pp. 50-60 (2016).
13. Taneja, S., Akinci, B., Garret, J. H., Soibelman, L., and Karimi, H. A. Effects of Positioning Data Quality and Navigation Models on Map-Matching of Indoor Positioning Data. *ASCE Journal of Computing in Civil Engineering,* Vol. 30, No. 1 (2016).
14. Socharoentum, M. and Karimi, H. A. Multi-Modal Transportation with Multi-Criteria Walking (MMT-MCW): Personalized Route Recommender. *Journal of Computers, Environment and Urban Systems.* Vol. 55, pp. 44-54 (2016).
15. Karimi, H. A. and Hashemi, M. Accessible Wayfinding Testbed: Infrastructure and Components. *EAI Endorsed Transactions on Cloud Systems.* Vol. 1, No. 2 (2015).
16. Tajgardoont, A. and Karimi, H. A. Simulating and Visualizing Sidewalks Accessibility for Wayfinding of People with Disabilities. *International Journal of Cartography,* Vol.1, No.1, pp. 79-93 (2015).
17. Socharoentum, M. and Karimi, H. A. Analyzing Personalized Walking in Smart Cities Through a Multi-Modal Transportation Simulation Environment. *International*

- Journal On Advances in Internet Technology*. Vol. 8, No. 3&4, pp. 93-100 (2015).
18. Zhu, R. and Karimi, H. A. Automatic Selection of Landmarks for Navigation Guidance. *Transactions in GIS*. Vol. 19, No. 2, pp. 247-261 (2015).
 19. Lu, Y., and Karimi, H. A. Real-Time Sidewalk Slope Calculation through Integration of GPS Trajectory and Image Data to Assist People with Disabilities in Navigation. *ISPRS International Journal of Geo-Information*, No. 4, pp. 741-753 (2015).
 20. Kasemsuppakorn, P., Karimi, H.A., Ding, D., and Ojeda, M.A. Understanding Route Choices for Wheelchair Navigation. *Disability and Rehabilitation: Assistive Technology*. Vol. 10, No. 3, pp. 198-210 (2015).
 21. Socharoentum, M. and Karimi, H. A. A Comparative Analysis of Routes Generated by Web Mapping APIs. *Journal of Cartography and Geographic Information Science*. Vol. 42, No. 1, pp. 33-43 (2015).
 22. Guo, Q., Palanisamy, B., and Karimi, H. A. A Distributed Polygon Retrieval Algorithm Using MapReduce. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, Vol. II-4/W2, pp. 51-53 (2015).
 23. Bhushan, A., Sharker, M. H., and Karimi, H. A. Incremental Principal Component Analysis Based Outlier Detection Methods for Spatiotemporal Data Streams. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, Vol. II-4/W2, pp. 67-71(2015).
 24. Hashemi, M. and Karimi, H. A. A Critical Review of Map-Marching Algorithms: Current Issues and Future Directions. *Journal of Computers, Environment and Urban Systems*. Vol. 48, pp. 153-165 (2014).
 25. Karimi, H. A., Dias, M. B., Pearlman, J., and Zimmerman, G. Wayfinding and Navigation for People with Disabilities Using Social Navigation Networks. *Transactions on Collaborative Computing*. Vol. 14, No.2 (2014).
 26. Karimi, H. A. and Roongpiboonsopit, D. Navigation Recommender: Routing Based on Global Navigation Satellite System (GNSS) Quality of Service. *Journal of Intelligent Transportation Systems*, Vol. 18, No. 3, pp. 286-298 (2014).
 27. Karimi, H. A., Zhang, L. and Benner, J. G. Personalized Accessibility Map (PAM): A Novel Assisted Wayfinding Approach for People with Disabilities. *Annals of GIS*. Vol. 20, No. 2, pp. 99-108 (2014).
 28. Sharker, M. and Karimi, H. A. Computing Least Air Pollution Exposure Routes. *International Journal of Geographical Information Science*. Vol. 28, No. 2, pp. 343-362 (2014).

29. Karimi, H. A., Jiang, M. and Zhu, R. Pedestrian Navigation Services: Challenges and Current Trends. *Geomatica*. Vol. 67, No. 4, pp. 259-271 (2013).
30. Ren, M. and Karimi, H. A. Adaptive Road Candidates Search Algorithm for Map Matching by Clustering Road Segments. *The Journal of Navigation*. Vol. 66, No. 3, pp. 435-447 (2013).
31. Karimi, H. A. and Kasemsuppakorn, P. Pedestrian Network Map Generation Approaches and Recommendation. *International Journal of Geographical Information Science*, Vol., 27, No., 5, pp. 947-962 (2013).
32. Kasemsuppakorn, P. and Karimi, H. A. Pedestrian Network Extraction from Fused Aerial Imagery (Orthoimages) and Laser Imagery (LiDAR). *Journal of Photogrammetric Engineering and Remote Sensing (PE&RS)*, Vol. 79, No. 4, pp. 369-379 (2013).
33. Kasemsuppakorn, P. and Karimi, H. A. A Pedestrian Network Construction Algorithm Based on Multiple GPS Traces. *Transportation Research Part C: Emerging Technologies*, Vol. 26, pp. 285-300 (2013).
34. Ren, M. and Karimi, H. A. Movement Pattern Recognition Assisted Map Matching for Pedestrian/Wheelchair Navigation. *The Journal of Navigation*. Vol. 65, No. 4, pp. 617-633 (2012).
35. Karimi, H. A. Green Navigation Services. *GIM International*, Vol. 26, No. 8, August (2012).
36. Ren, M. and Karimi, H. A. A Fuzzy Logic Map Matching for Wheelchair Navigation. *GPS Solutions*. Vol. 16, No. 3, pp. 273-282 (2012).
37. Karimi, H. A., Zimmerman, B., Roongpiboonsopit, D., and Rezgui, A. Grid-Based Geoprocessing for Integrated Global Navigation Satellite System Simulation. *ASCE Journal of Computing in Civil Engineering*. Vol. 26, No. 1 (2012).
38. Roongpiboonsopit, D. and Karimi, H. A. Integrated Global Navigation Satellite System (iGNSS) QoS Prediction. *Journal of Photogrammetric Engineering and Remote Sensing (PE&RS)*, Vol. 82, No. 2, pp. 139-149 (2012).
39. Karimi, H. A., Sharker, M. H., and Roongpiboonsopit, D. Geocoding Recommender: An Algorithm to Recommend Optimal Online Geocoding Services for Applications. *Transactions in GIS*, Vol. 15, No. 6, pp. 869-886 (2011).
40. Karimi, H. A., Roongpiboonsopit, D., and Wang, H. Exploring Real-Time Geoprocessing in Cloud Computing: Navigation Services Case Study. *Transactions in GIS*, Vol. 15, No. 5, pp. 613-633 (2011).

41. Karimi, H. A., Roongpiboonsopit, D., and Kasemsuppakorn, P. Uncertainty in Personal Navigation Services. *Journal of Navigation*, Vol. 64, pp. 341-356 (2011).
42. Zgibor, J. C., Gieraltowski, L. B., Talbott, E. O., Fabio, A., Sharma, R. K., Karimi, H. A. The Association between Driving Distance and Glycemic Control in Rural Areas. *Journal of Diabetes Science and Technology*, Vol. 5, No. 3, pp. 494-500 (2011).
43. Karimi, H. A. and Ghafourian, M. Indoor Routing for Individuals with Special Needs and Preferences. *Transactions in GIS*, Vol. 14, No. 3, pp 299-329 (2010).
44. Roongpiboonsopit, D. and Karimi, H. A. Quality Assessment of Online Street and Rooftop Geocoding Services. *Cartography and Geographic Information Science (CaGIS) Journal*, Vol 37, No. 4 (2010).
45. LaRue, E. M., Mitchell, A . Terhorst, L. and Karimi, H. A. Assessing Mobile Phone Communication Utility Preferences in a Social Support Network, *Telematics and Informatics*, Vol. 27, No. 4, pp. 363-369 (2010).
46. Roongpiboonsopit, D. and Karimi, H. A. Comparative Evaluation and Analysis of Online Geocoding Services. *International Journal of Geographical Information Science*, Vol. 24, No. 7, pp. 1081-110 (2010).
47. Karimi, H.A. Editorial: The LBS Trek. *Journal of Location Based Services*, Vol. 3, No.3 (2009).
48. Roongpiboonsopit, D. and Karimi, H. A. A Multi-Constellations Satellite Selection Algorithm for Integrated GNSSs. *Journal of Intelligent Transportation Systems*, Vol. 13, No. 3, pp. 127-141 (2009).
49. Ren, M. and Karimi, H. A. A Hidden Markov Model Map Matching Algorithm for Wheelchair Navigation. *The Journal of Navigation*, Vol. 62, No. 3, pp. 383-395 (2009).
50. Karimi, H. A., Nwan, D., and Zimmerman, B. Navigation Assistance Through “Models” or “Experiences”? *GIM International*, Vol. 23, No. 12, December (2009).
51. Ren, M. and Karimi, H. A. A Chain-Code-Based Map Matching Algorithm for Wheelchair Navigation. *Transactions in GIS*, Vol. 13, No. 2., pp. 197-214 (2009).
52. Karimi, H.A. and Ghafourian M. Universal Navigation. *GIM International*, Vol. 23, No. 5, May (2009).
53. Kasemsuppakorn, P. and Karimi, H. A. Personalized Routing for Wheelchair Navigation. *Journal of Location Based Services*, Vol. 3, No. 1, pp. 24-54 (2009).
54. Liu, S. and Karimi, H.A. Grid Query Optimizer to Improve Query Processing in Grids. *Future Generation Computer Systems*. Vol. 24, pp. 342-353 (2008).

55. Akinci, B., Karimi, H.A., Pradhan, A., Wu, C., and Fichtl, G. CAD and GIS Interoperability through Semantic Web Services. *ITcon*, Vol. 13, pp. 39-56 (2008).
56. Karimi, H.A. Editorial: Spatial Thinking. *Journal of Location Based Services*, Vol. 1, No.2, pp. 87-88 (2007).
57. Raper, J., Gartner, G., Karimi, H.A. and Rizos, C. Applications of Location-Based Services: A Selected Review. *Journal of Location Based Services*, Vol. 1, No. 2, pp.89-111 (2007).
58. Ganapathiraju, M., Jursa, C.J., Karimi, H.A., and Klein-Seetharaman, J. TMpro Web Server and Web Service: Transmembrane Helix Prediction Through Amino Acid Property Analysis, *Bioinformatics*, Vol. 23, No. 20 (2007).
59. Raper, J., Gartner, G., Karimi, H.A. and Rizos, C. A Critical Evaluation of Location Based Services and Their Potential. *Journal of Location Based Services*, Vol. 1, No. 1, pp. 5-45 (2007).
60. Liu, X. and Karimi, H. A. High-Throughput Modeling and Analysis of Protein Structural Dynamics. *Briefing in Bioinformatics*. Vol. 8, pp. 432-445, November (2007).
61. Peachavanish, R. and Karimi, H. A. Ontological Engineering for Interpreting Geospatial Queries. *Transactions in GIS*, Vol. 11, No. 1, pp. 115-130 (2007).
62. Liu, X. and Karimi, H. A. Location Awareness Through Trajectory Prediction. *Computers, Environment and Urban Systems*. Vol. 30, No. 6, pp. 741-756 (2006).
63. Peachavanish, R., Karimi, H. A., Akinci, A., and Boukamp, F. An Ontological Engineering Approach for Integrating CAD and GIS to Support Infrastructure Management, *Advanced Engineering Informatics Journal*, Vol. 20, No. 1, pp 71-88 (2006).
64. Yang, L. W., Rader, A. J., Liu, X., Jursa, C. J., Chen, S. C., Karimi, H. A., and Bahar, I. oGNM: Online Computation of Structural Dynamics Using the Gaussian Network Model. *Nucleic Acids Research* (2006).
65. Khan, M. N., Odman, M. T., and Karimi, H. A., Evaluation of Algorithms Developed for Adaptive Grid Air Quality Modeling using Surface Elevation Data . *Computers, Environment and Urban Systems*. Vol. 29, No. 6, pp. 718-734 (2005).
66. Yang, L. W., Liu, X, Jursa, C. J., Holliman, M., Rader, A. J., Karimi, H. A. and Bahar, I. iGNM: a database of protein functional motions based on Gaussian Network Model. *Bioinformatics*, 21(13), pp. 2978-2987 (2005).

67. Karimi, H. A. and Grejner-Brzezinska, D. GQMAP: Improving Performance and Productivity of Mobile Mapping Systems Through GPS QoS. *Special Issue on Mobile Computing in Cartography and Geospatial Information Systems*. Vol. 31, No. 3, pp. 167-177 (2004).
68. Karimi, H. A., Durcik, M., and Rasdorf, W. Evaluation of Uncertainties Associated with Geocoding Techniques. *Journal of Computer-Aided Civil and Infrastructure Engineering*. Vol. 19, No. 3 (2004).
69. Karimi, H. A., Liu, X, Liu, S, and Hammad, A. GPSLoc: A Framework for Predicting GPS QoS. *ASCE Journal of Computing in Civil Engineering*. Vol. 18, No. 3 (2004).
70. Karimi, H. A. and Liu, S. Developing an Automated Procedure for Extraction of Road Data from High-Resolution Satellite Images for Geospatial Information Systems. *ASCE Journal of Transportation Engineering*. Vol. 130, No. 4 (2004).
71. Karimi, H. A., Peachavanish, R. and Peng, J. Finding Optimal Bus Service Routes: An Internet-Based Methodology to Serve the Transit Patrons. *ASCE Journal of Computing in Civil Engineering*. Vol. 18, No. 2, pp. 83-91 (2004).
72. Karimi, H. A. and Peng, J., Using Maximum Likelihood (ML) and Maximum A Prior Probability (MAP) in Iterative Self-Organizing Data (ISODATA). *Geocarto*. Vol. 19, No. 1, pp. 29-36 (2004).
73. Karimi, H. A., Krishnamurthy, P., and Liangsutthisakon, P., Precise Location-Based Dynamic Routing in Mobile Ad hoc Networks Using GPS. *Asian Journal of Information Technology*, Vol. 2, No. 2, pp. 37-44 (2003).
74. Rasdorf, W., Cai, H., Tilley, C., Brun, S., Karimi, H. A., and Robson, F., Transportation Distance Measurement Data Quality. *ASCE Journal of Computing in Civil Engineering*, Vol. 17, No. 2, pp. 1-13 (2003).
75. Khattak, A. J., Hummer, J. E., and Karimi, H. A., Evaluation of Roadway Infrastructure Data Collection Technologies. *Public Works Management & Policy*, Vol. 6, No. 1, pp. 18-31 (2001).
76. Khattak, A. J., Hummer, J. E., and Karimi, H. A., New and Existing Roadway Inventory Data Acquisition Methods. *Journal of Transportation and Statistics*, Vol. 3, No. 3, pp. 33-46 (2000).
77. Karimi, H. A., Khattak, A. J., and Hummer, J. E., Evaluation of Mobile Mapping Systems for Roadway Inventory Data Collection. *ASCE Journal of Computing in Civil Engineering*, Vol. 14, No. 3, pp. 168-173 (2000).
78. Brandmeyer, J. E. and Karimi, H. A., Coupling Methodologies for Environmental Models. *Environmental Modeling & Software*, Vol. 15, No. 5., pp. 479-488 (2000).

79. Brandmeyer, J. E. and Karimi, H. A., Improved Spatial Allocation Methodology for On-road Mobile Emissions. *Journal of the Air & Waste Management Association*, Vol. 50, pp. 972-980 (2000).
80. Karimi, H. A., Krishnamurthy, P., Banerjee, S., and Chryanthi, P., Distributed Mobile GIS: Challenges and Architecture for Integration of GIS, GPS, Mobile Computing and Wireless Communication. *GIM International*, Vol. 14, No. 9, September (2000).
81. Hummer, J. E., Scheffler, C. R., Khattak, A., and Karimi, H. A., Choosing an Inventory Data Collection System. *Journal of the Transportation Research Board*, Transportation Research Record, No. 1690, pp. 126-134 (1999).
82. Karimi, H. A., Dai, X., Khorram, S., Khattak, A. J., and Hummer, J. E., Techniques for Automated Extraction of Roadway Inventory Features from High-Resolution Satellite Imagery. *Geocarto*, Vol. 14, No. 2, pp. 5-16 (1999).
83. Karimi, H. A., Thorpe, S., and Hanna, A. F., Performance Analysis of Kriging for Atmospheric Data. *Journal of Geographic Information and Decision Analysis*, Vol. 3, No. 2 (1999).
84. Dai, X., Karimi, H. A., Khorram, S., Khattak, A., and Hummer, J. E., Roadway Feature Extraction and Delineation from High-Resolution Satellite Imagery. *EOM*, Vol. 8, No. 4, pp. 34-37, May (1999).
85. Khattak, A. J., Karimi, H. A., Dai, X., and Hummer, J. E., High-Resolution Satellite Imagery for Automatic and Cost-Effective Collection of Roadway Inventory Features. *Public Works*, Vol. 129, No. 12, pp. 28-30 (1998).
86. Karimi, H. A., Dai, X., Khattak, A. J., and Hummer, J. E., The Emergence of High-Resolution Satellite Digital Imagery for Acquisition of Roadway Inventory Features. *Space Energy and Transportation*, Vol. 3, No. 1, pp. 19-30 (1998).
87. Hwang, D., Karimi, H. A., and Byun, D. W., Uncertainty Analysis of Environmental Models Within GIS Environments. *Computers & Geosciences*. Vol. 24, No. 2, pp. 119-130 (1998).
88. Karimi, H. A., Data Acquisition Through Emerging High-Resolution Satellite Imagery. *ASCE Journal of Computing in Civil Engineering*, Vol. 12, No. 3, pp. 126-128 (1998).
89. Thorpe, S. and Karimi, H. A., On Tightly Coupling Models with Visualizations: The Package for Analysis and Visualization of Environmental Data. *Cartography and Geographic Information Systems, Journal of American Congress on Surveying and Mapping* Vol. 24, No. 4, pp. 195-202 (1998).

90. Karimi, H. A. and Hwang, D., Overcoming the Time Complexity Barrier of Routing for Real-Time GIS-T Applications: A Parallel Algorithm. *Journal of Geographic Information and Decision Analysis* Vol. 1, No. 2., pp. 144-150 (1997).
91. Karimi, H. A. and Hwang, D., A Parallel Algorithm for Routing: Best Solutions at Low Computational Costs. *Geomatica* Vol. 51, No. 1, pp. 45-51 (1997).
92. Karimi, H. A. and Houston, B. J., Evaluating Strategies for Integrating Environmental Models with GIS: Current Trends and Future Needs. *Computers, Environment and Urban Systems* Vol. 20, No. 6, pp. 413-425 (1996).
93. Karimi, H. A., Open Computing GIS: An Effective, Affordable Approach to Solving Spatial Problems. *GIS World* Vol. 9, No. 3, pp. 48-51, March (1996).
94. Karimi, H. A., A Flexible Computing Environment for Solving Spatial Problems. *Urban and Regional Information Systems Association Journal* Vol. 8, No. 2, pp. 51-62 (1996).
95. Karimi, H. A., Real-Time Optimal-Route Computation: A Heuristic Approach. *Intelligent Transportation Systems Journal* Vol. 3., No. 2, pp. 111-127 (1996).
96. Karimi, H. A. and Blais, J. A. R., Current and Future Directions in GISs. *Computers, Environment and Urban Systems* Vol. 20, No. 2, pp. 85-97 (1996).
97. Karimi, H. A. and Hwang, D., Toward Managing Model Uncertainty in GISs: An Algorithm for Uncertainty Analysis of Air Quality Advection Models. *Geomatica* Vol. 50, No. 3, pp. 251-259 (1996).
98. Robinson, V. B., Frank, A. U., and Karimi, H. A., Expert Systems for Geographic Information Systems in Resource Management. *Artificial Intelligence Applications in Natural Resource Management* Vol. 1, No.1, pp. 47-57 (1987).

Conference Proceedings

1. Abuabat, A., Aldosari, M., and Karimi, H. A. Assessing the Accuracy of Crowdsourced POI Names. *The Sixth International Conference on Building and Exploring Web Based Environments* (WEB 2018). Nice, France, May 20-24 (2018).
2. Sharker, M. and Karimi, H. A. A Methodology for Real-Time Spatiotemporal Data-Intensive Computation. *4th Annual Conference on Computational Science & Computational Intelligence* (CSCI'17), Las Vegas, Nevada, December 14-16 (2017).
3. Karimi, B. and Karimi, H. A. An Automated Method for the Detection of Topographic Patterns at Tectonic Boundaries. *The Ninth International Conference on Pervasive Pattern and Applications* (PATTERNS2017), Athens, Greece, February 19-23, pp. 72-77 (2017).

4. Hashemi, M. and Karimi, H. A. A Machine Learning Approach to Improve the Accuracy of GPS-Based Map-Matching Algorithms (Invited Paper). *IEEE 17th International Conference on Information Reuse and Integration*. Pittsburgh, PA. July 28-30 (2016).
5. Karimi, H. A. An Accessible and Personalized Navigation Service for Wheelchair Users. *Rehabilitation Engineering and Assistive Technology Society of North America*. Arlington, VA. July 10-14 (2016).
6. Socharoentum, M., Karimi, H. A., and Deng, Y. A Machine Learning Approach to Detect Non-Line-Of-Sight GNSS Signals in Nav2Nav. *23rd ITS World Congress*, Melbourne, Australia, October 10–14 (2016).
7. Karimi, H. A., Zgibor, J.C., Piatt, G. A. and Socharoentum, M. A Novel Wayfinding Service for Empowering Physical Activity. *EAI International Conference on Smart Wearable Devices and IoT for Health and Wellbeing Applications (SWIT-Health 2015, Smart Cities 360 Summit)*. Toronto, Ontario, Canada, October 14 (2015).
8. Hashemi, M. and Karimi, H. A. Seismic Source Modeling by Clustering Earthquakes and Predicting Earthquake Magnitudes. *EAI International Conference on Big Data and Analytics for Smart Cities (BigDASC2015), Smart City 360 Summit*. Toronto, Ontario, Canada, October 13-14 (2015).
9. Duval, J. A., Pearlman, J. L., and Karimi, H. A. Development of Route Accessibility Index to support Wayfinding for People with Disabilities. *EAI International Conference on Smart Urban Mobility Services (SUMS 2015), Smart City Summit*. Toronto, Ontario, Canada, October 13 (2015).
10. Guo, Q., Palanisamy, B., and Karimi, H. A. A Distributed Polygon Retrieval Algorithm using MapReduce *The First International Symposium on Spatiotemporal Computing*. George Mason University, Fairfax, VA, July 13-15 (2015).
11. Bhushan, A., Sharker, M. H., and Karimi H. A. Incremental Principal Component Analysis Based Outliers Detection Methods for Spatiotemporal Data Streams. *The First International Symposium on Spatiotemporal Computing*. George Mason University, Fairfax, VA, July 13-15 (2015).
12. Karimi, H. A. and Hashemi, M. Accessible Wayfinding Testbed: Infrastructure and Components. *10th International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities*. Vancouver, Canada, June 24–25 (2015).
13. Guo, Q., Palanisamy, B., and Karimi, H. A. A MapReduce Algorithm for Polygon Retrieval in Geospatial Analysis. *IEEE Eighth International Conference on Cloud Computing (CLOUD 2015)*. New York, June 27-July 2 (2015).

14. Socharoentum, M. and Karimi, H. A. Simulation of Web-Based Multi-Modal Transportation with Multi-Criteria Walking for Smart Cities. *The Third International Conference on Building and Exploring Web Based Environments (WEB2015)*. Rome, Italy, May 24 – 29 (2015).
15. Guo, Q., Palanisamy B., and Karimi, H. A. A Distributed Polygon Retrieval Algorithm using MapReduce. *10th IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing*, Miami, Florida, October 22-25, (2014).
16. Benner, J. G. and Karimi, H. A. Accessible Wayfinding Ontologies for People with Disabilities. *Accessible Wayfinding Using Web Technologies Symposium*. Online Symposium, December 3 (2014).
17. Karimi, H. A. and Socharoentum, M. Route2Health: A Novel Routing Service to Assist in Increasing Physical Activity. *7th International Conference on Health Informatics (HEALTHINF2014)*. Eseo, Angers, Loire Valley, France, March 3-6 (2014). Best Paper Award nominee.
18. Asavasuthirakul, D. and Karimi, H. A. Integrated GNSS QoS Prediction for Navigation Services. *ACM SIGSPATIAL IWCTS'13*. Orlando, FL, November 5 (2013).
19. Karimi, H. A. and Zimmerman, G. Personalized Accessibility Location Services (PALS) Cloud for Individuals With Sensory And Physical Disabilities. *Rehabilitation Engineering and Assistive Technology Society of North America*. Bellevue, WA, June 22-24 (2013).
20. Karimi, H. A., Zhang, L., and Benner, J. Personalized Accessibility Maps (PAMs) for Communities with Special Needs. *The 12th International Symposium on Web and Wireless Geographical Information Systems (W2GIS 2013)*. Banff, Canada, April 4-5 (2013). Best Paper Award.
21. Sharker, M. H, Karimi, H. A., and Zgibor, J. Health-Optimal Routing in Pedestrian Navigation Services. *ACM SIGSPATIAL HealthGIS'12*. Redondo Beach, CA, November 6 (2012). Best Paper Award.
22. LaRue, E. M., Li, Y., Karimi, H. A., and Mitchell, A. N. A Description of the Development and Architecture of a SMS-Based System for Dealing With Depression. *International Conference on Health and Social Care Information Systems and Technologies (HCist 2012)*. Algarve, Portugal, October 3-5 (2012).
23. Sharker, M. H. and Karimi, H. A. Algorithm for Energy-Efficient and Automatic Configuration of Pedestrian Navigation Services: Smartphones on Clouds. *The 1st International Conference on Smart Grids and Green IT Systems (SMARTGREENS 2012)*. Porto, Portugal, April 18-20 (2012).

24. Benner, J. G., Anwar, M, and Karimi, H. A. LearNet: A Location-Based Social Networking Methodology for Learner Group Forming. *The 4th International Conference on Computer Supported Education CSESU 2012*. Porto, Portugal, April 16-19 (2012).
25. Socharoentum, M. and Karimi, H. A. Collaborative Map Matching (CMM) in Nav2Nav. *7th International Conference on Collaborative Computing: Networking, Applications and Worksharing*. Invited Paper. Orlando, Florida, October 15-18 (2011).
26. Karimi, H. A. Me-Friends-Web (MFW): A Model for Navigation Assistance Through Social Navigation Networks. *Collaborative Communities for Social Computing Workshop (CCSocComp 2011)*. Orlando, Florida, October 15 (2011).
27. Karimi, H. A., Benner, J. G., and Anwar, M. A Model for Navigation Experience Sharing through Social Navigation Networks (SoNavNets). *International Workshop on Issues and Challenges in Social Computing (WICSOC2011)*, Las Vegas, Nevada, August 2 (2011).
28. Karimi, H. A. and Roongpiboonsopit, D. C2Geo: Techniques and Tools for Real-Time Data-Intensive Geoprocessing in Cloud Computing. *The First International Conference on Cloud Computing and Services Science*. Noordwijkerhout, the Netherlands, May 7-9 (2011).
29. Anwar, M., Karimi, H. A., and Benner, J. OnLocEd: Finding Learning Resources and Communities. *The Third International Conference on Computer Supported Education*. Noordwijkerhout, the Netherlands, May 6-9 (2011).
30. Karimi, H. A. Genetic Location-Based Social Networks (G-LBSN). *LocWeb 2010, Third International Workshop on Location and the Web*, Tokyo, Japan, November 29, (2010).
31. Hirtle, S. C., Karimi, H. A., Brusilovosky, P. Collaborative Navigational Assistance for Specialized Populations. In the *Proceedings of "You Are Here 2: 2nd Workshop on Spatial Awareness and Geographic Knowledge Acquisition with Small Mobile Devices"*, Spatial Cognition 2010, Mt. Hood, Oregon (2010).
32. Karimi, H. A., Zimmerman, B., Nawn, D., and Sutovsky, P. Collaborative Navigation Systems for Collision Avoidance. *The 5th International Conference on Collaborative Computing: Networking, Applications and Worksharing*. Chicago, Illinois, October 9-12 (2010).
33. Karimi, H. A. Grid Query Optimization for Real-Time Processing of Data-Intensive Geospatial Applications. *National Science Foundation TeraGrid Workshop on Cyber-GIS*, Washington, DC, February 2-3, (2010).

34. Karimi, H. A. Zimmerman, B. Ozcelik, A. and Roongpiboonsopit, D. *SoNavNet: A Framework for Social Navigation Networks*. In *International Workshop on Location Based Social Networks (LBSN'09)*. Seattle, WA, November 3-6 (2009).
35. Kasemsuppakorn, P. and Karimi, H. A. Pedestrian Network Data Collection Through Location-Based Social Networks. *The 5th International Conference on Collaborative Computing: Networking, Applications and Worksharing*. Invited Paper. Washington, DC, November 11-14 (2009).
36. Masoumzadeh, A. Joshi, J. and Karimi, H. A. LBS (k,T)-Anonymity: A Spatio-Temporal Approach to Anonymity for Location-Based Service Users. *ACM-GIS Conference*, Seattle, WA, November 3-6 (2009).
37. Takabi, H., Joshi, J., and Karimi, H. A. Cooperative K-anonymity Approach for Location Privacy in Location-Based Services. *The 5th International Conference on Collaborative Computing: Networking, Applications and Worksharing*. Washington, DC, November 11-14 (2009).
38. Ghafourian, M., Karimi, H. A., and Roosmalen, L. Universal Navigation Through Social Networking. *Human-Computer Interaction International 2009*, San Diego, July 19-24 (2009).
39. Dudas, P. M., Ghafourian, M., and Karimi, H. A. ONALIN: Ontology and Algorithm for Indoor Routing. *Tenth International Conference on Mobile Data Management: Systems, Services and Middleware*, Taipei, Taiwan, May 18 (2009).
40. Ghafourian, M. and Karimi, H.A. Universal Navigation Concept and Algorithms, *2009 World Congress on Computer Science and Information Engineering (CSIE 2009)*, Los Angeles, Anaheim, March 31-April 2 (2009).
41. LaRue, E. M., Mitchell, A. M., Karimi, H. A., Kasemsuppakorn, P., and Roongpiboonsopit, D. COMPANION: Social Support Networking Technology For Survivors of Suicide. *International Conference on Health Informatics (HEALTHINF 2009)*. Porto, Portugal, January 14-17 (2009).
42. Liu, X. and Karimi, H. A. Semantic Discovery of Protein Web Services. *The 2008 International Conference on Bioinformatics and Computational Biology (BIOCOMP'08)*. Las Vegas, July (2008).
43. Kasemsuppakorn, P. and Karimi, H. A. Data Requirements and Spatial Database for Personalized Wheelchair Navigation. *2nd International Convention on Rehabilitation Engineering & Assistive Technology*. Bangkok, Thailand, May 13-15 (2008).
44. Ding, D., Bambang, P., Karimi, H.A., Roongpiboonsopit, D., Kasemsuppakorn, P., Conahan, T., and Pramana, G. Design Considerations for a Personalized Wheelchair

Navigation System. *The 29th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Lyon, France, August 23-26 (2007).

45. Karimi, H. A., Conahan, T., and Roongpiboonsopit, D. A Methodology for Predicting Performances of Map-Matching Algorithms. *The 6th International Symposium on Web and Wireless Geographical Information Systems (W2GIS 2006)*. Hong Kong, December 4-5 (2006).
46. Chettupuzha, A. J., Farooq, B., Yan Shih, C., Wright, J.L., Lee, S., Kiziltas, S., Garrett, J. H., Karimi, H. A., Smailagic, A. Design and Evaluation of AR Interfaces. *The 11th International Conference on Computing in Civil and Building Engineering (ICCCBE 2006)*, Montreal, Canada, June 14-16 (2006).
47. Liu, X. Karimi, H. A., Yang, L. W., and Bahar, I. Protein Functional Motion Query and Visualization. *The 28th Annual International Computer Software and Applications Conference (COMPSAC 2004)*, Hong Kong, September 28-30 (2004).
48. Liu, S. and Karimi, H.A., GeoPlan: A Novel Approach to Optimize Service-Oriented Distributed Geospatial Data Processing. *The 2004 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'04)*. Las Vegas, Nevada, June 21–24 (2004).
49. Karimi, H. A. and Liu, X. A Predictive Location Model for Location-Based Services. *ACM-GIS Conference*. New Orleans, Louisiana, November 7-8 (2003).
50. Karimi, H.A., Akinci, B., Boukamp, F., and Peachavanish, R. Semantic Interoperability in Infrastructure Systems. *The 4th Joint Symposium on Information Technology in Civil Engineering*. Nashville, Tennessee, November 15-16 (2003).
51. Hammad, A., Garrett, J.H., and Karimi, H.A., Mobile Infrastructure Management Support System Considering Location and Task Awareness. *The 4th Joint Symposium on Information Technology in Civil Engineering*. Nashville, Tennessee, November 15-16 (2003).
52. Hammad, A., Garrett, J.H., and Karimi, H.A., Potential of Mobile Augmented Reality for Infrastructure Field Tasks. *Applications of Advanced Technology in Transportation Conference (AATT' 2002)*, Cambridge, MA, August 5-7 (2002).
53. Karimi, H. A. and Krishnamurthy, P., Real-Time Routing in Mobile Networks Using GPS and GIS Techniques. *The 34th Annual Hawaii International Conference on System Sciences (HICSS'01)*, Maui, Hawaii, January 3-6 (2001).
54. Karimi, H. A., Krishnamurthy, P., and Burger, H., GIS Techniques to Optimize Handoff in a Mobile Computing Environment. *URISA 37th Annual Conference and Exposition*, Orlando, Florida, August 19-23 (2000).

55. Liangsutthisakon, P., Krishnamurthy, P., and Karimi, H.A., An Efficient and Accurate Handoff Procedure Through the Utilization of Telegeoinformatics in Wireless Communications. *Proceedings of the International Forum cum Conference on Information Technology and Communication at the Dawn of the New Millennium*, Bangkok, Thailand, August 1-4, pp. 449-455 (2000).
56. Krishnamurthy, P. and Karimi, H. A., Telegeoinformatics for Efficient Resource Allocation and Protocol Development in Wireless Networks. *Proceedings of the IEEE Vehicular Technology Conference*, Boston, Massachusetts, 52nd, Vol. 5, pp. 2126-2131 (2000).
57. Brandmeyer, J. E. and Karimi, H. A., Processing Emissions from a GIS for Air Quality Modeling: The SMOKE Case Study. *The Fourth International Conference on Integrating GIS and Environmental Modeling (GIS/EM4)*, Banff, Alberta, September 2-8 (2000).
58. Khan, M., Odman, M.T., Karimi, H.A., Goodchild, M.F., Developing and Integrating Advanced GIS Techniques in an Adaptive Grid Air Quality Model to Reduce Uncertainty. *The Fourth International Conference on Integrating GIS and Environmental Modeling (GIS/EM4)*, Banff, Alberta, September 2-8 (2000).
59. Krishnamurthy, P., Karimi, H.A., and Liangsutthisakon, P. Telegeoinformatics: A Novel Approach Towards Efficient Resource Allocation and Application and Protocol Development for Wireless Communications. *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'2000)*. Las Vegas, Nevada, Vol. IV. pp. 2065-2071 (2000).
60. Wong, D.C. and Karimi, H.A. Parallel Polygon-on-Polygon and Line-in-Polygon Intersection Algorithms. *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'2000)*. Las Vegas, Nevada, Vol. IV. pp. 2339-2343 (2000).
61. Alesheikh, A. A., Chapman, M. A., Blais, J. A. R., and Karimi, H. A., Uncertainty Models of GIS Objects. *International Symposium on Spatial Data Quality (ISSDQ'99)*, Hong Kong, pp. 308-315 (1999).
62. Karimi, H. A., Brandmeyer, J. E., Wong, D., and Bourgeois, A., A Parallel Polygon Intersection Algorithm for Adaptive Grid Models. *The 1999 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'99)*. Las Vegas, Nevada, June 28-July 1, pp.553-559 (1999).
63. Brandmeyer, J. and Karimi, H. A., Effect of Using Road Class-Specific Surrogates on Spatial Distribution of On-Road Mobile Source Emissions. *Air & Waste Management Association's 92nd Annual Meeting & Exhibition*, St. Louis, Missouri, June 20-24 (1999).

64. Brandmeyer, J., Karimi, H. A., and Eyth, A., Integrating Emission Inventory Processing with a Geographic Information System. *The International Symposium on the Emission Inventory: Living in a Global Environment, AWMA/EPA Emission Inventory Conference*, New Orleans, Louisiana, December 7-10 (1998).
65. Karimi, H. A., Dai, X., Khattak, A. J., and Hummer, J. E., Automated Roadway Feature Extraction from High-Resolution Satellite Images. *IEEE 1998 International Geoscience and Remote Sensing Symposium (IGARSS'98)*, Seattle, Washington, July 6-10, pp.2065-2067 (1998).
66. Alesheikh, A. A., Blais, J. A. R., Chapman, M. A., and Karimi, H. A., Rigorous Geospatial Data Uncertainty Models for GISs. *International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences*, Quebec City, Quebec, May 20-22, pp. 195-202 (1998).
67. Dai, X., Khorram, S., and Karimi, H. A., A Neural Network Approach to Data Fusion in Remote Sensing. *Proceedings of American Society of Photogrammetry and Remote Sensing (ASPRS)-RTI 1998 Annual Conference*, Tampa, Florida, March 30-April 4, pp. 191-198 (1998).
68. Karimi, H. A., Interoperable GIS Applications: Tightly Coupling Environmental Models with GISs. *International Conference and Workshop on Interoperating Geographic Information Systems (Interop'97)*, Santa Barbara, California, December 3-6 (1997).
69. Chapman, M. A., Alesheikh, A., and Karimi, H. A., Error Modeling and Management for Data in Geospatial Information Systems. *COASTGIS'97*, Aberdeen, Scotland, August 29-31 (1997).
70. Karimi, H. A. and Chapman, M. A., Real-Time GISs: An Emerging Technology Through the Integration of GPS, Video Imagery, and Fast Algorithms. *Proceedings, Eleventh Annual Symposium on Geographic Information Systems (GIS'97)*, Vancouver, British Columbia, February 17-20, pp. 630-633 (1997).
71. Karimi, H. A., A Novel Computing Approach for Solving Environmental Problems: GIS on High-Performance Computing and Communications Resources. *Proceedings of a Conference Sponsored by the Air & Waste Management Association and the U.S. Environmental Protection Agency, Computing in Environmental Resource Management*, Research Triangle Park, North Carolina, December 2-4, pp. 541-551 (1996).
72. Hanna, A. F., Fine, S., Karimi, H. A., Mathur, R., Odman, T., Galluppi, K., Data and Model Integration for Environmental Risk Assessment. *Proceedings, First Conference on the Role of Engineering Towards Better Environment*, Alexandria, Egypt, December 17-20, pp. 351-359 (1996).

73. Karimi, H. A., Hanna, A. F., Mathur, R., and Galluppi, K., Concept of a Feedback Loop Between Intelligent Transportation Systems and Air Quality Modeling. *Proceedings, First Conference on the Role of Engineering Towards Better Environment*, Alexandria, Egypt, December 17-20, pp. 559-564 (1996).
74. Karimi, H. A. and Chapman, M. A., Integrating GPS, Satellite Digital Imagery, and GIS for Environmental Applications. *Proceedings, Eco-Inforna '96*, Lake Buena Vista, Florida, November 4-7, pp. 773-778 (1996).
75. Karimi, H. A. and Hanna, A. F., Utilization of GISs to Air Quality Analysis for Gulf Area. *Proceedings, The International Conference on Desert Development in the Arab Gulf Countries*, State of Kuwait, March 23-26 (1996).
76. Karimi, H. A., Houston, B. H., and Pratt, S., Analysis of Strategies for Integrating Environmental Models with GISs. *Proceedings, Tenth Annual Symposium on Geographic Information Systems (GIS'96)*, Vancouver, British Colombia, March 18-21 (1996).
77. Karimi, H. A. and Blais, J. A. R., Considering Large-Scale Parallelism for Data Management in GISs. *Proceedings, Tenth Annual Symposium on Geographic Information Systems (GIS'96)*, Vancouver, British Colombia, March 18-21 (1996).
78. Hanna, A. F., Galluppi, K. J., Karimi, H. A., Ambrosiano, J., and Thorpe, S., A Concept for Global Climate Change Education and Training. *5th AMS Symposium on Education, 76th AMS Annual Meeting*, Atlanta, Georgia, February 2, pp. J1-J6 (1996).
79. Jang, J. C., Ambrosiano, J., Hanna, A. F., Eyth, A., Vukovich, J., Karimi, H. A., and Fine, S., A Graphical User Interface and Decision Support System for Environmental Modeling Applications. *Proceedings of the AWMA 1995 Pacific Rim Environmental Conference*, San Fransisco, California, October 2-4 (1995).
80. Karimi, H. A., Fine, S., Coats, C. J., Hanna, A. F., and Galluppi, K. J., An Environmental Decision Support System Using High Performance Computing and Communications Technologies. *Proceedings, SCS Simulation MultiConference*, Phoenix, Arizona, April 9-13, pp. 40-45 (1995).
81. Karimi, H. A. and Lee, Y. C., Semantic Data Models in GISs and Object Orientation. *Proceedings, Ninth Annual Symposium on Geographic Information Systems (GIS'95)*, Vancouver, British Colombia, March 27-30, pp. 407-412 (1995).
82. Karimi, H. A., GISs on High Performance Computing and Communications: Parallel Processing and the Internet. *Proceedings, Ninth Annual Symposium on Geographic Information Systems (GIS'95)*, Vancouver, British Colombia, March 27-30, pp. 166-169 (1995).

83. Karimi, H. A. and Cunningham, C., Overcoming Space and Traditional Barriers in GIS Education. *Proceedings, The Canadian Conference on GIS*, Ottawa, Ontario, June 6-10, pp. 763-769 (1994).
84. Karimi, H. A., An Analysis of Neural Networks Models for Route Optimization. *Proceedings, The Canadian Conference on GIS*, Ottawa, Ontario, June 6-10, pp. 502-508 (1994).
85. Coward, J., Karimi, H. A., and Logan R., Selection of a Geographic Information System for Syncrude Canada Ltd.: A Large Open Pit Mine. *Eight Annual Symposium on Geographic Information Systems (GIS'94)*, Vancouver, British Columbia, February 21-24, pp. 89-92 (1994).
86. Karimi, H. A., A Heuristic Algorithm for Computing Optimal Routes in Navigation and Guidance Systems. *SAE The Seventh International Pacific Conference & Exposition on Automotive Engineering (IPC-7)*, Phoenix, Arizona, November (1993).
87. Karimi, H. A. and Lockhart, T., GPS-Based Tracking Systems for Taxi Cab Fleet Operations. *Proceedings of the IEEE-IEE, Vehicle Navigation and Information Systems Conference (VNIS '93)*, Ottawa, Ontario, October 12-15, pp. 679-682 (1993).
88. Karimi, H. A., Towards Building Intelligent GIS for Land Transportation. *Proceedings, The Canadian Conference on GIS*, Ottawa, Ontario, March 23-25, pp. 711-717 (1993).
89. Karimi, H. A., Autonomous Route Management and Guidance Systems (ARMGS): for Emergency Fleet Management. *First Sharjah Conference on Geographic Information and Applications*, Sharjah, United Arab Emirates, February 8-11 (1993).
90. Karimi, H. A. and Lockhart, T., The Impact of Dispatch Automatic Vehicle Location (DAVL) Systems in the Energy Industry. *Proceedings Urban and Regional Information Systems Association (URISA), Geographic Information Systems (GIS) and the Energy Sector*, Calgary, Alberta, November 25 - 27 (1991).
91. Crain, I. K. and Karimi, H. A., Strategies for the Management of Large Spatial Databases. *Proceedings, The Canadian Conference on GIS*, Ottawa, Ontario, March 5 - 8 (1990).
92. Karimi, H. A. and Krakiwsky, E. J., Automatic Land Vehicle Location and Navigation in the Year 2000. *SAE Future Transportation Technology Conference*, Vancouver, British Columbia, August (1989).
93. Miller, R. G., Karimi, H. A., and Feuchtwanger, M., Uncertainty and its Management in Geographic Information Systems. *Proceedings, The Canadian Conference on GIS*, Ottawa, Ontario, February 28 - March 3 (1989).

94. Klesh, L. A., Miller, R. G., Karimi, H. A., and Krakiwsky, E. J., Geographic Information System Considerations for Automatic Vehicle Location and Allocation. *Proceedings, The Canadian Conference on GIS*, Ottawa, Ontario, February 28 - March 3 (1989).
95. Karimi, H. A. and Feuchtwanger, M., Geographic Knowledge Base Management System (GKBMS): The Future Challenge in Geomatics. *Proceedings, The Canadian Conference on GIS*, Ottawa, Ontario, February 28 - March 3 (1989).
96. Karimi, H. A. and Krakiwsky, E. J., Intelligent Kinematic Route Guidance Systems. *Proceedings Canadian Conference on Electrical and Computer Engineering*, Vancouver, British Columbia, November 3 - 4 (1988).
97. Lee, N. S. T. and Karimi, H. A., On Development of a Prototype Road Information System. *Conference on LRIS for Municipalities*, Edmonton, Alberta, October 4 - 7 (1988).
98. Karimi, H. A. and Krakiwsky, E. J., Design Concepts for Knowledge-Based Route Guidance Systems. *IEEE Position Location And Navigation Symposium (PLANS '88)*, Orlando, Florida, November 29 - December 2, pp. 95-103 (1988).
99. Harris, C. B., Klesh, L. A., Krakiwsky, E. J., Karimi, H. A., and Lee, N. S. T., Digital Map Dependent Functions of Automatic Vehicle Location Systems. *IEEE Position Location And Navigation Symposium (PLANS '88)*, Orlando, Florida, November 29 - December 2, pp. 79-87 (1988).
100. Karimi, H. A., Sudibjo, E. R., and Lee, N. S. T., The Design of Future Land-Related Information Systems (LRIS): An Expert System Approach. *Proceedings, Urban and Regional Information Systems Association (URISA), Alberta Chapter*, Edmonton, Alberta, June 20 - 21 (1988).
101. Krakiwsky, E. J., Kempe, A. B., Srajer, V., Karimi, H. A., Lockhart, T., and Wade, R., An Automatic Vehicle Status, Location, and Allocation System for Surface Mines. *Proceedings of the First Canadian Conference on Computer Applications in the Mineral Industry*, Montreal, Quebec, March 7 - 9, pp. 471-480 (1988).
102. Harris, C. B., Goss, R., Krakiwsky, E. J., and Karimi, H. A., Optimal Route Information System - Automatic Vehicle Location (AVL) Route Determination. *Proceedings, Urban and Regional Information Systems Association (URISA), Alberta Chapter*, Calgary, Alberta, November 30 - December 1 (1987).
103. Karimi, H. A. and Robinson, V. B., On Strategies for Developing Distributed Land Information Systems (DLIS). *25th Annual Conference, of the Urban and Regional Information Systems Association (URISA) Volume I*, Fort Lauderdale, Florida, August 2 - 6 (1987).

104. Karimi, H. A. and Lodwick, G. D., A Simple Rule-based System for Selection of Remote Sensing Imagery. *Proceedings, Eleventh Canadian Symposium on Remote Sensing*, Waterloo, Ontario (1987).
105. Krakiwsky, E. J., George, J., Karimi, H. A., and Harris, C., An Analysis of Land Based Automatic Vehicle Location (AVL) Systems. *Engineering Institute of Canada Centennial Conference*, Montreal, May 22 (1987).
106. Karimi, H. A., Krakiwsky, E. J., Harris, C., Craig, G., and Goss, R., A Relational Database Model for an AVL System and an Expert System for Optimal Route Selection. *Proceedings, Eight International Symposium on Computer-Assisted Cartography, AUTO-CARTO 8*, Baltimore, Maryland, March 29 - April 3, pp. 584-593 (1987).
107. Krakiwsky, E. J., Karimi, H. A., Harris, C., and George, J., Research into Electronic Maps and Automatic Vehicle Location. *Proceedings, Eight International Symposium on Computer-Assisted Cartography, AUTO-CARTO 8*, Baltimore, Maryland, March 29 - April 3, pp. 202-210 (1987).

WORKSHOP CHAIR

International Workshop on Issues and Challenges in Social Computing (WICSOC2011), Las Vegas, August 2 (2011).

Geoinformatics for Environmental Applications, Earth Force, Erie, Pennsylvania (2002).

GPS and GIS, Geoinformatics Program, Department of Information Science and Telecommunications, University of Pittsburgh, Pittsburgh, Pennsylvania (2001).

Introduction to Geoinformatics, Geoinformatics Program, Department of Information Science and Telecommunications, University of Pittsburgh, Pittsburgh, Pennsylvania (2000).

Geomatics, GIS2000 Symposium, Toronto, Ontario (2000).

Integrating GIS, Satellite Digital Imagery, and GPS, The Second International Conference on GIS for Earth Science Applications, Menemen-Izmir, Turkey (2000).

Integrating GIS, Satellite Digital Imagery, and GPS, Alaska Surveying and Mapping Conference, URISA-Alaska Chapter, Anchorage, Alaska (1999).

GIS Planning and Implementing, GIS'99 Symposium, Vancouver, British Columbia (1999).

Integrating GIS, Satellite Digital Imagery, and GPS, GIS'99 Symposium, Vancouver, British Columbia (1999).

Integrating GIS, Satellite Digital Imagery, and GPS, GIS/LIS'98, Dallas/Fortworth, Texas (1998).

Integrating GIS, Satellite Digital Imagery, and GPS, URISA'98, Charlotte, North Carolina (1998).

Object Orientation in GISs, AM/FM International, San Jose, California (1998).

Integrating GIS, Satellite Digital Imagery, and GPS, ACSM'98, Baltimore, Maryland (1998).

Integrating GIS, Satellite Digital Imagery, and GPS, Caribbean Conference On GIS, St. Augustine, Trinidad, W.I. (1997).

Integrating GIS, Satellite Digital Imagery, and GPS, GIS/LIS'97, Cincinnati, Ohio (1997).

GIS Planning and Implementation, ACSM Spatial Data Certification Workshop Program, Raleigh, North Carolina (1997).

Integrating GIS, Satellite Digital Imagery, and GPS, URISA'97, Toronto, Ontario (1997).

Integrating GIS, Satellite Digital Imagery, and GPS, ACSM Spatial Data Certification Workshop Program, Raleigh, North Carolina (1997).

Object Orientation in GISs, GER'97, Ottawa, Ontario (1997).

Open GISs, GER'97, Ottawa, Ontario (1997).

GIS Planning and Implementation, ACSM'97, Seattle, Washington (1997).

Integrating GPS, Satellite Digital Imagery and GIS, Air & Waste Management Association and the U.S. EPA-Enterprise Technical Services Division, Computing in Environmental Resource Management, Research Triangle Park, North Carolina (1996).

Object Orientation in GISs, Eco-Infirma '96, Lake Buena Vista, Florida (1996).

Object Orientation in GISs, GIS'96 Symposium, Vancouver, British Columbia (1996).

Integrating GPS, Satellite Digital Imagery and GIS, Air & Waste Management Association, Specialty Conference on Geographic Information Systems (GIS) in Environmental Resource Management, Reno, Nevada (1996).

Object Orientation in GIS, GIS'95 Symposium, Vancouver, British Columbia (1995).

Introduction to GIS, University of Calgary, Calgary, Alberta (1987).

Introduction to GIS, University of Calgary, Calgary, Alberta (1986).

GRANTS

Externally-Funded Projects

Co-PI (PI: Mendez, D., Pitt). *Postpartum Weight Retention and Cardiometabolic Disparities: The Effects of Contextual, Psychosocial, and Behavioral*. National Institute of Health (2017-2022).

PI. *Development of AccessPath: A Pedestrian Wayfinding Tool Tailored Towards Wheelchair Users and Individuals with Visual Impairments*. Federal Highway Administration-DOT (2017-2018).

PI (Co-PI: Pearlman, J., Pitt). *Personalized Accessibility Location Services (PALS) for Wheelchair Users*. Paralyzed Veterans of America (PVA) Research Foundation. (2015-2016).

Co-PI (PI: Bahar, I., Pitt). *Innovations in Biomedical Computational Science and Technology*. National Institute of Health. (2005-2008).

Co-Investigator (PI: Raddy, R., CMU). *Biological Language Modeling (BLM)*. National Science Foundation. (2005-2007).

Co-PI (PI: Akinci, B., CMU). *Exploration and Formalization of an Ontological Engineering Approach for Integrating CAD and GIS in Infrastructure Management Systems*. The Pennsylvania Infrastructure Technology Alliance. (2005).

Co-PI (PI: Garrett, J., CMU). *Exploration of Effective Augmented Reality Interfaces for Bridge Inspection*. The Pennsylvania Infrastructure Technology Alliance. (2005).

Co-PI (PI: Miller, D., Pitt): *TakeTheBus*. Job Access Reverse Commute. (2003-2004).

Co-PI (PI: Miller, D., Pitt): *Integrated Regional Geospatial Information System*. The Pittsburgh Foundation. (2002-2003).

Co-PI (PI: Rasdorf, W., NCSU): *Models and Algorithms for Quality and Accuracy of Spatial Data in Infrastructure Engineering*. National Science Foundation. (1999-2003).

PI (Co-PIs: Hirtle, S., Tipper, D., Beratan, K.): *Geoinformatics Program*. Link-to-Learn, the Commonwealth of Pennsylvania. (2000-2002).

PI: *Assessing GIS Needs of Allegheny County*. Allegheny County. (2000-2001).

Co-PI: (PI: Sochats, K., Pitt): *CRADA*. Link-to-Learn, the Commonwealth of Pennsylvania. (2001-2002).

PI: (Co-PIs: Williams, J. Sochats, K.) *CRADA*. Link-to-Learn, the Commonwealth of Pennsylvania. (2000-2001).

Co-Investigator (PI: Comfort, L., Pitt): *Interactive Intelligent Spatial Information System (IISIS): A Community Model*. Public Entity Risk Institute (PERI). (2000-2001).

Co-Investigator (PI: Lang, D., CMU): *Design and Development of a Web-Based GIS for Regional Industrial Sites Evaluation Systems (RISES)*. The Pittsburgh Foundation. (2000-2001).

Co-Investigator (PI: Miller, D., Pitt): *Design and Development of an Internet Job Mapping System*. The Pittsburgh Foundation. (1998-2001).

PI: Digital Government: *Geospatial Data Mining Techniques for a Multimedia Integrated Modeling System*. National Science Foundation. (1998-2000).

PI: *Parallel GIS for Solving Complex Environmental Problems: Desktop Access to High-Performance Computing and Communication Resources*. Environmental Protection Agency. (1996-1999).

PI (co-PI: Odman, M. T., Gatech): *Tightly Coupling Environmental Models with Spatial Analyses in High-Performance Computing and Communications Environments: Parallel Emissions Processing for Adaptive Grid Air Quality Modeling*. Environmental Protection Agency. (1996-1999).

PI (co-PI: Hummer, J., NCSU): *Automated Collection and Presentation of Roadway Inventory Data*. National Academy of Sciences, Transportation Research Board. (1996-1999).

Co-Investigator (PI: Frey, C., NCSU): *Development and Demonstration of a Methodology for Characterizing and Managing Uncertainties in Emission Inventories*. Environmental Protection Agency. (1998-1999).

Co-Investigator (PI: Fine, S., EPA): *Total Risk Integrated Model (TRIM)*. Environmental Protection Agency. (1998-1999).

PI: *Developing a Dynamic Data Model for Integration of Heterogeneous Process Models with GISs*. National Center for Geographic Information and Analysis. (1998).

Co-Investigator: *Emissions Modeling Research with High-Performance Computing*. Environmental Protection Agency. (1994-1996).

Co-Investigator: *Atmospheric Modeling Research—Scientific and Computational*. Environmental Protection Agency. (1994-1997).

PI: *Evaluation of GIS and GPS-Based Tracking Systems for EMS*. Emergency Management Services, City of Edmonton. (1993-1994).

PI: *GIS for a Large Oil Exploration Facility*. Syncrude, Ltd. (1993-1994).

PI: *A Distance Learning Graduate Program in Geoinformatics*. Athabasca University. (1993-1994).

PI: *Study and Analysis of Spatial Data Standards*. Geomatics Canada. (1994).

PI: *Optimal Routing Algorithms*. Athabasca University. (1994).

PI: *GIS for Automatic Route Guidance Systems*. AVL Systems, Ltd. (1990-1994).

Internally-Funded Projects

Co-PI (PI: Suffoletto, B., Pitt). *Sensor-Based Markers of Drinking and Impairment*. The Clinical and Transitional Science Institute. University of a Pittsburgh. (2017-2018).

PI: *Rurality Analysis for Health Services*. Graduate School of Public Health. (2010-2011).

PI: *Mobile Location-Based Recommender*. SIS Research Interest Group. (2008-2009).

PI: *Online GIS*. SIS Entrepreneurial Enterprise Initiative. (2008-2009).

PI: *iGNM: Internet Gaussian Network Model*. SIS Entrepreneurial Enterprise Initiative. (2005-2006).

PI: *PittGrid: A Campus Grid*. SIS Entrepreneurial Enterprise Initiative. (2005-2006).

PI: *Systems and Technology Enrichment Program (STEP)*. SIS Entrepreneurial Enterprise Initiative. (2003-2004).

Co-Investigator (PI: Bahar, I., Pitt). *Information Technology Design and Development for Gaussian Network Model (iGNM)*. Department of Computational Biology, University of Pittsburgh. (2004).

Co-Investigator. *Geospatial Data Analysis for Transportation Planning*. University Center for Social and Urban Research, University of Pittsburgh. (2004).

Co-PI (PI: Comfort, L., Pitt): *Hazard Reduction and Response in Metropolitan Regions*. High-Performance New Application Initiative. (2002-2003).

Co-PI (PI: Comfort, L., Pitt): *Hazard Reduction and Response in Metropolitan Regions: An Interdisciplinary Model*. Global Assessment Program. (2002).

PI: *Automated Feature Extraction Techniques for High-Resolution Satellite Imagery*. Central Research and Development Fund, University of Pittsburgh. (2000-2002).

HONORS AND AWARDS

W2GIS Conference. Best Paper Award (2013).

ACM-GIS, HealthGIS2012 Workshop. Best Paper Award (2012).

Advanced Engineering Informatics (AEI) Top Cited Article Award 2005-2010.

ACM-GIS, Location-Based Social Networking Workshop. Best Paper Award nominee (2009).

Provost's Award for Excellence in Mentoring, University of Pittsburgh, nominee (2008).

Intergraph Research Award (2007).

Stephen L. Phillips Scientific Achievement Award. Best Paper Award (2006).

ASCE Journal of Computing in Civil Engineering. Best Paper Award nominee (2004).

American Congress on Surveying and Mapping (ACSM), Anchorage, Alaska (1999).

Specialist Meeting Workshop, NCGIA, Santa Barbara, California (1998).

NSERC Industrial Research Fellowship, Calgary, Alberta (1989).

Walker Newby and Associates Ltd. Scholarship, Department of Geomatics Engineering, University of Calgary, Calgary, Albert (1987).

Teacher Assistant of the year, Department of Computer Science, the University of Calgary, Calgary, Alberta (1985).

SERVICE

School Committees

Chair: Promotion Committee 2016-2017

Chair: Second Tier Promotion Committee 2016-2017

Member: Promotion Committee 2016-2017

Chair: Promotion and Tenure Committee, 2015-2016

Chair: Financial Aid, 2001-Present

Chair: Peer-Review of Teaching, 2007-2008

Chair: Robert R. Korfhage Award Committee, 2002-2003

Member: GIST Curriculum Committee, 2009-Present

Member: Promotion Committee, 2012-2013; 2014-2015

Member: Tenure and Promotion, 2006-2007

Member: Ph.D. Admissions, Recruitment and Program, 2000-Present

Member: BSIS Program, 2000-2004; 2006-Present

Member: Faculty Search, 2000-2001; 2003-2004; 2009-2010; 2012-2013

Member: Financial Aid, 2000-2001

Member: MSIS Admissions, Recruitment and Program, 1999-2000

Member: Peer-Review of Teaching, 2005-2007

Member: Information Ethics Fellow Selection Committee, 2003-2004

Member: Robert R. Korfhage Award Committee, 2000-2001; 2005-2006; 2007-2008; 2008-2009

Member: Corbett Award Committee, 2008-2009

Member: CONTI, 2000-2001

University Committees

Member: Post Doctoral Search Committee, 2011-2012

Chair: Campus Grid (PittGrid) Advisory Committee, 2006-2008

Member: Simulation and Modeling, 2006

Member: Council of Academic Computing, 2000-2003

Member: Quality of Teaching, Athabasca University, 1993-1994

Member: Advisory Committee, Computing and GIS Courses, Microcomputer Institute, NAIT, 1993-1994

Member: Computational Geometry Center, Duke University, 1997-2000

Other Committees

Member: ICA Commission on Location Based Services (LBS), 2015

Chair: Advisory Committee, Geoinformatics Program, University of Pittsburgh, 2000-2002

Member: Advisory Committee, Sustainable Pittsburgh, Pittsburgh, 2000-2001

Member: Technical Advisory Committee, Center for Geographic Information and Analysis (CGIA), North Carolina, 1995-2000

Scientific Advisor: Advisory to the Emergency Medical Services Committee, City of Edmonton, 1993-1994

Journals Editor/Reviewer

Associate Editor: Journal of Location-Based Services (JLBS), 2006-2011

Associate Editor: ASCE Journal of Computing in Civil Engineering (JCCE), 1998-2005

Editorial Advisory Board: Journal of Computers, Environment and Urban Systems

Editorial Advisory Board: Journal of Open Geospatial Data, Software and Standards

Editorial Advisory Board Member: Journal of Big Earth Data

Editorial Board Member: Journal of Advances in Computer Science Research

Reviewer: Journal of Photogrammetry Engineering and Remote Sensing

Reviewer: Transactions in GIS

Reviewer: Journal of Pervasive and Mobile Computing

Reviewer: Journal of Geodesy

Reviewer: IEEE Transactions on Vehicular Technology

Reviewer: IEEE Transactions on Intelligent Transportation Systems

Reviewer: ASCE Journal of Computing in Civil Engineering (JCCE)

Reviewer: ASCE Journal of Transportation Engineering

Reviewer: Journal of Location-Based Services

Reviewer: International Journal of Digital Earth

Reviewer: IEEE Intelligent Transportation Systems Transactions and Magazines

Reviewer: Journal of Remote Sensing

Reviewer: Journal of Robotica

Reviewer: Journal Social Network Analysis and Mining

Reviewer: IEEE Transactions on Mobile Computing

Reviewer: IEEE Transactions on Aerospace and Electronic Systems

Reviewer: Journal of Spatial Cognition and Computation

Reviewer: International Journal of Geographic Information Science

Reviewer: Journal of Cartography and Geospatial Information Science

Reviewer: Journal of Sensors

Reviewer: Transportation Research C—Emerging Technologies

Reviewer: Computers, Environment and Urban Systems

Reviewer: Journal of Spatial Science

Reviewer: Transportation Research: Part C

Reviewer: The International Journal on Very Large Data Bases (VLDB)

Reviewer: Electronics and Telecommunications Research Institute (ETRI)

Reviewer: ASCE Journal of Infrastructure Systems (JIS)

Reviewer: Computer-Aided Civil and Infrastructure Engineering

Reviewer: Journal of Geographic Information Sciences

Reviewer: Journal of Geographical Systems

Reviewer: IBM Journal of R&D

Reviewer: Journal of Sustainability

Reviewer: Journal of Micromachines

Reviewer: Erath Science Informatics

Reviewer: International Journal of Health Geographics

Reviewer: ISPRS International Journal of Geo-Information

Reviewer: British Journal of Applied Science & Technology

Reviewer: Journal of Applied Geography

Reviewer: British Journal of Mathematics & Computer Science

Reviewer: Journal of Expert Systems

Reviewer: Universal Access in the Information Society

Reviewer: Journal of Inventions

Reviewer: Journal of Science of the Total Environment

Reviewer: Journal of Systems and Software

Reviewer: International Journal of the Physical Sciences

Reviewer: Wiley Encyclopedia of Electrical and Electronics Engineering

Reviewer: Journal of Micromachines

Reviewer: Encyclopedia of Information Science and Technology

Reviewer: CRC Press

Reviewer: The University of Mauritius Research Journal

Reviewer: Kuwait Journal of Science and Engineering

Conference Committees Chair/Member/Participation

Member: Technical Committee, 9th International Conference on Advanced Geographic Information Systems, application, and Services (GEOProcessing 2017), Nice, France, March 19-23, 2017

Member: Technical Committee: The Eight International Conference on Indoor Positioning and Indoor Navigation (IPIN 2017), Sapporo, Japan, September 18-21, 2017

Member: Technical Committee: The Third International Conference on Human and Social Analytics (HUSO 2017), Nice, France, July 23-27, 2017

Member: Technical Committee: The Seventh International Conference on Advanced Collaborative Networks, Systems and Applications (COLLA 2017), Nice, France, July 23-27, 2017

Member: Scientific Committee, GIS Ostrava (GISOV 2017), Ostrava-Poruba, Czech Republic, March 22-24, 2017

Member: Technical Program Committee, 5th International Conference on Building and Exploring Web Based Environments (WEB 2017), Barcelona, Spain, May 21-25, 2017

Member: Technical Program Committee, 3rd International Conference on CyberGIS and Geospatial Data Science, Urban, Illinois, July 26-28, 2016

Member: Technical Program Committee, 7th International Conference on Indoor Positioning and Indoor Navigation (IPIN 2016), Alcala de Henares, Madrid, Spain, October 4-7, 2016

Member: Scientific Committee, 13th International Conference on Location-Based Services, Vienna, Austria. November 14-16, 2016

Member: Technical Program Committee, 6th International Conference on Advanced Collaborative Networks, Systems and Applications (COLLA 2016), Barcelona, Spain, November 13-17, 2016

Member: Technical Program Committee, Special Session on Collaborative Environments and Technologies for the Elderly and People with Disabilities: The 2016 International Conference on Collaboration Technologies and Systems (CTS 2016), Orlando, Florida, October 31-November 4, 2016

Member: ICA Commission on Location Based Services (LBS), 2017

Member: IEEE Social Networks Sub-Committee, 2011-present

Member: Scientific Committee, GIS Ostrava (GISOV 2016), Ostrava-Poruba, Czech Republic, March 16-18, 2016

Member: Technical Program Committee, 4th International Conference on Building and Exploring Web Based Environments (WEB 2016), Lisbon, Portugal, June 26-30, 2016

Member: Scientific Committee, International Symposium on Digital Earth, Halifax, Canada, October 6-11, 2015

Member: Scientific Committee, the 12th International Symposium on Location-Based Services, Augsburg, Germany. September 16-18, 2015

Member: Technical Program Committee, the 14th International Symposium on Web & Wireless Geographical Information Systems (W2GIS 2015), Grenoble, France, May 21-22, 2015

Member: Technical Program Committee, the 3rd International Conference on Building and Exploring Web Based Environments (WEB 2015), Rome, Italy, May 24-29, 2015

Member: Technical Program Committee, the 1st International Workshop on Spatiotemporal Computing, Fairfax, Virginia, July 13-15, 2015

Member: Technical Program Committee, the 5th International Conference on Advanced Collaborative Networks, Systems and Applications (COLLA 2015), St. Julians, Malta, October 11-16, 2015

Member: Program Committee, the 13th International Symposium on Web and Wireless Geographical Information Systems (W2GIS 2014), Seoul, South Korea, May 29-30, 2014

Member: Program Committee, the Second International Conference on Building and Exploring Web Based Environments (WEB 2014), Chamonix, France, April 20-24 2014

Member: Technical Program Committee, the 4th International Conference on Advanced Collaborative Networks, Systems and Applications (COLLA 2014), Seville, Spain, June 22-26, 2014

Member: Program Committee, the 12th International Symposium on Web and Wireless Geographical Information Systems (W2GIS 2013), Banff, Alberta, Canada, April 4-5, 2013

Member: Scientific Committee, the 10th Symposium on Location-Based Services, Shanghai, China, November 21-22, 2013

Member: Program Committee, the First International Conference on Building and Exploring Web Based Environments (WEB 2013), Seville, Spain, January 2-February 1, 2013

Member: Technical Program Committee, the Third International Conference on Advanced Collaborative Networks, Systems and Applications (COLLA 2013), Nice, France, July 21-26, 2013

Session Chair: the 4th International Conference on Computer Supported Education. Porto, Portugal, April 16-19, 2012

Member: Scientific Committee, the 9th Symposium on Location-Based Services, Munich, October 16-18, 2012

Member: Program Committee, the 11th International Symposium on Web and Wireless Geographical Information Systems (W2GIS 2012), Naples, Italy, April 12-13, 2012

Member: IEEE Social Networks Sub-Committee, 2011-

Member: Scientific Committee, the 8th Symposium on Location-Based Services, Vienna, November 21-23, 2011

Member: Program Committee: the 3rd ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN), 2011

Session Chair: the 1st International Conference on Cloud Computing and Services Science. Noordwijkerhout, the Netherlands (CLOSER), 2011

Member: Program Committee, The 10th International Symposium on Web & Wireless Geographical Information Systems, Kyoto, Japan, March 3-4, 2011

Session Chair: Modeling and Application in CollaborateCom 2010. Chicago, Illinois, 2010

Member: Program Committee, the 13th IEEE International Conference on Computational Science and Engineering (CSE-2010), Hong Kong, 2010

Member: International Steering Committee, the 7th International Conference on LBS and TeleCartography, in Guangzhou, China, 2010

Member: Program Committee, the 2nd International Workshop on the Theory and Application Frontiers of Location Based Services (TAFLBS2010), San Diego, California, June 28-30, 2010

Member: Program Committee: 2009 International Workshop on Theory and Applications Frontier of Location Based Services, 2009

Member: Program Committee: The 3rd International Conference on Multimedia and Ubiquitous Engineering (MUE'09), 2009

Member: Scientific Committee: The International Symposium on Web and Wireless Geographical Information Systems Program Committee, 2006; 2008; 2009

Member: Scientific Committee: Symposium on LBS & TeleCartography, 2007; 2008; 2009; 2010

Member: Program Committee: The First International Conference & Exhibitions on Mobile Society, 2008

Member: Second International Workshop on Ubiquitous Geographical Information Services Program Committee, 2006

Member: International Cartographic Association Workshop on Geospatial Analysis and Modeling Program Committee, 2006

Member: UbiGIS'04 Program Committee, 2004-2005

Member: ACM-GIS Program Committee, 1999-2001, 2004

Chair: Workshop Development, URISA, 2001-2002

Member: WebGIS/GeoWireless Program Committee, 2001

Invited panelist: *Merging the Computer Sciences and the Geospatial Market*, Pennsylvania State University, Harrisburg (2001).

Member: Scientific Committee, The Second International Conference on GIS for Earth Science Applications (2000).

Session chair: *New Trend and Applications*, 1999 7th ACM Symposium on GIS (ACM GIS'99), Kansas City, Missouri (1999).

Panel moderator: *Defining Future GISs*, GIS'99 Symposium, Vancouver, British Columbia, Canada (1999).

Invited guest speaker: *Air Pollution Impacts of Intelligent Transportation Systems (ITS) Technology*, Environmental Summit'98 Conference, Research Triangle Park, North Carolina (1998).

Invited guest speaker: *Environmental Applications of Geographic Information Systems (GIS) and Global Positioning System (GPS) Technologies*, Environmental Summit'98 Conference, Research Triangle Park, North Carolina (1998).

Invited Specialist Meeting participant: *Components of Interoperable Geographic Information Systems*, International Conference and Workshop on Interoperating Geographic Information Systems, Santa Barbara, California (1997).

Panel moderator: *Integrating GIS, Satellite Digital Imagery, and GPS: Issues and Trends*, GER'97, Ottawa, Ontario (1997).

Invited guest speaker: *Techniques for Managing Errors Associated with Geometric and Attribute Data Derived from Remote Sensing Sensors*, IEEE/IGARSS, Singapore (1997).

Session chair: *Innovative Applications of GIS-T in ITS*, GIS-T'97, Greensboro, North Carolina (1997).

Session chair: *Systems Integration and Architectures*, GIS'97 Symposium, Vancouver, British Columbia (1997).

Member: Technical Program Committee, Computing in Environmental Resource Management, Air & Waste Management Association and U.S. Environmental Protection Agency — Enterprise Technical Services Division, 1996

Session co-chair: *GIS and Remote Sensing*, Air & Waste Management Association and the U.S. EPA-Enterprise Technical Services Division, Computing in Environmental Resource Management, Research Triangle Park, North Carolina (1996).

Session chair: *Geoscience and Advanced Information Systems*, Symposium on Spatial Information and the Environment, Waterton Lakes, Alberta (1996).

Panel moderator: *GIS Standards, Open Architecture and Integration*, Air & Waste Management Association, Specialty Conference on Geographic Information Systems (GIS) in Environmental Resource Management, Reno, Nevada (1996).

Session chair: *GIS for Agriculture and Land Use Environmental Impacts*, Air & Waste Management Association, Specialty Conference on Geographic Information Systems (GIS) in Environmental Resource Management, Reno, Nevada (1996).

Keynote speaker: *Future Directions and Trends in GISs for Environmental Applications*, Air & Waste Management Association, Specialty Conference on Geographic Information Systems (GIS) in Environmental Resource Management, Reno, Nevada (1996).

Invited guest speaker: *New Technologies and Future GISs*, Fifth Biennial North Carolina GIS Conference, Winston-Salem, North Carolina (1996).

Member: Technical Program Committee, Specialty Conference on Geographic Information Systems (GIS) in Environmental Resource Management, Air & Waste Management Association, 1995

Session chair: *Object-Oriented GIS*, National GIS Conference, Ottawa, Ontario (1994).

Invited guest speaker: *GPS and GIS Integration*, URISA, Edmonton, Alberta (1993).

Invited guest speaker: *Automatic Vehicle Location (AVL) using Global Positioning System (GPS)*, URISA, Edmonton, Alberta (1992).

Referee

National Science Foundation

Swiss National Science Foundation

Research Council of Norway

German Research Foundation

National Center of Science and Technology Evaluation, Republic of Kazakhstan

Smithsonian Institute

Environmental Protection Agency

Romanian - U.S. Fulbright Commission

Qatar National Research Fund

Promotion and Tenure (external reviewer)

Indo-US Science & Technology Forum, India

Innovation and Technology Commission, Hong Kong

Atlantic Canada Opportunities Agency, Canada

North Carolina Center for Geographic Information and Analysis

PHD DISSERTATION COMMITTEES

Chair: Qiulei Guo, School of Information Sciences, University of Pittsburgh

Chair: Mahdi Hashemi, School of Information Sciences, University of Pittsburgh

Chair: Monir Sharker, School of Information Sciences, University of Pittsburgh

Chair: Monsak Socharoentum, School of Information Sciences, University of Pittsburgh

Chair: Ming Ren, School of Information Sciences, University of Pittsburgh

Chair: Piyawan Kasemsuppakorn, School of Information Sciences, University of Pittsburgh

Chair: Duangduen Roongpiboonsopit, School of Information Sciences, University of Pittsburgh

Chair: Xiong Liu, School of Information Sciences, University of Pittsburgh

Chair: Shuo Liu, School of Information Sciences, University of Pittsburgh

Chair: Ratchata Peachavanish, School of Information Sciences, University of Pittsburgh

Shafiq Abedin, School of Information Sciences, University of Pittsburgh

Abdullah M. AlShehri, Department of Information Science and Telecommunications,
University of Pittsburgh

Yicheng Bai, Swanson School of Engineering, University of Pittsburgh

Jessica Benner, School of Information Sciences, University of Pittsburgh

Laura Bettencourt, Graduate School of Public Health, University of Pittsburgh

Jo Ellen Brandmeyer, Department of Environmental Science and Engineering, University
of North Carolina-Chapel Hill

Parasak Chokesatean, School of Information Sciences, University of Pittsburgh

Martinus Arnold de Jongh, School of Information Sciences, University of Pittsburgh

Joya Deri, Department of Electrical and Computer Engineering, Carnegie Mellon
University

Siqing Du, School of Information Sciences, University of Pittsburgh

William Garrard, School of Information Sciences, University of Pittsburgh

Luai E. Hasnawi, School of Information Sciences, University of Pittsburgh

Ying-Feng Hsu, School of Information Sciences, University of Pittsburgh

Leonrad Huggins, Graduate School of Public and International Affairs, University of
Pittsburgh

Mohammed M. Jaradat, Department of Mathematics, University of Pittsburgh

Aemal Khattack, Department of Civil and Environmental Engineering, North Carolina
State University

SuJin Kim, Department of Library and Information Science, University of Pittsburgh

Radu Mariescu-Istodor, Faculty of Science and Forestry, University of Eastern Finland

Yefei Peng, School of Information Sciences, University of Pittsburgh

Michael Rigby, Department of Infrastructure Engineering, University of Melbourne, Australia

Cristina Robles, School of Information Sciences, University of Pittsburgh

Marc Serre, Department of Environmental Science and Engineering, University of North Carolina-Chapel Hill

Leslie Stenger, School of Education, University of Pittsburgh

Nattapong Swangmuang, School of Information Sciences, University of Pittsburgh

Hassan Takabi, School of Information Sciences, University of Pittsburgh

Saurabh Taneja, Department of Civil and Environmental Engineering, Carnegie Mellon University

Lawrence C. Udeigwe, School of Information Sciences, University of Pittsburgh

Huadong Wang, School of Information Sciences, University of Pittsburgh

Quinn Ye, School of Information Sciences, University of Pittsburgh

Lei Zheng, Department of Information Science and Telecommunications, University of Pittsburgh