

**May Yuan, Ph.D.**

**APPOINTMENTS AT THE UNIVERSITY OF TEXAS - DALLAS**

Ashbel Smith Professor (2014 to date)

**APPOINTMENTS AT THE UNIVERSITY OF OKLAHOMA**

Brandt Professor and Edith Kinney Gaylord Presidential Professor (2008 to 2014)

Director, Center for Spatial Analysis (2001 to 2014)

Associate Dean, College of Geosciences – renamed to Atmospheric and Geographic Sciences (2005 to 2010)

Edith Kinney Gaylord Presidential Professor (2001 to 2008)

Professor of Geography (2005-2007)

Associate Professor of Geography (2000-2005)

Assistant Professor of Geography (1994-2000)

**EDUCATION**

Ph.D. Geography, State University of New York at Buffalo, 1994

M.A. Geography, State University of New York at Buffalo, 1992

B.S. Geography, National Taiwan University, 1987

**CURRENT PROFESSIONAL RESPONSIBILITIES**

Member, National Geospatial Advisory Committee, the Department of the Interior (2016-2019)

Member, Environmental Information Services Working Group, NOAA Science Advisory Board (2015-2018)

Member, Proposal Advisory/Review Committee of AP GIST (2015-2016)

Member, Academic Advisory Board, United States Geospatial Intelligence Foundation (since 2010)

Member, Geological Remote Sensing Group, North American Committee (since 2012).

Vice President, Cartography and Geographic Information Science Society (since 2017)

Editor in Chief for the *International Journal of Geographic Information Science* (since 2017)

**COURSES TAUGHT**

GISC 2305 Spatial Thinking and Data Analytics

GIS 2453 Spatial Thinking and GIS Visualization

GEOG 2453 Computer Mapping

GEOG 3353 Cartography

GEOG 4230 Geomorphology

GEOG 4453/5453 Geographic Information Systems

GISC 4380 Spatial Concepts and Organization

GIS 4953 GIS Capstone Seminar

AGSC 4970 GIS and Mapping

GEOG 4553/5553 GIS Applications

GIS 4653/5653 GIS and Spatial Programming

GIS 4453/5453 GIS and Spatial Analysis

GIS 4970/5970 Web GIS: Principles and Applications

GEOG 5623 GIS Design

GEOG 6820 GIS Seminar

GISC 6385 GIS Theories, Methods, and Issues

## BOOKS

- Clementini, E., Donnelly M., Yuan, M., Kray, C., Fogliaroni, P., and Ballatore, A. 2017. *Spatial Information Theory: A Theoretical Basis for GIS*, International Conference COSIT 2017. L'Aquila, Italy, September 4-8, 2017. LIPIcs Leibniz International Proceedings in Informatics Schloss Dagstuhl, Leibniz-Zentrum für Informatik Dagstuhl Publishing, Dagstuhl, Germany (ISBN: 1868-8969)
- Kray, C. and Yuan, M. 2017. section editors (responsible for 27 papers). In Fogliaroni, P, Ballatore, A., and Clementini E. .eds. *Proceedings of workshops and Posters at the 13<sup>th</sup> International Conference on Spatial Information Theory (COSIT 2017)*, Lecture Notes in Geoinformation and Cartography. Springer: Berlin, Germany (ISBN: 978-319-63945-1).
- Yuan, M. section editor (responsible for 39 chapters in fundamentals of GIS) as a member of Association of American Geographers editorial team (2017) *The International Encyclopedia of Geography*. John Wiley & Sons. (ISBN: 9781118786352)
- Vance, T., M. Nazila, C. Yang, and M. Yuan (ed.) 2016. *Cloud Computing in Ocean and Atmospheric Sciences*, Elsevier (ISBN: 978012803192)
- Yuan, M. and K. Stewart. 2008. *Computation and Visualization for the Understanding of Dynamics in Geographic Domains: A Research Agenda*. CRC/Taylor and Francis.
- Stewart K. and M. Yuan (eds.). 2008. *Understanding Dynamics in Geographic Domains*. CRC/Taylor and Francis.

## REFEREED PUBLICATIONS AND REFEREED BOOK CHAPTERS

- McKee, A. and M. Yuan, 2018. A High-Resolution Multi-Scalar Approach to Micro-Mapping Historical Landscapes in Transition: a case study in Texas, USA. In *Mapping Historical Landscape in Transition* edited by T. Coomans, B. Cattoor, K. de Jonge. University Press Leuven. In press.
- Yuan, M. 2018. Human Dynamics in Space and Time: a brief history and a view forward. *Transactions in GIS*. Accepted.
- Yuan, M., 2017. 30 years of IJGIS: the changing landscape of geographical information science and the road ahead. *International Journal of Geographical Information Science*, 31(3), pp.425-434.
- Yuan, M. 2016. Conclusion and the Road Ahead. In *Cloud Computing in Ocean and Atmospheric Sciences*. Ed. *Tiffany C. Vance, Nazila Merati, Chaowei Yang and May Yuan*, Elsevier, Inc. Pp. 385-391.
- McCombs, A. G. and M. Yuan (2016) Assessment of the Importance of Moderate Spatial Resolution Cloud Climatology Data in Solar Radiation Modeling. *Physical Geography* (2016):1-14 ([dx.doi.org/10.1080/02723646.2016.1204205](https://doi.org/10.1080/02723646.2016.1204205))
- Yuan, May (2016) Space-time GIS. In *Oxford Bibliographies in Geography*. Ed. Barney Warf. New York: Oxford University Press (DOI: 10.1093/obo/9780199874002-0142), online only.

- Egenhofer, M. J., Clarke, K. C., Gao, S., Quesnot, T., Franklin, W. R., Yuan, M., & Coleman, D. (2016) Contributions of GIScience over the Past Twenty Years. In Onsrund, H. and Kuhn, W. (eds) *Advancing Geographic Information Science: The Past and Next Twenty Years*. GSDI Association Press. Needham, MA, USA. Pp. 9-34.
- Abuzied, S. M., M. Yuan, S. Ibrahim, M. Kaiser, T. Saleem (2016), : Geospatial Risk Assessment of Flash Floods in Nuweiba Area, Egypt. *Journal of Arid Environments* (133): 54-72.  
([doi:10.1016/j.jaridenv.2016.06.004](https://doi.org/10.1016/j.jaridenv.2016.06.004))
- Abuzied, S. M., Yuan, M., Ibrahim, S. K., Kaiser, M. F., & Seleem, T. A. Delineation of Groundwater Potential Zones in Nuweiba Area (Egypt) Using Remote Sensing and GIS Techniques. *International Journal of Signal Processing Systems*, 4(2): 109-117. April 2016, doi: 10.12720/ijsp.4.2.109-117
- Yi, J. Y. Du, C. Zhou, F. Liang, M. Yuan (2015) Automatic Identification of Ocean Multi-eddy Structures from Satellite Altimeter Datasets. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 8(4):1555-1563.
- Yuan, M. (2015) Frontiers of GIScience: Evolution, State-of-Art, and Future Pathways. In P. Thenkabail (ed.) *Remote Sensing Handbook, Volume 1: Remotely Sensed Data Characterization, Classification, and Accuracies*. Chapter 21, Pp. 445-456. CRC Press.
- Yuan, M. (2015). Forward: A fruitful collaboration between geospatial and atmospheric communities. *Mapping and Modeling Weather/Climate with GIS*. Esri Press. Pp. ix – xii
- Yuan, M. and A. Nara. (2015). Space-time Analytics of Tracks for the Understanding of Patterns of Life. In *Space-Time Integration in Geography and GIScience: Research Frontiers in the US and China*, edited by M. Kwan, D. Richardson, D. Wang and C.Zhou. Springer, Pp. 373-398.
- Yuan, M., J. McIntosh, and G. De Lozier (2015). GIS as a Narrative Generation Platform. In *Deep Maps and Spatial Narratives*, edited by D. Bodenhamer, J. Corrigan, and T. Harris. Indiana University Press, Pp. 176-202.
- Yuan, M. (2014). Temporal GIS for Historical Research. *Spatio-Temporal Narratives: Historical GIS and the Study of Global Trading Networks*, edited by A. Crespo Solana. Cambridge Scholars Publishing. Pp. 45-55.
- Yuan, M., A. Nara, and J. Bothwell (2014). Space-Time Representation and Analytics. *Annals of GIS*, 20(1):1-9.
- Jung, C., C. H. Sun, M. Yuan. 2013. An Ontology-enabled Framework for a Geospatial Problem-Solving Environment. *Computer, Environment, and Urban Systems*. 38: 45-57.
- Simons, James, May Yuan, Cristina Carollo, Maru Vega-Cendejas, Thomas Shirley, Maria L D Palomares, Peter Roopnarine, Luis Gerardo Abarca Arenas, Ana Ibanez Jeff Holmes, Cristina Mazza, Rachel Hertog, Dave Reed, and Jorrit Poelen. 2013. Building Fisheries Trophic Interaction Database for Management and Modeling Research In the Gulf of Mexico Large Marine Ecosystem. *Bulletin of Marine Science*. 89(1). <http://dx.doi.org/10.5343/bms.2011.1130>
- Bothwell, J. and M. Yuan. 2012. A Spatiotemporal GIS Framework Applied to the Analysis of Changes in Temperature Patterns. *Transactions in GIS*, 16(6): 901-919.
- Yuan, M. and J. Bothwell. 2012. Space-Time Analytics for Spatial Dynamics. In C. Rueckemann (ed.) *Integrated Information and Computing Systems*. IGI Global. Pp. 354-368.

- Gawande, K., H. Jenkins-Smith, M. Yuan. 2013. The Long-Run Impact of Nuclear Waste Shipments on the Property Market: Evidence from Quasi Experiment. *Journal of Environmental Economics*, 65(1): 56-73.
- Bothwell, J. and M. Yuan. 2011. A Kinematics-based GIS Methodology to Represent and Analyze Spatiotemporal Patterns of Precipitation Change. The *Proceedings of the 19<sup>th</sup> ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems*, pp. 152-161.
- Bothwell, J and M. Yuan. 2010. Apply Concepts of Fluid Kinematics to Represent Continuous Space-Time Fields in Temporal GIS. *Annals of Geographic Information Science*, 16(1): 27-41.
- Plutar, E. F., T. J. Cova, M. Yuan, and M. F. Goodchild. 2010. EDGIS: A dynamic GIS based on Space Time Point. *International Journal of Geographic Information Science*, 24(3):329-346.
- Yuan, M. 2010. Mapping Text. In *Spatial Humanities*. Edited by David Bodenhamer, John Corrigan, and Trevor Harris. Indiana University Press. Pp. 109-123.
- Kaspari, M. Yanoviak, S. Dudley, R. Yuan, M. And Clay, N. 2009. Sodium shortage as a constraint on the carbon cycle in an inland tropical rainforest. *Proceeding of National Academy of Science*, 106 (46): 19405-19409
- Cheuk, M. L. and M. Yuan. 2009. Assessing spatial uncertainty of LiDAR-derived building model: a case study in downtown Oklahoma City. *Photogrammetry Engineering and Remote Sensing*: 75(3): 257-270.
- Yuan, M. 2009. Knowledge discovery of geographic dynamics in spatiotemporal data. In *Geographic Data Mining and Knowledge Discovery* (2ed) edited by H. Miller and J. Han. Pp. 347-366, CRC/Taylor and Francis.
- Yuan, M. 2009. Challenges and critical issues for temporal GIS research and technologies. *Handbook of Research on Geoinformatics*. H. Karimi (ed.) IGI Global, Hershey, PA. USA. Pp. 144-153. DOI: 10.4018/978-1-59140-995-3.ch019
- Basara, H. G. and M. Yuan. 2008. Community health assessment using self-organizing maps and geographic information systems. *International Journal of Health Geographics* (<http://www.ij-healthgeographics.com/content/7/1/67>)
- Myint, S., M. Yuan, R. S. Cervený, and C. P. Giri. 2008. Comparison of remote sensing image processing techniques to identify tornado damage areas from Landsat TM data. *Sensors*, 8:1128-1156.
- Myint, S., M. Yuan, R. S. Cervený, and C. P. Giri. 2008. Categorizing Natural Disaster Damage Assessment Using Satellite-Based Geospatial Techniques: using Satellite-based Geospatial Techniques. *Natural Hazards and Earth System Sciences*, 8: 707-719.
- Madsen, H., Helene Carabin, Don Balolong, Veronica L. Tallo, Remigio Olveda, May Yuan, Stephen T. McGarvey, 2008. Prevalence of Schistosoma japonicum infection of Oncomelania quadrasi snail colonies in 50 irrigated and rain-fed villages of Samar Province, the Philippines. *Acta Tropica* 105: 235-241.
- Yuan, M. 2007. Adding Time. *Handbook of Geographic Information Science*, J. Wilson and S. Fotheringham, editors, published by Blackwell Publishing. P. 169-184.
- Goodchild, M. M. Yuan, and T. Cova. 2007. Towards a general theory of geographic representation in GIS. *International Journal of Geographic Information Science*; 21(3):239-260.
- McIntosh, J. and M. Yuan. 2005. A framework to enhance semantic flexibility for analysis of distributed phenomena. *International Journal of Geographic Information Science*, 19(10): 999-1018.
- McIntosh, J. and M. Yuan. 2005. Assessing similarity of geographic processes and events. *Transactions in GIS*. 9(2): 223-245.
- Yuan, M. 2005. Beyond Mapping in GIS Applications to Environmental Analysis, *The Bulletin of the American Meteorological Society* 86(2): 167-180.

- Yuan, M., D. M. Mark, M. J. Egenhofer, and D. J. Peuquet, 2004. Extensions to Geographic Representations. Chapter 5 in R. B. McMaster and E. L. Usery (eds.), *A Research Agenda for Geographic Information Science*, Boca Raton, Florida: CRC Press, 129-156.
- Yuan, M., B. Battenfield, M. Gehagen, H. Miller, 2004. Geospatial Data Mining and Knowledge Discovery. Chapter 14 in R. B. McMaster and E. L. Usery (eds.), *A Research Agenda for Geographic Information Science*, Boca Raton, Florida: CRC Press, 365-388.
- Kaspari, M., P. S. Ward, and M. Yuan. 2004. Energy gradients and the geographic distribution of local ant diversity. *Oecologia* 104(3): 407-413.
- Kaspari, M., M. Yuan and L. Alonso. 2003. Spatial Grain and the Cause of Regional Diversity Gradients in Ants. *American Naturalist*. 16(3): 459-477.
- Roth, E. D. and M. Yuan, 2003 The Importance of Reporting the Geodetic Datum with Geographic Coordinates for Collection Localities and Natural History Observations. *Herpetological Review* 34(3): 195-197.
- Yuan, M., M. Dickens-Micozzi, M. A. Magsig. 2002. Analysis of Tornado Damage Tracks on the May 3rd Tornado Outbreak Using High-Resolution Satellite Imagery and GIS. *Weather and Forecasting*, American Meteorological Society, 17:382-398.
- Yuan, M. and J. McIntosh. 2002. A Typology of Spatiotemporal Information Queries. *Mining Spatiotemporal Information Systems*. K. Shaw, R. Ladner, and M. Abdelguerfi (eds.). Kuwer Academic Publishers. PP. 63-82.
- Yuan, M. and C. E. Duchon, 2001. Estimation of Daily Area-Average Rainfall in Central Florida Using Kriging and Arithmetic Averaging. *Physical Geography*, 22, 1: 42-58.
- Yuan, M. 2001 Representing Complex Geographic Phenomena with both Object- and Field-like Properties. *Cartography and Geographic Information Science* 28(2): 83-96.
- Yuan, M. 2001. Geographic Data Structure. *Geospatial Technology Manual*. J. D. Bossel, J. R. Jensen, R. B. McMaster, and C. Rizos eds. (by Taylor & Francis). Pp. 431-449.
- Yuan, M. 2000. Representing geographic information to support queries about life and motion of socio-economic units. In *Life and Motion of Socio-Economic Units* edited by A. U. Frank, J. Raper, and J. P. Cheyland. European Science Foundation (ESF) Series ( London: Taylor and Francis). Pp. 217-234.
- Yuan, M. 2000. Representation dynamic geographic phenomena based on hierarchical theory. *Proceedings: 9<sup>th</sup> International Symposium on Spatial Data Handling Spatial Data Handling*, P. Forer Eds. Pp. 2a.19-2a.29.
- Mass, D. S. and M. Yuan. 1999. Analyzing Dispersal Dynamics of Golden-cheeked Warblers (*Dendroica chrysoparia*) Using Remote Sensing, Global Positioning System, and Geographic Information System Technologies. *Applied Geographic Studies*. Volume 3 (2): 77-95.
- Yuan, M. 1999. Representing Geographic Information to enhance GIS support for complex spatiotemporal queries. *Transactions in GIS*, 3(2):137-160.
- Yuan, M. 1998. Representing Spatiotemporal Processes to Support Knowledge Discovery in GIS databases. *Proceedings: 8<sup>th</sup> International Symposium on Spatial Data Handling Spatial Data Handling*, T. K. Poiker and N. Chrisman, eds. Pp. 431-440.
- Yuan, M. and D. R. Perault. 1998. Measuring the Fractal Dimensions of a Temporal Forest Landscape. *Applied Geographic Studies*, 2(2): 131-144.
- Yuan, M., 1997. Knowledge acquisition for building wildfire representation in Geographic Information Systems. *The International Journal of Geographic Information Systems*, 11(8):723-745.

- Yuan, M., 1996. Modeling semantical, temporal, and spatial information in geographic information systems. *Geographic Information Research: Bridging the Atlantic*, edited by M. Craglia and H. Couclelis (London: Taylor & Francis), pp. 334-347.
- Yuan, M. and J. Albrecht, 1995. Structural analysis of geographic information and GIS operations: from a user's perspective. In *Spatial Information Theory*, edited by A. Frank and W. Kuhn (Berlin: Springer-Verlag), pp. 107-122.

## CONFERENCE PAPERS

- Acker, B. and M. Yuan, 2018. Spatiotemporal Modeling of Traffic Accidents Using Network Kernel Density Estimation and Space Syntax Analysis: a case study in Dallas, Texas, USA. Proceedings of AutoCarto and University Consortium of Geographic Information Science Consortium Symposium. May 22-24, 2018. Madison, Wisconsin, Pp. 1-7.
- Dell, B. and M. Yuan, 2018. A 3D Spatial Optimization Problem for Determining Optimal Locations for Bluetooth Beacon Placement. Proceedings of AutoCarto and University Consortium of Geographic Information Science Consortium Symposium. May 22-24, 2018. Madison, Wisconsin, Pp. 50-51.
- Abuzied, S., M. Yuan, S. Ibrahim, M. Kaiser, and T. Seleem. 2015. Delineation of Groundwater Potential Zones in Nuweiba Area, Egypt, Using Remote Sensing and GIS Techniques. International Conference on Remote Sensing and Applications (ICRSA 2015). April 9-10, 2015. Los Angeles, CA.
- Kingfield, D., M. Yuan, H. Brooks, and M. Richman. 2011. A Spatiotemporal Assessment of Tornado Warnings within Storm Prediction Center Convective Outlooks using Geographic Information Systems. American Meteorological Society 2011. *Interactive Information Processing Systems*. Seattle, WA. Pp. 23-27, 2011.
- Simons, J., M. Yuan, C. Carollo, M. Vega-Cendejas, T. Shirley, M. L D Palomares, P. Roopnarine, L. Arenas, A. Ibanez, J. Holmes, C. Mazza, R. Hertog, and D. Reed. 2011. Building a fisheries trophic interaction database for management and modeling research in the Gulf of Mexico Large Marine Ecosystem. Beyond the Horizon Workshop, May 12-13, 2011, Mote Marine Laboratory.
- McIntosh, J., G. DeLozier, J. Cantrell, M. Yuan. 2011. Towards a Narrative GIS. Digital Humanities, 2011. June 19-22, 2011. Stanford University.
- James Simons, M. Yuan, C. Carollo, C. Mazza, S. Gonzalez-Perez, L. Williams, D. Morris, D. Reed, M. Vega-Cendejas. 2011. Toward species interaction networks. Managing, visualizing and synthesizing Gulf of Mexico geo-spatial trophic data. Environmental Information Management 2011 Conference. September 28-29, 2011. Santa Barbara. CA.
- Yuan, M. 2011. Space-Time Ontologies for Thinking and Reasoning. Conference on Spatial Information Theory. 9/12-16/2011. Belfast, ME.
- Yuan, M. (2007, April). Geographic information systems (GIS) approaches for geographic dynamics understanding and event prediction. In *Defense and Security Symposium* (pp. 65781A-65781A). International Society for Optics and Photonics, April 8-13, Orlando, Florida.
- McPherson, W. G., M. Yuan, and N. Benson. 2007. Devising an online collaborative decision-support GIS for climate monitoring site selection. 23<sup>rd</sup> Conference on IIPS. 87<sup>th</sup> annual meeting of American Meteorology Society. San Antonio, Texas. January 15-18, 2007.
- Howard, D. and M. Yuan. 2007. A continuous field approach to using GIS to model weather RADAR terrain occultation. 23<sup>rd</sup> Conference on IIPS. 87<sup>th</sup> annual meeting of American Meteorology Society. San Antonio, Texas. January 15-18, 2007.

- McPherson, W. G. and M. Yuan. 2006. GIS analysis and modeling for spatial decision support to NOAA's environmental Real-Time Observation Network (NERON). 22<sup>nd</sup> International Conference on Interactive Information Processing Systems for Meteorology, Oceanography, and Hydrology in American Meteorological Society Annual Meeting, 29 January-2 February, 2006, Atlanta, Georgia .
- Bothwell, J. and M. Yuan. 2006. Exploring climate patterns embedded in global climate change datasets. 22<sup>nd</sup> International Conference on Interactive Information Processing Systems for Meteorology, Oceanography, and Hydrology in American Meteorological Society Annual Meeting, 29 January-2 February, 2006, Atlanta, Georgia .
- Cheuk, M. L., M. Yuan, and P. Klein-Kastner. 2006. Coupling Geographic Information Systems and Urban Dispersion Model: An Example of ArcGIS and QUIC. Sixth Urban Environment Symposium in American Meteorological Society Annual Meeting, 29 January-2 February, 2006, Atlanta, Georgia.
- McPherson, W. Jr. and M. Yuan. 2006. GIS Analysis and Modeling for Spatial Decision Support to NOAA's Real-Time Observation Network (NERON). 22<sup>nd</sup> International Conference on Interactive Information Processing Systems (IIPS) for Meteorology, Oceanography, and Hydrology, 29 January-2 February, 2006, Atlanta, Georgia .
- Basara J., B. G. Illston, P. Klein, and M. Yuan. 2006. The Oklahoma City Urban micronet project: transitioning from vision to reality. Sixth Urban Environment Symposium in American Meteorological Society Annual Meeting, Atlanta, Georgia. January 2006.
- Yuan, M. 2005, A temporal GIS conceptual framework for complex queries about geographic dynamics, GISPlanet 2005. May 30-June 2, 2005. Lisbon, Portugal.
- Yuan, M. 2005. The Roles of GIS in Building the Earth Information System. 21<sup>st</sup> International Conference on Interactive Information Processing Systems (IIPS) for Meteorology, Oceanography, and Hydrology, January 12, 2005. San Diego, California. Available at [http://ams.confex.com/ams/Annual2005/techprogram/paper\\_86983.htm](http://ams.confex.com/ams/Annual2005/techprogram/paper_86983.htm)
- McPherson, W. Jr., M. Yuan, D. Giuliano, K. Tapp, and J. Rush, 2005. Siting New England: a GIS prototype for site selection for the NWS Modernized Cooperative Network. Ninth Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS), January 12, 2005. San Diego, California. Available at [http://ams.confex.com/ams/Annual2005/techprogram/paper\\_86229.htm](http://ams.confex.com/ams/Annual2005/techprogram/paper_86229.htm)
- Burian, S.J., M. Brown, J. Ching, M. L. Cheuk, M. Yuan, W. S. Han, and A. T. McKinnon 2004. Urban Morphological Analysis for Mesoscale Meteorological and Dispersion Modeling Applications: Current Issues. American Meteorological Society Fifth Conference on Urban Environment. 23-27 August, Vancouver, BC, Canada.
- Yuan, M. and J. McIntosh, 2004. Data retrieval based on spatiotemporal characteristics of weather events. The 84<sup>th</sup> Annual Meeting of the American Meteorological Society. Seattle, WA. Available at [http://ams.confex.com/ams/84Annual/techprogram/paper\\_72531.htm](http://ams.confex.com/ams/84Annual/techprogram/paper_72531.htm)
- Yuan, M. and J. McIntosh. 2003. Weather Intelligence: A GIS Approach to Enrich Weather/Climate Databases. The 83<sup>rd</sup> Annual Meeting of the American Meteorological Society.
- Cunningham, K., M. Yuan, and J. Adams, 1999. Measuring the effects of reservoir operations using GIS. Accepted to be presented in the First International Symposium on GIS in Fishery Sciences.
- Yuan, M. 1997. Development of a Global Conceptual Schema for Interoperable Geographic Information. The International Specialist Meeting on Interoperating Geographic Information Systems, sponsored by NSF and OpenGIS . December 5-6, Santa Barbara, CA. <http://ncgia.ncgia.ucsb.edu:80/conf/interop97/program/>

- Yuan, M. and I. Butler, 1997. On Developing an Integrated Information System for the Oklahoma Natural Heritage Inventory: The Biological Data Atlas. Paper to be published in the Proceedings: [Conference on Scientific and Technical Data Exchange and Integration](#). December 15-17, 1997. Bethesda, Maryland. [The National Research Council on the U.S. National Committee for CODATA](#).
- Yuan, M., 1997. Representing Geographic Information to Support Spatiotemporal Queries. Proceedings: [GIS AM/FM Asia'97 & GeoInformatics'97: Mapping the Future of Asia Pacific](#), May 26-29, Taipei, Taiwan, ( Taipei, Taiwan : Chinese Geographic Information Society, published in English).
- Yuan, M., 1996. Temporal GIS and Spatiotemporal Modeling. [Integrating GIS and Environmental Modeling](#) edited by M. Goodchild (CD-ROM).
- Yuan, M., 1994. Wildfire conceptual modeling for building GIS space-time models. [Proceedings: GIS/LIS '94](#), pp. 860-869. [Re-printed in Temporal Data in Geographic Information Systems](#), compiled by Andrew Frank, Wener Kuhn, and Peter Haunold, 1995. Department of Geoinformation, Technical University of Vienna. pp. 47-56.
- Yuan, M. and D. M. Mark, 1994. Eliciting experts' knowledge for wildfire data modeling in GIS. [Proceedings, 1994 ESRI Users Conference](#), pp. 1179-1191.
- Chou, Y. H. and M. Yuan, 1993. An integrated object-oriented representation of wildland fires in Geographic Information Systems. [Proceedings: GIS/LIS'93](#), pp. 128-138.
- Weber, C. R. and M. Yuan, 1993. Cartographic Sonification: An analysis of subject association of harmonic intervals with various cartographic adjectives. [Proceedings: ACSM/ASPRS, Annual Convention and Exhibition. Vol. 1](#), pp. 391-401.
- Yuan, M. and Hui Lin, 1992. Spatio-temporal modeling of wildfire in Geographic Information Systems. [Proceedings: the Symposium of Chinese Professionals in Geographic Information Systems](#). pp. 194-200.

## ENCYCLOPEDIA ENTRIES

- Yuan, M. (in progress) GIS Section Editor, International Encyclopedia of Geography. American Association of Geographers and Wiley.
- Yuan, May. 2010. Self-Organizing Maps. Encyclopedia of Geography. 2010. SAGE Publications. 3 Oct. 2010. <[http://www.sage-ereference.com/geography/Article\\_n1018.html](http://www.sage-ereference.com/geography/Article_n1018.html)>.
- Yuan, May. 2010. Wilson, John (1955-). Encyclopedia of Geography. 2010. SAGE Publications. 3 Oct. 2010. <[http://www.sage-ereference.com/geography/Article\\_n1245.html](http://www.sage-ereference.com/geography/Article_n1245.html)>.
- Yuan M. 2009. Space-Time Modeling. In Kitchin R, Thrift N (eds) *International Encyclopedia of Human Geography*, Volume 10, pp. 286-295. Oxford: Elsevier.
- Yuan, M. 2008. Temporal GIS and Applications. [Encyclopedia of Geographic Information Science](#). S. Shekhar and H. Xiong (ed.). Springer-Verlag, Berlin.
- Yuan, M. 2008. Visualization and Modeling of Geographic Dynamics. [Encyclopedia of Geographic Information Science](#). S. Shekhar and H. Xiong (ed.). Springer-Verlag, Berlin.
- Yuan, M. 2007 Discrete vs. Continuous Phenomena. *Encyclopedia of Geographic Information Science*. K. Kemp (ed.) Sage Publications. P. 111-114.
- Yuan, M. 2007. Representation. [Encyclopedia of Geographic Information Science](#). K. Kemp (ed.) Sage Publications. P. [368-372](#).



Yuan, M. 2006. Computational Models of Space. *Encyclopedia of Human Geography*. Pp. 56-57, Barney Warf, editor in chief. Sage Publications.

## **BOOK REVIEWS**

Yuan, M. 2004. A Book Review on The Representation of Space and Time by D. Peuquet. *Economic Geography* 80(2), April 2004

Yuan, M. 2000. A Book Review on Spatial and Temporal Reasoning in Geographic Information Systems (Spatial Information Systems) by M. J. Egenhofer and R. G. Golledge eds. *Transactions in GIS*. 4(2).

Yuan, M. 1999. A Book Review on Exploring Spatial Analysis in Geographic Information Systems by Y. H. Chou. *Cartography and Geographic Information Science*.

## **MAGAZINE ARTICLES**

Yuan, M. Dynamics GIS: Recognizing the Dynamic Nature of Reality. *ArcNews*. Spring 2008  
(<http://www.esri.com/news/arcnews/spring08articles/dynamics-gis.html>)

Yuan, M. and A. Carter. Challenges and Insights in GIS/Remote Sensing Data Integration. *Geological Remote Sensing Group Newsletter*. Issue 58.

## **INVITED PRESENTATIONS**

Keynote Speaker, Rethink GIS. GISRUK 2018 – 26<sup>th</sup> GIScience Research UK Conference, April 19, 2018. Leister, UK.

Speaker of Tobler's Lecture, GIS is Dead; Long Live GIS. American Association of Geographers Annual Meeting, April 13, 2018. New Orleans, LA, USA.

Speaker, Experiential Cities. The first International Conference on Urban Informatics. November 13, 2017, Hong Kong Polytech University, Hong Kong.

Speaker, Geospatial Intelligence Graduate Certificate at UT-Dallas. Academic Summit, United State Geospatial Intelligence Foundation, October 1, 2017, Dulles, Virginia.

Speaker, Conceptualization, Representation, and Analysis in GIS. Department of Geography Colloquium, September 28, 2017. University of Connecticut, CT.

Speaker., Exploring Human Dynamics in non-Geographic Space. Human Dynamics Expert Workshop. August 15-16, 2017 San Diego, California.

Speaker, Trends and Challenges in Geographical Information Science. Taiwanese Geographical Information Society Annual Meeting, August 9, 2017, Taipei, Taiwan.

Speaker, Identify Movement and Interaction Patterns from Trajectory Data. Department of Radiology, University of Texas Southwest Medical Center. May 19, 2017, Dallas, TX.

Yuan, M. Identify Movement and Interaction Patterns from Large GPS Data of Individual Entities. International Workshop on Interactive and Spatial Computing, April 14, 2017, Dallas, Texas

Speaker, Geographic Conceptualization for GIS Representation and Analysis. Department of Geography Colloquium, November, 17, 2016, University of Florida. Gainesville, FL.

Speaker, Humanizing Geospatial Science for Human Dynamics Understanding. Specialist Workshop on Human Dynamics in the Mobile Age. San Diego State University. August 11-12, 2016, San Diego, CA.

Speaker, Vertical Integration and deep maps. Specialist Workshop on Deep Maps. University of West Virginia. May 23-25, 2016, Morgantown, WV.

Speaker, From Spatial Analysis to Placial Analysis. Center for Applied GIScience Colloquium. North Carolina State University, April 18, 2016, Charlotte, NC.

Speaker, Space-Time Conceptualization for Geographic Analysis. Department of Geography Colloquium. University of Texas at Austin. February 20, 2016. Austin, TX.

Speaker, Spatial Narrative for Historical Research, Conference of Asian Network for GIS-based Historical Studies. December 4-6, 2015. Taipei, Taiwan.

Speaker, Big Data in a Small World. Symposium on Big Data and Smart Cities. National Taiwan University. May 17, 2015. Taipei, Taiwan.

Speaker, Space-Time Analytics and Geographic Dynamics. National Science and Technology Center for Disaster Reduction, Slope and Hydrological Hazards Division, May 15, 2015. Taipei, Taiwan.

Speaker, Space in Time and Time in Space in the context of Geographic Information Science. Academia Sinica. May 13, 2015, Taipei, Taiwan.

Speaker, Spatial Search: Challenges and Research Agenda. Specialist Meeting on Spatial Search. December 8-9, 2014. UC-Santa Barbara, Spatial@UCSB Center for Spatial Studies, Santa Barbara, California.

Speaker, Space-time analytics of big data to discover patterns of life. Specialist meeting on Human Dynamics in the Mobile Age. New Frontiers of Knowledge Discovery in Cyber Space and Big Data. August 11-12, 2014. San Diego State University.

Speaker, Space-time, Spatial narratives, and CyberGIS. CyberGIS 2014. August 18-21, 2014. Redlands, California.

Speaker, Geospatial Education and Workforce Development. Geological Remote Sensing Group, North American and Spatial Energy Inc. September 10, 2014.

Speaker, Open Science, Open GIS, and Open Geography for Research and Education. Keynote at Taiwan Geography Conference 2014, May 24-25, 2014, Taipei, Taiwan.

Speaker, From Features to Narratives for Spatial Humanities. The Geographic Imaginations and Spatial Humanities Seminar of the Robert Penn Warren Center for Humanities. February 21, 2014. Vanderbilt University, Nashville, Tennessee.

Speaker, Beyond Time Geography: Space-Time Analytics for Patterns of Life. Geospatial Science Colloquium, University of Texas at Dallas. February 5, 2014.

Speaker, Space-Time Analytics and Cyber GIS. Department of Geography, National Taiwan University. December 7, 2013. Taipei, Taiwan.

Speaker, Historical GIS and Geospatial Narratives. Research Center for Humanities and Social Sciences, Academic Sinica, Taiwan. December 4, 2013. Taipei, Taiwan.

Speaker, Space and Time in GIS. International Workshop on Foundations and Challenges in Geographic Information Science. Chinese University Hong Kong and Sun Yat-sen University. May 15-17, 2013. Hong Kong and Guangzhou, China.

Speaker, Space-Time Analytics and CyberGIS. CyberGIS colloquium, University of Illinois – Urbana Champaign. May 3, 2013.

Speaker, Space-Time Analytics. US-China Space and Time in GIScience Research Summit. Chinese Academy of Sciences. Nov 13, 2012. Beijing, China, and Nov 15, 2012 Wuhan, China.

Speaker, Space, Time, and Patterns of Life. Oak Ridge National Laboratory, September 26, 2012 and Ralston Lecture, Department of Geography, University of Tennessee. September 28, 2012. Knoxville, Tennessee.

Speaker, Spatial Narratives and Deep Maps. Digital Humanities Institute. Polis Center, Indiana University Purdue University Indianapolis. June 18-June 29, 2012. Indianapolis, IN.

Speaker, Promoting Diversity in Geography: key issues and strategies. American Association of Geographers (AAG) Departmental Leadership Workshop. June 13-16, 2012. Boulder, CO.

Speaker, GIS and Health. OU Health Science Center Department of Biostatistics and Epidemiology. 4/28/2011.

Speaker, GPS Track Analysis to Facilitate Location-based Offender Monitoring. Panel at National Institute of Justice Conference 6/20-22/2011

Speaker, Space-Time Integration in GIScience and Geography. National University of Geosciences, Beijing, China. 11/1-9/2011. Beijing, China

Speaker, From Time Geography to Geospatial Narrative: GIS as a Narrative Generation Platform. Miller Lecture at Department of Geography at Pennsylvania State University. 11/30-12/1/2011.

Speaker, Advancing GIS for Geospatial Dynamics. AGU 2010 Fall Meeting, 12-17 December 2010. San Francisco, CA.

Speaker, GIScience Approaches to Understanding Geographic Dynamics. GIS Day at the University of Nebraska. November 17, 2010. Lincoln, Nebraska.

Speaker, Temporal GIS Research Trends. Academia Sinica Taiwan. July 15, 2010. Taipei, Taiwan.

Instructor, GIS and GIScience for Climate Change Analysis. NSF PASI Panama on Climate Change and Hazards. June 14-26, 2010. Panama City, Panama.

Speaker, Space, Time, and Narratives. Future Research Directions for the National Geospatial-Intelligence Agency. National Research Council Workshop. May 17-19, 2010. Washington DC.

Speaker, Spatial Integration and Inspirations. Workshop on Innovations in Biological Imaging and Visualization. National Science Foundation, May 24-28, 2010. Washington, DC.

Speaker, Spatiotemporal Integration for Knowledge Innovation. Workshop on Knowledge Innovation at the Science-Policy Interface. Inter America Institute and National Center for Atmospheric Science (IAI-NCAR). April 12-23, 2010, San Jose, Costa Rica.

Panelist, GIScience Grand Challenges. American Association of Geographers Annual Meeting. April 14-18. Washington DC.

Seminar Speaker, GIScience Research: Frontiers and Fundamentals. Department of Geography, National Taiwan University. October 6, 2009. Taipei, Taiwan.

Speaker: From Temporal GIS to Narrative. Presidential Session in Social Science and History Association Annual Meeting, Miami, Florida. Oct 23-26, 2008

Speaker: Temporal GIS, Geographic Dynamics, and Complex Systems. EUROCORES Programme TECT workshop on Cooperation through the Ages: the social and psychological dynamics of cooperation and punishment. Sitges, Barcelona, Spain. 25-27 April 2008. European Science Foundation.

Speaker: Temporal GIS: Representation and Analysis. EUROCORES Programme TECT Joint-Project workshop on Studying Spatially Complex Cooperative Relationships, Universidade do Porto, Porto, Portugal, 26-29 March 2008. European Science Foundation.

Panel discussant, Workshop on Advanced Research in Geospatial Information Technologies for Transportation. September 20-21, 2007. Keck Center, U.S. National Academies, Washington DC.

Speaker: Temporal GIS. Workshop: A Place in Europe: Historical GIS and New Perspectives on European and World History. November 30-December 2, 2007, Barcelona, Spain. Sponsored by the European Science Foundation.

Speaker: Geovisualization Seminar, Temporal GIS for Meteorological Applications: Perception, Representation, Analysis, Visualization, and Understanding. Department of Geosciences, Oregon State University. February 13, 2007.

Speaker, Research Priorities in Areas of Geospatial Intelligence. GEOINTEL Academic workshop on Research Priorities. November 13-16, 2006. Orlando, Florida

Keynote Speaker, Geographic Data Mining and Knowledge Discovery. GISnet'12 Conference, August 14-18, 2006. Hochiminh city Vietnam.

Keynote Speaker, GIS for Knowledge Discovery of Weather and Climate, April 8, 2006, European Geosciences Union, General Assembly Vienna, Austria.

Seminar Speaker. Spatiotemporal Data Modeling for Knowledge Discovery. National Center for Geocomputation, March 24, 2006. Maynooth, Ireland .

Seminar Speaker, Temporal GIS and Meteorology. National Center for Atmospheric Research, June 30, 2004. Boulder, Colorado.

Seminar Speaker, GIS and Public Health Applications OU Health Science Center. September 29, 2003. Oklahoma City, Oklahoma.

Seminar Speaker, Geographic Intelligence: From Representation to Discovery of Geographic Dynamics in GIS Databases. Geography Colloquium at the University of Southern California, October 10, 2003.

Workshop Speaker, Beyond Mapping: GIS Analysis and Modeling for Environmental Research. UNIDATA Workshop on Expanding Horizons: Using Environmental Data and Model Output for Education, Prediction, and Decision Making, June 23-27, 2003. Boulder, CO.

Seminar Speaker. Representation and Discovery of Geographic Dynamics in GIS Databases. Dangermand Lecture Series at ESRI and Geography, UC-Santa Barbara. December 9-10, 2003.

Seminar Speaker, Geography Colloquium, University of Minnesota, Minneapolis-St. Paul. December 2, 2001.

Special Session Speaker on GIS Data Schemata for Spatiotemporal Information in The Third International Conference in Integrating GIS and Environmental Modeling. Santa Fe, New Mexico. January 21-25, 1996.

Visiting Research Scientist UNIDATA and National Center for Atmospheric Research. June 1 to December 31, 2004. Boulder, Colorado.

### **CONFERENCE AND WORKSHOP PRESENTATIONS (IN ADDITION TO CONFERENCE PUBLICATIONS)**

Samuel Levin, M. Yuan, Viewshed Analysis for UAS Flight Planning. AutoCarto and University Consortium of Geographic Information Science Consortium Symposium. May 22-24, 2018. Madison, Wisconsin,

Yuan, M. Trajectory Analysis of International Trade, International Conference of Geoinformatics, August 2-4, 2017. Buffalo, New York.

Yuan, M. International Trade: from bilateral interactions to trending trading patterns, Association of Geographers annual conference, April 5-9, 2017, Boston, Massachusetts.

Yuan, M. Building Narratives to Humanize Digital Spaces with Big Data Analytics. Association of Geographers annual conference, March 29-April 2, 2016, San Francisco, California.

- Yuan, M. Big Data and Spatial Big Data. Spatial Data Mining and Big Data Analytics panel at American Association of Geographers annual conference, April 20-25, 2015, Chicago, Illinois.
- Yuan, M. Big Spatiotemporal Data Analytics. Big Spatiotemporal Data Analytics panel at American Association of Geographers annual conference, April 20-25, 2015, Chicago, Illinois.
- Yuan, M., J. McIntosh, and G. DeLozier, 2014. Mapping Spatial Narratives from Digital Text. AutoCarto 2014, October 5-7, 2014, Pittsburgh, Pennsylvania.
- Nara, A., M. Yuan, M. Keesee, W. Greenwood, M. Mouser, and G. Floyd. 2014. Discovering Activity Space from GPS Tracks. American Association of Geographers annual conference. April 7-14, 2014. Tampa, Florida.
- Yuan, M. 2014. Open GIS: Challenges and Opportunities. April 7-14, 2014. American Association of Geographers annual conference. Tampa, Florida.
- Yuan, M. 2014. Spatiotemporal Computational Thinking. American Association of Geographers annual conference, April 7-14, Tampa, Florida.
- Yuan, M. J. McIntosh, and G. DeLozier. 2013. Space-Time Analytics of Narratives. History and Social Science Association Annual Meeting, November 21-23, 2013, Chicago, IL.
- Bothwell, J., M. Yuan and D. Karoly, 2013. Differentiate data from models representing different dynamic processes based on kinematic measures. The third International Workshop on Climate Informatics. September 26-27, 2013. the National Center for Atmospheric Research, Boulder, Colorado.
- Yuan, M. 2013. Some Missing Ideas about Time and Space-Time in GIScience. Space-Time Workshop at the Conference of Spatial Information Theory. September 3-5, 2013. Scarborough, North York, UK.
- Yuan, M., Nara, A., Keesee, M., and Drake, G. "Online Analysis Tools for GPS Offender Monitoring." American Probation and Parole Association, 38<sup>th</sup> Annual Training Institute, Baltimore, MD, July 28-31.
- Yuan, M. 2013. CyberGIS education. CyberGIS Symposium in the annual meeting of the American Association of Geographers. April 9-13, 2013, Los Angeles, California.
- Nara, A., M. Keesee, W. Greenwood, M. Denney, and M. Yuan. 2013. Space-Time Analytics of Movement Patterns from GPS Data. The annual meeting of the American Association of Geographers. April 9-13, 2013, Los Angeles, California.
- Yuan, M. 2013. Promoting Diversity in Geography. Chairs' Symposium in the annual meeting of the American Association of Geographers. April 9-13, 2013, Los Angeles, California.
- Luo, W. and Yuan, M. 2013. Spatial Dimension of International Trade. The annual meeting of the American Association of Geographers. April 9-13, 2013, Los Angeles, California.
- Yuan, M. and Nara, A. 2013. Criminogenic Places. The annual meeting of the American Association of Geographers. April 9-13, 2013, Los Angeles, California.
- Yuan, M. 2013. Spatiotemporal Thinking, Computing, and Applications. The annual meeting of the American Association of Geographers. April 9-13, 2013, Los Angeles, California
- Yuan, M., J. McIntosh, and G. DeLozier, 2012. Narrative GIS: From Mapping Text to Generating Spatial Narratives. Social Science and History Association Conference. November 1-4, 2012.
- Nara, Atsushi, M. Keesee, W. Greenwood, J. Redden, M. Denney, and M. Yuan. 2012. Track analysis toolkit for location based offender monitoring system. Annual conference of Technology Institute for Corrections. August 6-7, 2012. Arlington, VA.
- Yuan, M. 2012. GIS as a platform for spatial narrative generation. Annual project meeting of Understanding Social Networks within Complex, Nonlinear Systems: Geographically Integrated History and Dynamics GIS, August 7-8, 2012. Boise, ID.

- Yuan, M. 2012. Spatial narratives and deep maps. Digital Humanities Institute. Polis Center at IUPUI June 18-29, 2012. Indianapolis, IN.
- Yuan, M. 2012. Geographic Perspectives to Catalyzing Diversity Research. American Association of Geographers Departmental Leadership Workshop. June 13-16, 2012. Boulder, CO.
- Nesbit, S., J. McIntosh, G. De Lozier, and M. Yuan. 2012. Calling all troops. Maps, Models, Machines: New Methods in Civil War History. Annual Conference of the Society of Civil War Historians. June 14-16, Lexington, KY.
- Yuan, M. 2012. Representation Research in Geographical Information Science and Spatial Sciences. Panel session in honor of Dr. Michael F. Goodchild retirement. American Association of Geographers 2012 Annual Meeting. February 24-28, 2012. New York, NY.
- McIntosh, J., G. DeLozier, J. Cantrell, M. Yuan. 2011. Using Technology to Integrate Time and Space for Historical Analysis. American Association of Geographers 2011 Annual Meeting. April 12-16, 2011. Seattle, WA.
- Yuan, M. 2011. CyberGIS: GIS in the Cyberinfrastructure on CyberGIS Research Agenda Panel at American Association of Geographers 2011 Annual Meeting. April 12-16, 2011. Seattle, WA.
- McPherson, W. G., J. Hocker, and M. Yuan. 2010. GIS Development of the Southern Climate Impacts Planning Program. 26<sup>th</sup> Conference on Interactive Information Processing Systems for Meteorology, Oceanography, and Hydrology. January 17-21, 2010, Atlanta, GA.
- Yuan, M. 2009. Modeling Agency and Action in Historical GIS. Special session in the Annual meeting of the Association of Historical and Social Sciences. November 12-15, 2009. Long Beach, CA.
- Yuan, M. 2009. Engaging in the context of GIS, University Consortium for Geographic Information Science, Summer Assembly, June 22-23, Santa Fe, NM.
- Yuan, M., Temporal GIS and Spatiotemporal Analysis. DARPA ISAT Workshop on spatio-temporal analysis, May 6-7, 2009. Berkeley, CA.
- Yuan, M. 2007. From Static to Dynamic: Temporal GIS Potential to Spatial Analysis. Annual Meeting of American Association of Geographers. San Francisco, CA. April 18-21, 2007.
- Yuan, M. 2007. Temporal GIS for Agent-based Modeling of Complex Spatial Systems. NSF Research Workshop on Agent-Based Modeling of Complex Spatial Systems. Santa Barbara, CA. April 13-15, 2007.
- Yuan, M. 2007. Temporal GIS for Meteorological Application and Representation Models for Dynamic Geographic Phenomena. February 13, 2007. Geovisualization Seminar. Oregon State University.
- Yuan, M. 2006. Research Priorities in Areas of Geospatial Intelligence. GeoIntel 2007 Symposium. November 13-16, 2006, Orlando, Florida.
- Yuan, M. 2006. From Nature to Nurture: GIS for Knowledge Discovery of Dynamics. UCGIS visits to Intelligence Communities Savage, Maryland .
- Yuan, M. 2005. GIS data modeling for Knowledge Discovery. 100<sup>th</sup> annual meeting of American Association of Geographers. April 9, 2005. Denver, Colorado.
- Yuan, M. 2004. Geospatial Information Science and Technology Program Report. Oklahoma Space Grant Consortium annual review meeting. May 19, 2004. Norman, Oklahoma.
- Yuan, M. 2004. Oklahoma Geospatial Extension and Outreach Activities. National Geospatial Extensional Specialist meeting. April 13-15, 2004. Kansas City, Kansas.
- Yuan, M. 2004. Data retrieval based on spatiotemporal characteristics of weather events. The 84<sup>th</sup> Annual Meeting of the American Meteorological Society. Seattle, WA.

- Yuan, M. 2004. Evaluating Remote Sensing and GIS Techniques on Assessment of Tornado Damage Tracks from the Oklahoma City Tornado Outbreak on May 3rd 1999 . AAG 2004 Annual Meeting. Pittsburg, Philadelphia.
- Yuan, M. 2003. Weather Intelligence: A GIS approach to enrich weather databases. American Meteorological Society Annual Meeting, February 10-14, Long Beach, California.
- Yuan, M. 2002. Representing Processes in Geographic Information Systems. AAG annual meeting. March 18-22, 2002, Los Angeles, California.
- Yuan, M. and J. McIntosh 2002. Representing Events in Distributed Phenomena. National Imagery and Mapping Agency (NIMA) University Research Initiative Symposium. July 16-17, 2002. Reston, VA.
- Yuan, M. 2000 Hierarchy Theory and Geographic Representation. GIScience 2000. Savannah, Georgia . 28-31 October, 2000.
- Magsig, M., M. Dicken-Micozzi, and M. Yuan, 2000. Analysis of Tornado Damage on May 3<sup>rd</sup>, 1999, Using Remote Sensing and GIS Technologies Based on High-Resolution Satellite Imagery. The 20<sup>th</sup> Conference on Severe Local Storms. Orlando, Florida. 11-15, September 2000.
- Yuan, M., J. Canning, and J. McIntosh, 2000. Incorporating intelligence into a GIS to support spatiotemporal query, analysis, and modeling in hydrology. The 3<sup>rd</sup> NURI Symposium by NIMA. 16-17, June, 2000. Reston, Virginia.
- Yuan, M., Dicken-Micozzi, and M. Magsig. 2000. Analysis of Tornado Damage Tracks on the May 3<sup>rd</sup> Tornado Outbreak Using High-Resolution Satellite Imagery and GIS. National Symposium on the Great Plains Tornado Outbreak of 3 May 1999. Oklahoma City, Oklahoma. 2-5 May 2000.
- Cunningham, K. K., and M. Yuan. 2000. Use of GIS to predict the spatial variation in aquatic vegetation on Lake Chambers, Oklahoma. 130th Annual Meeting of the American Fisheries Society, 23 August 2000, St. Louis, Missouri.
- Cunningham, K., M. Yuan, and J. Adams, 1999. Measuring the effects of reservoir operations using GIS. The First International Symposium on GIS in Fishery Sciences.
- Yuan, M. 1998. Geospatial data, information, and knowledge: the use of GIS databases. Botany Seminar, the Department of Botany, University of Oklahoma, November 5, 1998.
- Yuan, M. 1998. On developing an Intelligent Geographic Information System in Hydrology. The American Association of Geographers 94<sup>th</sup> Annual Meeting, 25-29 March, 1998. Boston, Massachusetts.
- Yuan, M. 1997. Complex spatiotemporal queries in a GIS environment. The American Association of Geographers 93<sup>rd</sup> Annual Meeting. 1-5 April, 1997, Fort-Worth, Texas.
- Duchon, C. E. and M. Yuan. 1997. Use of kriging and arithmetic averaging to estimate daily area-average rainfall in central Florida. Annual Spring Meeting, the American Geophysical Union. May 1997. Baltimore, Maryland.

## **GRANTS AND CONTRACTS**

**(\$11,885,213 as PI and \$8,464,594 as Co-PI)**

2017-2020 SAFE-NET: An Integrated Connected Vehicle and Computing Platform for Public Safety Applications. June 1, 2017 – May 31, 2020. PI of a sub award (\$248,880) from South Methodist University. Lead PI: Dr. Khaled Abdelghany at South Methodist University. Total funding:

- \$1,343,953. National Institute of Standards and Technology (NIST) Award Number: 60NANB17D180.
- 2014-2017 University of Texas System STAR grant: GIS for Smart Campus. PI. \$500,000. August 1, 2014 - July 31, 2017.
- 2010-2014 Developing and Evaluating the Effectiveness of the Location-based Offender Monitoring System for Offender Supervision. December 1, 2010- September 30, 2014. PI. \$1,162,770. With Dr. Marguerite Keese. National Institute of Justice.
- 2010-2014 Spatial Validation of Oklahoma Broadband Accessibility and Broadband Planning. National Telecommunication and Information Agency. March 1, 2010-December 31, 2014. PI. \$611,455. (Part of the State of Oklahoma Broadband Mapping and Planning Grant led by Secretary of State and State Department of Finance)
- 2009-2013 Understanding Social Networks within Complex, Nonlinear Systems: Geographically Integrated History and Dynamics GIS. NSF. September 15 2009 - September 14, 2013. PI at University of Oklahoma. \$471,191 (OU budget). This is a collaborative research project with Dr. Jack Owen at Idaho State University (\$1,290,704 for the Idaho state budget).
- 2008-2014 A Pilot GIS Service Portal to Support Boll Weevil Eradication Program. Principal Investigator. July 1, 2008-June 30, 2014. State of Oklahoma, Boll Weevil Eradication Organization. \$141,002
- 2006-2014 Geo-Referencing Maintenance for the Oklahoma Voter Registration System. Principal Investigator. Co-Investigator: Kathryn Hines. July 1, 2007-June 30, 2014. Oklahoma Election Board: \$2,027,921 (renew annually)
- 2006-2014 Sales-Tax Calculation Database using GIS Technologies: Maintenance Efforts with School and Career Technical Districts Updates. Principal Investigator. Co-Investigator: Kathryn Hines. July 1, 2007- June 30, 2014. Oklahoma Tax Commission. \$2,166,029 (renew annually)
- 2003-2014 Geospatial Information Science and Technology (GIST) Program, Oklahoma NASA Space Grant Consortium. Principal Investigator on the GIST program (Dr. V. Duca-Snowden is the PI for the Oklahoma NASA Space Grant Consortium). August 15, 2003-August 14, 2015, NASA. \$694,131 (renew annually).
- 2013 Geo-referencing of the Cherokee Nation Voter Registration System for New 15 Election District Assignments. \$75,982.
- 2013 Prototype Web GeoCIP. February 27 – July 15, 2013. \$50,000. PI. Oklahoma Department of Commerce
- 2009-2013 A CyberCommons for Ecological Forecasting. NSF. OU budget \$3M. Co-PI (PI: Dr. Paul Risser and 8 faculty). This is a collaborative research project with Dr. Krishatka at University of Kansas (Kansas budget \$3M).
- 2008-2013 Climate Risk Mitigation Program. Co-PI (PI: Dr. Mark Shafer and 8 Co-PIs). September 2008 to August 2013. NOAA Regional Integrated Sciences and Assessments Program: \$3,849,883.
- 2009-2011 Risk Prediction and Event Modeling: literature review, research agenda development, and methodology development. October 1, 2009 - December 31, 2011. ITT/Naval Research Laboratory/Department of Homeland Security. PI at OU. \$389,708
- 2010-2011 Web GIS Development for Landfills and Landfill Analysis. U.S. Geological Survey. June 15, 2010- October 31, 2011, \$15,392. PI.
- 2009-2011 Asset Mapping Pilot for Central Oklahoma Economic Development. Central Oklahoma Workforce Investment Board. October 9, 2009-June 30, 2010. PI. \$153,793.



2009-2010 Map Design and Creation of Wildlife Management Area Atlas for Oklahoma Department of Wildlife Conservation. December 15, 2009 - May 15, 2010. PI. \$33,155.

2009-2010 Data Acquisition and Meta-analysis of Habitat Information from Gulf of Mexico Trophics Studies using Coastal Marine Ecological Classification Systems. NOAA and NatureServe. July 1 2009-March 31 2010. \$40,000.

2008-2010 Development of Web-based Geographic Information Services for Oklahoma Capital Improvements Planning Program. Principal Investigator. September 1, 2008 to February 28, 2010. Oklahoma Department of Commerce. \$141,000.

2006-2009 Data-Model Assimilation at FACE and AmeriFlux Sites Toward Predictive Understanding of Carbon Sequestration at Ecosystem and Continental Scales. Co-Investigator. Principal Investigator: Dr. Yiqi Luo; other Co-Investigator: Dr. Luther White. September 1, 2006-August 31, 2009. DOE: \$750K.

2008 Capacity Building for Ecoinformatics Research. NSF EPSCoR. \$30,000 equipment grant.

2007-2008 Spatiotemporal Dynamics Data Model. Principal Investigator. Subcontract of \$23,311 from Compact Computing Inc., U. S. Army Small Business Innovation Research, Phase I. December 1, 2007 to March 31, 2008. Phase II proposal invited.

2006-2007 Boundary Demarcation for the Muscogee Creek Nation. Principal Investigator. October 15, 2006-February 28, 2007. Muscogee Creek Nation: \$8,144.

2006-2007 Phase 2: System Upgrade Development for Oklahoma's Capital Improvements Planning Program. Principal Investigator. Co-Investigator: Katherine Hines. April 1, 2006-March 31, 2007. Oklahoma Department of Commerce: \$109,318.

2005 Workshop on Computation and Visualization for the Understanding of Dynamics in Geographic Domains. The workshop was held on October 16-18, 2006 ([http://www.ucgis.org/dynamics\\_workshop/workshop\\_agenda.htm](http://www.ucgis.org/dynamics_workshop/workshop_agenda.htm)) . Follow-up activities continued to December 2007. Co-Investigators: Dr. M. Yuan and Dr. Kathleen Stewart Hornsby. University Consortium for Geographic Information Science and U.S. Intelligence Communities: \$91,997.

2005-2007 Multicriteria Spatial Decision Support for NOAA Environmental Real-Time Observation Network. Principal Investigator, Co-Investigator: William McPherson, Jr. August 1, 2005-December 31, 2007. NOAA: \$663,585.

2004-2006 Collaborative Research: Integration of Geographic Complexity and Dynamics into Geographic Information Systems. PI: \$82,000 at the University of Oklahoma. This is a collaborative project with Dr. Michael Goodchild, University of California, Santa Barbara and Dr. Tom Cova, University of Utah. August 1, 2004 - July 31, 2006. NSF: Total amount \$250,000.

2004-2005 Development of a Comprehensive GIS Model to Prototype a New National Weather Service COOP Network. Principal Investigator, Co-Investigator: William McPherson, Jr. August 1, 2004-July 31, 2005. NOAA: \$213,501.

2004 Field surveys for COOP and LETS locations in New England states. Principal Investigator, Co-Investigator: William McPherson, Jr., July 1 - August 31, 2004. NOAA: \$97,311.

2004 GIS-based Selection of Potential National Weather Service COOP sites: A pilot study in Maine, New Hampshire, and Vermont. Principal Investigator, Co-Investigator: William McPherson, Jr. June 1 - August 31, 2004. NOAA: \$30,501.

1999-2004 Remote Sensing Internship with Space Imaging Inc. Principal Investigator. Space Image Inc. \$323,521.

- 2000-2002 Extending Geographic Representation to Support Knowledge Discovery in Geographic Information Systems. Principal Investigator. NSF/POWRE. \$74,875
- 2000-2001 The Integration of GIS, Remote Sensing, and Weather Technologies to Develop a 4D Real-time Air Pollution Management System at Tinker AFB. Principal Investigator. Co-Investigators: Dr. Victor DeBrunner, Dr. Mani Chinnaswamy, and David Jahn. Tinker Air Force Base, Department of Defense and Oklahoma State Regents. \$498,619.
- 2000-2001 The Oklahoma Wind Power Assessment Initiative. Co-Investigator. State of Oklahoma, Department of Commerce, US Department of Energy. With T. Huges (Principal Investigator), M. Meo, M. Shafer. \$199,711.
- 2000 A GIS Approach to the Support of EOS Land Validation: A Case Study Using MODIS and AERONET Data. Principal Investigator. NASA Research Initiatives Grant. \$18,854.
- 2000-2002 Research on the Fluxes of Water and Energy at the Land Surface, Element#7: Development of a HydroGIS based on Oklahoma Mesonet. Principal Investigator, NASA-Experimental Program to Stimulate Competitive Research (EPSCoR). Total award: \$162,000 for two years. This is an extension of the 1996-99 project.
- 1998-1999 National Geographic Society Education Foundation. Windows on the World: Using ArcView GIS to Enhance Geography Curricula. Co-Investigator with Julie Parker (Principal Investigator). Total award: \$12,710.
- 1997 Microsoft University Map Bash Program. Principal Investigator. Software Grant to promote education in computer-based map analysis.
- 1997 NASA/MTPE, Oklahoma Center of Excellence for Applications of Remote Sensing, Co-Investigator: Co-Investigator with Dr. Karen Humes (Principal Investigator) with 12 Co-Investigators (equipment grant, Total award \$340,000)
- 1997-2003 Development of an Intelligent GIS to Support Spatiotemporal Queries, Analysis, and Modeling in Hydrology. Principal Investigator. Co-Investigators: Dr. John Canning. Department of Defense, National Imagery and Mapping Agency, \$951,474.
- 1997 Use of Geographic Information Systems (GIS) to Model the Effects of Reservoir Operations on Fisheries in Hugo Lake, Oklahoma. Principal Investigator, The Oklahoma Department of Wildlife and Fisheries. Total award: \$4,480.
- 1996-99 Research on the Fluxes of Water and Energy at the Land Surface, Element#7: Development of a HydroGIS based on Oklahoma Mesonet. Principal Investigator, NASA-Experimental Program to Stimulate Competitive Research (EPSCoR). Total award: \$243,000 for three years.
- 1996-00 Educational Explorations of the Earth System. Co-Investigator with Drs. John Snow (Principal Investigator), Mark Morrissey, William Beasley, James Kimpel, Susan Postawko, and Linda Wallace, NASA-Sponsored Cooperative University-based Program in Earth System Science Education. Total award: \$ 200,000.
- 1995-96 Environmental Remote Sensing, GIS and the Oklahoma Mesonet. Co-Investigator with M. Morrissey (Principal Investigator), C. Duchon, M. Jakubauskas, S. Stadler, D. Waits, and R. Elliot, NASA, Total award: \$125,000.
- 1995-96 Flood-Zone Delineation Mapping Project for the Town of Slaughterville, Oklahoma, Principal Investigator. The Town of Slaughterville, Oklahoma. Total award: \$5,670.
- 1993 Eliciting Expert's Knowledge for Wildfire Information Modeling. Principal Investigator, under supervision of Professor D. Mark, Environmental Systems Research Institute. Total award: \$3,950.

## **INTERNAL FUNDS**

(\$75,023 total)

2004 Matching funds to NSF grant on Collaborative Research: Integration of Geographic Complexity and Dynamics into Geographic Information Systems. Vice President for Research: \$4023.

2004 Travel support to attend American Meteorological Society Summer Policy Colloquium. Dean of Geosciences: \$4,000; Vice President for Research: \$2,000.

2001 Start-up funds to revive Center for Spatial Analysis. Vice President for Research: \$60,000.

1995-96 Hydrological Data Modeling in Geographic Information Systems, Principal Investigator, University of Oklahoma Research Council. total award: \$5,000.

## **PROFESSIONAL DEVELOPMENT AND SYNERGISTIC ACTIVITIES**

### NATIONAL COMMITTEES, BOARDS, AND EDITORS

Member, Geological Remote Sensing Group, North American Committee (since 2012).

Member, Academic Advisory Board, United States Geospatial Intelligence Foundation (since 2010).

President, University Consortium for Geographic Information Science (2011-2012)

Member, Mapping Science Committee, National Research Council (2009-2014)

Member, Future Workforce for Geospatial Intelligence, National Research Council (2010-2012)

Member, Honors Committee, Association of American Geographers (2009 - 2012)

Member, Board of Directors, University Consortium for Geographic Information Science (2004-2007)

American Editor for the *International Journal of Geographic Information Science* (2007-2017)

Editorial board of *Annals of American Association of Geographers* (2005-2017)

Editorial board of *International Journal of Geographic Information Science* (2001-2007)

Editorial board of *Transactions in GIS* (2001-2010)

Secretary of University Consortium for Geographic Information Science (2003-2004)

Chair of the GIS specialty group of the American Association of Geographers (2002)

Vice chair of the GIS specialty group of the American Association of Geographers (2001)

### CONFERENCE AND WORKSHOP COMMITTEES

Co-Chair with Christian Kray, Program Committee, Conference of Spatial Information Theory (COSIT), 2017, L'Aquila, Italy. September 4-8, 2017

Member of Spatiotemporal Computing Working Group 2017, organized by Phil Yang, George Mason University.

Member of Steering Committee, International Conference of Geo-Process Modeling in Virtual Geographic Environment. November 6-8, 2014, Hong Kong, China.

Member of Program Committee, the 22nd ACM International Symposium on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS), November 4-7, 2014, Dallas, TX.

Member of Program Committee, AutoCarto 2014. October 6-8, 2014. Pittsburg, Pennsylvania.

Member of Program Committee, GIScience 2014. September 23-26, 2014, Vienna, Austria.

Member of Program Committee, INFOCOMP 2014. July 20-24, 2014, Paris, France.

Member of Program Committee, the 21th ACM International Symposium on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS), November 5-8, 2013, Orlando, Florida

Member of Program Committee, 12th International Conference on Spatial Information Theory (COSIT 2013). September 2-6, 2013, North Yorkshire, UK.

Member of Program Committee, INFOCOMP 2013. November 17-22, 2013. Lisbon, Portugal.

Member of Organizing Committee, Spatial Computing Expert Workshop. Computing Community Council with fund from National Science Foundation. September 10-11, 2012. Washington DC.

Member of Program Committee, GEOProcessing 2013. The 5<sup>th</sup> International Conference on Advanced Geographic Information Systems, Applications, and Services. February 24 - March 1, 2013. Nice, France.

Member of Program Committee, the 20th ACM International Symposium on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS), November 2-6, 2012, Redondo Beach, CA.

Member of Program Committee, 2012 Conference on Intelligent Data Understanding. October 24-27, 2012. Boulder, CO.

Member of Program Committee, INFOCOMP 2012. October 21-26, 2012. Venice, Italy.

Member of Program Committee, GIScience 2012. September 18-21, 2012. Columbus, OH.

Member of Organizing Committee, Computing Community Consortium Workshop: From GPS and Virtual Globes to Spatial Computing 2020. September 10-11, 2012. DC.

Member of Program Committee, the 19th ACM International Symposium on Advances in Geographic Information Systems (ACM GIS), November 2-5, 2011, Chicago, Illinois.

Member of Program Committee, 12th International Conference on Spatial Information Theory (COSIT 2009). September 12-16, 2011. Belfast, ME.

Member of Program Committee, Space-Time Integration in GIScience and Geography Symposium, American Association of Geographers. Seattle, WA. 4/12-16/2011.

Member of Program Committee, the International Symposium on Spatial-Temporal Analysis and Data Mining, University of College London. 7/18-20/2011

Member of Program Committee, 14th AGILE Conference on Geographic Information Science. 4/18-21/2011, Utrecht, The Netherlands

External reviewer for USGS strategy for Core Science Systems.

Panelist on National Endowment of Humanities. 2011.

Panelist on NSB Mid-Scale Research Discussion, 3/31/2011, Denver, CO.

Panelist on Transportation Research Board GIS for Livable and Sustainable Community. 5/5-6/2011. DC

Member of Program Committee, the 18<sup>th</sup> ACM International Symposium on Advances in Geographic Information Systems (ACM GIS), November 2-5, 2010, San Jose, CA.

Member of Program Committee, the 6<sup>th</sup> International Conference on Geographic Information Science. September 14-17, 2010, Zurich, Switzerland.

Member of Program Committee, Space-Time Analysis and Modeling Workshop. Environmental Systems and Research Institute (ESRI), February 22-23, 2010, Redlands, CA.

Member of Program Committee, the 17<sup>th</sup> ACM International Symposium on Advances in Geographic Information Systems (ACM GIS), November 4-6, 2009, Seattle, WA.

Member of Program Committee, 11<sup>th</sup> International Conference on Spatial Information Theory (COSIT 2009). September 21-25, 2009. Aber Wrac'h, France.

Member of Program Committee, the 12<sup>th</sup> AGILE International Conference on Geographic Information Science, June 2-5, 2009, Hannover, Germany.

Organizer, Temporal GIS workshop in the 5<sup>th</sup> International Conference on Geographic Information Science. September 23-26, 2008. Park City, Utah.

Member of Program Committee, the 5<sup>th</sup> International Conference on Geographic Information Science. September 23-26, 2008. Park City, Utah.

Member of Program Committee, the 11<sup>th</sup> AGILE International Conference on Geographic Information Science, May 5-8, 2008. Girona-Catalonia, Spain.

Member of Program Committee, the 16<sup>th</sup> ACM International Symposium on Advances in Geographic Information Systems (ACM GIS), November 5-7, 2008, Irvine, California.

Member of Program Committee, International Workshop on Spatial And Spatial-Temporal Data Mining, in cooperation with IEEE ICDM 2007. October 28, 2007. Omaha, NE.

Member of Program Committee, the 15<sup>th</sup> ACM International Symposium on Advances in Geographic Information Systems (ACM GIS), November 7-9, 2007, Seattle, Washington.

Member of Program Committee, 9<sup>th</sup> International Conference on Spatial Information Theory (COSIT 2007). September 19-23, 2007.

Member of Program Committee, 10<sup>th</sup> AGILE (Association of Geographic Information Laboratories in Europe) International Conference on Geographic Information Science, 8-11 May 2007, Aalborg, Denmark.

Member of Program Committee, GIScience2006. September 20-23, 2006. Munster, Germany.

Co-Organizer, Workshop on Computation and Visualization of Dynamics in Geographic Domains. October 16-18, 2006. Maritime Institute of Technology & Graduate Studies, Washington, DC.

Co-Chair, GISnet'12 Conference, August 14-18, 2006. Hochiminh city Vietnam.

Program Committee Member of Conference on Spatial Information Theory (COSIT) 2005, September 14-18, 2005. Ellicottville, New York

Program Committee Member of GISPlanet 2005, May 30-June 2, 2005, Lisbon, Portugal .

Program Committee Member of GIScience 2004. University of Maryland Conference Center, October 20-23, 2004.

Program Committee Member and Panel Speaker to Geospatial Data Mining and Visualization Workshop sponsored by the National Security Council and University Consortium for Geographic Information Science. November 18-20, 2003. The National Conference Center, Lansdowne, Virginia.

## ORGANIZER OR INVITED PARTICIPANT TO WORKSHOPS/PANELS

- Chair, Symposium on CyberGIS and Spatial Data Science: Frontiers and Opportunities, April 10, 2018. American Association of Geographers, April 9-15, New Orleans, LA, USA.
- Discussant, Geospatial Intelligence: Challenges and Opportunities. April 11, 2018. American Association of Geographers, April 9-15, New Orleans, LA, USA.
- Panelist, Artificial Intelligence and Deep Learning: whether and how will AI transform geospatial research. April 12, 2018. American Association of Geographers, April 9-15, New Orleans, LA, USA.
- Discussant, Symposium on New Horizons in Human Dynamics Research: Social Media and Big Data. April 13, 2018. American Association of Geographers, April 9-15, New Orleans, LA, USA.
- Panelist, Emerging Trends in Movement Analytics, from observations to prediction of movement. April 13, 2018. American Association of Geographers, April 9-15, New Orleans, LA, USA.
- Program Co-Chair, 13<sup>th</sup> International Conference on Spatial Information Theory, L'Aquila, Italy, September 4-8, 2017
- Organizer of three sessions at the American Association of Geographers (AAG) Annual Meeting (2017): IJGIS Panel on Special Issues, IJGIS Top Papers presentation, Debate on Human Dynamics to be the 4<sup>th</sup> paradigm in Geography
- Panelist at AAG 2017 Panel Session on Editors' Round Table
- Member of the National Visiting Committee for NSF IBSS Project on Spatiotemporal Modeling of Human Dynamics across Social Media and Social Networks 2017-2018
- Program Co-Chair, the 3<sup>rd</sup> International Conference on CyberGIS and Geospatial Data Science, July 26-28, 2016, Urbana, Illinois.
- Co-Organizer, 4 Space-Time Analytics sessions and 1 Spatial Data Mining and Big Data session at AAG annual meeting 2016, March 29-April 2, 2016, San Francisco, CA.
- Co-Organizer, 4 Spatial Data Mining and Big Data sessions at AAG annual meeting 2015, April 21-25, 2015, Chicago, IL.
- Co-Organizer, Arab Springs, Lessons learnt, Academic Forum at GEOINT 2012, Orlando, FL.
- Co-Organizer, Space-Time Research in GIScience. GIScience 2012. Columbus, OH.
- Co-Organizer, The second annual meeting of North American Geological Remote Sensing Group, May 3, 2012, Houston, TX.
- Co-Organizer, Space-Time Analytics Session, Academic Forum at GEOINT 2011, San Antonio, TX
- Co-Organizer, DHS Risk Prediction Workshop. December 8-9, 2010. Dulles, Virginia.
- Co-Organizer, GIS Research Workshop for Humanities and Social Sciences, July 14-16, 2010. Academia Sinica. Taipei, Taiwan.
- Panelist, GIS in the Humanities and Social Sciences, October 7-9, 2009, Taipei, Taiwan.
- Geospatial and GeoTemporal Informatics workshop. January 7-9, 2009. Arlington, Virginia, NSF.
- Exploring creative approaches for analytical methodologies workshop. April 3-4, 2008. Arlington, Virginia. CENTRA Technology, Inc.

Complicated Features Workshop. November 14-16, 2007. Airlie Center, Virginia. Sponsored by Geospatial Intelligence Agency.

European Collaborative Research on the Evolution of Cooperation and Trading (EUROCORES Programme TECT) Launch Conference. July 4-7, 2007. Collegium Budapest, Institute for Advanced Study, Budapest, Hungary.

Ubiquitous Spatial Computing Workshop, NCGIA, January 25-27, 2007, Portland Maine.

Digital Gazetteer and Practice workshop. December 7-9, 2006. Santa Barbara, California.

Improvised Explosive Devices (IED) Workshop, May 5-6, 2006, Washington, DC.

High Performance Computing for Geosciences, August 25-27, 2006, National Center for Atmospheric Research, Boulder, Colorado.

Spatial Perspective on Analysis for Curriculum Enhancement (SPACE) planning workshop, December 19-21, 2005. Santa Barbara, CA.

Forum for Geosciences Information Technology, Oct. 6-7, 2005, Washington, DC.

Cyberinfrastructure for Research, Development, and Education in the Atmospheric Science. Southwest Focus Group Meeting, October 15-16, 2003, San Diego, CA.

NASA/USDA joint workshop on Focused Area Working Groups. April 12-14, 2005. New Orleans, Louisiana.

FEMA Geospatial workshop, April 19-21, 2005. Indianapolis, Indiana.

Action-oriented Approaches in Geographic Information Science, NCGIA, November 2-4, 2002, Maine.

National Research Council workshop on the intersection of geospatial information and information technology, October 1-2, 2001.

NCGIA-I20 workshop on Interoperating GIS, sponsored by NSF and OpenGIS. December 5-6, 1997. Santa Barbara, California.

GIS workshop in UNIDATA training workshops, June 22-27, 1997. Boulder, Colorado.

NCGIA-I21 workshop on Formalizing Common Sense Geographic Worlds sponsored by NSF. October 30 - November 3, 1996, San Marcos, Texas.

NSF Varenus specialist meeting on Cognitive Models of Dynamic Geographic Phenomena and Representations. 29-31 October 1998. Pittsburgh, PA.

USGS/LASULGC workshop on Future Science Directions of the U.S. Geological Survey: Opportunities for a Federal-University Partnership in the Natural Sciences. 5-6 June 2000. Washington, D.C.

#### AD HOC REVIEWS, PANELS OR COMMITTEES

NSF digital government review panel 2018

Reviewer for a doctoral dissertation from University of Luxembourg 2018

Reviewer for a doctoral dissertation from University of Melbourne 2018

Review panelist for Hong Kong Graduate Research Council (2014-2018)

Reviewer for Air Force Summer Faculty Fellowship Program (2012 and 2013)

Reviewer for National Defense Science and Engineering Graduate Fellowships (2012, 2013)

External examiner for M.Sc. in Geoinformation Science (2012-2014), the Chinese University of Hong Kong, Graduate School.

External reviewer for USGS Strategy for Core Science Systems. September 2011.

Tenure and promotion reviews for faculty at University of Oklahoma (3), Penn State University (1), University of Nebraska at Lincoln (1), University of Missouri (1), University of Southern California (1), State University of New York at Buffalo (1), University of California at Santa Barbara (2), Ohio University (1), Louisiana State University (1), National Science Council in Taiwan (2), National Taiwan University (5), George Mason University (2), University of Tennessee (1), University of Texas at Dallas (3), University of South Carolina (1), Kansas State University (1), Texas Tech University (1), University of North Carolina State University – Charlotte (1), King's College London (1), and Hong Kong Polytech University (1). Since 2005.

External reviewer for the Department of Geography, University of Texas - Austin. October 2010.

DHS Scientific Leadership Awards for Minority Serving Institutions Proposal Review, September 16-17, 2009. Washington, DC

External reviewer for NSF National Historical GIS Project, University of Minnesota. (2002-2004)

DHS Southeast Region Research Initiative Review, September 2-3, 2009, Oak Ridge, TN.

NSF Information and Intelligence Systems Review Panel (2009)

Member, Research Management Committee of the GEOIDE Network (Canadian Centers of Excellence Network of Geomatics for Informed Decision) (2008-2009).

EPA NCER Review Panel (2007)

NSF Information and Intelligent Systems Review Panel (2007)

Advisory Board, Encyclopedia of Geoinformatics. Editor H. Karimi. To be published by Idea Group, Inc (2006)

NSF IGERT Preproposal Review Panel (2006)

EPA STAR Fellowship Review Panel (2006)

Member of OU Faculty Development Grant committee (2005)

NSF Geography Doctoral Dissertation Research Proposal Reviews (2002-2005)

Member of OU Research Council (2002-2004)

NSF Research Experiences for Undergraduates (Sites) Proposal Review (2000-2002)

NSF Information Technology Research Proposal Review (2000)

Pre-Med Interview Committee, the University of Oklahoma (since 2002)

#### SERVICES TO THE UNIVERSITY OF TEXAS AT DALLAS

Member of Social Data Analytics and Research Faculty Search Committee (2017)

Member of Ad Hoc Committee for Granting Tenure and Promotion to the Rank of Associate Professor: Rodrigues in Physics (2017)

Member of Ad Hoc Committee for Granting Tenure and Promotion to the Rank of Professor: Vieraitis in Criminology (2017)



Member of Ad Hoc Committee for Granting Tenure and Promotion to the Rank of Associate Professor:  
Xuan in Biology (2016)

Chair of an Ad Hoc Committee for the third year progress review of Assistant Professor Cummings in GIS  
(2016)

Member of an Ad Hoc Committee for the third year progress review of Assistant Professor Harrington in  
Political Science (2015)

EPPS Faculty Advisory Committee (2015-2017, 2017-2019)

EPPS Scholarship Committee (since 2015)

EPPS Peer Review Committee (2015-2017)

GIS Ph.D. Director (since 2015)

### SERVICES TO THE UNIVERSITY OF OKLAHOMA

Director of Center for Spatial Analysis, University of Oklahoma (since 2001)

Faculty Search Committee, Industrial and Systems Engineering, (2012-2013)

Director, Geoinformatics Program (2009 – 2012)

Co-Lead, Aspire2020 Action Team on Multidisciplinary Research (2010)

Associate Dean, College of Atmospheric and Geographic Sciences (2005-2008)

Board member, Center for Applied Social Science Research, the University of Oklahoma (2005-2008)

Steering Committee member of Forum for Geosciences Information Technology (2004-2006)

External reviewer: Tenure and Promotion of faculty: 2 in 2005, 2 in 2006, 3 in 2007; Promotion of a senior  
scientist at Naval Research Laboratory, Maine Geosciences Divisions, Department of the Navy  
(2004)

Faculty Senate, the University of Oklahoma (2003-2004)

Instructor to All-TA training program, the University of Oklahoma (2003-2004)

Coordinator and Delegate, University Consortium for Geographic Information Science (UCGIS) at the  
University of Oklahoma (since 1997)

### **AWARDS ANDS RECOGNITIONS**

Ashbel Smith Professor, The University of Texas at Dallas (since 2014)

Brandt Professor. The University of Oklahoma (since 2008 - 2014)

Kinney Gaylord Presidential Professorship. The University of Oklahoma (since 2001-2014)

International Young Scholar in Geographic Information Science. National Science Foundation and European  
Science Foundation (1995)

First Place, Student Paper Competition conducted by GIS Specialty Group of the Association of American  
Geographers for papers presented at the 1994 annual meeting of the Association. The paper

presented was entitled Knowledge acquisition for building wildfire representation in geographic information systems.

### **STUDENTS RECEIVED GRADUATE DEGREES UNDER MY SUPERVISION**

MA or MS: Stephen Dumolt, Josephine Adams, Williams Tanksley, Jason Foreman, Shannon Kuhn, Chad Hall, David Slayter, Karla Sterling, George Standridge, Dustin Howard, Melissa Scott, Christopher Suttle, Darrel Kingfield, Peter Camili, Jeremy Andrakes, Alexandria McCombs, Nicole Grams, Xianglong Zhou, Fei Hao

Ph.D.: John McIntosh, Mang Lung Cheuk, James Bothwell,

Current Students:

MS: Adam Sawyer, Dylan Campbell, Benjamin Acker, Wei Lu

Ph.D.: Arlo McKee, Yan-Ting Liao, Brent Dell, Yogita Karale, Thomas McKey.