

May Yuan
Edith Kinney Gaylord Presidential Professor

PROFESSIONAL PREPARATION

B. S. (Geography) the National Taiwan University

M. A. (Geography) the State University of New York at Buffalo

Ph.D. (Geography) the State University of New York at Buffalo.

APPOINTMENTS

1990-1994 Graduate assistant and teaching assistant, Department of Geography, the State University of New York at Buffalo, Buffalo, New York and the National Center for Geographic Information and Analysis.

1994-2000 Assistant Professor of Geography, The University of Oklahoma, Norman, Oklahoma

2000-2005 Associate professor of Geography, The University of Oklahoma, Norman, Oklahoma

2005- Professor of Geography, The University of Oklahoma, Norman, Oklahoma

SELECTED 10 PUBLICATIONS

Yuan, M. Accepted. Adding Time. *Handbook of Geographic Information Science*, J. Wilson and S. Fotheringham, editors, to be published by Blackwell Publishing.

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. Uery (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. Uery (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.

SYNERGISTIC ACTIVITIES

Dr. May Yuan's research interest is in geographic representation, information modeling, and applications of geographic information technologies to dynamic systems. Through supports from NSF, NASA, DoD-NGA, DoD-Air Force, and DoE, she has been investigating representation models for dynamic geographic phenomena, such as wildfires, convective storms, air-pollution plumes, and landcover change. She also has been developing methods for spatiotemporal query and analysis on these phenomena. Her three-domain model (Yuan 1999) has been broadly adopted in GIS applications for transportation as an effective means to incorporate spatial and temporal data about traffic events, activities, and transportation-landuse planning. In particular, the multi-dimensional location referencing system recently developed under the sponsorship of the National Cooperative Highway Research Program applies the three-domain model to develop a transportation data model for referencing facility and events in three-dimensional geospatial and time in transportation networks (Koncz and Adams 2002; Committee on Multimodal Transportation Requirements for Spatial Information Infrastructure 2004). Over the last three years, one doctoral student and eight Master's students completed their degrees under her supervision. She currently advises 7 doctoral students and 1 Master's student and serves on additional 9 doctoral committees and 1 Master's committees in 9 departments across 4 colleges. She also supervised four undergraduate students and successfully received undergraduate research grants to support their senior projects in the last two years.

2006 Co-organizer of UCGIS Research Workshop on Visualization and Computation for the Understanding of Dynamics in Geographic Domains, National Intelligence Communities, October 15-17, 2006. Baltimore, Maryland.

2005-2007 Board member of University Consortium for Geographic Information Science (UCGIS)

2005-to date Editorial Board member of Annals of the American Association of Geographers

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

2001-to date Editorial board members of the International Journal of Geographic Information Science and the Transactions in GIS

OFF CAMPUS COLLABORATORS & OTHER AFFILIATIONS

Dr. David Mark, Professor, SUNY-Buffalo (Ph.D. Advisor)

Dr. Hugh Calkins, Professor (retired), SUNY-Buffalo (Master's Advisor)

Dr. Michael Goodchild, Professor, UCSB.

Dr. Donna Peuquet, Professor, Penn State University.

Dr. Max Egenhofer, Professor, University of Maine

Dr. Barbara Buttenfield, Professor, University of Colorado at Boulder

Dr. Mark Gehagen, Associate Professor, Penn State University

Dr. Harvey Miller, Professor, University of Utah

Dr. Tom Cova, Assistant Professor, University of Utah

Dr. Roy Ladner, Research Scientist, Naval Research Laboratory

Dr. Kathleen Stewart Hornsby, Research Professor, University of Maine.

Former Graduate Advisees

Stephen Dumolt, Josie Adams, Williams Tanskley, Jason Foreman, Shannon Kuhn, Chad Hall, David Slayter, Karla Sterling, John McIntosh.