

Donna Peuquet

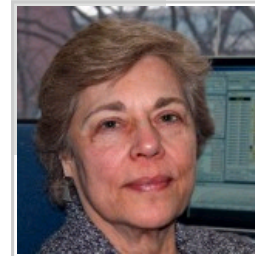
Introduction

My research interests are in the areas of geographic knowledge representation, knowledge discovery, spatio-temporal data models, spatial cognition, AI approaches to knowledge representation, geocomputation, and GIS design.

Since the early 1990's, my work has centered on the representation of time and temporal dynamics, including database, visual and cognitive representation and how these interrelate. Arguing that the human user and the computer must be viewed as components of a single system, my book, [Representations of Space and Time](#), explores an integrated perspective, including philosophical, cognitive and technical aspects. See www.geovista.psu.edu/stempo/ and www.geovista.psu.edu/STNexus for some of this work.

In a similar vein, I investigate approaches for developing advanced tools for deriving insight from large and diverse collections of space-time information.

I am also interested in the impacts of environment, and most particularly environmental pollution, on disease. This relates to my work on the representation and analysis of complex space-time processes.



Donna Peuquet

peuquet@psu.edu

Associate Director, GeoVISTA Center, Professor (Tenured and Tenure-track)

Research Area: GIScience

306 Walker
814-863-0390

Office Hours:

R 3:45p-4:45p F 2:30p-3:30p or by appt.

Research Interests:

geographic information science
environmental cognition
space-time representation
spatial data models

Research Interests

- geographic information science
- environmental cognition
- space-time representation
- spatial data models

Education

- Ph.D., State University of New York at Buffalo, 1977
- M.A., University of Cincinnati
- B.A., State University of New York at Buffalo

Advisees

- Ritesh Agrawal, Ph.D. (current)
- Chaoqing Yu, Ph.D. (2004). Current position: Researcher, China Institute of Water Resources and Hydropower research (IWHR)
- Diansheng Guo, Ph.D. (2003). Current position: Assistant Professor of Geography, University of South Carolina
- Jeremy Mennis, Ph.D. (2001). Current position: Associate Professor of Geography, Temple University
- Liujian Qian, Ph.D. (2000). Current position: Developer, Spatial Data Products, Oracle Corporation.

Courses Taught

- GEOG 160
- GEOG 363
- GEOG 463
- GEOG 518
- GEOG 160 WEB
- EMSC100S

Publications

- Yu, Chaoqing, Donna J. Peuquet 2009, " A GeoAgent- based framework for knowledge-oriented representation: Embracing social rules in GIS" *International Journal of Geographical Information Science*, 23(7): 923-960.
- Yu, Chaoqing, Alan M. MacEachren, Donna J. Peuquet, and Brent Yarnal 2009, " Integrating scientific modeling and supporting dynamic hazard management with a GeoAgent-based representation of human-environment interactions: a drought example in Central Pennsylvania, USA" *Environmental Modelling & Software*, 24(12): 1501-1512.
- Duanping Liao, Eric A. Whitsel, Yinkang Duan, Hung-Mo Lin, P. Miguel Quibrera, Richard Smith, Donna J.

Peuquet, Ronald J. Prineas, Zhu-Ming Zhang, Garnet Anderson 2009, " Ambient particulate air pollution and ectopy: – The Environmental Epidemiology of Arrhythmogenesis in WHI (EEAWHI), 1999-2004" *Journal of Toxicology and Environmental Health Part A*, 72(1): 30-38.

- Peuquet, Donna 2008, "Toward Integrated Space-Time Analysis Environments," Chapter 4 in *Virtual Geographic Environments*, Hui Lin & Michael Batty (Eds.), Science Press, Beijing, pp. 37-48.
- Ken C. K. Lee, Wang-Chien Lee, Donna Peuquet, and Baihua Zheng 2008, " Searching Correlated Objects in a Long Sequence" *Scientific and Statistical Database Management (SSDBM)*, Lecture Notes in Computer Science (Heidelberg: Springer-Verlag) pp 436-454.
- Liao, Duanping, Donna J. Peuquet, Hung-Mo Lin, Yinkang Duan, Eric A. Whitsel, Richard L. Smith, Gerardo Heiss 2007, " National Kriging Exposure Estimation," *Environmental Health Perspectives* 115(7): A338-A339.
- Weaver Christopher, David Fyfe, Anthony Robinson, Deryck Holdsworth, Donna J. Peuquet, and Alan M. MacEachren 2007, " Visual Analysis of Historic Hotel Visitation Patterns ," *Information Visualization*, 6 (1): 89-103
- Duanping Liao, Donna J Peuquet, Yinkang Duan, Eric A Whitsel, Jianwei Dou, Richard L Smith, Hung-Mo Lin, Jiu-Chiuan Chen, and Gerardo Heiss 2006, "GIS Approaches for the Estimation of Residential Level Ambient PM Concentrations. *Environmental Health Perspectives*" 114:9, pp. 1374-1380.
- Peuquet, Donna .J. (Ed.), *International Society for Photogrammetry and Remote Sensing Journal*, special section on Advances in Spatio-Temporal Analysis and Representation 60(1): 1- 47 (2005)
- Diansheng Guo, Donna Peuquet, Mark Gahegan 2003. "ICEAGE: Interactive Clustering and Exploration of Large and High-dimensional Geodata," *Geoinformatica* 7(3): 229-253.
- Jeremy Mennis and Donna Peuquet 2003. "A Case Study on the Use of Stored Knowledge in Geographic Knowledge Discovery," *Transactions on GIS* 7(3): 371-391.
- Peuquet, Donna J. 2002. *Representations of Space and Time*, New York: Guilford.
- Peuquet, D.J. and M.J. Kraak 2002. "Geobrowsing: Creative Thinking& Knowledge Discovery: Using Geographic Visualization," *Information Visualization* 1(1): 80-91.

Awards

2008: Wilson Outstanding Research Award, College of Earth and Mineral Sciences
 2000-2001: Guggenheim Fellowship

Site Map:

- Research [GIScience](#)
- Undergraduate [Physical Geography](#)
- Grad Programs [Journal of Society](#)
- News [Physical Geography](#)
- People [Flickr](#)
- About Us

Contact us at:
 302 Walker Building
 University Park, PA
 16802
 814-865-3433
geography@psu.edu

