

## Mark N. Gahegan

### Professional Preparation

- University of Leeds, UK, School of Computer Studies, B.S. with honors (1984).
- Curtin University of Technology, Australia, School of Computing Science, Ph.D. Thesis title: “*An architecture for a geographic information system to support full data integration and contextual reasoning*” (1997).

### Appointments

- 2002- present Full Professor, Department of Geography, and affiliate Professor in the School of Information Science and Technology, The Pennsylvania State University.
- 1999-2002 Associate Professor, The Pennsylvania State University, (Geography), USA.
- 1993-1998 Lecturer (Senior since 1997), Curtin University (Geographic Information Science), Australia.
- 1991-1993 Lecturer, University of Leeds (Computer Studies), UK.
- 1989-1991 Research Officer, University of Leeds (Computer Studies), UK.
- 1988-1989 Software Engineer, Systime Computers, UK.
- 1986-1988 Research Scientist (computing officer), University of Leeds (Computer Studies) UK.
- 1985-1986 Research Scientist, University of Leeds (Geography) UK.

### Some Relevant Publications

1. Gahegan, M., Takatsuka, M., Wheeler, M. and Hardisty, F. (2002). GeoVISTA *Studio*: a geocomputational workbench. *Computers, Environment and Urban Systems*, Vol. 26, pp. 267-292.
2. Gahegan, M. and Brodaric, B. (2002) Computational and visual support for geographical knowledge construction: Filling in the gaps between exploration and explanation. In: *Advances in Spatial Data Handling, 10th International Symposium on Spatial Data Handling*, D. Richardson and P. van Oosterom (eds.), Springer, New York, pp. 11-26.
3. Gahegan, M. N. (1999). Characterizing the semantic content of geographic data, models, and systems. In *Interoperating Geographic Information Systems* (Eds. Goodchild, M.F., Egenhofer, M. J. Fegeas, R. and Kottman, C. A.). Boston: Kluwer Academic Publishers, pp. 71-84.
4. Guo, D. Gahegan, M. and Peuquet, D. (2003) ICEAGE: Interactive Clustering and Exploration of Large and High-dimensional Geodata, *GeoInformatica*, 7(3): 229-253.
5. Gahegan, M. (2001). Exploratory Geographic Visualization: Analysis with Light. In: *Knowledge Discovery with Geographic Information*, (Eds. Miller, H. and Han, J.), Taylor & Francis: London.

6. MacEachren, A. M., Gahegan, M., Pike, W., Brewer, I., Cai, G., Langerich, E., Hardisty, F., 2004, Geovisualization for knowledge construction and decision-support, *Computer Graphics and Applications* 24(1): 13-17.
7. Gahegan, M., Wachowicz, M., Harrower, M. and Rhyne, T. (2001). The integration of geographic visualization with knowledge discovery in databases and geocomputation. *Cartography and Geographic Information Science*, Vol. 28, No. 1, pp. 29-44.
8. Pike W., Gahegan, M., (2003), Constructing semantically scalable cognitive spaces, in: *Spatial Information Theory: Foundations of Geographic Information Science. Conference on Spatial Information Theory COSIT03, Lecture Notes in Computer Science 2825*, Kuhn W, Worboys M, and Timpf S (Eds.). Springer-Verlag, Berlin: 332-348.
9. Pike W. A., Ahlqvist O., Gahegan M., Oswal S., (2003). Capturing context in collaborative science: Supporting collaborative science through a knowledge and data management portal, *Second International Semantic Web Conference*, Sanibel Island, FL, October 2003.
10. Takatsuka, M. and Gahegan, M. (2002) *GeoVISTA Studio: A codeless visual programming environment for geoscientific data analysis and visualization. Computers and Geosciences*, Vol. 28, No. 10, pp. 1131-1144.

### **Synergistic Activities**

- Previously funded research into visualization, semantics and the construction of meaning, image understanding, development of neural network classifiers, geographical analysis of measures of harm due to alcohol abuse, interoperability and data translation, landcover classification and change detection, spatial data structures and algorithms, visualizing uncertainty, development of cyber-infrastructure for the Geosciences.
- Associate director of the GeoVISTA Center for geographic visualization and analysis, Penn State. Director of the GeoVISTA *Studio* project to develop an integrated visualization and geocomputational analysis environment. ([www.geovistastudio.psu.edu](http://www.geovistastudio.psu.edu))
- Journal editorial board memberships: *International Journal of Geographical Information Science* (Editor from May 2004), *Computers and Geosciences*, *Geographical Analysis*, *Computers, Environment and Urban Systems* and *Transactions in GIS*.
- Committees. Steering committee (ongoing) for the GeoComputation conference series. Program committee member for COSIT 2001, 2003, GIScience 2004, ACMGIS2001, WebGIS 2002, 2003, National Academy 'Beyond Mapping' Study.