

ANTHONY C. ROBINSON

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EDUCATION

Doctor of Philosophy, Geography (2008)

The Pennsylvania State University

Dissertation: Design for Synthesis in Geovisualization

Advisor: Alan M. MacEachren

Master of Science, Geography (2005)

The Pennsylvania State University

Thesis: Assessing Geovisualization Tools in Cancer Epidemiology: A Design Framework for an Exploratory Toolkit

Advisor: Alan M. MacEachren

Bachelor of Science in Applied Geography (2002)

East Carolina University

Minor: Urban and Regional Planning

Certificate in GIS Studies

Cumulative GPA: 3.96

EXPERIENCE

Research Associate and Member of the Graduate Faculty, GeoVISTA Center and John A. Dutton e-Education Institute, Department of Geography, Penn State (2008 – present)

Supervised by: Alan M. MacEachren and David DiBiase

Leads interface and interaction design research for geovisual analytics tool development at the GeoVISTA Center on a wide range of externally-funded research projects. Creates course content and teaches Planning GIS for Emergency Management (GEOG 588) for the Dutton e-Education Institute MGIS program. Instructs Cartographic Design (GEOG 361) and Advanced Cartographic Design (GEOG 467) courses in the resident Geography program. Named Dutton Institute e-Education Fellow for 2008-2009. Appointed as a member of the graduate faculty for the College of Earth and Mineral Sciences.

Research Assistant, GeoVISTA Center, Penn State (2003-2008)

Supervised by: Alan M. MacEachren

Conducted interface design studies for new geovisualization tools to support cancer epidemiology, crisis management, and homeland security domains. Responsible for designing and executing usability/design evaluation studies for the following externally funded research projects: Geovisualization and Spatial Analysis of Cancer Data (NIH R01 CA95949-01), North East Visual Analytics Center (DHS 22193), GeoCollaborative Crisis Management (NSF EIA-0306845), Geovisual Explication Portal (NIH Supplement to R01 CA95949-01), Exploratory Spatio-Temporal Analysis Toolkit (NCI SRAB Contract), STNexus: An Integrated Database and Visualization Environment for Space-Time Information Exploitation (ARDA-GI2Vis).

Instructor, Geography 361 – Cartographic Design, Penn State (2007 - 2008)

Taught upper-level undergraduate students fundamentals of Cartographic Design in both lecture and lab settings. Created complete set of lectures and course materials. Supervised a TA who handled lab sections.

RESEARCH

Journal Articles

- **Robinson, A.C.** (In Revision) Supporting Synthesis in Geovisualization. *International Journal of Geographical Information Science*.
- Hardisty, F., and **Robinson, A.C.** (In Revision) The GeoViz Toolkit: Using Component-Oriented Coordination Methods to Aid Geovisualization Application Construction. *International Journal of Geographical Information Science*.
- **Robinson, A.C.**, Roth, R. E., and A.M. MacEachren. (Submitted) Designing Web-Delivered Learning Materials for Geographic Visualization in Public Health. *Health Informatics Journal*.
- Bhowmick, T., **Robinson, A.C.**, Gruver, A., E. Lengerich, and A.M. MacEachren. (2008) Distributed evaluation of the Pennsylvania cancer atlas. *International Journal of Health Geographics*. 7(36).
- **Robinson, A.C.** (2007) A Design Framework for Exploratory Geovisualization in Epidemiology. *Information Visualization*. 6(3): 197-214.
- Weaver, C., Fyfe, D., **Robinson, A.C.**, Holdsworth, D., Peuquet, D., and A.M. MacEachren (2007) Visual analysis of historic hotel visits. *Information Visualization* 6(1): 89-103.
- MacEachren, A. M., **Robinson, A. C.**, Hopper, S., Gardner, S., Murray, R., and M. Gahegan. (2005) Visualizing geospatial uncertainty: What we know and what we need to know. *Cartography and Geographic Information Science* 32: 139-60.
- **Robinson, A. C.**, J. Chen, G. Lengerich, H. Meyer, and A. M. MacEachren. (2005) Combining usability techniques to design geovisualization tools for epidemiology. *Cartography and Geographic Information Science*. 32: 243-255.

Refereed Conference Papers

- **Robinson, A.C.** (2009) Visual Highlighting Methods for Geovisualization. *24th International Cartographic Conference*. Santiago, Chile, November 15th – 21st.
- **Robinson, A.C.** (2009) Needs Assessment for the Design of Information Synthesis Visual Analytics Tools. *IEEE International Conference on Information Visualization*. Barcelona, Spain, July 15th - 17th.
- **Robinson, A.C.** (2008) Collaborative synthesis of visual analytic results. *IEEE Visual Analytics Science and Technology Conference*. Columbus, OH, October 19th-24th.

- **Robinson, A.C.** (2007) Synthesizing Results in Geovisualization. *Proceedings of the 23rd International Cartographic Conference*. Moscow, Russia, August 4-10.
- Tomaszewski, B., **Robinson, A.C.**, Stryker, M., and A.M. MacEachren. (2007) Geovisual analytics and crisis management. *Proceedings of the 4th International Conference on Intelligent Human Computer Systems for Crisis Response and Management (ISCRAM 2007)*. Delft, Netherlands, May 13 – 16.
- Weaver, C., Fyfe, D., **Robinson, A.C.**, Holdsworth, D., Peuquet, D., and A.M. MacEachren. (2006) Visual analysis of historic hotel visitation patterns. *Proceedings of the IEEE Symposium on Visual Analytics Science and Technology 2006*. Baltimore, MD, October 31 – November 2.
- Bhowmick, T., Gruver, A., **Robinson, A.C.**, E. Lengerich, and A.M. MacEachren. (2006) Using E-Delphi to evaluate the Pennsylvania cancer atlas. *Proceedings of the Auto-Carto Conference*, Portland, OR, June 25-28.
- **Robinson, A. C.** (2005) Geovisualization and epidemiology: A general design framework. *Proceedings of the 22nd International Cartographic Conference*, A Coruña, Spain, July 9-16.
- **Robinson, A. C.**, J. Chen, G. Lengerich, H. Meyer, and A. M. MacEachren. (2005) Combining usability techniques to design geovisualization tools for epidemiology. *Proceedings of the Auto-Carto Conference*, Las Vegas, NV, March 18-23.

Other Refereed Publications

- Pellegrino, D., Pan, C., **Robinson, A.C.**, Stryker, M., Luo, J., Weaver, C., Mitra, P., Chen, C., Turton, I., and A.M. MacEachren. (2008) Grand challenge award: data integration visualization and collaboration in the VAST 2008 Challenge. *IEEE Visual Analytics Science and Technology Conference*. Columbus, OH, October 19th – 24th.
- **Robinson, A.C.** (2007) Synthesizing Geovisual Analytic Results. *Proceedings of the IEEE Visual Analytics Science and Technology Conference Doctoral Colloquium*. Sacramento, CA, October 29 – November 1.
- **Robinson, A.C.**, Koua, E., Hardisty, F., and Alan M. MacEachren. (2007) The G-EX Portal: Web-Based Dissemination of Geovisual Analytic Results. *Proceedings of the ICA Commission on Visualization and Virtual Environments Workshop “From Geovisualization Toward Geovisual Analytics”*, Helsinki, Finland, August 2–3.
- **Robinson, A.C.**, Weaver, C. (2006) Re-Visualization: Interactive Visualization of the Process of Visual Analysis. *Proceedings of GIScience 2006 Workshop on Visualization, Analytics, and Spatial Decision Support*. Muenster, Germany, September 20.
- **Robinson, A.C.** (2006) Highlighting techniques to support geovisualization. *Proceedings of the ICA Workshop on Geovisualization and Visual Analytics*, Portland, OR, June 24.

Grants & Contracts

- Co-PI – “Are Google and Web 2.0 making us stupid? Geospatial information synthesis in a data-rich age” proposal to the Australian Research Council (Pending)

- Co-PI – “Symbology Standardization for Information Sharing” contract with the U.S. Department of Homeland Security (March 2009 – March 2010)
- Co-PI - “VACCINE: Visual Analytics for Command, Control, Interoperability, National Security, and Emergencies” Center of Excellence for the U.S. Department of Homeland Security (2009 - 2015)
- Co-PI – “Software for Geovisualization and Spatial Analysis of Health Data: The Geographic-Explication (G-EX) Tool Suite” proposal to the U.S. National Institutes of Health (Declined)
- Consultant - “Planning the Infrastructure for a Web-based Childhood Obesity Prevention Geographic Information System” proposal to the Robert Wood Johnson Foundation (Declined)

Presentations / Posters / Extended Abstracts

- **Robinson, A.C.**, Roth, R., and Alan M. MacEachren. “Developing Standards for Map Symbology” Presentation at the annual meeting of the North American Cartographic Information Society in Sacramento, CA. October 7-10, 2009.
- **Robinson, A.C.** “Synthesizing Geographic Information” Invited presentation for the School of Physical, Environmental, and Social Sciences at the Australian Defence Force Academy at University of New South Wales, Canberra, AU. June 26, 2009.
- **Robinson, A.C.**, Lengerich, E. “Disparities and Geography: Communicating Risk and Allocating Limited Resources” 1 Day Workshop at the National Association of Chronic Disease Directors Chronic Disease Academy in Seattle, WA. March 25, 2009.
- **Robinson, A.C.**, Hardisty, F. “Highlighting Methods for Geovisualization” Presentation at the annual meeting of the North American Cartographic Information Society in Missoula, MT. October 8-10, 2008.
- **Robinson, A.C.** “Geo-Collaborative Information Synthesis” Invited presentation for the US & China Geo-Collaborative Crisis Management Workshop in Lanzhou, China. September 17-18, 2008.
- **Robinson, A.C.** “Supporting Synthesis in Geovisualization” Extended abstract for presentation at the 2008 GIScience conference in Park City, UT. September 23-26, 2008.
- Roth, R.E., **Robinson, A.C.**, Stryker, M., MacEachren, Alan M., Lengerich, Eugene J., and E. Koua. “Web-based Geovisualization and Geocollaboration: Applications to Public Health” Extended abstract and presentation at the 2008 Joint Statistical Meetings in Denver, CO. August 3-7, 2008.
- **Robinson, A.C.** “Exploring Analyst Information Synthesis” Presentation at the Spring 2008 meeting of the National Visualization and Analytics Centers consortium in Columbia, MD. May 21-22, 2008.
- **Robinson, A.C.** “Synthesizing Information from Geovisualization” Presentation at the annual meeting of the Association of American Geographers in Boston, MA. April 15-19, 2008.

- **Robinson, A.C.**, Crawford, S., Lengerich, E., and Alan M. MacEachren. “The Pennsylvania Cancer Atlas” Poster presented at the URISA Public Health and GIS Conference in New Orleans, LA. May 20-23, 2007.
- **Robinson, A.C.**, Weaver, C. “Atlas Layouts for Geovisualization.” Presentation at the annual meeting of the North American Cartographic Information Society in Madison, WI. October 18-21, 2006.
- **Robinson, A.C.** “Geographic Visualization to Support Epidemiology in Bulgaria” Presentation to the Department of Epidemiology and Social Medicine at the Sofia Medical University in Sofia, Bulgaria. March 9, 2006.
- **Robinson, A.C.** and A.M. MacEachren. “Geovisualization Design for Unreachable Users.” Presentation at the annual meeting of the North American Cartographic Information Society in Salt Lake City, UT. October 12-15, 2005.
- **Robinson, A.C.** “Interaction Design Techniques for Geovisualization: Designing and Assessing Tools for Cancer Epidemiology” Presentation at the annual meeting of the Association of American Geographers in Denver, CO. April 5-9, 2005.
- **Robinson, A.C.**, Chen, J., Meyer, H. and MacEachren, A.M. “Human-Centered Design of Geovisualization Tools for Cancer Epidemiology” Poster presented at the 2004 GIScience Conference. College Park, MD. October 20-23, 2004.
- **Robinson, A.C.** “Visualizing Health: Designing Usable Tools for Epidemiology” Invited presentation for the Penn State Science, Medicine, Technology, and Culture Coffee Hour Series. December 16, 2004.
- **Robinson, A.C.** “Web-Based Collaborative Tools for Geospatial Data Exploration.” Demonstration given at the 2004 Conference on Digital Government Research. Seattle, WA. May 24-26, 2004

COURSES TAUGHT

- Geography 583: **Geospatial System Analysis & Design** (Currently Developing Content)
- Geography 588: **Planning GIS for Emergency Management**
- Geography 467: **Applied Cartographic Design**
- Geography 361: **Maps and Map Construction**

PROFESSIONAL SERVICE

Reviewer For

- U.S. National Science Foundation
- Professional Geographer
- International Journal of Geographic Information Science
- IEEE INFOVIS, VAST, IV, and PacificVIS Conferences
- ACM Computer-Human Interaction (CHI) Conference
- International Community on Information Systems for Crisis Management (ISCRAM) Conference
- Risk Analysis

- Cartographica
- Kartographische Nachrichten
- The Applied Geography Conference

Conference Committees

- Program Committee Member for 2009 SPIE Visual Analytics for Homeland Defense and Security Workshop
- Program Committee Member for 2008 International Workshop on Geo-Collaborative Crisis Management

AWARDS

- 2008-2009 College of Earth and Mineral Sciences e-Education Fellowship. \$5000
- 2008 Outstanding Research Assistant award from the Department of Geography at Penn State. \$500
- 2007 Young scholar travel grant to attend the 23rd annual meeting of the International Cartographic Association in Moscow, Russia. Grant provided by the United States National Committee of the ICA. \$1800
- 2005 College of Earth and Mineral Sciences Photo Contest – 1st place, Graduate Student
- 2005 United States Geospatial Intelligence Foundation Scholarship. \$5000
- 2005 Young scholar travel grant to attend the 22nd annual meeting of the International Cartographic Association in A Coruña, Spain. Grant provided by the United States National Committee of the ICA. \$1750
- 2005 E. Willard Miller Award (M.S. level) paper competition in the Department of Geography at Penn State. \$1000
- 2005 Penn State College of Earth and Mineral Sciences Centennial Travel Award. \$500
- 2002 South East Division of the Association of American Geographers Merle Prunty Award for outstanding scholarship in Geography. \$500
- 2002 National Geographic Society Cartography Award for the map, “Afghanistan: An Overview.” \$1200