Ross Maciejewski

School of Computing, Informatics, and Decision Systems Engineering
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EDUCATION

Purdue University, West Lafayette, IN
Doctor of Philosophy, Computer Engineering, December 2009
Thesis: Exploring Multivariate Data through the Application of Visual Analytics
Committee: David S. Ebert (advisor), Alan M. MacEachren, Edward J. Delp, Hong Z. Tan, David Anderson

Purdue University, West Lafayette, IN
Master of Science, Electrical and Computer Engineering, August, 2004
Thesis: Exploring the Value of Adding Haptic and Stereoscopic Rendering to Volume Modeling

The University of Missouri, Columbia, MO
Bachelor of Science, Electrical Engineering, December 2001, Cum Laude
Bachelor of Science, Computer Engineering, December 2001, Cum Laude
Bachelor of Science, Computer Science, December 2001, Cum Laude

PROFESSIONAL EXPERIENCE

Arizona State University Tempe, AZ
Assistant Professor   August 2011 – Present
- Faculty member in the School of Computing, Informatics, and Decision Systems Engineering

Purdue University   West Lafayette, IN
Visiting Assistant Professor   January 2010 – July 2011
- Faculty member in the School of Electrical and Computer Engineering
Graduate Research Assistant   January 2004 – December 2009
- Lab manager and research assistant in the Purdue University Rendering and Perceptualization Laboratory and the Purdue University Visual Analytics Center
Visual Analytics Consultant   May 2009 – May 2010
- Consulted for Biosentinel through Purdue University's TAP program for hotspot mapping of pharmacy data
Teaching Assistant   August 2008 – December 2008
- Teaching assistant for the graduate level course Visualization Techniques.
Teaching Assistant   August 2002 – December 2003
- Head teaching assistant of secondary circuit lab, ran teaching assistant meetings and developed grading criteria for all experiments.

HONORS AND AWARDS
- **NSF CAREER (Faculty Early Career Development) Award (2014). U.S. National Science Foundation**
- **VAST 2013 Mini Challenge 1 Award: Excellent Visual Analysis of Structured and Unstructured Data**, IEEE Conference on Visual Analytics Science and Technology, October 2013 for "Box Office VAST - Team VADER," (Lu, Y., Wang, F., Maciejewski, R.)
- **Coast Guard Meritorious Team Commendation (PROTECT)**, Ross Maciejewski served as a member of the United States Coast Guard Port Resilience for Operational Tactical Enforcement to Combat Terrorism (PROTECT) Team while at Purdue University's Department of Homeland Security Center of Excellence (VACCINE), May 2013.
- **Seed for Success** (2011). Purdue University, Vice President of Research ($1M+ grant in AY10-11), awarded for "Development of a Real-Time Infectious Disease Surveillance and Response System for Pakistan" grant (G2) by DTRA.
- **VAST 2010 Challenge Award: Support for Future Detection**, IEEE Conference on Visual Analytics Science and Technology, October 2010 for "VACCINATED," (Malik, A., Afzal, S., Hodgess, E., Ebert, D., Maciejewski, R.).
- **Best Paper Nominee**, IEEE Symposium on Visual Analytics Science and Technology (VAST), October 2008, for "Understanding Syndromic Hotspots – A Visual Analytics Approach," (Maciejewski, R., Rudolph, S., Hafen, R., Abusalah, A., Yakout, M., Ouzzani, M., Cleveland, W., Grannis, S., Wade, M., Ebert, D.).
- Homeland Security – Science, Technology, Engineering, and Mathematics (HS-STEM) fellowship recipient (2007-2009)
- Magoon Award for Excellence in Teaching, Purdue University, 2003.

STUDENT HONORS AND AWARDS

- Adam J. Fairfield – Honorable Mention, CRA Undergraduate Research Award, 2013

PATENTS

P1. Ebert, D. S., Collins, T., Maciejewski, R., Malik, A., "Visual Analytics Law Enforcement Tools," U. S. Patent 8,849,728 B2 issued on September 30, 2014.

GRANTS

G1. R. Maciejewski (PI), "Visual Analytics Algorithms for Spatiotemporal Analysis," National Science Foundation Career Award, $425,000, April 2014 – April 2019.

G2. N. Bliss (PI), R. Maciejewski (Co-PI), D. White (Co-PI), P. Westerhoff, S. Corman, G.-J. Ahn, N. Cooke, H. Davulcu, H. Liu, E. Finn, D. Bliss, "Foresight Initiative and the new ISR: Interconnectivity, Sustainability, and Resilience," National Geospatial Intelligence Agency (NGA), $20,000,000 (personal share 20%), June 2014 – June 2019

G3. R. Maciejewski (PI), "WDYTYA: Spatiotemporal Network Dynamics for Community Detection," Department of Homeland Security VACCINE Center of Excellence, $78,000, August 2013 – August 2014.

G4. R. Maciejewski (PI), "Improving Predictive Analytics Capability for VALET," Department of Homeland Security VACCINE Center of Excellence, $50,000, August 2013 – August 2014.

G5. R. Maciejewski (PI), "Developing a spatial statistics framework in the visual analytics for law enforcement technology suite," Seed Competition for Department of Homeland Security VACCINE Center of Excellence, December 2012 – March 2013.

G6. Ghafoor, A. (PI), Ebert, D., Maciejewski, R., Ayyaz, M., Ahmed, M., Mustafa, T., Aref, W. (Co-PIs), Grannis, S. (Consultant), "Development of a Real-Time Infectious Disease Surveillance and Response System for Pakistan: Responding to Human Well-Being in Times of Threat," Defense Threat Reduction Agency, $1,600,000 (personal share 7%), June 2010 – May 2013.

PUBLICATIONS
Refereed Journal Papers

J1. Malik, A., Maciejewski, R., McCullough, S., Towers, S., Ebert, D., "Proactive Spatiotemporal Resource Allocation and Predictive Visual Analytics for Community Policing and Law Enforcement," IEEE Transactions on Visualization and Computer Graphics, 2014.

J2. Mack, E. A., Maciejewski, R., "Visual Analytical Toolkits for Understanding the Spatio-Temporal Evolution of Broadband Provision," *Telecommunications Policy Journal,* 2014 (To appear)

J3. Lu, Y., Wang, F., Maciejewski, R., "Business Intelligence from Social Media: A Study from the VAST Box-Office Challenge," IEEE Computer Graphics and Applications, 34(5): 58-70, 2014.

J4. Malik, A., Maciejewski, R., Jang, Y., Oliveros, S., Yang, Y., Maule, B., White, M., Ebert, D. S., "A Visual Analytics Process for Maritime Response, Resource Allocation and Risk Assessment," *Information Visualization*, 13(2): 93-110, 2014.

J5. Mack, E. A., Zhang, Y., Rey, S., Maciejewski, R., "IVIID: A Visual Analytics Tool for the Spatio-Temporal Analysis of Industrial Composition," *Journal of Geographical Systems*, 16(2): 183-209, 2014.

J6. Zhang, Y., Adnan, M., Longley, P., Maciejewski, R., "Exploring Geo-Genealogy Using Internet Surname Search Histories," *Journal of Maps*, 9(4):481-485, 2013.

J7. Kim, S., Maciejewski, R., Malik, A., Jang, Y., Ebert, D. S., Isenberg, T., "Bristle Maps: A Multivariate Abstraction Technique for Geovisualization," *IEEE Transactions on Visualization and Computer Graphics*, 19(9): 1438-1454, 2013.

J8. Maciejewski, R., Woo, I., Jang, Y., Janïcke, H., Gaither, K. P., Ebert, D. S., "Abstracting Attribute Space for Transfer Function Exploration and Design," *IEEE Transactions on Visualization and Computer Graphics*, 19(1): 94-107, 2013.

J9. Maciejewski, R., Pattah, A., Ko, S., Hafen, R., Cleveland, W. S., Ebert, D. S., "Automated Box-Cox Transformations for Improved Visual Encoding," *IEEE Transactions on Visualization and Computer Graphics*, 19(1): 130-140, 2013.

J10. Afzal, S., Maciejewski, R., Jang, Y., Elmqvist, N., Ebert. D. S., "Spatial Text Visualization Using Automatic Typographic Maps," *IEEE Transactions on Visualization and Computer Graphics*, 18(12): 2556-2564, 2012.

J11. Woo, I., Maciejewski, R., Gaither, K. P., Ebert, D. S., "Feature-driven Data Exploration for Volumetric Rendering," *IEEE Transactions on Visualization and Computer Graphics*, 18(10): 1731-1743, 2012.

J12. Ko, S., Maciejewski, R., Jang, Y., Ebert, D. "Market Analyzer: An Interactive Visual Analytics System for Analyzing Competitive Advantage Using Point of Sale Data," *Computer Graphics Forum*, 31(3): 1245-1254, 2012.

J13. Livengood, P., Maciejewski, R., Chen, W., Ebert, D. "OmicsVis: An Interactive Tool for Visually Analyzing Metabolomics Data," *BioMed Central*, 13(Suppl 8):S6 2012.

J14. Maciejewski, R., Livengood, P., Rudolph, S., Collins, T. F., Ebert, D. S., Brigantic, R. T., Corley, C. D., Muller, G. A., Sanders, S. W., "A Pandemic Modeling and Visualization Tool," *Journal of Visual Languages and Computing*, 22(4):268-278, 2011.

J15. Maciejewski, R., Rudolph, S., Hafen, R., Mitchell, M. A., Larew, S. G., Cleveland, W., Ebert, D., "Forecasting Hotspot – A Predictive Analytics Approach," *IEEE Transactions on Visualization and Computer Graphics*, 17(4): 440-453, 2011.

J16. Maciejewski, R., Rudolph, S., Hafen, R., Abusalah, A., Yakout, M., Ouzzani, M., Cleveland, W., Grannis, S., Ebert, D., "A Visual Analytics Approach to Understanding Spatiotemporal Hotspots," *IEEE Transactions on Visualization and Computer Graphics*, 16(2): 205-220, 2010.

J17. Lu, A., Maciejewski, R., Ebert, D., "Volume Composition and Evaluation Using Eye Tracking Data," *ACM Transactions on Applied Perception*, 7(1): 1-20, January 2010.

J18. Maciejewski, R., Chen, W., Woo, I., Ebert, D., "Structuring Feature Space – A Non-Parametric Method for Volumetric Transfer Function Generation," *IEEE Transactions on Visualization and Computer Graphics*, 15(6): 1473-1480, 2009.

J19. Song, Y., Chen, W., Maciejewski, R., Gaither, K., Ebert, D., "Bivariate Transfer Functions on Unstructured Grids," *Computer Graphics Forum*, 27(3), June 2009.

J20. Woo, I., Kim, S., Maciejewski, R., Ebert, D., Ropp, T., Thomas, K., "SDViz: A Context-Preserving Interactive Visualization System for Technical Diagrams," *Computer Graphics Forum*, 27(3), June 2009.

J21. Hafen, R., Anderson, D., Cleveland, W., Maciejewski, R., Ebert, D., Abusalah, A., Yakout, M., Ouzzani, M., Grannis, S., "STL for Modeling, Visualizing, and Monitoring Disease Counts," *BMC Medical Informatics and Decision Making*, 9(21), 2009.

J22. Maciejewski, R., Hafen, R., Rudolph, S., Tebbetts, G., Cleveland, W., Grannis, S., Ebert, D., "Generating Synthetic Syndromic Surveillance Data for Evaluating Visual Analytics Techniques," *IEEE Computer Graphics and Applications*, 29(3):18-28, 2009.

J23. Mora, B., Maciejewski, R., Chen, M., Ebert, D., "Visualization and Computer Graphics on Isotropically Emissive 3D Displays," *IEEE Transactions on Visualization and Computer Graphics*, 15(2):221-234, 2009.

J24. Liang, X., Chen, W., Maciejewski, R., Ebert, D., "2D Illustrative Shape Deformation with Shape Context Preserving Image Manipulations," *Computer Graphics Forum*, 28(1):114-126, 2008.

J25. Kim, S., Maciejewski, R., Ostmo, K., Delp, E., Collins, T., Ebert, D., "Mobile Analytics for Emergency Response and Training," *The Journal of Information Visualization*, 7:77-88, 2008.

J26. Maciejewski, R., Glickman, N., Moore, G., Zheng, C., Tyner, B., Cleveland, W., Ebert, D., Lance, S., Horan, J., Glickman, L., "Companion Animals as Sentinels for Community-Exposure to Industrial Chemicals: The Fairburn, GA Propyl Mercaptan Case-Study," *Public Health Reports*, 123(3), May/June 2008.

J27. Maciejewski, R., Isenberg, T., Andrews, W., Ebert, D., Costa-Sousa, M., Chen, W., "Measuring Stipple Aesthetics in Hand-Drawn and Computer-Generated Images," *IEEE Computer Graphics and Applications,* 28(2):62-74, 2008.

Refereed Conference Papers

C1. Lu, Y., Krueger, R., Thom, D., Wang, F., Koch, S., Ertl, T., Maciejewski, R., "Integrating Predictive Analytics and Social Media," IEEE Conference on Visual Analytics Science and Technology, 2014.

C2. Razip, A. M. M., Malik, A., Afzal, S., Joshi, S., Maciejewski, R., Jang, Y., Elmqvist, N., Ebert, D. S., "A Mobile Visual Analytics Approach for Situational Awareness and Risk Assessment," *IEEE Pacific Visualization Symposium*, 2014.

C3. Fairfield, A.J., Plasencia, J., Jang, Y., Theodore, T., Crawford, N. R., Frakes, D. H., Maciejewski, R., "Volume Curtaining: A Focus+Context Effect for Multimodal Volume Visualization," *Proceedings of the SPIE Medical Imaging Conference*, 2014.

C4. Wang, Z., Chen, W., Zhou, X., Chen, C., Maciejewski, R., "A Novel Visual Analysis Approach for Clustering Large-Scale Social Data," *Proceedings of the First Workshop on Big Data Visualization at IEEE BigData*, October, 2013.

C5. Green, T., Maciejewski, R., "A Role for Reasoning in Visual Analytics," *Proceedings of the Hawaii International Conference on System Sciences*, January, 2013.

C6. Chae, J., Thom, D., Bosch, H., Jang, Y., Maciejewski, R., Ebert, D. S., Ertl, T., "Spatiotemporal Social Media Analytics for Abnormal Event Detection Using Seasonal-Trend Decomposition," *IEEE Conference on Visual Analytics Science and Technology (VAST)*, 2012.

C7. Malik, A., Maciejewski, R., Jang, Y., Huang, W., Elmqvist, N., Ebert, D. S., "A Correlative Analysis Process in a Visual Analytics Environment," *IEEE Conference on Visual Analytics Science and Technology (VAST)*, 2012.

C8. Oliveros, S., Eicher-Miller, H., Boushey, C., Ebert, D., Maciejewski, R., "Applied Visual Analytics for Exploring the National Health and Nutrition Examination Survey," *Proceedings of the Hawaii International Conference on System Sciences*, January, 2012.

C9. Afzal, S., Maciejewski, R., Ebert, D., "Visual Analytics Decision Support Environment for Epidemic Modeling and Response Evaluation," *Proceedings of the IEEE Conference on Visual Analytics Science and Technology (VAST)*, 2011.

C10. Malik, A., Maciejewski, R., Maule, B., Ebert, D. S., "A Visual Analytics Process for Maritime Resource Allocation and Risk Assessment," *Proceedings of the IEEE Conference on Visual Analytics Science and Technology (VAST)*, 2011.

C11. Livengood, P., Maciejewski, R., Chen, W., Ebert, D., "A Visual Analysis System for Metabolomics Data," *Proceedings of the IEEE Symposium on Biological Data Visualization*, 2011.

C12. Malik, A., Maciejewski, R., Hodgess, E., Ebert, D., "Describing Temporal Correlation Spatially in a Visual Analytics Environment," *Proceedings of the Hawaii International Conference on System Sciences*, January, 2011.

C13. Chae, J., Woo, I., Kim, S., Maciejewski, R., Zhu, F., Delp, E., Boushey, C., Ebert, D., "Volume Estimation Using Food Specific Shape Templates in Mobile Image-Based Dietary Assessment," *IS&T/SPIE Computational Imaging IX, Proceedings of SPIE*, Vol. 7873, January, 2011.

C14. Kim, S., Schap, T., Bosch, M., Maciejewski, R., Delp, E., Ebert, D., Boushey, C., "Development of a Mobile User Interface for Image-Based Dietary Assessment," *International Conference on Mobile and Ubiquitous Multimedia (MUM)*, 2010.

C15. Malik, A., Maciejewski, R., Collins, T., Ebert, D., T., "Visual Analytics Law Enforcement Toolkit," *IEEE International Conference on Technologies for Homeland Security*, 2010.

C16. Kim, S., Woo, I., Maciejewski, R., Ebert, D., Roth, T., Krystal, T., "Evaluating the Effectiveness of Visualization Techniques for Schematic Diagrams in Maintenance Tasks," *Proceedings of the Symposium on Applied Perception in Graphics and Visualization (APGV)*, 2010.

C17. Kim, S., Woo, I., Maciejewski, R., Ebert, D., "Automated Hedcut Illustration Using Isophotes," *10th International Symposium on Smart Graphics*, 2010.

C18. Brigantic, R., Ebert, D., Corley, C., Maciejewski, R., Muller, G., Taylor, A., "Development of a Quick Look Pandemic Influenza Modeling and Visualization Tool," *ISCRAM2010: 7th International Conference on Information Systems for Crisis Response and Management*, 2010.

C19. Maciejewski, R., Rudolph, S., Drake, T., Malik, A., Ebert, D., "Data Aggregation and Analysis for Cancer Statistics – A Visual Analytics Approach," *Proceedings of the Hawaii International Conference on System Sciences*, 2010.

C20. Kim, S., Maciejewski, R., Isenberg, T., Andrews, W., Chen, W., Sousa, M., Ebert, D., "Stippling by Example," *Proceedings of the International Symposium on Non-Photorealistic Animation and Rendering (NPAR)*, 2009.

C21. Maciejewski, R., Rudolph, S., Hafen, R., Abusalah, A., Yakout, M., Ouzzani, M., Cleveland, W., Grannis, S., Wade, M., Ebert, D., "Understanding Syndromic Hotspots – A Visual Analytics Approach," *IEEE Symposium on Visual Analytics Science and Technology (VAST)*, pp. 35-42, 2008.

C22. Savikhin, A., Maciejewski, R., and Ebert, D., "Applied Visual Analytics for Economic Decision-Making," *IEEE Symposium on Visual Analytics Science and Technology (VAST)*, pp. 107-114, 2008.

C23. Maciejewski, R., Kim, S., King-Smith, D., Ostmo, K., Klosterman, N., Mikkilineni, A., Ebert, D., Delp, E., Collins, T., "Situational Awareness and Visual Analytics for Emergency Response and Training," *IEEE International Conference on Technologies for Homeland Security*, 2008.

C24. Maciejewski, R., Tyner, B., Jang, Y., Zheng, C., Nehme, R., Ebert, D., Cleveland, W., Ouzzani, M., Grannis, S., Glickman, L., "LAHVA: Linked Animal-Human Health Visual Analytics," *IEEE Symposium on Visual Analytics Science and Technology (VAST)*, pp. 27-34, 2007.

C25. Maciejewski, R., Isenberg, T., Andrews, W., Ebert, D., Sousa, M., "Aesthetics of Hand-Drawn vs. Computer-Generated Stippling," Proceedings *of Computational Aesthetics in Graphics, Visualization, and Imaging 2007 (Cae 2007, June 20-22, 2007, Banff, Alberta, Canada)*, Aire-la-Ville, Switzerland, 2007. Eurographics Association.

C26. Lu. A, Maciejewski, R., Ebert, D., "Volume Composition Using Eye Tracking Data," *Eurographics-IEEE TCVG Symposium on Visualization 2006*, pp. 115-122, 2006.

C27. Maciejewski, R., Choi, S., Ebert, D., Tan, H., "Multi-Modal Perceptualization of Volumetric Data and Its Application to Molecular Docking," *World Haptics Conference 2005*, pp. 511-514, 2005.

Refereed Short Papers and Extended Abstracts

A1. Wang, F., Ibarra, J., Adnan, M., Longley, P., Maciejewski, R., "What's In a Name? Data Linkage, Demography and Visual Analytics," *Eurovis Workshop on Visual Analytics,* 2014.

A2. Lu, Y., Wang, F., Maciejewski, R., "VAST 2013 Mini-Challenge 1: Box Office VAST - Team VADER," *IEEE Conference on Visual Analytics Science and Technology*, October, 2013.

A3. Morstatter, F., Kumar, S., Liu, H., Maciejewski, R., "Understanding Twitter Data with TweetXplorer," *Proceedings of the 19th ACM SIGKDDD International Conference on Knowledge Discovery and Data Mining*, pp. 1482-1485, 2013.

A4. Maciejewski, R., Afzal, S., Farifield, A. J., Ghafoor, A., Ebert, D. S., Ahmed, M., Ayyaz, N., "Enabling Syndromic Surveillance in Pakistan*,"In the Abstracts from the 2012 Conference of the International Society of Disease Surveillance*, December 2012.

A5. Larew, S. G., Maciejewski, R., Woo, I., Ebert, D., "Spatial Scan Statistics on the GPGPU," *Proceedings of the Visual Analytics in Healthcare Workshop at the IEEE Visualization Conference*, October, 2010.

A6. Malik, A., Afzal, S., Hodgess, E., Ebert, D., Maciejewski, R., "VACCINATED – Visual Analytics for Characterizing a Pandemic Spread," *Proceedings of the IEEE Conference on Visual Analytics Science and Technology*, October 2010.

A7. Green, T., Maciejewski, R., DiPaola, S., "ALIDA: Using Machine Learning for Intent Discernment in Visual Analytics Interfaces," *Proceedings of IEEE Conference on Visual Analytics Science and Technology*, October 2010.

A8. Maciejewski, R., Jang, Y., Ebert, D., Gaither, K., "Abstract Feature Space Representation for Volumetric Transfer Function Exploration," *Dagstuhl Seminar on Scientific Visualization*, July 2010.

A9. Maciejewski, R., Brigantic, R., Muller, G., Collins, T. Ebert, D., "Pandemic Visualization Tool for Risk Analysis," *2009 Risk Symposium – Risk Analysis of Complex Systems for National Security Applications*, April 2009.

A10. Maciejewski, R., Rudolph, S., Grannis, S., and Ebert, D., "The Day-of-the-Week Effect: A Study Across the Indiana Public Health Emergency Surveillance System," *In the Abstracts from the 2008 Conference of the International Society for Disease Surveillance: Evaluation and Performance*, December 2008.

A11. Maciejewski, R., Rudolph, S., Grannis, S., and Ebert, D., "Visual Analytics Toolkit for Evaluating Potential Syndromic Outbreaks," *In the Abstracts from the 2008 Conference of the International Society for Disease Surveillance*, 2008.

A12. Maciejewski, R., Rudolph, S., Tebbetts, G., Ebert, D., "Contextualizing Hotspots – A Visual Analytics Approach," *Geospatial Visual Analytics Workshop at the GIScience 2008 Conference*, Park City, Utah, USA, 23-26 September, 2008.

A13. Anderson, D., Zheng, C., Maciejewski, R., Hafen, R., Cleveland, W., Ebert, D., Ouzzani, M., Grannis, S., "STL and Local Regression for Modeling Disease Surveillance Counts," *In the Abstracts from the 2007 Conference of the International Society for Disease Surveillance*, December 2007.

A14. Pierce, N., Maciejewski, R., Ebert, D., "Visualizing Quantum Dots in a Virtual Environment," *21st National Conference on Undergraduate Research (NCUR)*, April 2007.

Book Chapters
- B1. <u>Maciejewski, R.</u>, "Geovisualization," Handbook of Regional Science, *Springer*, 2013.
- B2. <u>Maciejewski, R.</u>, "Data Representations, Transformations, and Statistics for Visual Reasoning," *Morgan & Claypool Publishers*, 2011.

Conference Tutorial Notes
- N1. Ebert, D., Fisher, B., Green, T., <u>Maciejewski, R.</u>, "Fundamentals and Applications of Visual Analytics," *HICSS 2012*, January 2012.
- N2. Ebert, D., Fisher, B., Gaither, K., Kielmann, J., <u>Maciejewski, R.</u>, "Fundamentals and Applications of Visual Analytics," *HICSS 2011*, January 2011.
- N3. Ebert, D., Ertl, T., Keim, D., Koch, S., <u>Maciejewski, R.</u>, Thomas, J., Tversky, B., "Fundamentals of Visual Analytics," *SIGGRAPH 2010*, July 2010.
- N4. Ebert, D., Ertl, T., Keim, D., Koch, S., <u>Maciejewski, R.</u>, Thomas, J., "Applications of Visual Analytics," *SIGGRAPH 2010*, July 2010.
- N5. Ebert, D., <u>Maciejewski, R.</u>, "From Foundations to Applications of Visual Analytics," *20th IASTED International Conference on Modeling and Simulation Tutorial Notes*, July 2009.

INVITED TALKS

- T1. <u>Maciejewski, R.</u>, Olshausen, B. and Kherlopian, A. "NGA Operational Challenges Panel: Immersive Intelligence," Panel at the NGA Academic Research Program Symposium and Workshops, Washington, D.C., September 2014.
- T2. <u>Maciejewski, R.</u>, "Integrating a Visual Analytics Curriculum Into Your Own Classroom," Morgan State University, Baltimore, MD, July 2014.
- T3. <u>Maciejewski, R.</u>, "Syndromic Surveillance with Emergency Department Chief Complaints," Arizona State University School of Public Affairs, March, 2014.
- T4. <u>Maciejewski, R.</u>, "Enabling Predictive Analytics Through Visualization," University of Arizona, January, 2014
- T5. <u>Maciejewski, R.</u>, "Integrating a Visual Analytics Curriculum Into Your Own Classroom," Jackson State University, Mississippi, July 2013.
- T6. <u>Maciejewski, R.</u>, "Analytical Brushing for Spatiotemporal Analysis," University College of London, United Kingdom, July, 2013.
- T7. <u>Maciejewski, R.</u>, "Analytical Brushing for Spatiotemporal Analysis," City College of London, United Kingdom, July, 2013.
- T8. <u>Maciejewski, R.</u>, "An Introduction to Concepts in Visual Analytics," *Visual Analytics Summer School at Middlesex University,* United Kingdom, July 2013.
- T9. <u>Maciejewski, R.</u>, "Analytical Brushing for Spatiotemporal Analysis," Computer Graphics and Visualization Summit, King Abdullah University of Science and Technology (KAUST), Saudi Arabia, April, 2013
- T10. <u>Maciejewski, R.</u>, "Classification Development in NHANES," Arizona State University School of Nutrition and Health Promotion, January, 2013.
- T11. <u>Maciejewski, R.</u>, "Non-Photorealistic Rendering in Visual Analytics," Tufts University, September, 2012.
- T12. <u>Maciejewski, R.</u>, "Fundamentals and Applications of Visual Analytics," Visual Analytics Summer School, Middlesex University, September 2012.
- T13. <u>Maciejewski, R.</u>, "Fundamentals and Applications of Visual Analytics," Canadian Visual Analytics Summer School, Simon Fraser University, July 2012.
- T14. <u>Maciejewski, R.</u>, "Applications in Geovisual Analytics: Syndromic Surveillance and Crime Mapping," University College London, Department of Geography, November, 2011.
- T15. <u>Maciejewski, R.</u>, "Applications in Geovisual Analytics: Syndromic Surveillance and Crime Mapping," Arizona State University School of Geographical Sciences & Urban Planning, September, 2011.
- T16. <u>Maciejewski, R.</u>, "Coordinated Syndromic Surveillance through Visual Analytics," Pennsylvania State University Center for Infectious Disease Dynamics, April 2011.
- T17. <u>Maciejewski, R.</u>, "Exploring Multivariate Data Through the Application of Visual Analytics," Arizona State University School of Computing, Informatics and Decision Systems Engineering, April 2011.
- T18. Ebert, D., <u>Maciejewski, R.</u>, "Visual Analytics in Healthcare Applications," North Carolina Bio-Preparedness Collaborative Webinar, March 2011.
- T19. <u>Maciejewski, R.</u>, "Exploring Multivariate Data Through the Application of Visual Analytics," Oklahoma State University Department of Computer Science, March 2011.
- T20. Ebert, D., <u>Maciejewski, R.</u>, "From Foundations to Applications of Visual Analytics," *Visual Analytics Summer School at Middlesex University*, September 2010.
- T21. <u>Maciejewski, R.</u>, "An Introduction to Visual Analytics," University of Illinois Urbana-Champaign Data Sciences Summer Institute, July 2010.
- T22. <u>Maciejewski, R.</u>, Gates, C., Chaturvedi, A., "The Visualization of Security," The Center for Education and Research in Information Assurance and Security (CERIAS) Annual Information Security Symposium, March 2010.
- T23. Ebert, D., <u>Maciejewski, R.</u>, "Public Health Data Exploration, Analysis, Modeling and Prediction Using Visual Analytics," United States Department of Health and Human Services, January 2010.

T24. Ebert, D., <u>Maciejewski, R.</u>, "Data Modeling and Exploration Using Visual Analytics," National Defense University, October 2009.

T25. <u>Maciejewski, R.</u>, "Exploring Multivariate Data Through the Application of Visual Analytics," Pacific Northwest National Laboratory, April 2011.

T26. <u>Maciejewski, R.</u>, Görg, C., Tomaszewski, B., "Student Research in Visual Analytics for a Safer Nation," DHS 2009 University Network Summit, March 2009.

T27. Ebert, D., <u>Maciejewski, R.</u>, "PURVAC Health Analytics and Visualization Overview," Center for Disease Control Webinar, August 2008.

T28. Amass, S., <u>Maciejewski, R.</u>, "Swine Disease, Analysis and Impact," World Pork Exposition, June 2007.

T29. <u>Maciejewski, R.</u>, "Linked Animal Human Health Visual Analytics," IBM's Graphics and Visualization Student Symposium, 2007.

INVITED WORKSHOPS

I1. Dagstuhl seminar 14231, "Scientific Visualization (2014)" (organizers: Min Chen, Charles D. Hansen, Penny Rheingans, Gerik Scheuermann), Dagstuhl, Germany (June 2014).

I2. Dagstuhl seminar 09251, "Scientific Visualization (2009)" (organizers: David S. Ebert, Eduard Gröller, Hans Hagen, Arie Kaufman), Dagstuhl, Germany (June 2009).

SCIENTIFIC COMMUNITY SERVICE

Conference Technical Organizing Committee Memberships

- IEEE/VGTC EuroVis Organizing Committee Member (STARS Co-Chair) (June, 2014)
- VAST 2013 organizing committee member (Posters Co-Chair) (October 2013, Atlanta, GA)
- VAST 2012 organizing committee member (Posters Co-Chair) (October 14-19, 2012, Seattle, WA)

Conference Technical Program Committee Memberships

- International Conference on Information Visualization Theory and Applications Program Committee 2015.
- InfoVis 2014 Program committee member (November 2014, Paris France)
- IEEE Symposium on Large Data Analysis and Visualization Program Committee Member 2014 (November 2014, Paris France)
- IEEE Joint Intelligence and Security Informatics Conference Program Committee 2014 (September 2014 Hague, Netherlands)
- Expressive 2014 (The joint symposium on Computational Aesthetics, Sketch-Based Interfaces and Modeling, and Non Photorealistic Animation and Rendering) Program Committee Member, 2013 (July, 2013, Vancouver, Canada)
- IEEE/VGTC EuroVis Short Papers Program Committee Member 2014 (June, 2014)
- IEEE/VGTC EuroVis Program Committee Member (June, 2014)
- International Conference on Information Visualization Theory and Applications Program Committee 2014.
- InfoVis 2013 program committee member (October 2013, Atlanta GA)
- Expressive 2013 (The joint symposium on Computational Aesthetics, Sketch-Based Interfaces and Modeling, and Non Photorealistic Animation and Rendering) Program Committee Member, 2013 (July, 2013, Anaheim, CA)
- International Conference on Information Visualization Theory and Applications Program Committee 2013.
- IEEE/VGTC EuroVis Short Papers Program Committee Member 2013 (June, 2013, Germany)
- IEEE/VGTC EuroVis Conference Program Committee Member 2013 (June, 2013, Germany)
- International Conference on Information Visualization Theory and Applications Program Committee 2013.
- VAST 2012 program committee member (October 14-99, 2012, Seattle, WA)
- InfoVis 2012 program committee member (October 14-99, 2012, Seattle, WA)
- Computational Aesthetics program committee member (June, 2012, Annecy, France)
- IEEE/VGTC EuroVis Short Papers Program Committee Member (June, 2012, Vienna, Austria)
- IEEE/VGTC EuroVis Conference Program Committee Member 2012 (June, 2012, Vienna, Austria)
- ISCA 27th International Conference on Computers and Their Applications Conference Program Committee Member 2012
- VAST 2011 program committee member (October 23-28, 2011, Providence, RI)
- Computational Aesthetics program committee member (August 5-7, 2011, Vancouver, Canada)
- Third International UKVAC Workshop on Visual Analytics – VAW (September 6-8, 2011, London, UK)
- VAST 2010 program committee member (October 24-29, 2010, Salt Lake City, UT)
- NPAR 2009 program committee member (August 1-2, 2009, New Orleans, LA)

Conference Session Chair

- VAST 2011 – Visual-Computational Analysis of Multivariate Data
- VAST 2010 – Visual-Computational Analysis of Multidimensional Data

Workshop Organization
- Perer, A., Bertini, E., <u>Maciejewski, R.</u>, Sun, J. (Organizers), "IEEE VIS 2014 Workshop on Visualization for Predictive Analytics"

Journal Reviewing (List of journals in which I consistently perform reviews)
- [CGA]   IEEE Computer Graphics & Applications (2008-2014)
- [TVCG]   IEEE Transactions on Visualization and Computer Graphics (2009-2014)

Conference Reviewing (List of conferences in which I consistently perform reviews)
- [EV]   Eurovis Conference (2010-2014)
- [EXPR]   The joint symposium on Computational Aesthetics, Sketch-Based Interfaces and Modeling, and Non Photorealistic Animation and Rendering (2012 – 2014)
- [HICSS]   Hawaii International Conference on System Sciences (2009-2014)
- [InfoVis]   IEEE Information Visualization Conference (2010-2014)
- [PacificVis]   IEEE Pacific Visualization Symposium (2008-2014)
- [VAST]   IEEE Symposium on Visual Analytics Science and Technology (2009-2014)
- [Vis]   IEEE Visualization Conference (2010-2014)

Proposal Reviewing
- National Science Foundation (NSF) Panelist, 2014
- National Science Foundation (NSF) Panelist, 2013

ACADEMIC SOCIETY MEMBERSHIPS
Institute of Electrical and Electronics Engineers (IEEE)
- Member of the IEEE
- Member of the IEEE Computer Society

TEACHING EXPERIENCE
Arizona State University   Tempe, AZ, USA
Instructor

FSE 294 Intro to UG Research	Fall 2014	10 Students	Overall Teaching Average: xx/5.0
ASU 101 Freshman Engineering	Fall 2014	38 Students	Overall Teaching Average: xx/5.0
CSE 470/598 Computer Graphics	Fall 2014	34 Students	Overall Teaching Average: xx/5.0
CSE 591 Data Visualization	Spring 2014	23 Students	Overall Teaching Average: 4.4/5.0
FSE 294 Intro to UG Research	Fall 2013	6 Students	Overall Teaching Average: 4.5/5.0
ASU 101 Freshman Engineering	Fall 2013	38 Students	Overall Teaching Average: 4.5/5.0
CSE 470/598 Computer Graphics	Fall 2013	44 Students	Overall Teaching Average: 4.3/5.0
CSE 591 Data Visualization	Spring 2013	16 Students	Overall Teaching Average: 4.6/5.0
ASU 101 Freshman Engineering	Fall 2012	19 Students	Overall Teaching Average: 5.0/5.0
CSE 470/598 Computer Graphics	Fall 2012	31 Students	Overall Teaching Average: 4.3/5.0
CSE 591 Data Visualization	Spring 2012	24 Students	Overall Teaching Average: 4.1/5.0
CSE 470/598 Computer Graphics	Fall 2011	20 Students	Overall Teaching Average: 4.1/5.0

Postdoctoral Adviser
  Current Advisee
- Wei Luo, School of Computing, Informatics and Decision Systems Engineering, 2014 – present (funded Postdoctoral research assistant).

Thesis Adviser (Academic Committee Chair)
  Current Advisee
- Yifan Zhang (Ph.D. student), School of Computing, Informatics and Decision Systems Engineering, 2011 – present (funded research assistant).
- Yafeng Lu (Ph.D. student), School of Computing, Informatics and Decision Systems Engineering, 2012 – present (funded research assistant)
- Feng Wang (Ph.D. student), School of Computing, Informatics and Decision Systems Engineering, 2012 – present (funded research assistant)
- Hong Wang (Ph.D. student), School of Computing, Informatics and Decision Systems Engineering, 2014 – present (funded research assistant)
- Xing Liang (Ph.D. student), School of Computing, Informatics and Decision Systems Engineering, 2014 – present
- Zheng Chang (Masters student) , School of Computing, Informatics and Decision Systems Engineering, 2014 – present

Previous Students
- Bi Wu (Masters student), School of Computing, Informatics and Decision Systems Engineering, 2012 – 2014 (Graduated – First job at PayPal)
- Thomas Hayden (Masters student), School of Computing, Informatics and Decision Systems Engineering, 2011 – 2014 (Graduated – First Job at Edgenuity)
- Jingxian Mao (Masters student), School of Computing, Informatics and Decision Systems Engineering, 2011 – 2012 (Graduated – First Job at InfoSol)
- Jose Ibarra (Undergraduate student), School of Computing, Informatics and Decision Systems Engineering, 2013 – 2014 (Graduated – First job at General Motors)
- Adam Fairfield (Undergrad student), School of Computing, Informatics and Decision Systems Engineering, September 2011 – May, 2013 (Graduated – First Job at Microsoft).

Fulton Undergrad Research Intern Adviser
- Christopher Kyle (Undergrad Student), School of Computing, Informatics and Decision Systems Engineering, September 2014 – present (funded research assistant)
- Daniel Martin (Undergrad Student), School of Computing, Informatics and Decision Systems Engineering, August 2014 – present (funded research assistant)
- Alexandra Porter (Undergrad student), School of Computing, Informatics and Decision Systems Engineering, January 2014 – present (funded research assistant)
- Michael Steptoe (Undergrad student), School of Computing, Informatics and Decision Systems Engineering, January 2013 – present (funded research assistant)

Academic Committee Member
Ph.D.
- Fan Bao (Ph. D. Student), School of Computing, Informatics and Decision Systems Engineering, 2013 – present
- Chi-Han Peng (Ph. D. Student), School of Computing, Informatics and Decision Systems Engineering, 2013 – present
- Joanna Merson (Ph. D. Student), School of Geographical Sciences and Urban Planning, 2012 - present
- Michael Jonas (Ph.D. Student), School of Computing, Informatics and Decision Systems Engineering, 2011 – present
- Anshuman Sahu (Ph. D. Student), School of Computing, Informatics and Decision Systems Engineering, 2013
- Ayan Banerjee (Ph.D. Student), School of Computing, Informatics and Decision Systems Engineering, 2011 – 2012
- Anirudh Kondaveeti (Ph.D. Student), School of Computing, Informatics and Decision Systems Engineering, 2012
- Xun Li (Ph.D. Student), School of Geographical Sciences and Urban Planning, 2011 – 2012

Masters
- Duyan Ta (Masters Student), School of Computing, Informatics and Decision Systems Engineering, 2013
- Liang Xu (Masters Student), School of Computing, Informatics and Decision Systems Engineering, 2013
- Kunal Khanna (Masters Student), School of Computing, Informatics and Decision Systems Engineering, 2011 – 2012
- Gustavo Figueroa (Masters Student), School of Computing, Informatics and Decision Systems Engineering, 2011 – 2012

Undergraduate
- McKinsey Chartier (Honor's Thesis), Graphic Information Technology, 2014 - 2015
- Allen Hsia (Honor's Thesis), School of Computing, Informatics and Decision Systems Engineering, 2013 – 2014
- Jordan Nguyen (Honor's Thesis), School of Computing, Informatics and Decision Systems Engineering, 2013 – 2014
- Anurag Kamasamudram (Undergrad Honor's Thesis), School of Computing, Informatics and Decision Systems Engineering, 2011 – 2012

Purdue University   West Lafayette, IN, USA
Academic Committee Member
- Abish Malik (Ph.D. student), School of Electrical & Computer Engineering, 2010-2014
- Insoo Woo (Ph.D. student), School of Electrical & Computer Engineering, 2010-2012
- Sylvia Oliveros (Masters student), School of Electrical & Computer Engineering, 2010-2013

UNIVERSITY AND DEPARTMENT SERVICE
Arizona State University   Tempe, AZ, USA
- New Faculty Cohort Committee   Fall 2012 – Present
- Computer Science Graduate Admission Committee   Fall 2011-Present
- Big Data Faculty Search Committee   Fall 2012 – Spring 2014
- Big Data Faculty Search Committee Chair   Fall 2014 – Spring 2015
- Fulton Undergraduate Research Intern Mentor   Spring 2012-Present

REFERENCES

Available upon request