

SCOTT A. DRZYZGA, Ph.D., GISP, Remote Pilot

DEPARTMENT OF GEOGRAPHY-EARTH SCIENCE ■ SHIPPENSBURG UNIVERSITY
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EMPLOYMENT HISTORY

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| PROFESSOR, TENURED Shippensburg University, Dept. Geography-Earth Science | 2016 - Present Shippensburg, PA |
| ASSOCIATE PROFESSOR, TENURED Shippensburg University, Dept. Geography-Earth Science | 2009 - 2016 Shippensburg, PA |
| ASSISTANT PROFESSOR Shippensburg University, Dept. Geography-Earth Science | 2004-2009 Shippensburg, PA |
| ADJUNCT INSTRUCTOR Augustana College, Department of Geography | 2003 Rock Island, IL |
| GRADUATE TEACHING ASSOCIATE / INSTRUCTOR MSU, College of Education | 1999 - 2003 Traverse City, MI |
| GRADUATE TEACHING ASSOCIATE / INSTRUCTOR MSU, Department of Geography | 2000 - 2001 East Lansing, MI |
| GRADUATE RESEARCH ASSISTANT MSU, Department of Geography | 1996 - 2002 East Lansing, MI |
| GIS OPERATOR State of Michigan, Department of Natural Resources | 1996 Lansing, MI |
| GIS OPERATOR Tobin Data Graphics, LLC (now, P2 Energy Solutions) | 1995 Denver, CO |
| MANAGING PARTNER DES Advantage Inc., d.b.a. Tony Walker & Co. | 1994 - 1995 Sterling Heights, MI |
| MANAGER/DISTRICT MANAGER Tony Walker Chartered Stores | 1992 - 1995 Buffalo and Albany, NY; Detroit, MI |

OTHER POSITIONS HELD

Member, Pennsylvania State Geospatial Coordinating Board (serving as the representative of the PASSHE GIS Consortium & Affiliates, 2018 – 2021)
GIScience Director, Center for Land Use & Sustainability @ Shippensburg University (2016-)
Advisory Board member, GIS Program at Dover Area School District (2015-)
President, PASSHE GIS Consortium & Affiliates (2012-2014)

PROFESSIONAL CREDENTIALS

Geographic Information Systems Professional (GISP, Cert. no. 43047). 26 Dec. 2016 – 25 Dec. 2019. GIS Certification Institute, Des Plaines, IL.
Remote Pilot Airman Certificate, SUAS Rating (Cert. no. 3985502). 27 Mar. 2017 – 26 Mar. 2019. U.S. Federal Aviation Administration, Washington, D.C.

EDUCATION

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| 2007 | Ph.D. in Geography/GIS | Michigan State University |
| 2000 | M.A. in Geography/GIS | Michigan State University |
| 1992 | B.A. in Geography | SUNY at Geneseo, New York |

PUBLICATIONS

- Blewett, WL; DP Lusch, RJ Schaetzl, and **SA Drzyzga**. (2018) A century of change in the methods, data, and approaches to glacial mapping in Michigan. *USGS Special Paper 530: Quaternary Glaciation of the Great Lakes Region: Process, Landforms, Sediments, and Chronology*.
- Bhaskar, A; CA Jantz, C Welty, **SA Drzyzga**, and A Miller (2016) Coupling of the Water Cycle with Patterns of Urban Growth. *Journal of the American Water Resources Association* 52(6):1509-1523.
- Jantz, CJ; **SA Drzyzga**, and MJ Maret (2014) Calibrating and validating a simulation model to identify drivers of urban land cover change in the Baltimore, MD metropolitan region, *Land* 3(3): 1158-1179.
- Blewett, WL; **SA Drzyzga**, L Sherrod, and H Wang (2014) Geomorphic relations among Glacial Lake Algonquin and the Munising and Grand Marais moraines in Eastern Upper Michigan, USA. *Geomorphology*.
- Drzyzga, SA**; A Shortridge, and RJ Schaetzl (2012) Mapping the Phases of Glacial Lake Algonquin in the upper Great Lakes region, Canada and USA, using a Geostatistical Isostatic Rebound Model. *Journal of Paleolimnology* 47(3):357-371.
- McConnell, WJ; JDA Millington, NJ Reo, M Alberti, H Asbjornsen, LA Baker, N Brozovic, LE Drinkwater, **SA Drzyzga**, J Fragoso, DS Holland, CA Jantz, TA Kohler, HDG Maschner, M Monticino, G Podesta, RG Pontius Jr., CL Redman, D Sailor, G Urquhart and J Liu (2011) Research on Coupled Human and Natural Systems (CHANS): Approach, Challenges and Strategies. *Bulletin of the Ecological Society of America* 92(2):218-228.
- Marr, PG; **SA Drzyzga**, GM Pomeroy, and J Biles (2008) *Economic and Transportation Impact of Warehousing on Rural Pennsylvania*. The Center for Rural Pennsylvania, 24 pp.
- Drzyzga, SA** (2007) Relict shoreline features at Cockburn Island, Ontario. *Journal of Paleolimnology* 37(3) 411-417.
- Walker, R; **SA Drzyzga**, Y Li, J Qi, and M Caldas (2004) A Behavioral Model of Landscape Change in the Amazon Basin. *Ecological Applications* 14(4) Supplement: 299-312.
- Drzyzga, SA**; A Shortridge, and RJ Schaetzl (2002) Revealing uncertainty in maps of Glacial Lake Algonquin. In Richardson D and van Oosterom P (Eds) *Advances in Spatial Data Handling*. Berlin, Springer-Verlag pp. 377-390.
- Schaetzl, RJ; **SA Drzyzga**, BN Weisenborn, KA Kincare, XD Lepczyk, KA Shein, CM Dowd, and JS Linker (2002) Correlation and mapping of Lake Algonquin shorelines in Michigan. *Annals of the Association of American Geographers* 92(3): 399-415.
- Drzyzga, SA** and DG Brown (2002) Spatial and temporal dynamics of ownership parcels and forest cover in three counties of Northern Lower Michigan, U.S.A., ca. 1970 to 1990. In Walsh SJ and Crews-Meyer KA (Eds) *Linking People, Place, and Policy: A GIScience Approach*. Boston, Kluwer Academic Publishers.
- Brown, DG; JD Duh, and **SA Drzyzga** (2000) Estimating error in an analysis of forest fragmentation change using North American Landscape Characterization (NALC) data. *Remote Sensing of Environment* 71(1): 106-117.
- Olson, JM; L Broomes, **SA Drzyzga**, JD Duh, LK Dygert, J Hallden, AK Lobben, AE Philpotts, ID Sims, and J Ware (1998) Teaching & Learning Focus Group Skills: A Classroom Example Evaluating Map Design. *Cartographic Perspectives* 31: 26-36.

EXTERNAL RESEARCH GRANTS & GRANT PROPOSALS

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| 2018 Granted | Drzyzga SA (Science PI) <i>Conodoguinet Creek Watershed Association Project: Drone Video and ArcGIS Story Map</i> . Research proposal submitted to the Conodoguinet Creek Watershed Association. \$3000 budget for one semester. |
| 2016 Granted & In progress | Jantz CA (Science PI), SA Drzyzga , TW Hawkins, C Woltemade, S Goetz, and P Jantz. <i>How will forest ecosystems and hydrologic processes in the Delaware River Basin be affected by climate change and land cover change?</i> Research proposal submitted to the Delaware Watershed Research Fund. \$486,000 total budget over three years. |
| 2014 Granted & Completed | Jantz CA (Science PI), SA Drzyzga , J O'Neil-Dunne, and P Claggett. <i>Land Cover Mapping, Modeling and Monitoring System for the Delaware River Basin</i> . Research proposal submitted to the William Penn Foundation. \$1 million total budget over two years. |
| 2012 Declined | Ball WP (Science PI), G Brush, B Hobbs, B Zaitchik, D Brady, K Sellner, CA Jantz, SA Drzyzga , M Paolisso, I Zaslavsky, W Kemp, M Li, L Murray, and D DiToro. <i>A Multidecadal Perspective Linking Changes in Climate, Extreme Weather, and Watershed Land Use to Water Quality in Chesapeake Bay</i> . Research proposal (#1243137) submitted to the National Science Foundation. \$5 million total budget. \$368,969 local budget over three years. |
| 2011 Declined | Ball WP (Science PI), G Brush, B Hobbs, B Zaitchik, D Brady, K Sellner, CA Jantz, SA Drzyzga , M Paolisso, I Zaslavsky, W Kemp, M Li, L Murray, and D DiToro. <i>A Long-Term Perspective Linking Changes in Climate, Extreme Weather, and Watershed Land Use to Water Quality in Chesapeake Bay</i> , Research proposal (#1203757) submitted to the National Science Foundation. \$5 million total budget. \$368,969 local budget over three years. |
| 2010 Stage 2 (of 2) Declined | Claggett P (Science PI), CA Jantz, D Donato, SA Drzyzga , F Ducca, F Smith and X Ye. <i>Detecting and assessing drivers of urban growth in the conterminous United States: a regional prototype</i> . Final proposal (#09-LCLUC09-2-0137) submitted to the NASA Research Opportunities in Space and Earth Sciences Land-Cover/Land-Use Change program. \$881,209 total budget. |
| 2009 Stage 1 (of 2) Accepted | Claggett P (Science PI), D Donato, SA Drzyzga , CA Jantz and F Smith. <i>Detecting and assessing drivers of urban growth in the conterminous United States: a regional prototype</i> . Initial proposal (#09-LCLUC09-1-0098) submitted to the NASA Research Opportunities in Space and Earth Sciences Land-Cover/Land-Use Change program. No budget required at this stage. |
| 2006 Granted & Completed | Jantz CA and SA Drzyzga . <i>Collaborative Research: Dynamic Coupling of the Water Cycle with Patterns of Urban Growth</i> . Submitted proposal (#0709537) to the National Science Foundation Dynamics of Coupled Natural-Human Systems program. Claire Welty was the Science PI at the University of Maryland Baltimore County. \$1.4 million total budget for five years. |
| 2006 Granted & Completed | Marr PG, GM Pomeroy and SA Drzyzga . <i>Economic and Transportation Impacts of Warehousing on Rural Pennsylvania</i> . Joint-proposals submitted to the Center for Rural Pennsylvania and the Center for Land Use at Shippensburg University. \$61,605 (CRPa, \$40,625; CLU, \$20,980) budget for one year. |

INTERNAL GRANTS RECEIVED

- 2013 **Drzyzga SA**, TW Hawkins, M Applegarth and WL Blewett. Tech Fee Grant: Phase VI. *Small Unmanned Aerial System*. \$4,800. Project # R13-NOV-05
- 2011 **Drzyzga SA**, M Applegarth and WL Blewett. Tech Fee Grant: Phase V, *Augment the Department's Teaching Labs and GNSS resources*. \$115,205. Project #s R11-NO7-0401, R11-NOV07-04-03 and R11-NOV07-04
- 2010 **Drzyzga SA**, M Applegarth and WL Blewett. Tech Fee Grant: ESRI ArcGIS site license. \$21,927. Project #N09-07
- 2010 Ritter B and **SA Drzyzga**. Undergraduate Research Program grant to support Ben Ritter's project, *Campus Wireless Signal Coverage Mapping (#UG 2540-19)*. \$148.
- 2007 **Drzyzga SA**, M Applegarth and WL Blewett. Tech Fee Grant: Phases III and IV, *Augment the Geography & Earth Science Department's computer hardware, software and GPS resources*. \$63,394. Project #s N07-04-01 and N07-04-03
- 2005 **Drzyzga SA**, K Fuellhart and WL Blewett. Tech Fee Grant: Phase II, *Enhance classroom technology*. \$39,500.
- 2004 Fuellhart K, **SA Drzyzga** and WL Blewett. Tech Fee Grant: Phase I, *Enhance classroom technology*. \$50,500.

PROFESSIONAL AFFILIATIONS

- Academy of Model Aeronautics (AMA)
Association of American Geographers (AAG)
Pennsylvania Geographical Society (PGS)

RECENT AWARDS

- 2018 *Award for Extraordinary Service* – Provost of Shippensburg University
- 2015 *Distinguished Teacher Award* – Pennsylvania Geographical Society.
- 2015 *Thomas P. Feeney Service Award* – Department of Geography & Earth Science.
- 2013 *Award for Innovative Excellence in Teaching, Learning, and Technology* received at the 24th International Conference on College Teaching and Learning.
- 2012 *Teaching Innovations in Pedagogy and Scholarships (TIPS) Award* – College of Arts & Sciences, Shippensburg University

INVITED LECTURES OR PRESENTATIONS

Jantz, CA and **Drzyzga SA** (2016) “Delaware River Basin Land Use Dynamics Project.” Invited presentation given at the *Common Waters Fund's, 2016 Science of Source Water Workshop* at the Academy of Natural Sciences of Drexel University, Philadelphia, PA.

Drzyzga SA (2014) “The New Era of American Dam Removal.” Invited lecture given at the 2014 *Geography-Earth Science Seminar Series* at Shippensburg University, Shippensburg, PA.

Drzyzga SA and WL Blewett (2011) “Morainic features and ancient shorelines in Michigan's eastern UP: A Fall 2011 field report.” Invited presentation given at the *Quaternary Landscapes Research Group Meeting* at Michigan State University, East Lansing, MI.

Drzyzga SA (2009) “Market Segmentation – you are where you live.” Invited lecture given at the 6th *Annual Criminal Justice Symposium* at Shippensburg University, Shippensburg, PA.

SELECTED CONFERENCE PRESENTATIONS (* WITH STUDENT)

- Barth, Joshua* and **SA Drzyzga** (2017) “Modeling the extent of future storm surge inundation under two sea level rise scenarios.” Poster presented at the *US Regional Association of the International Association for Landscape Ecology 2017 Annual Meeting* at Baltimore, MD.
- Jantz, CA; **SA Drzyzga**, P Claggett, AY Morillo, AF Price, J Barth*, DJ Minnick, and CM Lucas*. (2017) “DRB 2070: Lessons learned from basin-wide land use change forecasting.” Paper presented at the *US Regional Association of the International Association for Landscape Ecology 2017 Annual Meeting* at Baltimore, MD.
- Morillo, AY; **SA Drzyzga**, CA Jantz, J Barth*, and AF Price. (2017) “Modeling suitability for urban development in the Delaware River Basin.” Paper presented at the *US Regional Association of the International Association for Landscape Ecology 2017 Annual Meeting* at Baltimore, MD.
- Price, AF; CA Jantz, **SA Drzyzga**, AY Morillo, DJ Minnick, J Barth*, and CM Lucas*. (2017) “A community-driven approach to developing future land use scenarios at the river basin scale: An example from the Delaware River Basin.” Paper presented at the *US Regional Association of the International Association for Landscape Ecology 2017 Annual Meeting* at Baltimore, MD.
- Jantz, CA; **SA Drzyzga**, AY Morillo, AF Price, and J Barth* (2016) “Developing future land use scenarios for the Delaware River Basin.” Paper presented at the *US Regional Association of the International Association for Landscape Ecology 2016 Annual Meeting* at Asheville, NC.
- Drzyzga, SA** (2016, 2015) “Game of Drones: Mapping applications and legal issues associated with small unmanned aircraft.” The initial report was presented at the *2015 Pennsylvania Digital Government Summit* at Harrisburg, PA. An updated report was presented at the *2016 Pennsylvania GIS Conference* at State College, PA.
- Drzyzga, SA**; WL Blewett, L Sherrod, and H Wang (2015) “Northern Michigan's Comingled Munising and Grand Marais Moraines and their Relations with Relict Shorelines of Glacial Lake Algonquin.” Poster presented at the *Geological Society of America 2015 Annual Meeting* at Baltimore, MD.
- Sherrod, LA; WL Blewett, **SA Drzyzga**, D Musa, K Schlosser, and JP Swiontek (2015) “Improving Glacial Geology Maps and Interpretations through Geophysics.” Paper presented at the *Geological Society of America 2015 Annual Meeting* at Baltimore, MD.
- Drzyzga, SA**; WL Blewett, L Sherrod, and H Wang (2015) “Correlation of Relict Shoreline Features along Northern Michigan's Munising and Grand Marais Moraines with Glacial Lake Algonquin Water Planes.” Poster presented at the *Association of American Geographers 2015 Annual Meeting* at Chicago, IL.
- Drzyzga, SA**; S Jackson, S Moyer, A Pal, and A Sarvis (2014) “Reconciling Business-Driven GIS Curriculum Improvements – A Panel Discussion.” Presenter and panel discussant at the *2014 Pennsylvania GIS Conference* at State College, PA.
- Stine, Paul* and **SA Drzyzga** (2013) “Evaluating Small Business Reach with ArcGIS, Python and the Google Maps API.” Paper presented at the *2013 Pennsylvania GIS Conference* at State College, PA.
- Drzyzga, SA** (2013) “Using Boots on the Ground & Data in the Cloud to Motivate Student Learning” Paper presented at the *24th Int'l Conference on College Teaching and Learning* at Ponte Vedra Beach, FL.
- Finn, Sam*; Will Davis* and **SA Drzyzga** (2013) “Shippensburg University Address Referencing System” Paper presented at the *Association of American Geographers 2013 Annual Meeting* at Los Angeles, CA.
- Hershey, Luke*, **SA Drzyzga**, S Cornell and T Feeney (2012) “Combustible Gas Concentrations in Soil at Natural Gas Extraction Sites in North Central PA: Before and After Drilling” Presented at the *Association of American Geographers, Middle States Division 2012 Meeting* at Shippensburg, PA.

FACULTY SPONSOR OF STUDENT WORK PRESENTED AT THE ANNUAL MINDS@WORK CONFERENCE

- Luttman, Emille (2017) *Winter Geographic Patterns of American and Fish Crows*. GIS3 Capstone Project.
- Papinchak, Courtney (2016) *A Suitability Analysis of Potential Wetland Mitigation Sites in Delaware County, PA*. GIS3 Capstone Project.
- Gebert, Eric (2016) *Calculating the Habitat Area of Myotis lucifugus Affected by the Spatial Distribution of White-Nose Syndrome in the United States*. GIS3 Capstone Project.
- Seils, Carl (2016) *Education, Population, and UFOs*. GIS3 Capstone Project.

OTHER CONFERENCES ATTENDED

- Annual conference of the Middle States Commission on Higher Education* (2015, 2014) @ Wash., DC.
- Geo for Higher Education Summit* (2013) Google Headquarters @ Mountain View, CA
- GIS & Spatial Thinking in the Undergraduate Curriculum* (2012) @ Bucknell U., Lewisburg, PA
- LEAP States Summit* (2016) @ Milwaukee, WI
- Pennsylvania GIS Conference* (2018, 2017, 2016, 2015, 2014 and 2013) @ State College, PA; (2012) @ Harrisburg, PA; and (2008 and 2007) @ Camp Hill, PA.

ACKNOWLEDGEMENTS & PRESS

- For a map produced for Allen Dieterich-Ward (in press) *From Mills to Malls: Industrial Heritage and Regional Identity in Metropolitan Pittsburgh*. Routledge, USA.
- For a series of maps produced for Judith Ridner (in press) *The Scots-Irish of Early Pennsylvania*. The Pennsylvania Historical Association and Temple University Press, Philadelphia, PA.
- For a map produced for Roger Simon (2017) *Philadelphia: A Brief History – Revised and Updated Edition*. The Pennsylvania Historical Association and Temple University Press, Philadelphia, PA.
- Ledford, Heidi (2014) “US Drone Research Hits Regulatory Turbulence”, *Nature* 512(7514): 239-240; last accessed on August 27, 2015 at <http://www.nature.com/news/us-drone-research-hits-regulatory-turbulence-1.15727>
- Meyers, Jessica, “Researchers Decry Limits on Drones: Say FAA’s Rules Inhibit Instruction, Gathering of Data”, *Boston Globe*, August 18, 2014; last accessed on August 27, 2015 at <http://www.bostonglobe.com/news/nation/2014/08/17/academic-researchers-say-faa-rules-are-forcing-them-ground-their-drones/8iNrbYG05AGevXl6b3XGiL/story.html>
- Blewett WL (2012) *Geology and landscape of Michigan’s Pictured Rocks National Lakeshore and vicinity*. Wayne State University Press, Detroit, MI.
- Hawkins TW, KJ Kiphart and JS Smith (2010) Teaching Upper-Atmospheric Meteorology using Two- and Three-Dimensional Models: A Pilot Study. *Bulletin of the American Meteorological Society* May 2010: 549-556.
- Blewett WL (2009) Understanding Ancient Shorelines in the National Parklands of the Great Lakes. *Pictured Rocks National Lakeshore Resource Report*, National Park Service, 16 pp.
- Manuel J (2009) An Investigation Of The Recently Drained Chambersburg Reservoir In South-Central Pennsylvania. *Middle States Geographer* 42: 1-8.
- Klotz L and C Loeffler (2007) Morphological Analysis of Shooting Star Populations (*Dodecatheon, Primulaceae*) in Pennsylvania. *Castena*, September, 2007.
- Karrow PF (2004) Algonquin-Nipissing Shorelines, North Bay, Ontario. *Géographie physique et Quaternaire* 58(2-3): 297-304.