RAECHEL A. PORTELLI
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Department of Geography and Geographic Information Science
University of Illinois Urbana-Champaign
raechel@illinois.edu

PROFESSIONAL EXPERIENCE

- 2022-   Teaching Assistant Professor
  Dept. of Geography and Geographic Information Science, UIUC
- 2014-2022   Assistant Professor
  Dept. of Geography, Environment, and Spatial Sciences, MSU
- 2014   Instructor
  Dutton Institute, Pennsylvania State University
- 2012-2014   Instructor
  Geography Department, Pennsylvania State University

EDUCATION

- 2014   PhD, Geography, Pennsylvania State University,
  Dissertation title: *Looking back to inform the future: The role of cognition in forest disturbance characterization from remote sensing imagery*
- 2010   M.S. Geography, University of Idaho,
  Thesis Title: *Classification of Mixed-Conifer Forest Stands using SPOT-5 Imagery*
- 2009   B.S. Physical Geography (Geology minor), University of Idaho
- 2009   B. Env. Environmental Science (Geology and Statistics tracts), U of I
- 2010   Certificate in Statistical Science, University of Idaho
- 2008   GIS Certificate, University of Idaho

PROFESSIONAL CERTIFICATION

- 2020   FAA Part 107 sUAS license

<h1 style="text-align:center">RESEARCH ACTIVITY</h1>

EDITED BOOKS

- 2018 **White, R. A.,** Coltekin, A., Hoffman, R. eds. *Remote Sensing and Cognition: Human Factors of Image Interpretation.* CRC Press, Boca Raton, FL.

REFEREED PUBLICATIONS [SCIMAGO Rank / Impact Factor, Student Author]

- 2022 ZY-1 02D Hyperspectral Imagery Super-Resolution via Endmember Matrix Constraint Unmixing. *Remote sensing.* 14(6) 4034. [Q1/5.3]
- 2022 **Portelli, R.A.** and Pope, P. Remote Sensing and Human Factors Research: A Review, *Photogrammetry and Remote Sensing* [Q2 / 0.48]
- 2021 Camacho, K., **Portelli, R.A.**, Shortridge, A., Takisha, B. Sentiment Mapping: Point Pattern Analysis of Sentiment Classified Twitter Data. *Cartography and Geographic Information Science.* [Q1 / 0.81]
- 2020 **Portelli, R.A.** Don't throw the baby out with the bathwater: Reappreciating the dynamic relationship between humans, machines, and landscape images. *Landscape Ecology,* 35(4), 815-822 [Q1 / 4.349]
- 2019 **White, R.A.**, Piraino, K., Shortridge, A., Arbogast, A. Measurement of Forest Change in Critical Dune Sites along the Eastern Shores of Lake Michigan from 1938 to 2014 with Object-Based Image Analysis. *Journal of Coastal Research.* [Q2 / 0.915]
- 2019 **White, R.A**. Human expertise in the interpretation of remote sensing data: A cognitive task analysis of forest disturbance attribution, *Int. Jour. Applied Earth Observation* 24: 37-44 [Q1 / 1.62]
- 2018 **White, R.A.,** Bomber, M., Hupy, J., Shortridge, A. UAS-GEOBIA Approach to Sapling Identification in Jack Pine Stands after Fire. *Drones* 2(4). [new journal]
- 2017   **Bianchetti, R.A.** Raisz's Physiographic Method of Landform Mapping. *Progress in Physical Geography*, *41 (6), p 1-8.* [Q1 / 3.375]
- 2017 Ojaghi, S., Ahmadi, F.F., Edabi, H., **Bianchetti, R.A.** Wetland cover change detection using multi-temporal remotely sensed data (A case study: Ghara Gheshlagh wetland in the southern part of Lake Urmia). *Arabian Journal of Geoscience 10: 470.* [Q3 / 0.995]
- 2017 Yang, A., Grady, S., **White, R.A**. & Messina, J. Cost-benefit Analysis of Tsetse Control in Tanzania. *Applied Geography (3)2: 182-195* [Q1 / 2.687]
- 2016 **Bianchetti, R.A.** Describing the problem-solving strategies of expert image interpreters using graphical knowledge elicitation methods. *GIS and Remote Sensing, p 1-17.* [Q1 / 3.049]
- 2016 Singh, K.K., **Bianchetti, R.A.,** Chen, G., Meentemeyer, R. Do dominant land-cover types and pattern impact urban forest biomass? *Urban Ecosystems, p 1-11.* [Q1 / 1.90]
- 2015 **Bianchetti, R.A.**, MacEachren, A.M. Cognitive themes emerging from air photo interpretation texts published to 1960. *ISPRS Journal of GeoInformation*, 4(2), 551-571. [Q2 / 1.52]
- 2013   Robinson, A.C., Pezanowski, S., Troedson, S., **Bianchetti, R.A.**, Blanford, J., Stevens, J., Guidero, E., Roth, R.E., MacEachren, A.M. SymbolStore.org: A Web-

based Platform for Sharing Map Symbols. *Cartography and Geographic Information Science*, 40(5): 415-426. [Q1 / 1.35]

- 2012 **Bianchetti, R. A.**, Wallgrün, J. O., Yang, J., Blanford, J. I., Robinson, A. C., & Klippel, A. Free classification of Canadian and American emergency management map symbol standards. *The Cartographic Journal*, 49 (4): 350-360. [Q2 / 0.83]

BOOK CHAPTERS

- 2025 **White, R.A.** South Asian Military Mapping. In: *History of Cartography: Cartography in the 19th Century*, Vol. 5. R. Kain (ed.) University of Chicago Press: Chicago, IL
- 2018 **White, R.A.** Intersectional Perspectives on the Landscape Concept: Art, Cognition, and Military Perspectives. White, R. A., Coltekin, A., Hoffman, R. eds. *Human Factors of Remote Sensing Imagery*. CRC Press, Boca Raton, FL

REFEREED CONFERENCE PAPERS <u>Student Author</u>

- 2016 **Bianchetti, R.A.** A Cognitive Approach to teach a graduate-level GEOBIA course. International Society of Photogrammetry and Remote Sensing. *Annals Photogrammetry & Remote Sens. Spatial Inf. Sci., III-6, 3–7*
- *2015* **Bianchetti, R.A.** Representation-based Knowledge Elicitation: Describing the image interpretation process of experts. *Proceedings of the 27th International Cartographic Conference*
- 2013 **Bianchetti, R.A.** Considering Visual Perception and Cognition in the Analysis of Remotely Sensed Images. *Conference on Spatial Information Theory, Doctoral Colloquium.* Rio de Janiero, Brazil: August 27
- 2013 Robinson, A.C., Pezanowski, S., Stevens, J., Mullins, R., Blanford, J., **Bianchetti, R.A.** and MacEachren, A.M. Sharing and Discovering Map Symbols with SymbolStore.org. *Proceedings of the 26th International Cartographic Conference. Dresden*, Germany: August 26.
- 2011 **Bianchetti, R.A.** Supporting the Image Classification Process with an Improved Understanding of the Human Role in Imagery Analysis. *Conference on Spatial Information Theory, Doctoral Colloquium*

BOOK REVIEWS

- 2014 **Bianchetti, R.A**. Review of Basic Geological Mapping. *Cartographic Perspectives* 75: 59-60

EXTERNAL GRANTS AWARDED

- 2021-2024 White, P. (PI), Dorsey (Co-PI), Reichsman (Co-PI), Stroupe (Co-PI), **Portelli, R.A.** (Co-I). ($2,980,040) *NSF K-12 Discovery Program.* MothEd: Authentic Science for Elementary and Middle School Students.
- 2020-21 **Portelli, R.A.** ($5000) *NASA Michigan Space Grant Research Seed Grant*, Evaluating NASA IceSat-2 estimates of above ground biomass of early successional forests after wildfire using UAS and allometric equations

- 2020 **Portelli, R.A.** ($3996) *Lake States Fire Science Consortium*, Comparison of UAS and IceSat 2.0 LiDAR data for canopy biomass estimates and carbon management
- 2018-20 Chandra, S. (PI) & **White, R.A.** (Co-PI) H.S. $61,230. *Harry F. Guggenheim Foundation Research Grant.* The Violence of 1965-66 in Central and East Java, Indonesia
- 2012-14 **Bianchetti, R.A**. (supervised by Dr. A. MacEachren) $11,669. *NSF Geography and Spatial Sciences Program- Doctoral Dissertation Research Improvement Grant:* Cognitive Aspects of Satellite Imagery Analysis.

INTERNAL GRANTS AWARDED
- 2020 Grady, Ligmann-Zelinska, **Portelli, R.A.** ($5,000) *MSU College of Social Science Small Grant Program: COVID-19.* Modeling the Potential of COVID-19 Outbreaks during the Transition Phase of the Pandemic.
- 2015 **Bianchetti, R.A.** ($6,336) *MSU College of Social Science Faculty Initiatives Fund.* Evolving Agricultural Landscapes: Local perceptions of grasslands invaded by Red Cedar.
- 2009 **Bianchetti, R.A. (**$2,400) *University of Idaho Student Grant Program.* Imagery Analysis for Shoreline Change Detection at Sand Point, Michigan

EXTERNAL GRANTS NOT AWARDED
- 2020 **Portelli, R.A.** (PI), White, (Co-PI), Madden (Co-PI). ($894,081) *NASA Biodiversity.* Disturbance, Succession, and Moths: Moth movement and early succession in burned jack pine landscapes.
- 2019 **Portelli, R.A.** (PI), Nyamai, P. (Co-PI), Hupy, J. (Co-PI). ($385,000) *National Science Foundation.* Evaluating jack pine structural phene responses to fire: Integration of new technologies and Geographic Object-Based Image Analysis
- 2019 **White, R.A**. ($187,254) *NSF Science, Technology, and Society*. Standard Grant: Self-Perceptions of Expertise from Image Interpreters within Military Institutions during the 20th Century
- 2018 **White, R.A.** ($403, 073) *Air Force Young Investigators Program.* Situational Awareness and Image Interpretation During Collaborative Practices
- 2017 **White, R.A.**, (PI), Nyamai, P. (Co-PI). ($439,215) *NSF Geography, Environment, Social Sciences.* Local-Scale Vegetation Recovery Post-Fire Analysis with High Spatial Resolution Imagery and a Geographic Object-Based Analytics Approach
- 2017 Babington (PI), Boehm, McNich, Singh, **White**, **R.A.** ($141,956) *Andrew Mellon Foundation.* Performing the Unfinished Work of Memory: The Transatlantic Reimagined
- 2016 **Bianchetti, R.A.** ($17,717) *Joint Fire Science Program Graduate Research Innovation Program.* Evaluation of Unmanned Aerial Systems for Monitoring Post-Fire regrowth patterns
- 2016 **Bianchetti, R.A.** (PI) ($90,999) *Environmental Protection Agency Education*

Grants Program. Place-Based Citizen Science as a Process of Multi-generational learning about water resources in Michigan's Upper Peninsula
- 2015 Grady, Pizarro, Zeoli, **Bianchetti, R.A.** ($248,873) *National Science Foundation Geography, Environment, and Social Sciences.* Multilevel Assessment of Population Health in Stabilized Neighborhoods and Planned Shrinkage Urban Areas

NON-REFEREED PUBLICATIONS
- 2019 **Portelli, R.A.** What happens when a big business tries to take over and rename a neighborhood? Apr. 22
- 2018 **White, R.A.** Final Report: Remote Sensing Data for Virtual Reality Environment Development. USAF Summer Faculty Fellowship Program.
- 2016 **Bianchetti, R.A.** In a sea of satellite imagery experts' eyes are still needed. *The Conversation*. Jan. 29.
- 2015 **Bianchetti, R.A.** Humans Still matter. *GEOBlog, Blogspace of onGEO@MSU.* Nov. 17, 2015
- 2015 **Bianchetti, R.A.** Classification Methods for Remote Sensing Applications (online chapter) Department of Geography, Pennsylvania State University
- 2012 Stevens, J., Smith, J.M. and **R.A. Bianchetti.** Mapping Our Changing World, Co-Edited by: Alan M. MacEachren and Donna J. Peuquet, University Park, PA: Department of Geography, Pennsylvania State University (adaptation of online text originally written by David DiBiase beginning in 1997, with contributions at that time by James L. Sloan, Wesley Stroh, Beth Fletcher King, and many students)
- 2012 **Bianchetti, R.A.,** Robinson, A.C., and MacEachren, A.M. Opportunities for Semantic Research in Emergency Management. Report for *Map Symbology: Standardizing Map Symbols for Critical Incidents*, U.S. Department of Homeland Security
- 2012 **Bianchetti, R.A.,** Robinson, A.C. and MacEachren, A.M. Semantic Web to Support Matching Symbology across Agencies. Report for *Map Symbology: Standardizing Map Symbols for Critical Incidents,* U.S. Department of Homeland Security
- 2011 **Bianchetti, R.A.,** R.E. Roth, J.I. Blanford, A.C. Robinson, and MacEachren, A.M. Multi-scale Symbolization for Emergency Mapping. Report for *Map Symbology: Standardizing Map Symbols for Critical Incidents,* U.S. Department of Homeland Security
- 2011 **Bianchetti, R.A.,** J.I. Blanford. Report on IICD Symbology Standardization Process Testing (Report compiled by R. Bianchetti and J. Blanford). Report for *Map Symbology: Standardizing Map Symbols for Critical Incidents*, U.S. Department of Homeland Security
- 2009 **Bianchetti, R.A.,** Barnes, G. Using HiRISE imagery for detecting primary and secondary craters on Mars. *University of Idaho McNair Research Journal*, vol. 6, 5-10
- 2007 **Bianchetti, R.A.,** Fairley, J.P. Application of Remote Sensing in Hydrothermal Mineral Exploration of the Cuprite Mining District, Nevada. *University*

of Idaho McNair Research Journal, vol. 4, 7-12

INVITED TALKS [Student Author]

- 2021 **Portelli, R.A.** A Critical Approach to Remote Sensing. Oregon State University, Geography and Geospatial Science Program, Jun. 18
- 2021 **Portelli, R.A.** Geographic Pattern Analysis of Social and Physical Geographic Data. Texas Tech University, Department of Geosciences, Mar 16
- 2021 **Portelli, R.A.** Expertise and the Geospatial Analysis of Remote Sensing. US Air Force Academy, Department of Economics & Geosciences, Mar. 7
- 2019 **Portelli, R.A.** Integration of Image-Based Phenotyping and Geographic Object-Based Image Analysis for Multiscale Vegetation Characterization, University of Miami-Ohio, Department of Geography, Nov. 19
- 2019 **Portelli, R.A.** Open-Source Methods of Geographic Object-Based Image Analysis. University of Miami of Ohio, Department of Geography, Spatial Statistics Course, Nov. 19
- 2019 **Portelli, R.A.** An Integrative Approach to Multiscale Plant Phenomics Using Geographic Object-Based Image Analysis. Nanjing Agricultural University, Oct. 25
- 2019 **Portelli, R.A.** Integrating Computational and Cognitive Image Analysis through OBIA, Capital Normal University, Jun. 5
- 2019 **Portelli, R.A.** Understanding Remote Sensing Data Using Cognitive-Inspired Models, Workshop on Ecological Remote Sensing, Beijing, China, Jun. 21
- 2018 **White, R.A.** UAS-OBIA for jack pine sapling mapping: Duck Lake Fire Case Study, University of Michigan Dearborn GIS Day Colloquium. Nov. 14
- 2018 **White, R.A.** History of Remote Sensing and Air Photo Interpretation. Geography 221 Introduction to Geographic Information. Nov. 12
- 2018 **White, R.A.** Imaging the Past: Using Technical Documents and Personal Accounts: Remote Sensing and Our History, University Interdisciplinary Colloquium, Michigan State University Center for Interdisciplinary, Oct. 26
- 2018 **White, R.A.** The Future of Human Research in Remote Sensing Analytics. Cognitive Forum, Michigan State University Psychology Department, Oct. 19
- 2017 **White, R.A.** Making Sense of the Aerial Photograph: Visualization and Understanding Our Environment. Visualization Community Speaker Series. Michigan State University Library. Oct. 20
- 2017 **Bianchetti, R.A.** Human-Computer Symbiosis: The importance of visualization in facilitating reasoning with geographic data. Central Michigan University, Department of Geography Colloquium Series. Feb. 17
- 2015 **Bianchetti, R.A**. Rooting Cognitive Research in Remote Sensing Image Analysis in Historical Research. Department of Geography, University of Zurich. Sept. 8
- 2015 **Bianchetti, R.A.** From the Backwoods of the UP to MSU: The story of how I became a geographer. Geography 480 Senior Seminar. Nov. 13
- 2013 **Bianchetti, R.A**. Cognitive Task Analysis and TimeSync. Oregon State University, LARSE Meeting. Nov. 12

- 2012 **Bianchetti, R.A**. Beyond the Pixel. The Pennsylvania State University Geography Department Coffee Hour. Nov. 4
- 2011 **Bianchetti, R.A**. Cognitive Aspects of Image Analysis. Geography 497E course Human Factors in Geographic Information Science.

CONFERENCE PRESENTATIONS
- 2020 Pope, P., **Portelli, R.A.**, Sharma, J.B. Geo-Ontology: What is it and Why Should I Care? ASPRS GeoWEEK 2020, June 25
- 2019 **Portelli, R.A.** Image-based Phenotyping with UAS in China: A recent case study, ASPRS Eastern Great Lakes Meeting, Cincinnati, OH, Nov. 1
- 2019 **White, R.A.** Unity 3D: Overcoming challenges in virtual world development with remote sensing data. ASPRS National Meeting, Denver, CO, Jan. 29
- 2018 **White, R.A.** Translating Expertise: Adapting Human Reasoning for Geographic Object-Based Image Analysis. AAG National Meeting, New Orleans, LA, Apr. 13
- 2018 **White, R.A.** Human Factors Influencing Image Interpretation: 100 years in the making. ASPRS National Meeting, Denver CO, Feb. 7
- 2017 **White, R.A.** Current Status of Human Factors Research in Remote Sensing. ASPRS Eastern Great Lakes Winter Meeting, Columbus, OH, Dec. 1
- 2017 **White, R.A.** Exploration of World War I aerial imagery and their interpretations using modern image analysis. American Association of Geographers, Boston, MA, Apr. 7
- 2016 **Bianchetti, R.A**. A Cognitive Approach to teach a graduate-level GEOBIA course. International Society for Photogrammetry and Remote Sensing, Prague, Chezch Republic, Jul. 14
- 2016 Nelson, P., Kennedy, R.E., Nolin, A.W., **Bianchetti, R.A.**, O'Connell, K., Morrell, P. Stories from dynamic Earth: developing your sense of place through Landsat-based citizen science. American Geophysical Union, San Francisco, CA. Dec.
- 2015 **Bianchetti, R.A.** Representation-based Knowledge Elicitation: Describing the image interpretation process of experts, International Cartographic Association, Rio de Janero, Brazil, Aug. 28
- 2015 **Bianchetti, R.A.,** Grady, S. The Potential of Remote Sensing Science for Assessing the Effects of Health-related Environmental Treatments (Invited Talk), Florence, Italy, Sept. 11
- 2015 **Bianchetti, R.A.** The Rise of the Orthophoto Map! AAG National Meeting, Chicago, IL, Apr. 23
- 2014 **Bianchetti, R.A.** Explaining the concept of Geography to K-12 students using abstraction process. ASPRS Pecora Conference, Denver, CO, Nov. 18
- 2014 **Bianchetti, R.A.** Examining novice misconceptions of satellite imaging. North American Cartographic Conference, Pittsburgh, PA, Oct. 8-11
- 2014 **Bianchetti, R.A.,** and MacEachren, A.M. Land cover disturbance analysis: Developing a model of expert image analyst reasoning. AAG National Meeting,

Tampa, Florida, Apr. 8-12

- 2013   **Bianchetti, R.A**. Extracting infrastructure information from images to support human interpretation. American Society for Photogrammetry and Remote Sensing Meeting, San Antonio, TX, Oct. 22
- 2013   **Bianchetti, R.A.,** Singh, K.K. Human Interpretation vs. Object-Oriented Image Analysis for identifying distinguishing characteristics of nuclear power facilities. National Cartographic Information Society National Meeting, Greenville, NC, Oct. 9-13
- 2013   **Bianchetti, R.A.** The role of psychology in early texts on aerial photograph interpretation. AAG National Meeting, Los Angeles, California, Apr. 9-13
- 2012   **Bianchetti, R.A.** The effect of symbol abstraction on map reader conception. Middle States AAG Conference, Shippensburg, PA, Nov. 2
- 2012   **Bianchetti, R.A.,** Roth, R.E., Blanford, J., Robinson, A., MacEachren. Defining the typical Department of Homeland Security map. NACIS Annual Meeting. Portland, OR, Oct. 18
- 2012   Robinson, A., Pezanowski, S., **Bianchetti, R.A.,** Stevens, J., Guidero, E., Blanford, J., MacEachren, A.M. SymbolStore.org – An open resource for map symbols. NACIS Annual Meeting. Portland, OR, Oct. 19
- 2012   Robinson, A., Pezanowski, S., **Bianchetti, R.A.,** Guidero, E., Stevens, J., Blanford, J., MacEachren, A. Sharing map symbology for emergency management. GeoCarto, New Zealand, Aug. 30
- 2012   **Bianchetti, R.A.** Visualization variables in cartography and aerial photo interpretation. Cartography Specialty Group Student Honors Paper Competition, AAG National Meeting, New York, NY, Feb. 24-28
- 2011   **Bianchetti, R.A.,** Yang, J., Li, R., Blanford, J., Hardisty, F., Robinson, A., Klippel, A., MacEachren, A. Comparing cartographic point symbol design with card sorting methods. North American Cartographic Information Society National Meeting. Madison, WI, Oct. 23-28
- 2011   **Bianchetti, R.A.,** Blanford, J., Robinson, A., MacEachren, A. Critical evaluation of international emergency management symbology. American Association of Geographers Annual Meeting, Seattle, WA, Apr. 12-16
- 2011   Pezanowski, S., Robinson A.C., E Guidero, E., **Bianchetti, R.A.,** Hardisty, F., Blanford, J., Roth, R., and MacEachren, A. An interactive, web-based tool for discovering and sharing map symbols. American Association of Geographers Annual Meeting, Seattle, WA: Apr. 12-16
- 2010   **Bianchetti, R.A.,** Humes, K.S., Jennings, M., Williams, C. (2010) Conifer forest species mixture classification using remotely sensed spectral and ground data. AAG, Washington, DC, Apr. 13- 18
- 2009   **Bianchetti, R.A.,** Humes, K.S. (2009) Impact of reflectance calculations on identification of sandy beach areas along Sand Point, Michigan. University of North Texas Annual McNair Symposium, Denton, TX, Feb. 19-21
- 2009   **Bianchetti, R.A.,** Humes, K.S. IKONOS Imagery for coastal delineation along Sand Point, Michigan. 4th Annual University of Puerto Rico in Humacao

McNair Symposium, Old San Juan, PR, May 19-21

- 2009   Jensen, J.L.R., **Bianchetti, R.A.**, Humes, K.S. Evaluation of single vs. integrated sensor algorithms to estimate Leaf Area Index in complex forest environments. American Society of Photogrammetry and Remote Sensing Annual Conference, Baltimore, MD, Mar. 9-13
- 2009   **Bianchetti, R.A.**, Humes, K.S. Comparing imagery analysis techniques for coastal erosion monitoring along Sand Point, Michigan. American Association of Geographers Annual Meeting, Las Vegas, NV, Mar. 22-27

CONFERENCE POSTERS
- 2019   **Portelli, R.A.** Geographic Image Object Analysis of UAS imagery for plant structure extraction. *International Plant Phenotyping Symposium*, Nanjing, China. Oct. 27
- 2018   **White, R.A.** Human Factors of Remote Sensing Image Analysis. *Broadening Participation in Visualization Workshop CRA-W*. Purdue University, West Lafayette, IN, Jul. 12
- 2016   Haga J., **Bianchetti, R.A.** Novice Differences in Differentiating Between Arid and Drought-Affected Environments. Michigan State University. *University Undergraduate Research and Arts Forum,* East Lansing, MI, Apr. 8
- 2013   **Bianchetti, R.A.**, MacEachren, A.M. Deepening our understanding of cognitive aspects of image analysis: Relationships between medical image processing and earth observation. *Conference on Spatial Information Theory*, Scarborough, UK, Sept. 2-6
- 2013   Smithwick, E.A.H., Naithani, K.J., Davis K.J., Kennedy R.E., **Bianchetti, R.A.**, Parker L., Baldwin D.F., Keller K., Masek J.G. Incorporating disturbance and associated uncertainty into diagnostic terrestrial carbon flux upscaling. *NASA Terrestrial Ecology Science Team Meeting*, La Jolla, CA, Apr. 30-May 2
- 2011   **Bianchetti, R.A.,** Becker, J., and MacEachren, A. A user interface for aiding in recreational activity decision making. *International Cartographic Conference*, Paris, France: Jul. 3-8
- 2007 **Bianchetti, R.A.,** Fairley, J.P. Mineral Pattern Identification at Two Hydrothermal Areas Using ASTER Data. *Geological Society of America Annual Meeting*, Denver, CO, Oct. 28-31.

MEDIA INTERVIEWS
- Bump, Philip. Here's why the resolution of satellite images never seems to improve. *Washington Post.* Apr. 21, 2017

MEDIA COVERAGE
- Quigley, K. Using drones and image analysis to monitor jack pine regeneration after fire. Lake State Fire Science Consortium, *Research Brief for Forest Managers*. December 2019
- Companies sometimes drive efforts to rename neighborhoods. AAG, *SmartBrief*

Weekly Newsletter. April 25, 2019

PUBLISHED CARTOGRAPHIC PRODUCTS
- Chandra, S. (2019) Glimpse of Indonesia's 1965 Massacre through the Lens of the Census: The Role of Trucks and Roads in "Crushing" the PKI in East Java. *Ithaca* (108): 1-21.
- Chandra, S. Mapping the Killings in East Java*. Inside Indonesia*. Sept. 26, 2019. https://www.insideindonesia.org/mapping-the-1965-66-killings-in-east-java
- Chandra, S. Mapping the 1965-66 killings in Java. *New Mandala*. Sept. 30, 2019. https://www.newmandala.org/mapping-the-1965-66-killings-in-java/

FIELD EXPERIENCE
- 2019- Remote Sensing of Grazing Impacts on Grasslands in Inner Mongolia
- 2017- Remote Sensing for Monitoring Regrowth in Michigan's Jack Pine Forests
- 2012-14 Applications of Remote Sensing to Understand Indicators of Urban Poverty
- 2012-14 Representing Uncertainty in Remote Sensing and Carbon Flux Modeling
- 2010-12 Department of Homeland Security Map Symbology Standardization
- 2010   EPSCOR: SLOSH Hurricane Modeling for Sarasota County, Florida
  2007-10 Remote Sensing of Natural Resources of Nez Perce Reservation, Idaho

<div align="center">**TEACHING ACTIVITY**</div>

UIUC COURSES (ICES SCORES)
- GGIS 473 Digital Cartography & Map Design
  - F 2022
- GGIS 527 Geospatial Artificial Intelligence and Machine Learning
  - F2022
- GGIS 480 Introduction to Geographic Information Science
  - F 2022
- GGIS517 Geospatial Visualization and Analytics
  - S 2023
- GGIS 403 Geographic Information Science and Systems
  - S 2023
- GGIS 570 Geospatial Analysis
  - S 2023

MSU COURSES (SIRS SCORE: 1 BEST / 5 WORST)
- GEO 326 Map design (3 credits)
  - F 2015 [6 students]: 2.07
  - F 2016 [13 students]: 2.09
  - F 2017 [17 students]: 1.19
  - F 2021: [12 students]: current
- GEO 426 Thematic Cartography (4 credits, *taught as GEO 490 SP2018*)
  - S 2015 [10 students]: 1.32
  - S 2016 [10 students]: 1.82
  - S 2017 [7 students]: 2.24
  - S 2019 [7 students]: 1.19
  - F 2020 [5 students]: *no surveys returned*
  - S 2021 [10 students]: *no surveys returned*
- GEO 826 Geographic Object-Based Image Analysis (3 credits, *taught as 874 SP2020*)
  - F 2015 [10 students]: *1.47*
  - F 2017 [10 students]: *1.38*
  - S 2020 [8 students]: *no surveys returned*
- GEO 986 Theory and Philosophy of Geography (3 credits)
  - F 2019 [18 students]: *1.28*
- Independent Studies (Course Design and Supervision)
  - GEO 890 Advanced Reading: Fall 2016 (Michael Bomber, Michigan Forests)
  - GEO 892 Advanced Research: Spring 2016 (Quiong Zhang, Health/Remote Sensing), Spring 2018 (Connor Plensdorf, Urban/Remote Sensing), Fall 2020 (Breaunte Brown, Health/Cartography)
  - GEO 498 Internship: Spring 2016 (Joshua Haga), Spring 2018 (Luke Gerber)

INTERNATIONAL TEACHING

- 2019   Co-Instructor, Remote Sensing Big Data, and Artificial Intelligence, Capital Normal University, Beijing, China, May 27- June 22
- 2021   Instructor, Workshop on Geographic Object-Based Image Analysis, Autonomous University of Nuevo León, Mexico, February 26, 2021

TEACHING PRIOR TO 2014 (INSTRUCTOR *, TA **, ONLINE ^)
- 2014   GEOG 480   Exploring Imagery and Elevation Data in GIS Applications*^
- 2012-13 GEOG 160   Mapping our Changing World*
- 2009   GEOG 385 GIS Primer**
- 2009   GEOG 524   Hydrologic Application of GIS and Remote Sensing**^
- 2006-08   Tutor, University of Idaho Tutoring and Academic Assistance Programs

NEW COURSES DESIGNED
- 2020   GEO 874: Cognitive Factors of Geographic Information Science
- 2019   GEO 986: Theory and Philosophy of Geography
- 2018   GEO 490: GeoVisual Analytics for Digital Humanities Scholarship
- 2016   GEO 892: Medical Applications of Remote Sensing
- 2015   GEO 826: Geographic Object-Based Image Analysis
- 2015   GEO 326: Map Design
- 2015   GEO 426: Thematic Mapping
- 2012   GEO 160: Mapping our Changing World

STUDENT COMMITTEES [*CHAIR]
- 2022   Chang Liu, MS
- 2020-21   Bailey, Connor, MS, Entomology
- 2018-20   Michelle Church, MS*
- 2018-20   Ken Camacho, MS*
- 2017-19   Thomas Bilintoh, MS
- 2017-19   Connor Plensdorf, MS*
- 2016- 18   Michael Bomber, MS*
- 2016-17   Nick Ronnei, MS
- 2015-17   Toni Walkowiak, MS*
- 2014-16   Anni Yang, MS

RESEARCH MENTEES [*UNDERGRADUATE]
- 2021   Sophie Gabrysiak*
- 2020-21   Syed Kamoonpuri, MS Economics
- 2020   Sam Floriano*
- 2018-19   Camille North*
- 2018-19   Luke Gerber*
- 2017-18   Michelle Church*
- 2017   MacNamara, Derrek*

- 2015-16   Haga, Joshua*

ADVISEE AWARDS
- 2019   Church, M. Michigan Sea Grant-MSU Extension Graduate Fellow, $500
- 2018   Gerber, L., Provost Undergraduate Research Initiative Program, Fall $1500
- 2017   Church, M., Provost Undergraduate Research Initiative Program, $1500
- 2015   Haga, J., Provost Undergraduate Research Initiative Program, $2,000
- 2016   Bomber, M., Academic Achievement Graduate Assistantship, $27,938
- 2016   Walkowiak, T., Rose Graduate Fellowship for Water Research, $1000

AWARDS

2019

- Air Force Summer Faculty Fellowship. Cognitive Task Analysis of Expert Change Detection in High-Resolution Commercial Satellite Imagery. Wright Patterson Air Force Base Human Factors Research Laboratory. Visual Analytics. ($15,000-declined to participate in trip to China)

2018

- Air Force Summer Faculty Fellowship. Cognitive Task Analysis of Expert Change Detection in High-Resolution Commercial Satellite Imagery. Wright Patterson Air Force Base Human Factors Research Laboratory. Visual Analytics. ($15,000)
- Computing Research Association- Women (CRA-W) Travel award for 3rd Biennial Broadening Participation in Visualization Workshop (Travel)

2016

- Best Young Author Paper Award, ISPRS XXIII ISPRS Congress, Commission VI. A Cognitive Approach to teach a graduate-level GEOBIA course. ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences. ($2,000)

2015

- U.S. National Committee to the International Cartographic Association Travel Grant for "Representation-based Knowledge Elicitation: Describing the image interpretation process of experts." ($1,800)

2014

- Saarinen Student Paper Competition Winner for "Land Cover Disturbance Analysis: Developing a Model of Expert Image Analyst Reasoning "($250)
- Miller Graduate Student Fellowship in Geography (Tuition and stipend of $9587)

2013

- Middle States Division -AAG World GeoBowl Team Member ($300)
- Ronald F. Abler Award in Geography ($90)
- Ruby S. Miller Endowment Fund ($300)

2012

- USGIF Doctoral Scholarship ($5,000)
- Rodney Erickson Award ($403) for "Defining the Typical Department of Homeland Security Map."
- AAG Cartography Specialty Group Student Paper Finalist ($155) for "Visualization Variables in Cartography and Aerial Photo Interpretation."

2011
- Pennsylvania Space Grant Consortium Graduate Student Fellowship ($10,000)
- US National Committee of the ICA Young Scholar Travel Grant to present "A user interface for aiding in recreational activity decision making." ($1,500)
- Ronald F. Abler Award in Geography ($100) to present "A user interface for aiding in recreational activity decision making."
- Ruby S. Miller Endowment Fund ($180) to present "Supporting the Image Classification Process with an Improved Understanding of the Human Role in Imagery Analysis"

2009
- U of I Graduate and Professional Student Association Travel Grant ($800)
- A.H. Featherstone Scholarship ($1,500)
- U of Idaho Geography Department, Meritorious Service Award ($100)

2008
- 2nd place Undergraduate Research Poster Competition ($100)
- Ben A. Harrison Scholarship ($1,500)
- James Magnuson Scholarship ($1,000)
- NSF STEM Bridge to Graduate Study Scholarship ($2,000)

2007
- NASA Idaho Space Grant Consortium Scholarship ($2,000)
- ASUI Student Achievement Awards in Leadership and Service
- Harry and Shirley Caldwell Endowment Scholarship ($1,000)

2006
- Harry and Shirley Caldwell Scholarship ($1,500)
- Ben A. Harrison Scholarship ($2,000)
- James E. West Scholarship ($500)
- Idaho Tuition Scholarship ($5,000/4yr)
- UI Science Tuition Scholarship ($23,000/4yr)

SERVICE ACTIVITIES

UNIVERSITY SERVICE
- 2020-21   Geography Department Chair Search Committee
- 2019-21   University Military Education Advisory Committee
- 2018-19   Geography Department By-Laws Committee
- 2018-21   Geography Department Faculty Advisory Committee
- 2018   Faculty Chaperone, GeoCamp Grad Student Orientation Trip
- 2018-19   Geography Department Undergraduate Student Awards Committee
- 2017-19   Humanities and Arts Research Program Grants Review Committee
- 2017   Geography Department Undergraduate Student Awards Committee
- 2017   Geography Department Graduate Student Funding Committee
- 2017   Member of Geography Dept. Faculty Award Nomination Committee
- 2016   Geography Department Graduate Student Admissions Committee
- 2016   Participant, College of Social Science Brand Alignment Focus Group
- 2015-   Faculty Adviser, Supporting Women in Geography Student Org.
- 2015   Faculty Adviser, Broad Writing Residency Program, Trevor Paglen
- 2012   Organizer, Instructor, Supporting Young Women in Geography
- 2012   Fundraising Coordinator, PSU No Boundaries Student Conference

PROFESSIONAL SERVICE (SG = SPECIALTY GROUP, SAC=STUDENT ADVISORY COUNCIL)
- 2020   Director, Remote Sensing Applications Division, ASPRS
- 2017- 20 Board Member, ASPRS Eastern Great Lakes Division
- 2019-21 Technical Program Committee, International Cartographic Association, Abstraction Workshop
- 2018-19   Technical Program Committee ASPRS National Meeting, Denver, CO
- 2018-19   Technical Program Committee IEEE-ISPRS JURSE (Joint Urban Remote Sensing Event) Symposium
- 2018-20   Assistant Director, Remote Sensing Applications Division, ASPRS
- 2018   Session Organizer, Human Influence in Remote Sensing, ASPRS
- 2018   Meeting Organizer, Eastern Great Lakes ASPRS Meeting, Ann Arbor, MI
- 2018   Mentor, Women Mentoring Workshop, AAG National Meeting
- 2017   Judge, AAG Remote Sensing SG Student Illustrated Paper Competition
- 2015   Program Committee Member, GeoVis 2015, ISPRS Geospatial Week
- 2014-17 Editorial Board Member, *Cartographic Perspectives*
- 2014-16 Academic Director, AAG Environmental Perception and Behavior SG
- 2014   ASPRS Education and Professional Development Committee
- 2014   Session Organizer, ASPRS Membership K-12 Outreach Showcase, ASPRS
- 2013   Organizer: AAG Environmental Perception and Behavior Group Saarinen Paper Competition and Student Travel Grant Competition
- 2013   Session Organizer, Strategies for Winning ASPRS Scholarships, American

Society for Photogrammetry and Remote Sensing 2013, Annual Meeting

- 2013   Session Organizer, Advice for obtaining graduate student funding from NSF, ASPRS Annual Meeting
- 2013   Session Organizer, Emerging Research Trends in Emergency Management, ASPRS Annual Meeting
- 2013   Co-Organizer, CaGIS/ASPRS Fall Student Map Competition
- 2013   Student Officer, AAG Environmental Behavior and Perception SG
- 2013   Councilor, Education and Professional Development. ASPRS SAC
- 2013   Conference Assistant, ASPRS National Meeting
- 2012   Deputy Councilor of Education and Professional Development, ASPRS SAC
- 2012   Database Entry Volunteer, ASPRS Glossary of Mapping Science

OUTREACH

- 2019, 20   Instructor, Content Developer, MSU Upward Bound Math & Science
- 2018   Presenter, MSU Science Fest, Geospatial Revolution
- 2018   Presenter, R-Ladies East Lansing Chapter, "Geospatial Data"
- 2017   Presenter, MSU Graduate Women in Science Girls' Math and Science
- 2013   Workshop Instructor, Supporting Young Women in Geography Day
- 2012, 13   Instructor, Upward Bound Math and Science: SEEMS PSU
- 2012   Judge, Pennsylvania State-level National Geographic Geography Bee
- 2011   Workshop Instructor, Supporting Young Women in Geography, Day
- 2009   Judge, Idaho TECH K-12 Competition Presentations
- 2009   Judge, Idaho Scholastic Bowl
- 2009   Workshop Instructor, GIS Day, for Moscow High School Students
- 2007   Geographic Education Volunteer, Adventure Club Elementary School

REVIEWS [ARTICLE*, PROPOSAL**, COUNT]

- 2021 Canadian Journal of Forestry [1]
- 2021 Cartography and GIScience Journal [1]
- 2021 NSF Grant Review Panel [15]**
- 2020 Forests* [1]
- 2020 Interacting with Computers* [1]
- 2020 Landscape Ecology* [1]
- 2020 Remote Sensing* [5]
- 2020 International Journal of Geo-Information* [1]
- 2019 Computers, Environment and Urban Systems* [1]
- 2019 Forests* [1]
- 2018 IEEE-ISPRS Joint Urban Remote Sensing Event Symposium* [5]
- 2019 US Army Engineer Research and Development** [2]
- 2018 Australian Research Council** [2]
- 2017 GIS & Remote Sensing* [1]
- 2017 Journal of Cleaner Production* [1]

- 2016 GIS and Remote Sensing* [1]
- 2016 Journal of Geographical Information Science* [1]
- 2015- Australian Research Council** [11]
- 2015 Cartography and Geographic Information Science* [1]
- 2015 The Cartographic Journal* [1]
- 2015 Remote Sensing of Environments* [1]
- 2015 Remote Sensing* [1]

PROFESSIONAL DEVELOPMENT
- 4/2020 AAG, Metrics that Make A Difference Workshop by Dr. Gil Pontius
- 10/2019 Image-based Plant Phenotyping, International Plant Phenotyping Training
- 6/2018 3rd Biennial Broadening Participation in Visualization Workshop, Computing Research Association
- 2/2018 Introduction to Google Earth Engine, N. Gorelick
- 7/2017 Workshop for Early Career Geoscience Faculty, National Association of Geoscience Teachers (*partial attendance due to family emergency*)
- 1/2017 MSU Write Winning Grant Proposals with Grant Writers'
- 8/2016 eCognition Developer Fundamentals, Trimble Inc. Training Workshop
- 8/2016 eCognition Analysis Strategies, Trimble Inc. Training Workshop
- 6/2016 National Center for Faculty Dev. and Diversity Faculty Success Prog.
- 2/2016 Beyond CTRL+F: Text Mining Across Disciplines, Uni. of Michigan
- 5/2015 Geographic Object-Based Image Analysis Workshop, ASPRS
- 3/2013 Looking Above the Terrain: Lidar for Vegetation Assessment, ASPRS
- 11/2011 Advanced Hyperspectral Sensing for Terrestrial Environment, ASPRS

ACADEMIC AFFILIATIONS
- 2011 Gamma Theta Upsilon Geographic Honor Society Member
- 2006 McNair Program Scholar
- 2006 Golden Key International Honor Society Member
- 2006 Alpha Sigma Lambda National Honor Society Member

PROFESSIONAL AFFILIATIONS
- 2020- National Cartographic Information Society
- 2020- Women and Drones
- 2020- American Geophysical Union
- 2019- Cartographic and Geographic Information Society
- 2019- IEEE Geoscience & Remote Sensing Society
- 2019- Earth Science Women's Network
- 2019- 500 Women Scientists
- 2007- American Society of Photogrammetry and Remote Sensing
- 2007- American Association of Geographers

REFERENCES

- Dr. Sue Grady   gradys@msu.edu
  Associate Professor of Geography
  Michigan State University

- Dr. Marguerite Madden   mmadden@uga.edu
  Professor of Geography
  Director Center for Geospatial Research, Department of Geography, University of Georgia
  Fellow, International Photogrammetry and Remote Sensing Society

- Dr. Kunwar Singh   ksingh@aiddata.org
  Geospatial Data Scientist
  Aid Data Research Laboratory
  William and Mary University

- Dr. David Butler   db25@txstate.edu
  Texas State University System Regents' Professor of Geography Emeritus
  University Distinguished Professor of Geography Emeritus
  Fellow, American Association of Geographers

- Dr. Alan MacEachren   maceachren@psu.edu
  Professor Emeritus
  Department of Geography
  Pennsylvania State University