

# Karen L. Schuckman

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# Curriculum Vitae

18 February 2022

EMPLOYMENT		
	<b>The Pennsylvania State University</b> <i>Department of Geography</i>	Jan 2007 - present
	<ul style="list-style-type: none"><li>• <b>Associate Teaching Professor, 2019 - Present</b></li><li>• <b>Assistant Teaching Professor, 2009 - 2019</b></li><li>• <b>Instructor, 2007 - 2009</b></li></ul>	
	<b>URS Corporation</b> <i>Gaithersburg, MD</i>	Aug 2005 - Dec 2006
	<ul style="list-style-type: none"><li>• <b>Geospatial Technology Leader</b></li></ul>	
	<b>EarthData Solutions, LLC</b> <i>Frederick, MD</i>	Jan 2005 - Jul 2005
	<ul style="list-style-type: none"><li>• <b>Vice-President, Technology Development</b></li></ul>	
	<b>EarthData Technologies, LLC</b> <i>Frederick, MD</i>	Jun 2000 - Dec 2004
	<ul style="list-style-type: none"><li>• <b>Vice-President, Technology Development</b></li></ul>	
	<b>EarthData International of North Carolina, LLC</b> <i>High Point, NC</i>	Jul 1995 - Jun 2000
	<ul style="list-style-type: none"><li>• <b>President and General Manager</b></li></ul>	
	<b>EarthData Aviation, LLC</b> <i>Gaithersburg, MD</i>	Jan 1995 - Jul 1995
	<ul style="list-style-type: none"><li>• <b>Field Operations Manager</b></li></ul>	
	<b>US Geological Survey, National Mapping Division</b> <i>Menlo Park, CA</i>	May 1992 - Nov 1994
	<ul style="list-style-type: none"><li>• <b>Assistant Branch Chief</b></li></ul>	
	<b>California Research and Technology</b> <i>High Point, NC</i>	Jan 1981 - Dec 1983
	<ul style="list-style-type: none"><li>• <b>President and General Manager</b></li></ul>	
	<b>NASA Laboratory for Atmosphere, Severe Storms Branch</b> <i>Greenbelt, MD</i>	Jun 1980 - Dec 1981
	<ul style="list-style-type: none"><li>• <b>Research Assistant</b></li></ul>	

## **EDUCATION**

### **Master of Geographic Information Systems**

2009, *The Pennsylvania State University, University Park, PA*

### **Certificate in Geographic Information Systems**

2005-2006, *The Pennsylvania State University, University Park, PA*

### **B. S. in Meteorology**

1979, *The Pennsylvania State University, University Park, PA*

### **B. A. in Liberal Arts**

1977, *The Pennsylvania State University, University Park, PA*

## **PROFESSIONAL SERVICE**

- August 2021 – present American Society for Photogrammetry and Remote Sensing, Executive Director
- 2016 – July 2021 American Society for Photogrammetry and Remote Sensing, Managing Director
- 2007 The National Academy of Sciences, FEMA Flood Maps: Accuracy Assessment and Cost-Effective Improvements, Committee Member
- 2006 The National Academy of Sciences, Floodplain Mapping Technologies, Committee Member
- 2005 NOAA Advisory Committee on Commercial Remote Sensing, Vice-Chair
- 2005 American Society for Photogrammetry and Remote Sensing (ASPRS), President
- 2002 - 2003 ASPRS, Professional Practice Division Director
- 2000 – 2002 ASPRS, Professional Practice Division Assistant Director
- 1996 - 2000 ASPRS, Photogrammetric Applications Division Director
- 1999 - 2000 ASPRS Executive Committee Member

## **CREDENTIALS**

- ASPRS Certified Photogrammetrist
- ASPRS Certified Mapping Scientist – Lidar
- Professional Land Surveyor, State of North Carolina
- Land Surveyor Photogrammetrist, Commonwealth of Virginia, inactive

## **AWARDS**

- 2020 Lidar Leader Award for Outstanding Personal Achievement in Lidar
- 2018 ASPRS Outstanding Service Award
- 2017 ASPRS Outstanding Service Award
- 2017 ASPRS Conference Management Award
- 2015 ASPRS Ford Bartlett Award
- 2014 ASPRS Fellow Award
- 2011 ASPRS Outstanding Service Award
- 2010 ASPRS Ford Bartlett Award
- 2009 ASPRS Conference Management Award
- 2009 ASPRS Presidential Citation
- 2009 ASPRS 75<sup>th</sup> Anniversary Committee Award
- 2006 ASPRS Colonel Claude H. Birdseye Award

**PUBLIC MEDIA PROJECTS**

- 2021 Geospatial Revolution, Episode 5. Penn State Public Broadcasting. [www.geospatialrevolution.psu.edu](http://www.geospatialrevolution.psu.edu). Advisor.
- 2010 Geospatial Revolution, Episodes 1-4. Penn State Public Broadcasting. [www.geospatialrevolution.psu.edu](http://www.geospatialrevolution.psu.edu). Faculty Liaison.
- 2009 ASPRS Films. [www.youtube.com/asprs](http://www.youtube.com/asprs). Producer.
- 2008 Liquid Assets: The Story of our Water Infrastructure. Penn State Public Broadcasting, 2008. [www.liquidassets.psu.edu](http://www.liquidassets.psu.edu). Content Advisory Board Member

**SUBMITTED PRESENTATIONS**

- 2016 ASPRS Annual Conference
  - Faculty Lead: GeoLeague Challenge, San Antonio, TX
- 2009 ASPRS Annual Conference, Baltimore, MD
  - Lidar Technology and Applications

**INVITED PRESENTATIONS**

- 2021 ASPRS Annual Conference, online
  - Opportunities for Remote Learning in the COVID19 Era and Beyond
- 2018 Commercial UAV Expo, Las Vegas, NV
  - Workshop Instructor: ASPRS UAS Symposium
- 2018 ASPRS Annual Conference, Denver, CO
  - Workshop Instructor: Preparation for ASPRS Certification
- 2018 ASPRS Annual Conference, Denver, CO
  - Moderator: GeoLeague Challenge
- 2017 Commercial UAV Expo, Las Vegas, NV
  - Moderator: ASPRS UAS Symposium
- 2015 ASPRS Annual Conference, Tampa, FL
  - Memorial Address
- 2015 Penn State GIS Day, University Park, PA
  - Publicly-Available Remote Sensing Data for Worldwide Hazards and Disasters
- 2013 Penn State All-Sports Museum Women's History Month
  - Karen Schuckman, Penn State's First Female All-American
- 2013 Appalachian State ASPRS Student Chapter
  - Benefits of Professional Certification
- 2012 EQT Corporation Annual GIS Conference
  - Datums and Coordinate Systems
- 2010 Charter School Teacher Training, Maui, HI
  - Introduction to Remote Sensing and Geospatial Technology
- 2007 Institute of Navigation Annual Conference, San Diego, CA
  - Keynote Presenter

**PUBLICATIONS**

- Schuckman, K, 2022. "Remote Sensing and GIS Now Evolve Together." *ArcNews*,44(1).
- Foyle, A. and K.Schuckman, 2021. "Reduced Sediment Export to the Pennsylvania Lake Erie Littoral Zone During an Era of Average Lake Levels," *Journal of Great Lakes Research*, 47(6).

- Al-Dogom, D., Al-Ruzouq, R., Kalantar, B., Schuckman, K., Al-Mansoori, S., Mukherjee, S., Al-Ahmad, H., and N. Ueda, 2021. "Geospatial Multicriteria Analysis for Earthquake Risk Assessment: Case Study of Fujairah City in the UAE." *Journal of Sensors*, 2021.
- Al-Dogom, D., Schuckman, K., and R. Al-Ruzouq, 2018, "Geostatistical Seismic Analysis and Hazard Assessment; United Arab Emirates," *Proceedings of the 2018 GeoInformation for Disaster Management Conference*, 10.5194/isprs-archives-XLII-3-W4-29-2018
- Schuckman, K., Toth, C., and J. Aitken, 2005. "Converging Airborne Technologies Support Diverse Applications" *Earth Imaging Journal*.
- Hodgson, M.E., Jensen, J.J., Raber, G.T., Tullis, J.A., Davis, B.A, Thompson, G., and K. Schuckman, 2005. "An Evaluation of Lidar-Derived Elevation and Terrain Slope in Leaf-off Conditions," *Photogrammetric Engineering and Remote Sensing*, 71 (7):817-823.
- Schuckman, K. and G. Hoffman. 2005. "ARIES: Technology Fusion for Emergency Response", *Photogrammetric Engineering and Remote Sensing*, 71 (4):357-360.
- Raber, G.T., Jensen, J.J, Schill, S.R., and K. Schuckman. 2002. "Creation of Digital Terrain Models Using an Adaptive Lidar Vegetation Point Removal Process," *Photogrammetric Engineering and Remote Sensing*, 68 (12):1307-1315.
- Raber, G.T, Hodgson, M. E., Jensen, J.J, Tullis, J. A., Thompson, G., Davis, B.A., and K. Schuckman. 2002. "Comparison of Lidar Data Collected Leaf-on vs. Leaf-off for the Creation of Digital Elevation Models," *Proceedings, Annual Meeting of the ASPRS*, Washington: ASPRS, April 22-26, on CD.
- ASPRS. 1994. *Glossary of the Mapping Sciences*.

#### **GRANTS AND CONTRACTS**

- 2018 Pennsylvania Sea Grant, A Bayesian Statistical Network Model of Bluff Retreat and a Littoral Sediment Budget Model for the Western Erie County Littoral Cell, Lake Erie; Co-Investigator
- 2016 Donald W. Hamer Center for Map and Geospatial Information, Penn State University Library, Historical Aerial Photography Inventory; Project Manager

#### **MGIS ADVISOR**

- 2023 Zachary Canter, TBD
- 2023 Kimberly Mauch, TBD
- 2023 Brooke Obrey, TBD
- 2023 Jeremy Penton, TBD
- 2023 Gerald Schildroth, TBD.
- 2023 Matthew Serenita, TBD
- 2023 Cynthia Williams, TBD
- 2022 Andrew Bagnara, Vernal Pool Mapping with Lidar and Aerial Imagery. Presented at Indiana State GIS Day 2022, Indianapolis, IN.
- 2022 Daniel Clement, Classifying Water from Satellite Imagery with Python and ArcGIS Pro, published in Learn ArcGIS, Esri, 2022.
- 2021 Brooks Andrews, Exploring the Correlation Between Land Subsidence, Urban Development, Impervious Surfaces, and Inundation in the Greater Houston Region Using Remote Sensing Data; presented in MGIS 596B Capstone Webinar.

- 2021 Gregory Alliger, Effects of the Rollover Pass Closure on Coastal Erosion, Bolivar Peninsula, TX; presented in MGIS 596B Capstone Webinar
- 2020 Thomas Osen, Drone2Map and ArcGIS Enterprise: Building an Oil Field Drone Database; presented in MGIS 596B Capstone Webinar.
- 2020 Alexandra Fredericks, Lidar-Derived Pre- and Post-Hurricane Maria Volumetric Change Detection for Puerto Rico; presented in MGIS 596B Capstone Webinar.
- 2020 Jeanne Nebre, Positional Accuracy Assessment of DJI Phantom 4 Pro on Non-vegetated Surface; presented in MGIS 596B Capstone Webinar.
- 2019 John South, Mapping Dinétah Pueblitos Within their Surrounding Landscapes using Post-Processing Kinematic GPS from an sUAS Platform; presented in Geospatial Technology and Spatial Data Science Symposium at Dutton Institute.
- 2019 Nicholas Morgan, An Analysis of the Survey Decay Term in NOAA's Hydro Health Model Using Historic Bathymetric Datasets; presented at US Hydro 2019, Biloxi, MS.
- 2019 Travis Meyer, Multi-Scale Ground Filtering of Dense Lidar Point Clouds for Modeling Shrub Mangrove Canopies in Coastal Environments; presented at ASPRS Annual Conference, Denver, CO.
- 2018 Justin Tyner, Classifying Building Faces in Geiger-Mode Lidar Data Sets; presented at North Carolina ASPRS Chapter Meeting, Raleigh, NC.
- 2018 William McLean, Creation of a Flood Risk Web Application for New Brunswick's Coastal Zone Using Lidar Data and Future Sea Level Rise Prediction, presented at Coastal Zone Canada 2018, St. John's, Newfoundland, Canada.
- 2018 Jamal Cadwell, Mapping Chicory Lane Farm for Conservation; presented at Penns Valley Conservancy, Spring Mills, PA.
- 2018 Diena Al-Dogom, Geostatistical Seismic Analysis and Hazard Assessment for the United Arab Emirates; presented at ISPRS GI4DM, Istanbul, Turkey.
- 2017 Deborah Dennison, Contribution of Normalized Digital Surface Models used in Automatic Building Extraction; presented at ASPRS Annual Conference, Baltimore, MD.
- 2013 William McDevitt, The Last 200 Feet - A Low-Cost Approach to Landing Aircraft in Zero-Zero Conditions; presented at 32nd Digital Avionics Systems Conference, Syracuse, NY.
- 2012 Shane Seitz; Space and Relationships: Rethinking the Built Environment, presented at American Anthropological Association Annual Conference, San Francisco, CA.
- 2012 Beth Norton, 3-D Flood Risk Visualization; presented at Association of State Floodplain Managers Annual Conference, San Antonio, TX.
- 2012 Valerie Johnson, Emergency Preparedness: Using Local and Federal Data and ArcGIS to Analyze Potential Human and Economic Impacts of Flooding; presented at GIS in the Rockies Conference, Denver, CO.
- 2011 Christy Graves, Integrating Point Cloud Data into Civil 3D; presented at Florida Surveying and Mapping Annual Conference, St. Augustine, FL.
- 2011 James Earwood, Open Source Tools for Treatment of Lidar-Derived Terrain Models; presented at 2011 International Lidar Mapping Forum, New Orleans, LA.