

Central Pennsylvania GIS Day 2022



| November 16th, 2022 |

[Conference Website](#)

Exhibitors

(Common Area on 11th Floor)

9:00am – 3:00pm

- Center for Land Use and Sustainability
- CivicMapper
- Commonwealth of PA – Office of Administration – Geospatial Services
- ESRI
- Fugro
- Harrisburg University
- Indiana County Conservation District
- Keystone GIS
- PA Game Commission
- PA One Call System
- Pennsylvania Spatial Data Access

Morning Schedule

(Accessible on WebEx)

9:00am – 10:15am (11th Floor, Room 1151)

- Welcoming Remarks
- Emily Mercurio, CivicMapper [*Keynote Address*]

Breakout Sessions – Track 1

(11th Floor, Room 1151)

10:30am – 10:50am

- Accessing, Downloading, and Visualizing USGS Lidar Point Cloud Data

11:00am – 11:40am

- Geospatial Applications Modeling Neighborhood Segregation within the United States

11:40am – 1:00pm – Lunch Break

Breakout Sessions – Track 2

(12th Floor, Room 1205)

10:30am – 10:50am

- 3D Basemaps: Showing a Hypothetical Future Landscape in Upper Delaware River

11:00am – 11:40am

- Coordinate PA – The Next Generation of Utility Coordination

11:40am – 1:00pm – Lunch Break

Career Panel Discussion – 12:15pm – 1:00pm (11th Floor, Room 1151)

Emily Mercurio <i>CivicMapper</i>	Bruce Field <i>ESRI</i>	Jodi Vender <i>Penn State Geography</i>	James Whitacre <i>PA Game Commission</i>	Gale Blackmer <i>Bureau of Geologic Survey</i>
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Afternoon Schedule

(Accessible on WebEx)

Breakout Sessions – Track 1

(11th Floor, Room 1151)

1:00pm – 1:40pm

- Is There Anything (Officially) Historic Around Here? - Using Technology to Engage the Public in Historic Preservation

2:00pm – 2:40pm

- Using Biomimicry and Location Analytics to Grow Your Business

3:00pm – 3:20pm

- Utilizing Google Maps API to Provide Data Visualization

Breakout Sessions – Track 2

(12th Floor, Room 1205)

1:00pm – 1:40pm

- Practical Python for ArcGIS Online

2:00pm – 2:40pm

- Towards a Sustainable Trail System in the Mountain Creek Watershed, Michaux State Forest

3:00pm – 3:40pm

- The Building Blocks of Spatial Data Science

Keynote Speaker 9am – 10:10am

Biography for Emily Mercurio – Central PA GIS Day 2022 Keynote Speaker

Emily Mercurio, PhD, PG (she/her) is the CEO and Co-Founder of CivicMapper, a geospatial technology development company that creates solutions for climate, infrastructure, and social equity using the power of modern mapping technologies.

Emily is a big thinker and a lifelong learner. She leverages 25 years of experience with Earth science data and mapping technologies for leading the development and application of CivicMapper's products and services. She received a Bachelor of Science in Geoscience from Penn State, a Master of Science in Geology from Michigan Technological University, and a Doctor of Philosophy in Geology from the University of Pittsburgh.

Emily's career has focused on creating innovative and data-driven solutions to support decisions at the intersection of our natural and built environments. She is an experienced geoscientist and an expert in mapping, field geology, GIS, remote sensing, and the application of geospatial technology to solve real-world problems.

Emily is a licensed professional geologist in the state of Pennsylvania. She sits on the board of the Three Rivers Waterkeeper and the Pennsylvania State University Graduates of Earth and Mineral Science.



Presentation Abstracts

Accessing, Downloading, and Visualizing USGS Lidar Point Cloud Data

Presenter: Eliza Gross

Organization: U.S. Geological Survey

Time: 10:30am – 10:50am (EST)

Abstract: This presentation will provide a brief crash course on accessing and downloading U.S. Geological Survey (USGS) lidar point cloud (LPC) elevation data from the USGS 3D Elevation Program (3DEP) LidarExplorer web application. Attendees will be shown how to visualize LPC data through the web application and also how to process data using ArcGIS Pro for more advanced visualization and analysis.

3D Basemaps: Showing a Hypothetical Future Landscape in Upper Delaware River

Presenter: Alfonso Yañez

Organization: Shippensburg University

Time: 10:30am – 10:50am (EST)

Abstract: Three-dimensional maps have experienced great development in the last years following the greater capabilities of hardware and 3D software and the availability of 3D data such as LiDAR. 3D-maps offer more realistic visualizations and easier to interpret, making them suitable for non-technical audiences and a great tool for urban planners. Here we tell the story of the journey of our first contact with 3D-maps.

Geospatial Applications Modeling Neighborhood Segregation within the United States

Presenter: Sri Banerjee

Organization: Walden University

Time: 11:00am – 11:40am (EST)

Abstract: Built environment and other social determinants still exists in marginalized communities. These communities have increased firearm use and also neighborhoods where firearms usage is the most frequent within the country. However, we go further and not only show you these geospatial patterns individually and also creating a spatially varied model which will be compared in accuracy between models.

Coordinate PA - The Next Generation of Utility Coordination

Presenter: Mark Lipka

Organization: Pennsylvania One Call System

Time: 11:00am – 11:40am (EST)

Abstract: Coordinate PA is a web service application developed by Pennsylvania 811 to support Public Works and utility project planning and utility coordination within the Commonwealth of Pennsylvania. Instead of meeting to discuss plans, or copy maps, or create a spreadsheet of projects, Utility companies, public works directors and others describe their projects on a map. Coordinate PA then shows the projects and the project timeframes for users and automatically identifies opportunities for collaboration between projects. The user can see project overlap within a geographic area (for example, Main Street from First Avenue and Seventh Avenue) and can query for overlap within a specific time frame. Coordinate PA integrates with Pennsylvania 811's Web Ticket Entry process to create Design and Excavation notifications to increase project safety and reduce project costs as required by Pennsylvania's Underground Utility Line Protection Law.

Is There Anything (Officially) Historic Around Here? - Using Technology to Engage the Public in Historic Preservation

Presenter: PA-SHARE Staff, Noel Strattan and Elizabeth Shultz

Organization: PA State Historic Preservation Office, PHMC

Time: 1:00pm – 1:40pm (EST)

Abstract: PA-SHARE, or Pennsylvania's State Historic and Archaeological Resource Exchange, is the PA SHPO's new online data management and cultural resources GIS tool that allows people to interact with all of our data sets and programs in one place. PA SHPO is the official historic preservation agency for the Commonwealth of Pennsylvania and administers state historic preservation programs authorized through Pennsylvania's State History Code and manages several Federal programs created by the National Historic Preservation Act. For this we maintain inventories of historic and archaeological resources. We are also the agency that manages Pennsylvania's historical marker program, which are those blue and gold metal signs you see everywhere you go that provide great information about Pennsylvania history.

Built on an ArcGIS Enterprise platform with an underlying SQL database, PA-SHARE has several components, both desktop and mobile. We will demonstrate the public searches for historic properties and markers, the project review process, and our Survey123 based mobile app for recording resources in the field.

Practical Python for ArcGIS Online

Presenter: Patrick McKinney

Organization: Pennsylvania Department of Health

Time: 1:00pm – 1:40pm (EST)

Abstract: In this session, we will review Python code that is being used to manage an ArcGIS Online organization. The samples can be used to manage content, manage users, or simply provide information about the organization. If you have not written any Python scripts, this session will help you learn what is possible with this powerful scripting language.

Using Biomimicry and Location Analytics to Grow Your Business

Presenter: Susan Zwillinger

Organization: 4CTechnologies

Time: 2:00pm – 2:40pm (EST)

Abstract: Nature is an encyclopedia and it was E.O. Wilson's dream that we learn from natural systems. Engineers have done this for years. Design inspired by nature or biomimicry has given us things like Velcro (inspired by cockleburrs) and hi-tech Olympic swimsuits (created by studying dolphin and shark skin membranes.) This session uses analogies to the structure and processes found in nature to the challenges that we face in business. Based on work with pest control companies, this session provides six lessons for how these businesses improved their marketing efforts and market analytics by analyzing their customer data and mapping their customer profiles using ArcGIS Pro Business Analyst and Power BI with the ArcGIS for Power BI visualization tool.

Towards a Sustainable Trail System in the Mountain Creek Watershed, Michaux State Forest

Presenter: Claire Jantz, Ayrton Marriott*, Kyle Myers

Organization: Center for Land Use and Sustainability, GHD*

Time: 2:00pm – 2:40pm (EST)

Abstract: The existing multiuse trail system in Michaux State Forest's Mountain Creek watershed has evolved over decades and consists of old logging roads, state forest roads, formal trails, and informal user built trails. With minimal planning and intensifying use, especially by mountain bikers, this trail system faces several social and environmental sustainability challenges, ranging from user conflicts to the degradation of stream health. This study will present results from a comprehensive trail inventory and sustainability assessment, along with a preliminary analysis of a stakeholder survey, both of which will inform DCNR's efforts to design a more sustainable trail system.

Utilizing Google Maps API to Provide Data Visualization

Presenter: Patrick Crowell

Organization: PENNVEST

Time: 3:00pm – 3:20pm (EST)

Abstract: A brief presentation of how PENNVEST uses data-driven applications and partnerships with other GIS organizations to provide a comprehensive visual representation of PENNVEST funding for our customers and tools for our users.

The Building Blocks of Spatial Data Science

Presenter: Nick Giner

Organization: ESRI

Time: 3:00pm – 3:20pm (EST)

Abstract: ArcGIS is a comprehensive analytics platform for spatial data science. It enables you to unlock your data's full potential by integrating data exploration, statistical and machine learning algorithms, and advanced modeling techniques. In this tour, we'll cover the analytical capabilities of ArcGIS, the key stages in any data science workflow, and how it can be used to address some of the world's most challenging problems.