

# Faculty

## Using the State Plane Coordinate System

**Dr. Thomas H. Meyer, Ph.D.** *Professor of Geodesy, University of Connecticut*  
Dr. Meyer is a professor in the Department of Natural Resources and the Environment at UConn's College of Agriculture, Health and Natural Resources (CAHNR). He is a member of the American Society of Civil Engineers and the American Society for Photogrammetry and Remote Sensing, and he is a fellow and past president (2016, 2019) of the American Association for Geodetic Surveying. Dr. Meyer is a past president (2006-2007) of the Geomatics Society of New England (previously known as the New England Section ACSM) and a member of the editorial boards of the *Journal of Surveying Engineering* and *Surveying and Land Information Science*. Dr. Meyer earned his Ph.D. degree from Texas A&M University (College Station, 1998) where he was a research associate in the Mapping Sciences Laboratory. He was named a UConn Teaching Fellow (2015), and he has taught geomatics courses at the graduate and undergraduate levels in geodesy, geographic information science, digital terrain modeling, spatial statistics, and global navigation satellite system surveying. Dr. Meyer has authored an undergraduate-level geodesy textbook and numerous peer-reviewed papers about surveying and mapping, and he teaches professional education seminars for surveyors throughout New England and the United States.

## Resolving Conflicts of Surveying Evidence

**Gary R. Kent** *Schneider Geomatics in Indianapolis*  
Mr. Kent is in his 39th year with Schneider Geomatics in Indianapolis - having transitioned to part-time status in 2020. He also provides training, consulting and expert witness services as manager and owner of Meridian Land Consulting, LLC. He served as chair of the Joint ALTA/NSPS Committee responsible for the ALTA/NSPS Land Title Survey standards from 1995 to 2021. He has also served on the Indiana State Board of Registration for Professional Surveyors since 2004 and is a past-president of both ACSM and the Indiana Society of Professional Land Surveyors. Mr. Kent has presented programs on boundary law, easements and rights of way, surveying standards and practice, and leadership in all 50 states.

## Aerial Mapping for Land Surveyors and Civil Engineers

**Rami Tamimi** *The Ohio State University*  
Rami Tamimi is a Ph.D. student in Geodetic Engineering at The Ohio State University, researching the integration of traditional field surveying with advanced geospatial technologies. He also creates engaging YouTube videos that educate others about the surveying and geospatial industry and showcases exciting new technologies.

## Basics of Riparian Surveying and Land Descriptions

**Barry Savage, PLS**  
*Survey Products Group Manager with Tennessee Valley Authority in Chattanooga, TN*  
Mr. Savage began his survey career while in college in 1981. He graduated from the University of Tennessee at Martin with a B.S. degree in Civil Engineering Technology. He worked for the next 10 years for various civil/survey firms in positions ranging from crew chief to senior designer. In 1993 he started Savage Surveying and Mapping. While operating his firm Mr. Savage surveyed several state lines to resolve jurisdictional conflicts. He served as survey consultant during the construction of the Ocoee Whitewater venue for the 1996 Olympics. He is currently the Survey Products Manager at the Tennessee Valley Authority providing survey services to support their seven-state service area. He has been an adjunct faculty member at Cleveland State Community College for 20 years where he teaches courses in boundary law, geodesy, and general surveying. He and his students have retraced the historical surveys of Henry David Thoreau on Walden Pond in Concord Massachusetts. He teaches continuing education courses on surveying and boundary issues across the country. He is a licensed surveyor in Tennessee, Georgia, and Alabama.

# April Land Webinars

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# Live, Interactive Webinars

## Using the State Plane Coordinate System

- Thursday, April 4, 2024 | 9:00 am - 4:30 pm CDT

## Resolving Conflicts of Surveying Evidence

- Thursday, April 11, 2024 | 2:00 - 4:00 pm CDT

## Aerial Mapping for Land Surveyors and Civil Engineers

- Tuesday, April 16, 2024 | 9:00 am - 4:30 pm CDT

## Basics of Riparian Surveying

- Thursday, April 18, 2024 | 12:00 - 4:00 pm CDT

## Land Descriptions

- Thursday, April 25, 2024 | 9:00 am - 12:00 pm CDT

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# HalfMoon Education Live Webinars April Land Webinars



## Using the State Plane Coordinate System

Thursday, April 4, 2024 | 9:00 am - 4:30 pm CDT

Credits: Land Surveyors: 6.5 PDHs | Professional Engineers: 6.5 PDHs  
Practicing Institute of Engineering (PIE): 6.5 PDHs

## Resolving Conflicts of Surveying Evidence

Thursday, April 11, 2024 | 2:00 - 4:00 pm CDT

Credits: Land Surveyors: 2.0 PDHs | Professional Engineers: 2.0 PDHs  
Practicing Institute of Engineering (PIE): Pending

## Aerial Mapping for Land Surveyors and Civil Engineers

Tuesday, April 16, 2024 | 9:00 am - 4:30 pm CDT

Credits: Land Surveyors: 6.5 PDHs\* | Professional Engineers: 6.5 PDHs\*

## Basics of Riparian Surveying

Thursday, April 18, 2024 | 12:00 - 4:00 pm CDT

Credits: Land Surveyors: 4.0 PDHs\* | Professional Engineers: 4.0 PDHs\*

## Land Descriptions

Thursday, April 25, 2024 | 9:00 am - 12:00 pm CDT

Credits: Land Surveyors: 3.0 PDHs\* | Professional Engineers: 3.0 PDHs\*

\*No credit for NY engineers or surveyors



# Using the State Plane Coordinate System

Thursday, April 4, 2024 | 9:00 am - 4:30 pm CDT

Tuition: \$319 per registrant

Credits: Land Surveyors: 6.5 PDHs | Professional Engineers: 6.5 PDHs  
Practicing Institute of Engineering (PIE): 6.5 PDHs

Agenda:

Why use the State Plane Coordinate System (SPCS)

- Local (*ad hoc*) coordinates are mutually incompatible.
- When we want to stitch *ad hoc* maps together, we discover problems.
- Maps cannot depict Earth's surface without distortion.

Geodesy

- Latitude and longitude
- Earth's shape
- Reference ellipsoids
- Heights: gravity, the geoid, and Gauss
- The Inferno: distances (slope, geodesic, horizontal, topographic enlargement)

Map Projections

- Rectangular, Plate Carreé
- Conformal and authalic
- Distortions in distances and directions
- State Plane Coordinates

How to Map in the SPCS

- Directly from geodetic: USACE CORPSCON, NGS State Plane Tool
- From total-station observations
  - Reductions
  - The forward problem
- Worked out examples
  - Using total-station data
  - Some interesting case studies

Summary Comments

Presented by

Dr. Thomas H. Meyer, Ph.D. *Professor of Geodesy, University of Connecticut*  
24 USSPCOSY 4 4 WEBR SC

# Resolving Conflicts of Surveying Evidence

Thursday, April 11, 2024 | 2:00 - 4:00 pm CDT

Tuition: \$109 per registrant

Credits: Land Surveyors: 2.0 PDHs | Professional Engineers: 2.0 PDHs  
Practicing Institute of Engineering (PIE): Pending

Agenda:

- Sources of boundary evidence
  - Written and unwritten rights
  - Evidence of intention of parties
  - Monuments
  - Occupation
  - Description
- Priority of evidence
- Methods of conflict resolution

Presented by

Gary R. Kent *Schneider Geomatics in Indianapolis*  
24 SWRCSRVE 4 11 WEBR SC

\*This course does not qualify in New York; please refer to specific state rules to determine eligibility.

# Aerial Mapping for Land Surveyors and Civil Engineers

Tuesday, April 16, 2024 | 9:00 am - 4:30 pm CDT

Tuition: \$319 per registrant

Credits: Land Surveyors: 6.5 PDHs\* | Professional Engineers: 6.5 PDHs\*

Agenda:

Historical Overview of Aerial Surveying

- Evolution of aerial surveying techniques
- Early methods to modern advancements

UAS Regulations in the United States

- FAA Part 107 licensing requirements
- Commercial drone use
- Airspace classification and restrictions
- Operational limits and safety
- Waivers and authorizations
- Mapping with drones

Sensors in Aerial Surveying

- Introduction to aerial surveying sensors
- Types of sensors used in aerial surveying
- Integrating camera sensors for aerial imagery
- LiDAR in aerial surveying
- Thermal imaging and its applications
- Advanced applications: multispectral and hyperspectral imaging

Commercial Drones in Aerial Surveying

- Introduction to aerial surveying sensors
- Exploring DJI drones: models and applications
- Wingtra drones and VTOL capabilities
- Skydio drones: autonomy and obstacle avoidance
- RTK drones: precision and accuracy in aerial surveying

Surveying Fundamentals in Aerial Mapping

- Understanding geospatial concepts
- Ground control points in aerial surveying
- Coordinate systems and projection types
- Case studies and practical applications
- Data acquisition techniques
- Accuracy and precision in surveying

Data Processing Techniques in Aerial Surveying

- Image processing fundamentals with Pix4D and DroneDeploy
- LiDAR data processing with DJI Terra and Agisoft
- Advanced photogrammetry techniques with Pix4D and Agisoft
- Data accuracy and quality control in processing software
- Integration of aerial data with Civil 3D

Application in Civil Engineering: Data to Design

- From survey to design: integrating aerial data with civil projects
- Utilizing photogrammetry and LiDAR data in civil design
- Incorporating GIS and 3D modeling in infrastructure projects
- Challenges and solutions in data integration
- Emerging technologies

Presented by Rami Tamimi *The Ohio State University*

24 USARLMAP 4 16 WEBR SC

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# Basics of Riparian Surveying

Thursday, April 18, 2024 | 12:00 - 4:00 pm CDT

Tuition: \$209

Credits: Land Surveyors: 4.0 PDHs\* | Professional Engineers: 4.0 PDHs\*

Agenda:

- History of riparian ownership and rights
- Equal Footing Doctrine
- Public Trust Doctrine
- Type of navigability
- Navigability for title and the case of the Daniel Ball
- Test for navigability
- Historical research to determine navigability at statehood
- When riparian boundaries move
- PPL Montana v. Montana*, discussion

Presented by Barry Savage, PLS

*Survey Products Group Manager with Tennessee Valley Authority in Chattanooga, TN*  
24 SWRIPSRV 4 18 WEBR SC

# Land Descriptions

Thursday, April 25, 2024 | 9:00 am - 12:00 pm CDT

Tuition: \$159

Credits: Land Surveyors: 3.0 PDHs\* | Professional Engineers: 3.0 PDHs\*

Agenda:

Land Descriptions Basics

- Land survey systems
- Research techniques
- Purpose of a description
- Reading a survey drawing
- Importance of intent

Interpreting Land Descriptions

- How to measure versus what to measure
- Precision and accuracy (Theory)
- Evidence
- Determining what controls a description
- Original surveys and first surveys

Writing Land Descriptions

- Precision and accuracy (Applied)
- Metes and bounds
- Public land system
- Strip descriptions and easements
- Handling curves

Presented by Barry Savage, PLS

*Survey Products Group Manager with Tennessee Valley Authority in Chattanooga, TN*  
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