



Presents:

GPS, Geodesy, and the Ghost in the Machine

*A Workshop for Surveyors &
GIS Professionals*

Speaker: Michael Dennis, RLS, PE

Two Locations:

June 24, 2015
Ontario, CA

June 26, 2015
Sacramento, CA

LIMITED SEATING - REGISTER EARLY!
First-come, First-served

LOCATIONS:

June 24, 2015
Ayres Hotel & Suites
1945 East Holt Blvd
Ontario, CA 91761

June 26, 2015
Hilton Arden West
2200 Harvard Street
Sacramento CA 95815

CANCELLATION POLICY

Refunds for cancellation will be made if requested in writing 7 days prior to event and are subject to a \$35 cancellation fee. Substitutions welcome - Contact the CLSA Central Office for more information.

Schedule

8:00 AM	Registration
8:30 AM	Seminar
10:00 AM	Break
10:30 AM	Seminar
12:00 PM	Lunch
1:00 PM	Seminar
2:30 PM	Break
3:00 PM	Seminar
5:00 PM	Close

Course Description

Positions determined using GPS and GNSS equipment are determined using complex algorithms that are often hidden within proprietary software — the “ghost in the machine”. Users unfamiliar with the computational process can unwittingly generate positional errors ranging from a fraction of a foot to miles. This workshop seeks to shed light on the GPS “black box” by 1) Explaining the main geodetic principles and terminology behind GPS; 2) Reducing blind reliance on GPS and GIS software; and 3) Providing practical information and tools for solving positioning problems. Topics include geometric and vertical datums, map projections, “ground” coordinate systems, the geoid and gravity, accuracy assessment, GIS and survey data compatibility, and documentation (metadata). National Geodetic Survey (NGS) products and services are used along with numerous examples of positioning errors to illustrate the peril of neglecting geodetic principles, with particular emphasis on the situation in California. A workbook is provided that includes step-by-step GPS and geodetic computations.

About the Speaker

Michael L. Dennis, RLS, PE is owner of Geodetic Analysis, LLC. His firm provides geodetic consulting services, including coordinate system design; GNSS control survey planning and processing (including NGS “Bluebook” Height Modernization projects), spatial data management, survey and GIS data integration, development of field and office procedures for surveying and mapping, providing educational seminars throughout the US, and creation of custom geodetic and GIS computer algorithms. Mr. Dennis is on the board of the American Association for Geodetic Surveying (AAGS) and is Chair of the AAGS Geodetic Education and Certification Committee. He is also a member of the American Society of Civil Engineers Geomatics Division, the American Society for Photogrammetry and Remote Sensing, and the National Society of Professional Surveyors. In addition, Mr. Dennis is a geodesist at NGS currently on a long-term leave of absence while pursuing a PhD in Geomatics Engineering and GIS at Oregon State University.

Group Discount

A 10% discount to companies or agencies registering 5 or more registrants from the same office. **All registration forms and a single form of payment must be received at the same time.**

Registration Form

Full Name _____
First Middle Last

First Name/ Nick name _____
(as you wish it to appear in bold on your name badge)

Firm/Employer _____

Address is: Business Residence CLSA Member # _____

Address _____

City, State & Zip _____

Telephone Day (_____) _____

Fax (_____) _____

Email Address: _____

Select Location:

- June 24th - Ontario, California
- June 26th - Sacramento, California
- CLSA State Association Member.....\$145
- Non-Member\$245

NOT A MEMBER? JOIN AND SAVE!

- Licensed (PLS) - Membership & Seminar.....\$225
- Not Licensed - Membership & Seminar\$185

PAYMENT INFORMATION

- Check Enclosed (Made payable to CLSA Seminar)
- Or please bill my: MasterCard Visa

Amount \$ _____ Exp. Date _____ Billing Zip: _____ CID # _____

Card Number _____

Signature _____

Prefer to Register Online? Visit: CaliforniaSurveyors.org

MARK YOUR CALENDAR

CLSA Workshop: Railroads 101

Speaker: Charlie Tucker, PLS

August 7 - Santa Rosa, CA

August 14 - Ontario, CA

Space is Limited

Register Today!

Mail to:

CLSA
526 So. E Street
Santa Rosa, CA
95404

Fax to:

(707) 578-4406

Questions?

(707) 578-6016



Testimonial

"Board Rule 415 requires a licensed professional engineer or land surveyor to practice and perform engineering or land surveying work only in the field or fields in which he/she is by education and/or experience fully competent and proficient. As our GNSS equipment and software become "easier" to use, more and more of the calculations and decisions are going on behind the scenes, so to speak. If you are using GPS equipment, and don't fully understand the terminology of the technology, geodetic principles, details of the calculations, or blindly rely on what the software tells you, you need to take this seminar. I traveled to Salem, Oregon to attend this presentation in 2013. Thankfully, CLSA is now bringing it to those of us here in California."

~ Robert McMillan, PLS, CLSA Member

PROFESSIONAL DEVELOPMENT HOURS

CLSA is dedicated to providing members with high quality, affordable education.

This workshop provides an opportunity to gain 6.5 hours of professional development. Each registrant will receive a Certificate of Completion at the conclusion of the workshop.

CLSA members - Track your professional development hours online and join the CLSA voluntary Professional Development Program.

Contact the CLSA Central Office for more information.

(707) 578-6016