

# 60<sup>th</sup> ANNUAL MEETING

OF THE  
MISSOURI SOCIETY OF PROFESSIONAL SURVEYORS

RAMADA PLAZA HOTEL  
& OASIS CONVENTION CENTER  
OCTOBER 19-21, 2017

## Exhibitor Information

### SPEAKERS

Dick Elgin, PLS, PE, PhD  
Mike Freeman, PLS  
Ronnie Heimbaugh, PLS  
Jim Martin  
Jim Mathis, PLS, PE  
Joseph V.R. Paiva, PhD  
Carol Payne  
Bob Shotts, PLS  
Pat Stack  
Harry Styron, JD  
Jason Taylor  
Jan VanSickle  
Danny White, LtCol, USMC (Ret.)



# THURSDAY, OCTOBER 19, 2017

7:00 am Registration and Continental Breakfast

8:00-5:00 pm Hospitality Room

8:00-10:00 am **CONCURRENT SESSIONS**

## **How to Ensure Quality Surveying and Mapping with Drones**

Unmanned Airborne Systems (UAS) or drones have become the vogue because they are often viewed as toys and thus simple and easy to operate. For surveyors this leads to incorrect assumptions about "automatic" high quality results from flights that are done to accomplish a surveying and mapping goal. This webinar points out some of the areas of UAS selection, operation and photo processing that requires technical knowledge and professional judgment to design a process to meet a specific surveying and mapping goal. The content of this course is derived from the dissertation research and results of James Peterson, PhD, who recently completed his degree at Missouri University of Science and Technology.

*Joseph V.R. Paiva, PhD, GeoLearn, LLC*

## **Original Field Notes & Plats**

Why a review of past surveyors' field notes is invaluable in the resolution of today's boundary problems. In the high-tech world of modern land surveying, we sometimes get caught up in measuring gadgets, coordinate systems, statistics and proportional measure, but fail to go back to the basics of how the controlling corners were established, and where common sense tells us they should be. There is often a world of information in those old notes, but where do we get them and how do we decipher all those strange squiggles? Or, how was I supposed to know that flat rock over there was the corner?

*Jim Mathis, III, PLS, Mathis & Associates*

10:00-12 noon **CONCURRENT SESSIONS**

## **How to Ensure Quality Surveying *continued***

## **The Basics: Safety Essentials for Surveying Companies**

This high-energy session is perfect for anyone wishing to improve crew and company safety! Participants will learn basic and proven solutions for reducing injury risk. We'll split safety management programs into two major halves, and learn a new way to view accidents. Participants will learn how to implement simple steps that can make a positive impact on employee safety.

*Mark A. Woodward, Sr. Safety and Risk Trainer, Missouri Employers Mutual*

12-1:00 pm Luncheon

12:30 pm Golf Tournament at Greene Hills Country Club

1:00 pm Clay Shoot Tournament at Ozark Shooters Sports Complex  
(Contact MSPS for more information)

1-3:00 pm **CONCURRENT SESSIONS**

## **Surveying Standards**

The Missouri Standards for Property Boundary Surveys are the rules, promulgated jointly by the Missouri Department of Agriculture Office of the State Land Surveyor and the Missouri Board for Architects, Professional Engineers, Professional Land Surveyors, and Landscape Architects, that regulate the practice of land surveying. The new version of the standards is scheduled to become effective July 2017. This presentation will review the new standards and summarize changes made to the previous version.

*Ronnie Heimbaugh, PLS, Missouri Dept. of Agriculture*

## **Easements from the Title Company Perspective...More Than You Really Want to Know**

Black's Law Dictionary defines an easements as: "The right of use over the property of another". In this segment we will look at the various types of easements; how they come to exist and what impact the easement has on the property being surveyed.

*Mike Freeman*

3-5:00 pm

## CONCURRENT SESSIONS

### GLO Fractional and Anomalous Sections

This session will deal with how fractional and anomalous sections are protracted and their relation to the GLO plats and notes.

*Bob Shotts, PLS, Robert S. Shotts, Inc.*

### How to Use the Land Survey

### Repository's Databases for Research

How to make the Land Survey Databases work for you.

*Carol Payne, Land Survey Program*

5:00 pm

Exhibitor Set-Up

# FRIDAY, OCTOBER 20, 2017

7:00 am

Registration and Continental Breakfast

8:00-5:00 pm

Hospitality Room

8:00-10:30 am

Business Meeting

11:00-12 noon

### Leadership Keynote

Have you become who you were born to be? This leadership keynote will encourage and equip you to do so. The first 100 registrants will receive a copy of Danny White's book "A Widower's Walk: From Desert to Destiny."

*Danny White, LtCol, USMC (Ret.), Founder/Owner, Lead with Liberty*

12-1:30 pm

Awards Luncheon

1:30-5:30 pm

### Missouri Riparian Boundaries

Riparian boundaries bring consternation to the surveyor, confoundment to attorneys and confusion to the courts. The proposition of shifting boundaries and shifting law are not embraced by we surveyors who seek definiteness in the lands we survey (as do our clients). This seminar bring firmness (not definiteness) to Missouri riparian boundaries.

*Dr. Dick Elgin, PLS*

### Missouri Water Law

*Attorney Harry Styron, Ozark, MO*

5:30 pm

Reception with Exhibitors

6:30 pm

BBQ Dinner Buffet

7:30 pm

Texas Hold 'em Tournament

(Buy in of \$20, chips will be provided, 3-Place Cash Payout)

## TELEVISION DRAWING

All pre-registered attendees will be entered into a TV drawing.  
One TV will be given away each day of the Annual Meeting.

# SATURDAY, OCTOBER 21, 2017

7:00 am Registration and Continental Breakfast with Exhibitors

8:00-10:00 am **CONCURRENT SESSIONS**

**GPS Modernization & GNSS**

The configuration of the GPS Space Segment is well-known. A minimum of 24 GPS satellites ensure 24-hour worldwide coverage. But today there are more than that minimum on orbit. There are a few spares on hand in space. The redundancy is prudent. GPS, put in place with amazing speed considering the technological hurdles, is now critical to all sorts of positioning, navigation and timing around the world.

*Jan VanSickle, PhD*

**Grid to Ground: What it is and How to Use it**

State Plane Grid coordinates are a great tool for geo-referencing points in plane system. The problem with the State Plane Grid system is that it introduces varying distortion into map resulting in distance errors. This problem can be solved by using a local Grid-to-Ground factor. This class will cover the background of the State Plane Grid System, the inherent errors in the system, and the differences between Grid and Ground. We will also go over how to use and enter Grid to Ground parameters in Topcon Magnet, Carlson SurvCE, Trimble Access, and Spectra Precision Survey Pro.

*Jim Martin, Topcon Solutions*

10:00-10:15 am Break

10:15-12:15 pm **CONCURRENT SESSIONS**

**GPS Modernization & GNSS *continued***

**Reality Capture Workflow-Collection, Processing, Analysis and Design**

This presentation will give an introduction and live demonstration of the SX10, a live demonstration and importing, working with and exporting the data in Trimble Business Center. We will then give a demonstration of the tools available in Autodesk Recap and Infracore to help answer the question "What do I do with all of this data?"

*Pat Stack, Seiler Instrument & Mfg. Co., Inc.; Jason Taylor, Seiler Instrument & Mfg. Co., Inc.; Mark Schnesk, Seiler Design Solutions*

12:15-1:00 pm Luncheon

1:00-3:00 pm **CONCURRENT SESSIONS**

**Best Practices for GPS Today**

Most, not all, GPS surveying relies on the idea of differential positioning. The mode of a base or reference receiver at a known location logging data at the same time as a receiver at an unknown location together provide the fundamental information for the determination of accurate coordinates. Now, the most commonly used methods utilize receivers on reference stations that provide correction signals to the end user via a data link sometimes over the Internet, radio signal, or cell phone and often in real-time. Real-time kinematic (RTK) has become routine in development and engineering surveys where the distance between the base and roving receivers can most often be measured in thousands of feet.

*Jan VanSickle, PhD*

**Modern Geospatial Data Generation**

The generation of topographic mapping data has historically been accomplished through the use film based aerial cameras and large stereoscopic plotting devices. This presentation will focus on the sensors being used today by photogrammetry firms to produce geospatial data. Project examples will address the best systems to utilize for a given product and how to best combine data from multiple source systems. Sensors addressed in the presentation will include digital aerial sensors, aerial LiDAR sensors, UAS, mobile mapping LiDAR and terrestrial LiDAR systems.

*Steven M. Kasten, CP, PLS, PSM, Surdex Corporation*

3:00-3:15 pm Break

3:15-5:15 pm **CONCURRENT SESSIONS**

**Best Practices *continued***

**Lessons Learned from a Small Company's Evolution into the Virtual World of 3D with Laser Scanning and Mobile LiDAR**

*Mike Zahner, PLS, Zahner & Associates*

# GENERAL INFORMATION

## LOCATION & LODGING

Ramada Plaza Hotel & Oasis Convention Center, Springfield, MO, is the site for the 2017 Annual Meeting of the MSPS. A special room rate of \$99.00 for single or double rooms has been extended until **September 19, 2017**. Reservations can be made by calling 888-532-4338. Parking is complimentary for all guests and attendees. Ask for the conference special rate and identify yourself with MSPS when making reservations.

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## CONTINUING EDUCATION

This course has been approved for 21.5 Professional Development Units (PDUs) by the Missouri Board of Architects, Professional Engineers, Professional Land Surveyors and Professional Landscape Architects.

**PDU breakdown on days  
is as follows:**

**Thursday - 8.0 PDUs**

**Friday - 5.5 PDUs**

**Saturday - 8.0 PDUs**

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## GOLF TOURNAMENT

The Golf Tournament benefitting the MSPS Scholarship Fund will be held at Greene Hills Country Club. You may pick a partner or a foursome. If you do not have a partner, one will be provided to you. The format is a four-person scramble with a shotgun start.

The cost is \$85 per person and includes 18 holes, a cart and two mulligans.

**Greene Hills Country Club  
8702 W. US Highway 160  
Willard, MO 65781**

## CLAY SHOOT

The 5 Stand Sport Clay Shoot benefitting the MSPS Scholarship Fund will be held at Ozark Shooters Sports Complex. A Henry 22 Rifle will be raffled off in collaboration with the clay shoot fundraiser. The clay shoot will consist of 50 targets. 50% of the registration fees will go to pay for 1st, 2nd and 3rd place prizes. Shoot will start at 1 pm and a box lunch will be provided to all participants.

**Ozark Shooters Sport Complex  
759 US Hwy 65  
Walnut Shade, MO 65771**

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## DRESS

Men's business casual: jacket optional, casual pants (khakis) with a collared shirt or golf shirt. Women's business casual: slacks, skirts, dress or Capri's with coordinating top or jacket

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## CANCELLATION POLICY

MSPS reserves the right to cancel the program and return all fees in the event of insufficient registration. A participant may cancel a registration at any time, but a \$25 processing fee will be applied to all refunds.

**NO REFUNDS WILL BE ALLOWED  
AFTER October 1, 2017.**

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## FOR MORE INFORMATION

Contact Sandra Boeckman,  
MSPS Executive Director,  
at 573-635-9446.

Please send all registration information to:  
MSPS  
722 E. Capitol Avenue  
PO Box 1342  
Jefferson City, MO 65102  
Fax: 573-635-7823

# EXHIBITOR REGULATIONS

## EXHIBITOR SET UP

Exhibit space will be table top displays. Provided with each table will be one 7" by 44" black on white identification sign; one 6' draped table skirted on three sides, two chairs and wastebasket.

## EXHIBIT ASSIGNMENT

Please indicate your exhibit space preference on the Exhibitor Reply Form, giving first through third choices. Exhibit space will be assigned according to the date of receipt of your contract and the availability of unreserved space. (See layout)

## EXHIBIT HOURS

Exhibitors will set up on Thursday, October 19, 2017 from 5:00 to 7:00 pm. All workshop sessions will take place in adjoining rooms and participants will be encouraged to visit the Exhibit Hall during all available times. Exhibit Hall will close for move-out at noon on Saturday October 21, 2017.

## TERMS OF PAYMENT

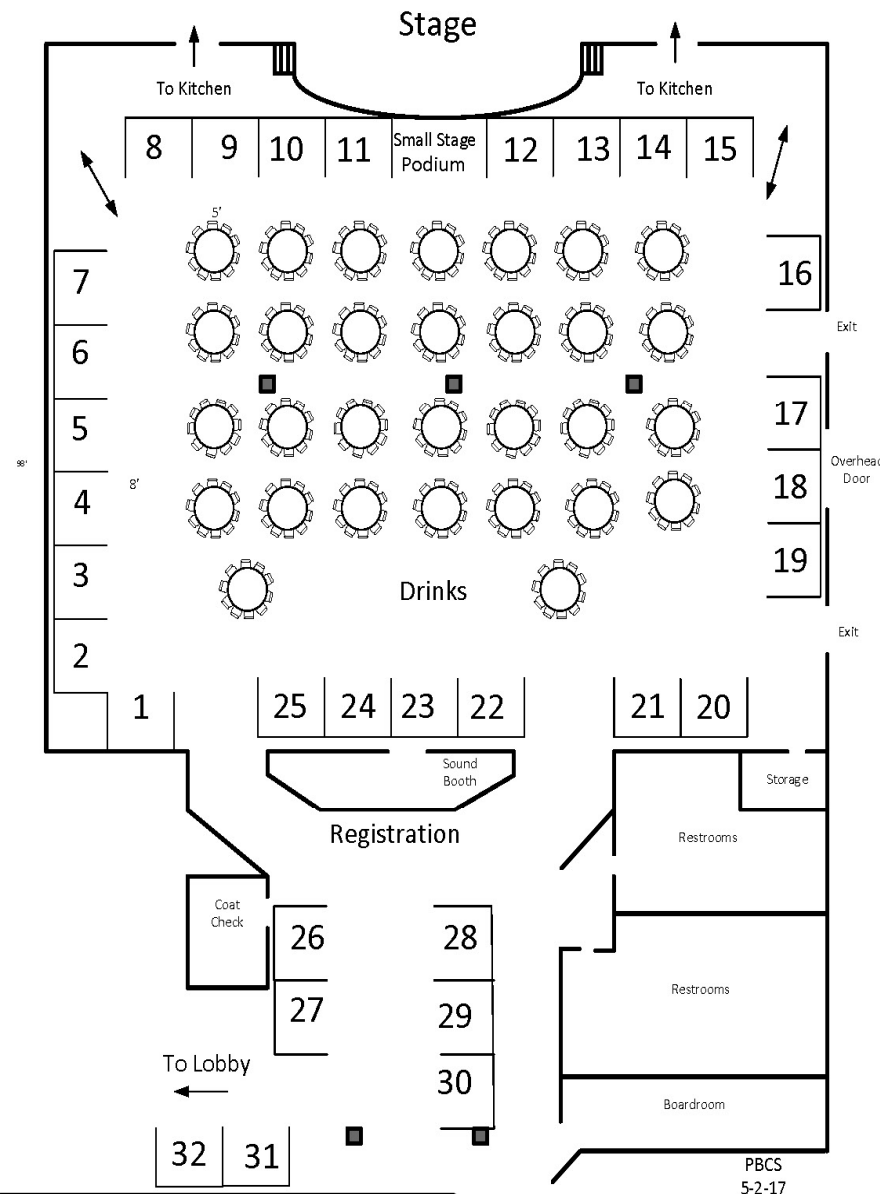
The request of exhibit space must be accompanied by the non-returnable fee of \$500.00 per exhibit space.

## EXHIBIT REPRESENTATIVES

Exhibitors are requested to submit the names of staff members who will be working in booths with a **limit of two per booth.**

## LUNCH

Lunch and a hot breakfast buffet is included each day (Friday and Saturday) for two people per booth with the registration fee. **Additional lunch tickets may be purchased in advance.**



# REGISTRATION FORM

Company Name \_\_\_\_\_

Contact \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

Email \_\_\_\_\_

Product/Service to be Exhibited \_\_\_\_\_

Special Needs \_\_\_\_\_

*This application/contract is made in accordance with the Exhibitor Regulations and Information.*

## ADDITIONAL NAMETAGS

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## SELECT BOOTH CHOICE

*(first through third - see diagram)*

1st \_\_\_\_\_  
2nd \_\_\_\_\_  
3rd \_\_\_\_\_

## LIABILITY

It is expressly understood and agreed that the Exhibitors assume the entire responsibility and liability for losses, damages, and claims arising out of the loss, injury or damage to Exhibitors' display, equipment, and other property brought onto the premises of the Hotel. We will provide additional security in the Exhibit Hall on Thursday and Friday evenings from 7:00 pm to 7:00 am.

## EXHIBITOR COSTS

**Booth Rental:** \_\_\_\_\_ booth(s) at \$500.00 each \$ \_\_\_\_\_

**Additional Lunch Tickets:** \_\_\_\_\_ at \$25.00 each \$ \_\_\_\_\_

**Golf** at Greene Hills Country Club at \$85.00 each \$ \_\_\_\_\_

**Total Amount Enclosed** \$ \_\_\_\_\_

Charge my Credit Card     Check Enclosed     Invoice my Company

Credit Card # \_\_\_\_\_ Exp. Date \_\_\_\_\_ CVV Code \_\_\_\_\_

*The total fee above is required with this application to reserve your space.*

*Make checks payable to the Missouri Society of Professional Surveyors (MSPS) and return with this form to  
MSPS, PO Box 1342, Jefferson City, MO 65102.*

*For questions call Sandy Boeckman at 573-635-9446 or email [mmps@missourisurveyor.org](mailto:mmps@missourisurveyor.org)*

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