

## PROGRAM DESCRIPTIONS & SPEAKER BIOGRAPHIES

Updated: March 2019 – Check back later for additional descriptions

### SATURDAY, MARCH 23rd ALL DAY

#### **CIVIL 3D FOR SURVEYORS**

**SPEAKER: RICK ELLIS**

##### **Digging into Civil 3D Surfaces**

Surfaces are the core of almost every Civil 3D project and having a quality surface can be the difference between accurate results and surprises during construction. This class will explore building surfaces from many different types of data, both common and obscure. You will also learn how to manage large datasets like LIDAR data and incorporate it into your surface models. Finally, we will cover surface editing techniques, including advanced editing concepts like Pasting, Smoothing and Simplifying.

##### **A Practical Guide to GIS in AutoCAD Civil 3D**

If you are a Civil 3D user being asked to provide data to your GIS department, if you are being asked to use GIS data as background data for your designs, or if you think GIS is a four letter word; this class will answer this all too common question, "Why should I care about GIS?" You will learn to import GIS data not only as AutoCAD objects, but also directly as Civil 3D objects like Surfaces and Pipe Networks that leverage the existing database information. The request to provide design data to GIS departments is becoming more common every day. This class will explore the details of why just sending them a drawing is often not an adequate way to satisfy that request. We will explore ways to export Civil 3D objects to GIS formats that can be used easily and consistently by your GIS department. This popular class has won the award for Best Hands-on Lab at Autodesk University, don't miss your chance to learn how the GIS tools in Civil 3D can make you more productive by automating common everyday tasks.

##### **Field to Finish in Civil 3D**

This class will explore the setup and implementation of Field to Finish in Civil 3D. You will learn about working with Description Keys, Figures, Styles, Point Groups, the Survey database and much more. This class will discuss some practical examples and help you implement this powerful, time saving feature in your office.

##### **Civil 3D Styles Tips and Tricks**

Styles are one of the most powerful features in Civil 3D, but at the same time they can be one of the most confusing and frustrating parts of the program for many users. This is compounded by the flexible nature of Civil 3D Styles that allows several different and valid approaches to setting up and working with them. Styles can also be a stumbling block for users, or entire organizations, that keep them from fully implementing Civil 3D. This class will cover the fundamentals of styles and discuss the different approaches that you can take to create and manage them. We will also look at specific, real-world examples that range from common display needs to advanced labeling and expressions. This class is a great place to get new ideas and ask questions about styles that you have always wanted to ask.

##### **Speaker Biography:**

Author and President, CADapult Software Solutions Rick has worked with and taught Civil/Survey CAD software since the mid-90s. He is the author of a series books on AutoCAD, AutoCAD Map 3D, Civil 3D, and most recently, Carlson Survey, known as "Practical Guides". He continues to work on projects in a production environment, in addition to teaching classes to organizations both large and small around the country, helping them get the most out of their design software investment. This practical background and approach has made him an award winning speaker at Autodesk University, a member of the national speaker team for the AUGI CAD Camps and a sought after instructor by organizations around the world.

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#### **BOUNDARY RETRACEMENT CASES (HALF DAY)**

**Speaker: Jeff Lucas, PLS**

The vast majority of surveying work being performed by land surveyors in the modern era is retracement surveying. Original surveying work is still be performed, but nothing like when the United States was young and large grants in the east were being subdivided into smaller and smaller tracts, or when the vast public domain consisting of 1.5 billion acres of land was subdivided into one-mile squares. This course will study the latest case law on boundary retracement and the ramifications to the retracing surveyor. Real-world examples will be studied and alternative solutions will be discussed in a class-room environment. Power Point presentation.

**OBJECTIVES:** To enhance professional competency and improve practitioner's knowledge of the law as it relates to the practice of land surveying.

#### **DEED, CONVEYANCES & BOUNDARIES (HALF DAY)**

**Speaker: Jeff Lucas, PLS**

The resolution of any property boundary issue is a two-part question. The legal question is: "What is the property?" This is the title question, generally answered by the title documents, namely the deed. The separate but equally important factual question is: "Where is the property located?" The location question is not a legal question, it is fact-based and involves the gathering and evaluation of collateral and extrinsic evidence. The first question involves the role of the title examiner, the second involves the role of the boundary surveyor. This program examines the law as it applies to deeds and legal descriptions, and the role they play in the conveyance of real property title. In addition to the conveyance of real property title, this program will also focus on the factual question as to the location of the property that was conveyed. Fundamental title and location doctrines will be discussed along with case examples. This program will be accompanied by a Power Point presentation.

#### **Speaker Biography:**

Jeffery N. Lucas is in private practice in Birmingham, Alabama. Lucas has been in the surveying business since 1976. He is a licensed land surveyor registered in Alabama, Florida, Georgia, Mississippi and Tennessee. Lucas is a licensed attorney and member of the Alabama State Bar since 2003. Lucas specializes in land boundary issues as an attorney, land surveyor, consultant, mediator and expert witness. He has been a seminar leader on surveying topics that include ALTA/ACSM standards, boundary law, law of easements, water boundaries, surveying evidence and procedures, expert witness testimony, business law, contract law, torts and liability. He has over 30 titles that he has developed in his seminar library. Lucas is the author of "Alabama Boundary Law" (ISBN: 978-0-557-53328-2) and "The Pincushion Effect, The Multiple Monument Dilemma in American Land Surveying," (ISBN: 978-1-257-86758-5). He just recently finished the manuscript for the "Illinois Boundary Law" book that will be featured in February, 2013, at the Illinois Professional Land Surveyors Association (IPLSA) conference in Springfield, Illinois. He has also authored over 100 articles on surveying and boundary issues and writes a regular column for P.O.B. Magazine since 2004.

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### MONDAY, MARCH 25TH ALL DAY

#### **PRIVATE-FEDERAL BOUNDARY DETERMINATION (CFedS)**

**SPEAKERS: STEVE PARRISH, PLS & BYRON JOHNSON, PLS**

State licensed land surveyors know that we do not have the authority to declare who owns the land on either side of a survey line that we mark on the ground. However, our surveys and descriptions have a substantial impact on the decisions made by land owners, title experts, and the courts. Insufficient records research often results in boundary and title issues that surface at a later date and may end up in court when adjoining land owners cannot agree on their common property line.

This full-day CFedS Continuing Education course highlights survey procedures and applications when surveying “**private-private**” boundaries versus “**federal-private**” boundaries. The workshop will include a variety of actual survey experiences and discuss acquired federal land status. Two (2) CFedS CE credits will be awarded to Certified CFedS attendees after successful completion of an online post-workshop quiz. This workshop is considered to be an 8 PDH course.

#### **Speaker Biographies:**

Byron is an Army veteran from 1975-1979, a graduate in Civil engineering and Surveying from Texas State Technical College with over 40 years of experience in land surveying to include Metes & Bounds and PLSS states, boundary control and research of lands both private and public, GPS control surveys and aerial mapping. He is licensed in Arizona, Idaho, Nevada, Washington, a former Certified Federal Surveyor (CFed) and a certified BLM training instructor. Byron worked privately and maintained his own surveying business from 1995 to 2010 specializing in GPS surveys, land description issues and retracement of historical and/or contract surveys. He has also worked at local city government and was formerly employed with the Forest Service (2007) and the Bureau of Land Management (2007-2010 on contract, 2010-2015 FTE) in Reno, Nevada. Byron began instructing at the college level, as an adjunct instructor, for surveying courses in 1993, founded (1998) the 2 year surveying program at the Southern Nevada Community College, Las Vegas, NV (program terminated in 2007), instructed at the University of Nevada Las Vegas (1998-2002) and University of Nevada Reno (2005-2008) and currently instructs the "Land Description", "GIS for Surveyors" and the "Public Land Survey System" courses for Great Basin College, Elko, NV (since 2008) via the internet nationwide from his home office. Byron has a broad interest in outdoor activities including motorcycles, hiking, backpacking, snow shoeing, mountaineering and anything that allows him to enjoy the outdoors with similar activities.

Steve began surveying with the U.S. Forest Service in 1963, passed the Utah PLS exam in 1973 and worked as a land surveyor with the USFS through 1984. He transferred to the U.S. Bureau of Land Management in 1985 and eventually served as the BLM Nevada Cadastral Chief (1989-1995). He retired from the federal government in 1995 to further his surveying experience in the private sector. Steve is licensed in 10 states, a Nevada water rights surveyor and the contract county surveyor for Alpine and Mono Counties in California. He is a contributor to "The Surveying Handbook" edited by Brinker and Minnick, has presented workshops in 27 States, Canada and Australia and was an instructor for the BLM/FS Advanced Cadastral Survey Courses during its initial 12 years. With 55+ years of land surveying knowledge and experience Steve offers land surveying workshops, consulting, and expert witness testimony. He worked for Tri State Surveying (NV) for 13 years, was an adjunct professor for Great Basin College (NV) 2004-2016, became a Certified Federal Surveyor (CFedS) in 2007 and completed a Bachelor of Applied Science degree in 2009. He presently serves as the CFedS Panel Chairperson/Training Coordinator and is employed with Lumos & Associates in Reno, Nevada. Steve is active in state and national surveying organizations and enjoys traveling with his family, photography and fishing.

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### **MONDAY, MARCH 25TH**

**8:30 AM – 10:00 AM, 10:30 AM – 12:00 PM**

#### **MODERNIZATION OF THE NATIONAL SPATIAL REFERENCE SYSTEM: KEEPING PACE WITH CHANGES IN POSITIONING TECHNOLOGY AND USER EXPECTATIONS IN A DYNAMIC WORLD**

**SPEAKER: DAVE DOYLE**

During the next several years enhancements and additions to the network of Global Navigation Satellite Systems (GNSS) including: the U.S. NAVSTAR Global Positioning System, Russian GLONASS, European Union GALILEO and China's BeiDou will significantly improve the use of space-based positioning systems for surveying, mapping, charting, navigation and innumerable other applications. In order to meet the anticipated demands for an improved geospatial framework that these developments will require, the National Geodetic Survey (NGS) is implementing a plan for the modernization of the National Spatial Reference System (NSRS). Among the various topics outlined in this plan is the adoption of an entirely new geodetic reference frame with updated geometric (horizontal) and gravimetric (vertical) realizations that will replace the North American Datum of 1983 (NAD 83), the North American Vertical Datum of 1988 (NAVD 88) and the several island vertical datums. The new framework will be designed such that the geometric component (latitude, longitude, ellipsoid height) will be virtually identical to and aligned with the International Terrestrial Reference Frame (ITRF), while orthometric heights will be based exclusively on a nation-wide high accuracy (1-2 cm) gravimetric geoid model. This presentation highlights the rationale for these changes; the various elements that currently define the NSRS and the activities NGS is engaged in to improve the capacity of and access to the NSRS.

#### **Speaker Biography:**

Dave Doyle has been involved in geodetic surveying since 1967. He joined the National Geodetic Survey in 1972 and functioned in numerous positions dealing with national adjustments, datum transformation and outreach to the surveying and geospatial community. He held the position of chief geodetic surveyor for 12 years prior to his retirement in 2013. He now owns Base 9 Geodetic Services which provides consultation to public and private agencies and companies as well as teaching seminars on the fundamentals of geodesy and the National Spatial Reference System. He is a Past President of the American Association for Geodetic Surveying, and is an active member of the DC, Maryland and Virginia professional surveyors' associations. He has published more than 30 technical articles on geodesy and was honored as the recipient of the AAGS 2018 Joseph Dracup Lifetime Achievement award in addition to numerous other service awards from state and national surveying associations.

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### **SUNDAY, MARCH 24TH 9:30 AM – 12:00 PM**

#### **ETHICS FOR LAND SURVEYORS**

**SPEAKER: JEFF LUCAS**

Utilizing the Surveyor's Creed and Canons adopted by the National Society of Professional Land Surveyors as a basis for discussion, this seminar will study ethical consideration in everyday practice. Real cases involving real surveyors will be discussed and explored for the ethical issues that they contain. Some hypothetical situations are also discussed. This seminar usually generates plenty of discussion over the case scenarios and the actions of the surveyors involved.

### **SUNDAY, MARCH 24TH 1:30 PM – 5:00 PM**

#### **WHAT WENT WRONG?**

**SPEAKER: JEFF LUCAS**

As I continue "Traversing the Law," studying and writing about court cases involving boundary disputes and land surveyors, I have found everything from the ridiculous to the sublime. In some cases, I have to shake my head in disbelief over what I was reading leaving me with just one question: What went wrong? This seminar will investigate the answer to this question by a detailed study of several court decisions involving surveyors and surveys that went terribly wrong. The painful lessons learned by others through the school of hard knocks can be painlessly explored and appreciated without the accompanying liability and damages that attach to boundary disputes and negligence actions.

#### **Speaker Biography:**

Jeffery N. Lucas is in private practice in Birmingham, Alabama. Lucas has been in the surveying business since 1976. He is a licensed land surveyor registered in Alabama, Florida, Georgia, Mississippi and Tennessee. Lucas is a licensed attorney and member of the Alabama State Bar since 2003. Lucas specializes in land boundary issues as an attorney, land surveyor, consultant, mediator and expert witness. He has been a seminar leader on surveying topics that include ALTA/ACSM standards, boundary law, law of easements, water boundaries, surveying evidence and procedures, expert witness testimony, business law, contract law, torts and liability. He has over 30 titles that he has developed in his seminar library. Lucas is the author of "Alabama Boundary Law" (ISBN: 978-0-557-53328-2) and "The Pincushion Effect, The Multiple Monument Dilemma in American Land Surveying," (ISBN: 978-1-257-86758-5). He just recently finished the manuscript for the "Illinois Boundary Law" book that will be featured in February, 2013, at the Illinois Professional Land Surveyors Association (IPLSA) conference in Springfield, Illinois. He has also authored over 100 articles on surveying and boundary issues and writes a regular column for P.O.B. Magazine since 2004.

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### **SUNDAY, MARCH 24TH 8:30 AM – 10:00 AM**

#### **COMPARISON OF ACCURACY OF LIDAR POINT CLOUD FROM UAV AND TERRESTRIAL SCANNING**

**SPEAKER: SCOTT PETERSON, PLS, PH.D, CFEDS**

Small Unmanned aerial vehicles are now a common tool to produce point clouds for topographic mapping and 3D reconstruction. Methods are presented to compare the accuracy of UAV derived point clouds using terrestrial based derived point clouds.

##### **Speaker Biography:**

Scott Peterson is an assistant professor in the Geomatics Engineering Program at Fresno State. He received his bachelors from Brigham Young University, and his Masters and PhD in Civil Engineering with a focus in Geomatics Engineering from Purdue University. Scott gained his Survey experience in Utah as an employee and owner of Oak Hills Surveying. He is a Certified Federal Surveyor and is licensed in California and Utah.

### **MONDAY, MARCH 25TH 8:30 AM – 10:00 AM**

#### **LEAST SQUARES ADJUSTMENTS**

**SPEAKER: JAMES JOHNSTON**

In our presentation I plan to present an overview of using MicroSurvey STAR\*NET to combine GNSS and conventional data. We will visit least squares and statistical concepts as we investigate troubleshooting first GNSS and then conventional data, and in the end combine everything into a properly weighted final result.

##### **Speaker Biography:**

James Johnston B. Ed, Dipl. Geomatics. 30 years of experience in the teaching and geomatics industry. For the past 12 years I've managed MicroSurvey's support and training department and have become MicroSurvey's resident "STAR\*NET Enthusiast."

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**MONDAY, MARCH 25TH**  
**1:30 PM – 3:00 PM, 3:30 PM – 5:00 PM**

### **FUNDAMENTALS OF GEODESY AND GEODETIC DATUMS**

**SPEAKER: DAVE DOYLE**

This program details the historical and contemporary developments of the horizontal and vertical geodetic datums of the United States including: the Bessel reference system, U.S. Standard Datum, North American Datum, North American Datum of 1927, North American Datum of 1983, First, Second, Third and Fourth General Vertical Adjustments, the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988. The program highlights the development of reference ellipsoids, geoid models and contemporary global coordinate systems such as the International Terrestrial Reference Frame (ITRF) and the World Geodetic System of 1984 (WGS 84), and describes the efforts of the National Geodetic Survey to modernize the reference systems of the United States.

#### **Speaker Biography:**

Dave Doyle has been involved in geodetic surveying since 1967. He joined the National Geodetic Survey in 1972 and functioned in numerous positions dealing with national adjustments, datum transformation and outreach to the surveying and geospatial community. He held the position of chief geodetic surveyor for 12 years prior to his retirement in 2013. He now owns Base 9 Geodetic Services which provides consultation to public and private agencies and companies as well as teaching seminars on the fundamentals of geodesy and the National Spatial Reference System. He is a Past President of the American Association for Geodetic Surveying, and is an active member of the DC, Maryland and Virginia professional surveyors' associations. He has published more than 30 technical articles on geodesy and was honored as the recipient of the AAGS 2018 Joseph Dracup Lifetime Achievement award in addition to numerous other service awards from state and national surveying associations.

**MONDAY, MARCH 25<sup>TH</sup>**  
**1:30 PM – 3:00 PM**

### **NATIONAL ASSOCIATION OF COUNTY SURVEYORS PRESENTS: REMONUMENTATION PROGRAM IN MICHIGAN**

**SPEAKER: MIKE BARGER**

The Michigan Department of Licensing and Regulatory Affairs Office of Land Surveying and Remonumentation has been charged with coordinating and implementing the monumentation and Remonumentation of property controlling corners within the state. This seminar is designed to discuss the genesis of Michigan Land Survey and Remonumentation Act and how it functions nearly 30 years after its inception.

#### **Speaker Biography**

Mr. Barger is the new Director of Land Survey & Remonumentation for the State of Michigan. He is a second-generation surveyor and began surveying in 1976. He holds a Bachelor degree in Business Administration from Ferris State College, and a Bachelor degree in Surveying Engineering from Ferris State University. Mr. Barger worked in the private sector in Saint Joseph, Port Huron, Ann Arbor, Lansing, Holland and Grand Rapids. Before moving into the position at LARA in May, 2016, he spent 12 years as a Survey Consultant Manager for the Michigan Department of Transportation.

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**MONDAY, MARCH 25<sup>TH</sup>**

**1:30 PM – 3:00 PM, 3:30 PM – 5:00 PM**

### **WHAT IT TAKES TO COLLECT SURVEY-GRADE DATA BY DRONE - SUCCEEDING WITH DRONE SURVEYING: LESSONS LEARNED FROM THOUSANDS OF PROJECTS**

**SPEAKER: LOGAN CAMPBELL**

Getting pretty pictures by drone is easy but getting consistent and high-accuracy survey data takes know-how. Aerotas has learned the hard way what it takes get survey-grade accuracy by drone from working with hundreds of surveyors to process thousands of drone surveys. This seminar reveals the best practices Aerotas has learned for collecting survey-grade data by drone. An ASPRS Certified UAS Mapping Scientist (certification number: UAS 002) will demonstrate a complete workflow from field data collection through photogrammetry to final deliverable production. The talk will include real-life case studies and techniques to increase the accuracy of UAS-derived data products. The workshop will cover the theory underlying planning and validating UAS data accuracy, maximization of expected accuracy and efficiency, and best practices in UAS-specific ground control. Attendees will walk away with concrete lessons on how to determine the right drone for their business, how to choose the right projects on which a drone should be used, including regulatory and business considerations, and how to set up and complete a drone survey project, including mission planning, aerial targets, and flight parameters. The talk will include real-life case studies to make the lessons concrete, including the most common mistakes surveyors make when using drones.

#### **Speaker Biography**

Logan Campbell is the CEO and Founder of Aerotas, and he is an ASPRS Certified UAS Mapping Scientist (certification UAS 002). Logan began his career as a statistician and went on to found Aerotas in 2014; Aerotas provides human-in-the-loop drone data processing for surveyors and freely shares guides, instructions, checklists, and best practices developed with hundreds of surveyors over thousands of drone survey projects. Logan holds an MBA from Harvard Business School and is a Certified Mapping Scientist by the American Society for Photogrammetry and Remote Sensing (ASPRS). As a recognized industry expert, he regularly speaks at survey and drone conferences, and regularly writes in various land surveying publications.

## **PROGRAM DESCRIPTIONS & SPEAKER BIOGRAPHIES**

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**TUESDAY, MARCH 26th  
10:30 AM – 12:00 PM**

### **LIABILITY EXPOSURES: FROM DRONES AND CYBER TO E & O AND EMPLOYMENT PRACTICES**

**SPEAKER: LAURA LEDBETTER**

Managing risk has never been more complex. In today's world, many companies are not only managing the risks associated with their work in the field, which is on the ground, but now we are soaring to new heights with UAVs and worried about Phishing and Ransomware. Gone are the days where we hear the word "fishing" and think of Salmon and a beautiful day with a pole in hand. In today's changing environment, we hear "Phishing" and think about Cyber Hackers, in which everyone is a target. Together we will spend 90 minutes discussing today's emerging risks and what to consider when looking at your insurance renewal. We will spend some time discussing recent claims we have seen in the industry and ways to enhance your risk management strategies.

#### **Speaker Biography:**

In 2012, Laura Ledbetter joined AssuredPartners of Washington, LLC, dba Hall & Company and was quickly embraced by the Land Surveying and Civil Engineering clientele. Since then, she has spent several of those years attending various Surveying Conferences, as both a Speaker and Vendor. With her PNW flare, she is happy to help firms of all sizes. As an individual who enjoys sharing knowledge, clients of all sizes pose interesting questions and discussions are always welcome. Amongst her team at Hall & Company, Laura is one of the leaders in Cyber Liability, Management Liability, and UAV Liability policies, leading Lunch & Learns and providing resources to the team as needed. Laura is generous with her time when you need to review an item and always welcomes the opportunity to assist.