

# OREGON GNSS USERS GROUP-2022 ANNUAL MEETING

Friday June 17, 2022 8:30 am – 3:15 pm

Danny Lang Center, Southern Oregon Wine Institute Building

Umpqua Community College, 1140 Umpqua College Road, Roseburg, Oregon

Registration, Coffee, muffins and pizza lunch provided no cost to members

Yearly professional membership: \$12.00/Student Membership: \$6.00

RSVP and membership: Chris Munson, Secretary [chris@munson-assoc.com](mailto:chris@munson-assoc.com)

Questions?: Ken Hoffine, Chair (541) 430-6902 [khoffine@lrtc.com](mailto:khoffine@lrtc.com)

## AGENDA

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|---------------|---|
| 8:30 – 9:00   | Coffee, tea, and pastries; networking   |
| 9:00 – 9:15   | Welcome and Business Meeting—Ken Hoffine, Chair   |
| 9:15 – 10:00  | Jarrett Price, Frontier Precision—Trimble R12i GNSS receiver ProPoint & TIP Inertial Technology   |
| 10:00 – 10:15 | Break   |
| 10:15 – 11:00 | Ernest Lundeen, Bureau of Land Management—Use of Global Navigation Satellite Systems (GNSS) in Cadastral Surveys  |
| 11:00 – 12:00 | Josh Kowalski, S&F Land Services—Implementation of GNSS Technologies in Drone Surveying, with live demonstration.   |
| 12:00 – 1:00  | Lunch   |
| 1:00 – 1:30   | Jon Aschenbach—“QGIS: Is Free Worth The Price?” The presentation will go over basics of using QGIS, an open source GIS/mapping program.   |
| 1:30 – 2:00   | Jim Lahm, Frontier Precision—Comparison of computed positional field data of control points at OSU campus between survey grade Trimble R12 system and centimeter grade GIS Trimble Catalyst system. |
| 2:00 – 2:15   | Break   |
| 2:15 – 3:00   | Chad Pyatt—UNAVCO/Plate Boundary Observatory (PBO)/EarthScope   |
| 3:00 – 3:15   | Eric Zimmerman, Oregon Department of Transportation—Oregon Real-Time GNSS Network (ORGN) update and questions   |

## **Trimble R12i GNSS Receiver ProPoint and TIP Inertial Technology**

### Summary

High multipath environments have been historically a tough subject with GNSS/GPS technology. Trimble's ProPoint GNSS technology has changed the game and made the impossible into a reality. TIP technology is the inertial component and combined with ProPoint has increased the possibilities of the survey-grade GNSS world. This session will cover these 2 technologies and breakdown some real-world data collection scenarios. In addition, the session will review utilizing both the ORGN and Trimble VRS Now with the Trimble R12i GNSS receiver (network rover).

Jarrett Price has been with Frontier Precision since 2004. He's focused on sales/support/training with survey, 3D laser scanning and LiDAR geospatial products. Prior to Frontier Precision, Jarrett worked for 2 surveying & engineering firms in Oregon as a field surveyor. BS in Geography from Oregon State University.

**Jarrett Price** | Applied Geospatial Engineer Frontier Precision, Inc.

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## **Preliminary results comparing coordinates derived from Trimble R12i and the Trimble Catalyst DA2.**

This presentation is a summary of multiple observations derived from the new Trimble Catalyst DA2 digital antenna and the Trimble R12i. Bob Green and I occupied 15 of the 25 survey control points established by the Geomatics professor at OSU, Chase Simpson. He uses that control network in his survey classes. As a result, these points have been observed hundreds of times. Least squares adjustments were performed on this network a total of 253 times! I will illustrate how the accuracy of the top Trimble GNSS survey system compares to the inexpensive Mapping and GIS system with a centimeter subscription. The results of this short, 30-minute presentation will blow your mind!

**Jim Lahm** | GIS Services Specialist Frontier Precision, Inc.

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## **ODOT-ORGN update and questions.**

Presenting updates on changes in the ORGN network and its products. Covering newly acquired GPS stations from partner organizations/ businesses, to new ones built by ODOT, and possible future sites. Emphasizing correctors available to our GPS customers, including the GNSS ones than enable tracking up to 3 constellations on the network. And summarizing the diverse customer base that utilize the network.

*Eric P. Zimmerman, PLS*

Geodetic Survey Associate, ODOT

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## **QGIS, Is Free Worth the Price" QGIS is an open-source mapping/GIS program.**

My presentation will go over the basics of using QGIS including:

1. Bringing in Imagery
2. Making shape files
3. Changing coordinate systems
4. Making a Plot Grid
5. Rotating a Plot Grid
6. Determining Acreage of polygons
7. Making a professional looking map
8. Making contours from a DEM model

Several DVD's will be available to participant with the latest version of QGIS. I will also have several white papers showing exactly how to do the things I talk about.

Jon Aschenbach | Summerlake Enterprises  
503-707-6236 Cell  
email: [jon.aschenbach@gmail.com](mailto:jon.aschenbach@gmail.com)

## **Implementation of GNSS Technologies in Drone Surveying**

This presentation will explore the use of GNSS in various drone surveying techniques. It will demonstrate how Real-time (RTK) and Post-Processed (PPK) GNSS corrections can improve the efficiency and accuracy of data collection. Possible field demonstration depending on weather.

Josh Kowalski managed sUAS Operations at a regional engineering firm for years, Josh now works with S&F Land Services focusing on all types of remote sensing projects (sUAS Photogrammetry, sUAS LiDAR, Terrestrial Scanning). Josh holds an AAS in Geomatics, BS in Forestry (GIS/Remote Sensing concentration) and MSCert in Remote Sensing. He is an Oregon Land Surveying Intern (LSI) and is currently waiting for OSBEELS approval for Professional Land Surveyor (PLS) licensure.

**Josh Kowalski, LSIT**  
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## **UNAVCO/PBO/EARTHSCOPE**

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## **BLM survey Use of Global Navigation Satellite Systems (GNSS) In Cadastral Surveys**

Today, surveyors use Precise Point Positioning Tools (PPP) like the National Geodetic Survey (NGS) On-line Positioning User System (OPUS) as the basis of control and use Real Time Kinematic (RTK) tools for corner observations. In addition, satellite receivers are no longer limited to the United States GPS satellite network, as they can now connect to multiple satellite constellations such as GNSS (U.S) and GLONASS (Russia) or GALILEO (European Union) for positioning. In 1997, when the original work for these documents began, PPP type tools did not exist and RTK surveys were in its infancy. Discussion of Guideline procedural methods to reflect changes in how BLM conduct surveys and support appropriate use of new advances in technology.

### **Ernest Q. Lundeen**

Cadastral Surveyor

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UMPQUA COMMUNITY COLLEGE  
CAMPUS MAP

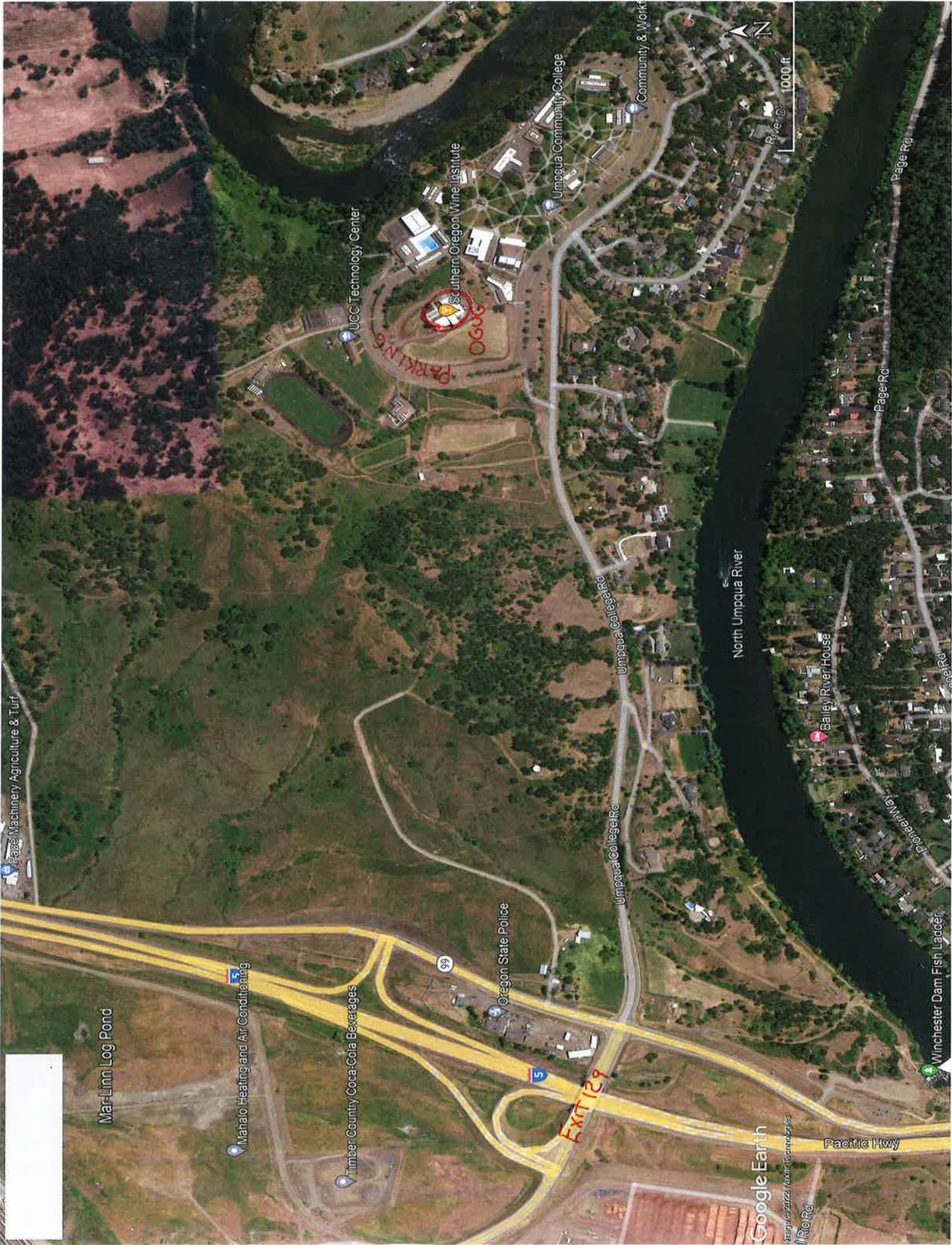
## LEGEND

- ADM Del Blanchard Administration Building
- CC LaVerne Murphy Student Center
- ESB Educational Support Building
- FFC Ford Childhood Enrichment Center
- HNSC Bonnie J Ford Health, Nursing & Science Center
- JH Jackson Hall
- JAC Jacoby Auditorium
- LANG Lang Teaching, Learning & Event Center
- LH Lockwood Hall
- LIB Sue Shaffer Learning Commons & Library
- AC Athletic Complex & Tom Keel Fitness Center
- PMO Paul Morgan Observatory
- CWT Community Workforce Training
- SWAN Swanson Amphitheatre
- TAP Tap'by'ta' Hall
- TC Technology Center
- TOWER Tower Building
- WCH Wayne Crooch Hall
- WFA Whipple Fine Arts Center
- WHSE Warehouse

- Information
  - Bus Stop
  - Smoking Area
  - Emergency Phone
  - Disabled Parking
- Open Parking except where designated.  
Visitor Parking in front of the Del Blanchard Administration Building (40W).







Mar-Linn Log Pond

Mahaio Heating and Air Conditioning

Timber County Coca-Cola Beverages

Oregon State Police

UCC Technology Center

Southern Oregon Wine Institute

Umpqua Community College

Community & Work

North Umpqua River

Bailey River House

Winchester Dam Fish Ladder

Exit 129

Google Earth

Pacific Hwy

1000 ft



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