UPPER MIDWEST 2018 GEOCON

May 23-24, 2018

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University of Wisconsin-La Crosse
Student Union
La Crosse, Wisconsin

www.umgeocon.org

Exhibitors

Ayres Associates has been providing mapping and survey services throughout the Upper Midwest for nearly 60 years. Throughout our history we have remained on the forefront of the geospatial industry by offering a smart blend of traditional and contemporary technologies to support a wide range of public and private services. **www.ayresassociates.com**

Certainty 3D is an Orlando, FL company focused on process solutions for lidar scanning technology. Our flagship product, TopoDOT™, is a high performance MicroStation™ application for importing and extracting topography and models from point clouds, calibrated images and related data. **new.certainty3d.com**

EagleView Technologies is the unparalleled provider of Pictometry® aerial imagery, data analytics, property data, and GIS solutions for local and federal government agencies, including assessment, public safety, and GIS, as well as the construction, insurance, solar, and energy infrastructure industries. **www.eagleview.com**

Eos Positioning Systems, Inc., designs and manufactures the world's premier, high-accuracy GPS / GNSS receivers for the Bring Your Own Device (BYOD) market. The Eos team offers extensive support for connecting your Bluetooth submeter, subfoot and RTK GPS / GNSS receivers to any iOS, Android, Windows, and Windows Mobile device. **www.eos-gnss.com**

Fugro N.V. is a Dutch multinational public company headquartered in Leidschendam, the Netherlands, and is the world's leading, independent provider of geo-intelligence and asset integrity solutions for large constructions, infrastructure and natural resources. **www.fugro.com**

The **GIS Professional Programs at the University of Wisconsin-Madison** are your one-stop shop for learning all things GIS and visualization. We offer an ecosystem of learning opportunities for everyone from recent undergrads to seasoned GIS gurus. **www.geography.wisc.edu/gis**

Martinez Geospatial takes tremendous pride in developing and maintaining unparalleled client relationships. Our ability to produce innovative geospatial solutions tailored to the specific requirements and goals of each unique project is what sets us apart from other firms in the industry. **www.mtzgeo.com**

Maverick Drone Systems is a leading distributor of innovative drone systems in the USA, designed to bring a broad portfolio of integrated, enterprise-class drones and services. Each of our UAS solutions offers a compelling set of discrete capabilities. **www.maverickdrone.com**

Menet Aero, Inc. is a Service-Disabled Veteran-Owned Small Business (SDVOSB) that employs military aviators and veterans as pilots. We apply the battle-tested procedures and risk mitigation processes gained from decades of global manned and unmanned aviation experience to civil UAS operations. **www.menetaero.com**

North Point Geographic Solutions (NPGS) is an innovative Geographic Information Systems (GIS) and Information Technology (IT) firm headquartered in Duluth, Minnesota. We specialize in Federal, State and Local Government, as well as Forestry Management GIS applications and solutions. **www.northpointgis.com**

Sentera's integrated software, analytic, sensor, and drone products deliver fast, accurate information that helps agronomists, crop consultants, advisors, and growers take in-season action to improve yields. Our solutions integrate with the most popular digital agriculture platforms, efficiently delivering critical measures of real-time crop performance directly into the tools that ag professionals already use. **www.sentera.com**

Trimble's Geospatial Division provides solutions that facilitate high-quality, productive workflows and information exchange, driving value for a global and diverse customer base of surveyors, engineering and GIS service companies, governments, utilities and transportation authorities. **www.trimble.com**

At the **USGS EROS Center**, we study land change and produce land change data products used by researchers, resource managers, and policy makers across the nation and around the world. We also operate the Landsat satellite program with NASA, and maintain the largest civilian collection of images of the Earth's land surface in existence, including tens of millions of satellite images. **eros.usgs.gov/about-us**

Keynote Speakers

Carl Reed, Ph.D.
Retired CTO and Executive Director Standards Program, Open Geospatial Consortium (OGC)

Dr. Reed's career in the geospatial industry began in 1969 with his coding of the first interactive mapping program in BASIC. In 1978 he finished the first version of the seminal MOSS vector Geographic Information System (GIS) for the US Fish and Wildlife Service, software that advanced technology still in use around the world. Dr. Reed led the development of the DeltaMap GIS and founded Delta Systems in 1986, which merged with Genasys II in 1989. While president of Genasys Americas, Dr. Reed was instrumental in the industry meetings and prototyping work that led to OGC's founding in 1994. Dr. Reed was voted one of the top 10 most influential people in GIS in 1996. Recognizing the importance of providing a spatial foundation for the Web, he joined the OGC as CTO and Executive Director of the Standards Program in 2001. Through his leadership of the OGC standards process and his generous sharing of geospatial expertise with other standards organizations he has played a critical role in making the world's geospatial information discoverable, shareable and useable. In 2009 Directions Media named him one of the top 10 people in the geospatial industry and in that year he was also inducted into the URISA GIS Hall of Fame. In 2014 he received Geospatial World's Lifetime Achievement award.

Jarlath O'Neil-Dunne
Director, University of Vermont Spatial Analysis Laboratory

Jarlath O'Neil-Dunne is the Director of the University of Vermont's (UVM) Spatial Analysis Laboratory, and serves in a joint capacity with the USDA Forest Service Research & Development. Over the years his research has focused on the application of geospatial technology to a broad range of natural resource related issues such as environmental justice, wildlife habitat mapping, high-elevation forest decline, land cover change detection, community health, and water quality modeling. Most recently his work has centered on urban ecosystems. The results of his urban tree canopy assessments have been used by dozens of communities to establish tree canopy goals. Jarlath is well known for his expertise in object-based image analysis (OBIA) and speaks regularly on a wide range of geospatial related topics at local, regional, and national conferences. In addition to his research duties Jarlath teaches introductory and advanced courses in geospatial technology, is the Chair of the AmericaView Board of Directors and oversees the university Trimble Innovation Program.

Dan Ross
President-Elect, National States Geographic Information Council

Dan serves as the State's of Minnesota's Chief Geospatial Information Officer and Director of the Minnesota Geospatial Information Office (MnGeo). Dan sits on the Board of the Minnesota GIS/LIS Consortium, and is a member of the MetroGIS Coordinating Committee. Dan also serves as the current President-Elect and past Treasurer for the National States Geographic Information Council (NSGIC).

Dan has been with the State for 22 years. Prior to MnGeo he was the Business Solutions Manager with the MN Department of Transportation. Dan has also served as the Northwest Region GIS Coordinator for the Department of Natural Resources and as the System Administrator for the College of Social Sciences and GIS Adjunct Professor at St. Cloud State University. Prior to his State service Dan owned and operated a private GIS company and was a GIS Technician working on parcel data for Stearns County.

Agenda: Wednesday, May 23, 2018

7:30–11:30 a.m.	**Workshop:** Making a Complete WebGIS Application with GeoMoose 3 (Bring your laptop)	3314
8:30–11:30 a.m.	**Workshop:** Introduction to Python/ArcPy for Automating Geoprocessing and Map Production in ArcGIS	Cowley Hall Computer Lab 245
8:30–11:30 a.m.	**Workshop:** U.S. National Grid	3110
9:30–11:30 a.m.	**Workshop:** Leveraging Amazon Web Services	Cowley Hall Computer Lab 204A
11 a.m.–1 p.m.	**Exhibit Hall Open**	Bluffs Exhibit
11 a.m.–1 p.m.	**Registration**	Bluffs Foyer
11 a.m.–1 p.m.	**Independent Lunch**	Local Restaurants
1–2:20 p.m.	**Opening Keynote: Dr. Carl Reed** *Member National Geospatial Advisory Council and Retired CTO of the Open Geospatial Consortium*	Bluffs
2:30–3 p.m.	High Density LiDAR Acquisition for Enhancing Forest Inventory	3105
2:30–3 p.m.	Introduction to the U.S. National Grid	3110
2:30–3 p.m.	The Mystery of the Address	3120
2:30–3 p.m.	Lightning Overview of the Best Geospatial Open Source	3130
2:30–3:30 p.m.	Base Mapping, Big Data and Data Quality Challenges for Autonomous Vehicles	3310
2:30–3:30 p.m.	The "Lost" Wisconsin – Minnesota State Line	3314
2:30–5 p.m.	**Exhibit Hall Open**	Bluffs Exhibit
3–3:30 p.m.	Forest Metric Mapping in Northern Minnesota	3105
3–3:30 p.m.	Wisconsin Next Generation 9-1-1 (NG911) Update	3110
3–3:30 p.m.	Development of Mobile/Web Citizen Science Water Quality Apps	3120
3–3:30 p.m.	Practical Tips for ArcGIS Pro	3130
3:30–4 p.m.	**Networking Break and Refreshments**	Bluffs Exhibit
4–4:30 p.m.	Cloud-Based Open Source Point Cloud Processing with PDAL	3105
4–4:30 p.m.	High Density Aerial Lidar for Transportation Applications	3110
4–5 p.m.	A Wisconsin model for statewide imagery and LiDAR	3130
4–5 p.m.	What's New With ArcGIS Enterprise?	3310
4–5 p.m.	Coordinate Systems, Projections, and Datums, Oh My!	3314
4–5 p.m.	**UMGEOCON Hosts:** Lightning Round	Bluffs
4:30–5 p.m.	Rapid Floodplain Estimation from Dynamic Point Cloud Services	3105
4:30–5 p.m.	Drone Aerial Photography—Accuracy and Practical Applications	3120
5–7 p.m.	**Networking Reception**	Bluffs Exhibit

Agenda: Thursday, May 24, 2018

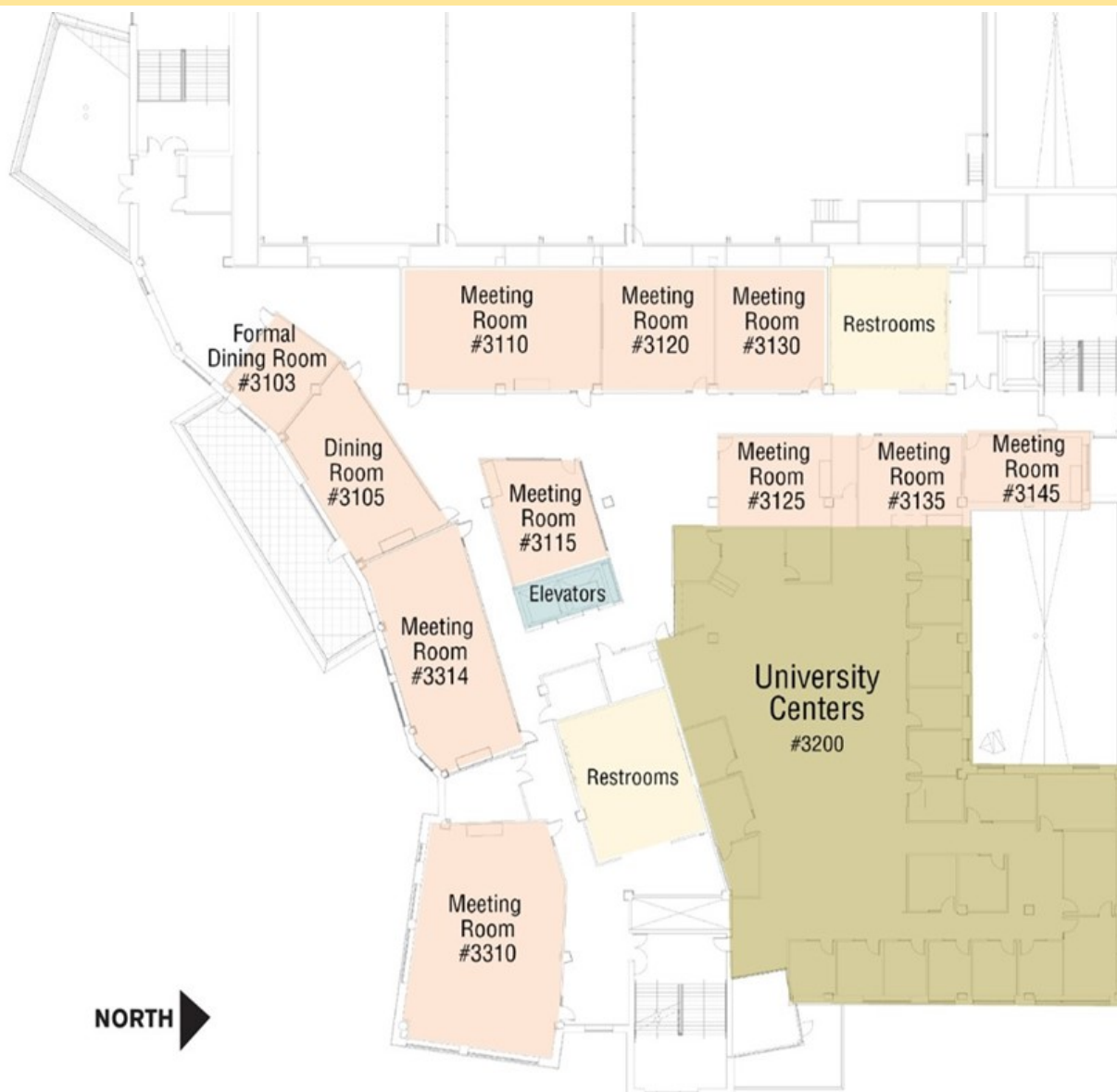| Time	Session	Room
7:30–8:00 a.m.	Exhibit Hall Open/Breakfast with Exhibitors	Bluffs Exhibit
8–8:50 a.m.	**Morning Keynote: Jarlath O'Neil-Dunne** Chair, Board of Directors, AmericaView and Director, University of Vermont Spatial Analysis Laboratory	Bluffs
9–9:30 a.m.	GIS in the County Emergency Operation Center (EOC)	3105
9–9:30 a.m.	Enhancing Access to Historic Geospatial Data for Wisconsin's Coast	3110
9–10 a.m.	Compass: Navigating Your Geospatial Data with Open Source Software	3120
9–10 a.m.	GIS Tabular MSAG to GeoMSAG Conversion for NG9-1-1	3130
9–10 a.m.	Getting Your Data Out There—How to Get Started Creating an Open Data Site	3310
9–10 a.m.	Panel: IA, MN, & WI CORS/RTRN GNSS Networks	3314
9–11 a.m.	**Exhibit Hall Open**	Bluffs Exhibit
9:30–10 a.m.	Empowering Communities & Classrooms On the Value of Remote Sensing	3105
9:30–10 a.m.	Accessing Remote Sensing Data from NASA's LP DAAC	3110
10–10:30 a.m.	**Networking Break and Refreshments**	Bluffs Exhibit
10:30–11 a.m.	The Great Lakes Remote Sensing Collaboration Project	3105
10:30–11 a.m.	Unmanned Aircraft Systems - Safety and Applications	3110
10:30–11 a.m.	Minnesota DNR Recreation Compass	3120
10:30–11 a.m.	Dirty Data Done Dirt Cheap	3130
10:30 a.m.–Noon	Panel: Petscale High Performance Computing	3314
11–11:30 a.m.	A Multi-temporal Digital Surface Elevation Model of the Great Lakes Basin	3105
11–11:30 a.m.	Accuracy Matters: Trimble + Esri = Reliable GIS	3110
11–11:30 a.m.	GeoMoose 3: React! OpenLayers! XML?	3120
11–11:30 a.m.	The Advance of Geospatial Data Standards in Minnesota	3130
11:30 a.m.–Noon	Landscape Change Along the Great Lakes Coastal Region	3105
11:30 a.m.–Noon	New Technology to Reduce Vegetation Remediation Costs	3110
11:30 a.m.–Noon	Have Your Raspberry Pi (RPi3) and Eat It Too	3120
11:30 a.m.–Noon	Journey Into the Iowa DOT Matrix	3130
Noon	**UMGEOCON Lunch**	Bluffs
12:30–1 p.m.	**Closing Speaker: Dan Ross** President-Elect, National States Geographic Information Council (NSGIC) and Minnesota GIO	Bluffs
1 p.m.	Wrap-Up and Door Prize Drawings	Bluffs

Parking

Parking is free for UMGEOCON attendees in an Residential (R) or Commuter (C) lot on the UW-La Crosse campus with the **exception** of Lot C-2 and the parking ramp (adjoins the Parking Services and Police station building). Additional details may be found at www.umgeocon.org/venue/

Meals & More

The following establishments—located on the first floor of the Student Union—will be open May 23–24:

- Einstein's   7:15–10:30 a.m.
- Grilled It!   10:30 a.m.–1:30 p.m.

A map of restaurants near campus, which includes menu information, is available at: www.umgeocon.org/venue/

Breakout Classroom Locations: 3rd Floor of the Student Union

Door Prize Drawing Awards

Must be present at the event closing to win.

Grand Prize	$200 Gift Card	Drawn from all those individuals in attendance. Attendee entry ticket is located in the name badge holder.
2nd Place	$100 Gift Card	Drawn from all those individuals who submitted a correctly answered Exhibitor/Sponsor Quiz. Follow the entry instructions on the quiz.
3rd Place	$100 Gift Card	Drawn from all those individuals who voted in poster contest. Follow entry instructions on the ballot.

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www.ayresassociates.com

Continental Mapping Consultants, Inc. is a leading provider of high-quality, innovative, and comprehensive photo-grammetric mapping, land survey and geospatial development services to private and public clients. It is Continental Mapping's mission to deliver high accuracy surveying and mapping solutions to solve business problems and find mapping solutions to support the defense and intelligence community.
www.continentalmapping.com

SharedGeo is a nonprofit dedicated to helping government, nonprofit, education, and corporate entities use mapping technologies and share geographic data for the public good. Past and current project partners include federal, state, tribal, county and municipal entities.
www.sharedgeo.org

Continuing Education & Extension

Geospatial Earth Science Department

AT-A-GLANCE

Optional Events: Wednesday, May 23, 2018

7:30–11:30 a.m.	Workshops	Student Union & Cowley Hall
7:30–11:30 a.m.	Self-organized meetings	Student Union Common Areas
7:30–11:30 a.m.	Dedicated classroom space available for code sprints, regional meetings, (USGS, EPA, etc.),	Student Union
11 a.m.	Vendor booths open	Bluffs, Student Union
11 a.m.	Registration opens	Bluffs Foyer, Student Union
11 a.m	Independent Lunch	Area restaurants

UMGEOCON: Wednesday, May 23, 2018

1–2:20 p.m.	Keynote: Dr. Carl Reed, Carl Reed and Associates, LLC	Bluffs, Student Union
2:30–3:30 p.m.	Educational/technical sessions	Student Union Classrooms
3:30–4 p.m.	Break/vendor time	Bluffs, Student Union
4–5 p.m.	Educational/technical sessions	Student Union Classrooms
5–7 p.m.	Vendor reception/state mixer	Bluffs, Student Union

UMGEOCON: Thursday, May 24, 2018

7:30–8 a.m.	Breakfast with vendors	Bluffs, Student Union
8–8:50 a.m.	Keynote: Jarlath O'Neil-Dunne, University of Vermont	Bluffs, Student Union
9–10 a.m.	Educational/technical sessions	Student Union Classrooms
10–10:30 a.m.	Break/vendor time	Bluffs, Student Union
10:30 a.m.–Noon	Educational/technical sessions	Student Union Classrooms
11 a.m.	Vendor booths close	Bluffs, Student Union
Noon–12:30 p.m.	Lunch and wrap up	Bluffs, Student Union
12:30–1 p.m.	Closing speaker: Dan Ross, President-Elect, NSGIC	Bluffs, Student Union

Optional Events: Thursday, May 24, 2018

1–5 p.m.	Self-organized meetings	Student Union Common Areas
1–5 p.m.	Dedicated classroom space available for code sprints, regional meetings, (USGS, EPA, etc.),	Student Union Classrooms

Mobile App

STEP 1: Download the app:
http://eventsxd.com/download

STEP 2: Create a user name and password

STEP 3: Search the app for UMGEOCON

The full program is also available on our mobile-friendly website:
www.umgeocon.org