Wyoming Unmanned Aerial Vehicle Symposium

Marian H. Rochelle Gateway Center

Laramie, Wyoming

May 17 – 18, 2016

Wyoming UAV Symposium

Schedule Overview

Tuesday, May 17, 2016

Time	Event	Location
8:00 AM	Onsite Registration/Name Badge Pick-Up	Gateway Center Foyer
9:00 AM	General Session Begins Featuring Keynote Speaker, Dr. Bruce Quirk	Gateway Salons C/D/E
10:30 – 11:00 AM	Networking Break – *please visit our sponsor booths*	Gateway Salons A/B
12:00 – 1:30 PM	Lunch sponsored by the University of Wyoming Extension – *Please visit our sponsor booths*	Gateway Salons A/B
1:30 PM	General Session Reconvenes	Gateway Salons C/D/E
2:30 – 3:00 PM	Networking Break – *please visit our sponsor booths*	Gateway Salons A/B
5:00 PM	General Session Concludes for the Day	Gateway Salons C/D/E
5:00 – 7:00 PM	Hosted Reception sponsored by GDA Engineers *Please visit our sponsor booths*	Legacy Hall at Gateway Gateway Salons A/B

Wednesday, May 18, 2016

Time	Event	Location
7:30 – 8:30 AM	Onsite Registration/Name Badge Pick-Up Breakfast – *please visit our sponsor booths* UW Session on Compliance	Gateway Center Foyer Gateway Salons A/B Gateway Salons C/D/E
8:30 AM	General Session Begins	Gateway Salons C/D/E
9:50 – 10:20 AM	Networking Break – *please visit our sponsor booths*	Gateway Salons A/B
12:00 PM	General Session Concludes	Gateway Salons C/D/E
12:00 – 1:30 PM	Lunch featuring Keynote Speaker, Dr. Jim Campbell sponsored by the UW Agricultural Experiment Station	Gateway Salons C/D/E
1:30 – 4:30 PM	Concurrent UAV Demonstrations – Session I: 1:30-2:30pm – Session II: 2:45-3:45pm – Session III: 4:00-4:30pm *(if needed)*	UW Indoor Practice Facility & UW Intramural Fields ***Please note: Food and beverages (other than water) are prohibited in these venues. Chewing gum is not allowed.***

Special Thanks to the Following Organizations:

- The UW School of Energy Resources
- Associated Student Technical Services (ASTEC)
- UW Catering
- UW Athletics
- The Hilton Garden Inn

WyGISC wygisc.org Wyoming Geographic Information Science Center

Wyoming View

School of Energy Resources University of Wyoming

GENERAL SESSION

Tuesday, May 17, 2016

9:00 AM Welcome and Logistics – Jeff Hamerlinck & Ramesh Sivanpillai, WyGISC, University of Wyoming

9:15 AM Opening Remarks – Dr. William A. Gern, Vice President, Research & Economic Development, University of Wyoming

9:30 AM Keynote Address: ***Natural Resources Applications of UAS Technology*** – Dr. Bruce Quirk, U.S. Geological Survey, Reston, VA

10:30 AM Networking Break

11:00 AM FAA/UAS Test Flight Center Experiences – Mark Peters, Oregon State University, OR; Marty Rogers, University of Alaska, AK

12:00 PM LUNCH sponsored by the University of Wyoming Extension

1:30 PM ***Big Data Transformation: UAVs make it easy to generate mountains of data, but then what?*** – Jim Vanderweide, Trihydro Corporation, Laramie, WY

Small VTOL UAVs: A comparative survey and recent advances – Olivier Brousse, 3DVistas, Boulder, CO

Integrating UAVs in Sanborn for Multiple Applications – Brad Brackel, Sanborn Corporation, Colorado Springs, CO

2:30 PM Networking Break

3:00 PM ***Applications of On-Board Computer Vision for sUAS: From hardware to software, and from theory to practice*** – Olivier Brousse, 3DVistas, Boulder, CO

UAV - Elevate What's Possible – Justin Ness, GDA Engineers, Cody, WY

Have a Safe Flight: The Best Practices for Safe and Successful UAS Missions - Chris Leatherman, Aerial solutions of Wyoming, Gillette, WY

4:00 PM **Panel Discussion on Industry's Perspectives**

5:00 PM **Hosted Reception** sponsored by GDA Engineers, Cody, WY

Wednesday, May 18, 2016

7:30 AM BREAKFAST & UW Session on Compliance – Ashley Guritza, Research Compliance Attorney, University of Wyoming

8:30 AM Applications – I

UAS: Actionable Information for Local Decision Makers – Jarlath O'Neil-Dunne, University of Vermont, VT

Implementing UAS Derived Data to Support Natural Resource Conservation: Lessons from Panama – John McGee, Virginia Geospatial Extension Specialist, Virginia Tech, VA

High Latitude Applications – Marty Rogers, University of Alaska, AK

Ecological Monitoring with Multi and Hyperspectral Sensors using UAS - Conservation and Precision Agriculture Applications – Donna Delparte, Idaho State University, ID

9:50 AM Networking break

10:20 AM Applications – II

Landfills, Gravel Pits, and Roadways: High-Resolution Surface and Volumetric Surveying - Brian Clarkson, GDA Engineers, Cody, WY

Mapping Landfills, Mines, and Vegetation: Lessons Learned in Recent UAS Applications – Chase Fly, Electronic Data Solutions, Jerome, ID

UAS for Transportation Asset Management – Jarlath O'Neil-Dunne, University of Vermont, VT

UAS Operation: The Difference between Toys and Tools – Dan Mummert, Trihydro Corporation, Laramie, WY

11:40 AM Morning session wrap up

12:00 PM LUNCH sponsored by the UW Agricultural Experiment Station – Keynote Address: ***The Journey to UAS: UAS in the Context of Remote Sensing*** – Dr. Jim Campbell, Virginia Tech, VA

1:30 PM UAV Demonstrations concurrently at UW Indoor Practice Facility and UW Intramural Fields

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KEYNOTE SPEAKERS

Bruce Quirk with the U.S. Geological Survey
Natural Resources Applications of UAS Technology
Tuesday, May 17, 2016 at 9:00 AM

Unmanned Aircraft Systems (UAS) are evolving as an effective, efficient, economical and environmentally friendly tool to monitor environmental conditions, respond to natural hazards, understand landscape change rates and consequences, conduct wildlife inventories and support related land management missions. The U.S. Geological Survey (USGS) is participating in an operational test and evaluation of UAS to see how this technology supports the mission of the USGS and the Department of the Interior.

Dr. Quirk is currently the Unmanned Aircraft Systems (UAS) Liaison for the U.S. Geological Survey (USGS). He has over thirty years of experience applying satellite and aerial remote sensing to the monitoring of natural resources in the United States and around the world. He has numerous publications and has received awards from the USGS and NASA for his contributions in the field of remote sensing.

Dr. Jim Campbell, Virginia Tech, VA
The Journey to UAS: UAS in the Context of Remote Sensing
Wednesday, May 18, 2016 at 12:30 PM

James B. Campbell, PhD Dr. Campbell has pursued a career in Geography, remote sensing, and spatial analysis through teaching, research, and community outreach. His recent interests have focused on analysis of sequential imagery to examine human and environmental dimensions of changes in agricultural landscapes. His teaching has been devoted to developing student interests and skills in remote sensing, geomorphology, spatial data analysis.

Dr. Campbell is author of a leading remote sensing text, now in its 5th edition, and numerous refereed journal articles.

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