

Oregon State University
School of Mechanical, Industrial & Manufacturing Engineering



UAS at Oregon State University

ORAVI Meeting 2015

March 13, 2015, Bend (OR)

Roberto Albertani, Associate Professor

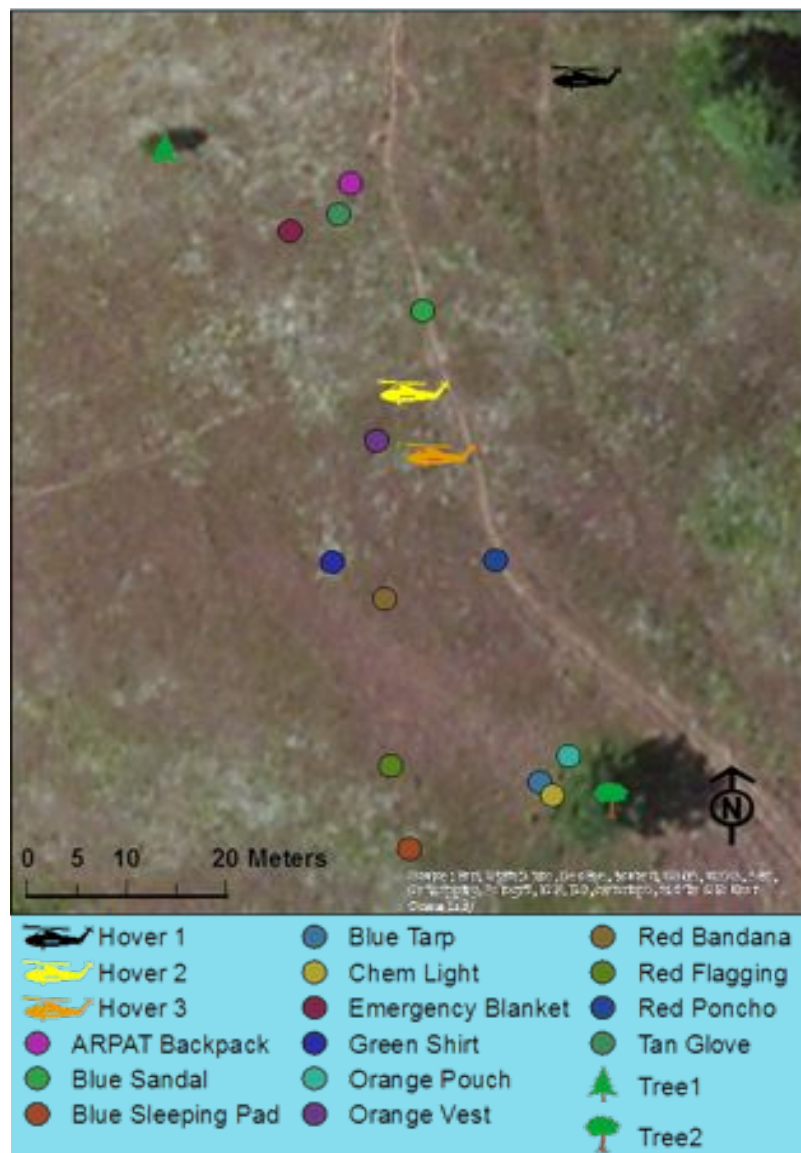
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UAS @ Oregon State University: Research

- Research and education tracks
- Recently formed Autonomous Systems Research Group (ASRG)
- Partnership between the academic community at Oregon State University and the unmanned aerial, under-and-on water, and land-based vehicles and systems sectors
- Support economic growth of this sector in the Pacific Northwest
- Part of the Pan Pacific Test Ranges, FAA-designated set of test ranges in collaboration with University of Alaska-Fairbanks and the University of Hawaii

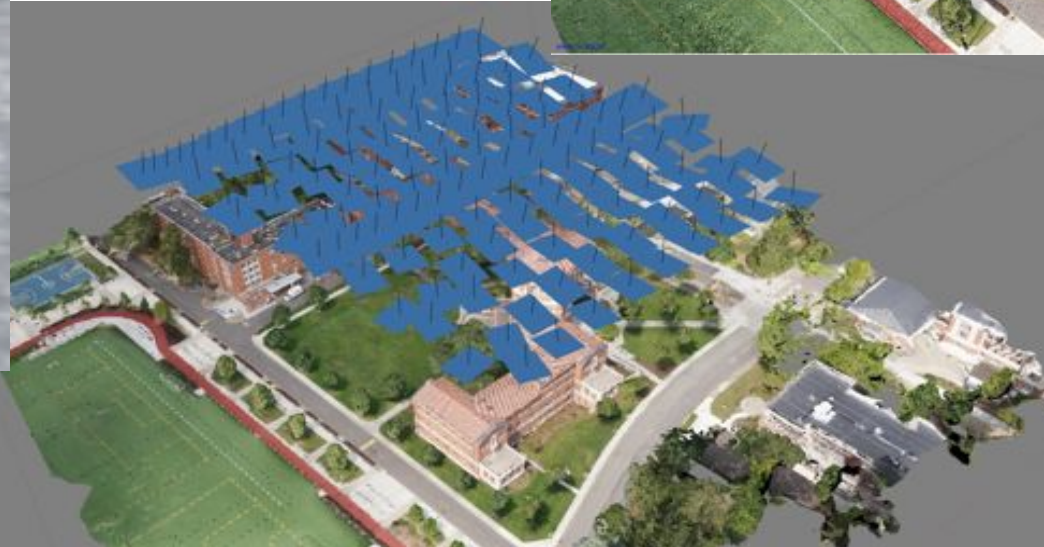
UAS @ Oregon State University: Research

- College of Forestry, Dr. Michael Wing
- Aerial Information System Lab
 - 30+ active COAs (Oregon, Washington, Montana, Oklahoma)
 - Forestry, agriculture, fish and wildlife, SAR



UAS @ Oregon State University: Research

- **Construction and Civil Engineering, Dr. Dan Gillins and Chris Parrish**
- Optimization of mapping using photogrammetry
- Bridges and powerline inspections
- FAA airports surveys



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UAS @ Oregon State University: Research

- **Mechanical Industrial and Manufacturing Engineering**
 - Dr. Geoff Hollinger, Robotic Decision Making Laboratory
 - Robot motion planning, autonomous robots
 - Machine learning, multi-robot systems



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UAS @ Oregon State University: Research

- **Mechanical Industrial and Manufacturing Engineering (MIME)**
 - Dr. Roberto Albertani, Mechanics and Composites Technologies Laboratory
- Micro Air Vehicles
- Small UAVs - with bendable wing



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Students and UAVs

- Undergraduate and graduate students
- Student clubs (AIAA-OSU Student Branch)
- Various degrees of flight operations with a variety of sensing capabilities at CoE
- AIAA-DBF International Competition



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UAS @ Oregon State University: Education

- **College of Engineering** undergraduate and graduate classes offered
 - UAV Engineering (MIME)
 - Aerospace Engineering (MIME)
 - Aerospace Vehicles Design (MIME)
 - Composites Manufacturing (Composites Lab, MIME)
 - GPS Theory and Practice (UAV applications, CCE)
 - Kinematic Positioning and Navigation (CCE)
 - Learning-based Control (Robotics Program, MIME)
 - Sequential Decision Making (Robotics Program, MIME)
 - Mobile Robotics (Robotics Program, MIME)
 - Multivariate Control Systems (Robotics Program, MIME)
 - **Sensors research - AUTONOMY**

UAS at Oregon State University
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Questions ?