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UNIVERSITAT
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HARMONIOUS

UAS for environmental monitoring

HARMONIOUS WORKSHOP

The use UAS Techniques for Environmental Monitoring: state of the art and challenges



Scientific Park of the Universitat Politecnica de Valencia, Spain
February 15, 2017

Program

8:00-8:45 Welcome and Registration

8:45-10:30 – Session 1 - UAS for Environmental Monitoring [Convener Pauline Miller]

[8:45-9:00] **HARMONIOUS COST Action: challenges and opportunities** - Salvatore Manfreda (Chair), Brigitta Toth (Vice Chair)

[9:00-9:15] **UAV-based monitoring of grasslands: Experiences using accessible technology and techniques** - Joel Forsmoo (University of Exeter, UK) - Invited

[9:15-9:30] **Development of European and Spanish regulations for RPAS. Progress and future perspectives.** Israel Quintanilla, (Universitat Politècnica de València, Spain)

[9:30-9:45] **State of the art of the Wageningen University and Research-Unmanned Aerial Remote Sensing Facility and its applications and challenges in agriculture and nature** - Sander Mucher (Wageningen Environmental Research, Netherlands)

[9:45-10:00] **GRONE Project : a cross-border cluster for UAV-based services** - Thomas Beco (University of Liege, Belgium)

[10:00-10:15] **The importance of altimetry in the UAV missions design** - Miguel A. Manso (Universidad Politécnica de Madrid, Spain)

[10:15-10:30] **Soil spectral library for quantitative mapping of the soil surface** - Eyal Ben Dor (Tel Aviv University, Israel)

[10:30-11:00] Coffee Break

11:00-13:30 – Session 2-UAS for Vegetation Monitoring [Convener Antonino Maltese]

[11:00-11:15] **New UAVs opportunities for ecology and agriculture** - Xurxo Gago (University of Balearic Islands, Spain) – Invited

[11:15-11:30] **Detection of forest windthrow areas by unmanned aircraft system with RTK** - Martin Mokroš (Technical University in Zvolen, Slovakia)

[11:30-11:45] **Assessing the ability of hybrid poplar for in-situ phytoextraction of cadmium by using UAV-photogrammetry and 3D flow simulator** - Nunzio Romano (University of Naples "Federico II", Italy)

11:45-12:00] **Vegetation monitoring in Iceland using UAV's** - Victor Madrigal, Bryndís Marteinsdóttir [(Svarmi-The Soil Conservation Service of Iceland, Iceland)

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[12:00-12:15] **Combining measurements for drought by UAS thermal platform - Jesper Svensgaard** (University of Copenhagen, Denmark)

[12:15-12:30] **From below to aboveground: Using and up scaling the bioindicator potential - Maria Tsiafouli** (Aristotle University of Thessaloniki, Greece)

[12:30-12:45] **Remote-sensing assessment of selected urban forest parks in Karlovo region - S. Dimitrov, V. Chepishcheva, M. Zhiyanski, Ivaylo Tsvetkov** (Sofia University, Bulgaria)

[12:45]-13:00] **Unmanned aircraft for alien plant species detection and monitoring - Petr Dvořák** (Brno University of Technology, Czech Republic)

[13:00-13:30] Discussion

[13:30-15:00] Lunch Break

15:00-17:30 –Session 3 – UAS for Hydrological Monitoring [Convener Bob Su]

[15:00-15:15] **Obtaining soil hydraulic parameters to enhance soil moisture prediction with UAS – Brigitta Toth** (Hungarian Academy of Science, Hungary)

[15:15-15:30] **Using infrared thermography towards optimizing water use in irrigated agriculture - Isabel Pedroso De Lima** (University of Coimbra, Portugal)

[15:30-15:45] **On the use of remote sensed soil moisture data in spatio-temporal model calibration for a Mediterranean catchment, Carlos Echeverria, Félix Francés** (Universidad Politècnica de Valencia, Spain)

[15:45-16:00] **Calibration and Validation methodologies for SMOS/SMAP - Bob Su** (University of Twente, Netherlands)

[16:00-16:15] **Surface soil water content mapping using thermal images: limits and advantages - Antonino Maltese, Giuseppe Ciraolo** (University of Palermo, Italy)

[16:15-16:30] **Field experiences on stream flow monitoring by UAS - Flavia Tauro** (University of Tuscia, Italy)

[16:30-16:45] **Exploring the optimal experimental setup for surface flow velocity measurements using PTV - Salvatore Manfreda** (University of Basilicata, Italy)

[16:45-17:30] Discussion and Closure

Location and Directions

The conference room (“salon de actos”) is in the **third floor of the Yellow Cube (“Cubo Amarillo”)** in the Scientific Park of the Universitat Politècnica de València, called “Ciudad Politécnica de la Innovación” or CPI.

The CPI is located at the eastern border of the university campus. The google maps coordinates for the Yellow Cube are: 39.477920, -0.333935

For public transportation going to the conference, you can take:

- the tram lines (same ticket than metro) 4 or 6
- the bus lines 1, 29 or 41

But Valencia is a bike-friendly city: sunny and flat. If you like it, you can easily access the UPV campus by bike. Here you can find the bike routes of the city:

https://www.google.com/maps/d/viewer?mid=1vDjGF_h1hdwPyWpY34HCObd-6aM&usp=sharing

