



# 5<sup>th</sup> International Conference of Fire Effects on Soil Properties

---

*University College Dublin*

*14<sup>th</sup> – 17<sup>th</sup> July 2015*

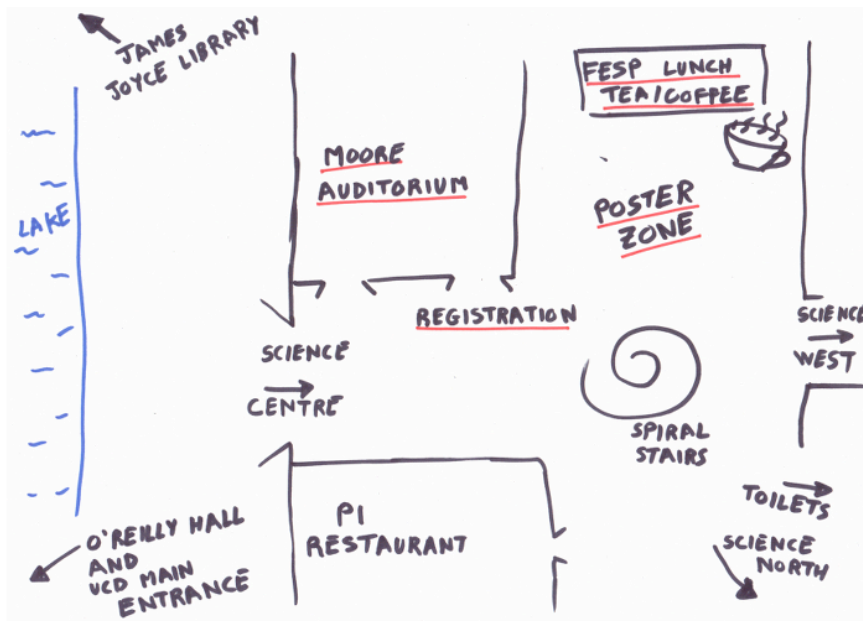
## Conference Program



## General Information

The conference will be held on the main UCD campus in the O'Brien Centre for Science. Talks will be held in the Moore auditorium. Posters and refreshments will be in the atrium next to the Moore Auditorium (see map below).

The registration desk will be in the O'Brien Centre for Science outside the Moore Auditorium. The desk will be open on Tuesday and Wednesday from 08:30-09:30 and at coffee and lunch breaks.



## Sponsorship

The 5<sup>th</sup> International Conference of Fire Effects on Soil Properties acknowledge all our sponsors, without whose help the event would not have been possible.

FESP<sup>5</sup> was sponsored by:



An Roinn Post, Fiontar agus Nuálaíochta  
Department of Jobs, Enterprise and Innovation

**HEA**

HIGHER EDUCATION AUTHORITY  
AN tÚDARÁS um ARD-OIDEACHAS

Investing in Your Future



## Tuesday 14<sup>th</sup> July

**08:30 Registration open** (O'Brien Centre of Science)

**09:15 Welcome** (Moore Auditorium)

### **09:30 Keynote Talk**

**In the line of fire: The tropical peatlands of SE Asia**

Prof. Susan Page (University of Leicester)

10:30      Coffee/Tea

### **11:00 – 12:15, Fire Effects on Organic Soils and Carbon Dynamics**

Chair: Susan Page (University of Leicester)

11:00      Long-lasting effects of fen fire on soil habitat conditions in Biebrza National Park (Poland)      **Sulwinski, Marcin**

11:15      Experimental study on the depth of burn and two-dimensional smouldering fire spread in peatlands: the role of moisture content and wind      **Huang, Xinyan**

11:30      The use of fire on the peatlands of the Falkland Islands      **McAdam, Jim**

11:45      Soil pyrogenic organic matter characterization by spectroscopic analysis: a study on combustion and pyrolysis residues      **Mastrolonardo, Giovanni**

12:00      *Talk cancelled*

12:30      Lunch

### **14:00 – 15:15, Fire Effects on Soil Properties and its Management**

Chair: Antonio Jordan (University of Seville)

- 14:00      The wildland fire regime in Ireland and its implications for soil management and conservation  
**Nugent, Ciaran**
- 14:15      What factors control post-fire ecosystem processes in burned forest? Examining the influences of wildfire severity, forest type, and soil organic matter composition on carbon and nitrogen dynamics  
**Miesel, Jessica**
- 14:30      Changes in soil chemical properties after prescribed fires in Catalonia (Spain)  
**Alcañiz, Meritxell**
- 14:45      Hydrophobicity and infiltration capacity in a forest soil after a wildfire and a heavy rainfall      **Úbeda, Xavier**
- 15:00      Charcoal should receive greater consideration in soil classification systems?  
**Certini, Giacomo**
- 15:30      Tea/Coffee

### **16:00 – 16:45, From Fire Intensity to Fire Severity**

Chair: Ciaran Nugent (Forest Service)

- 16:00      Advances in the study of charcoal using reflected light microscopy  
**Hudspith, Victoria**
- 16:15      Fuel and climate controls on peatland fire severity  
**Grau-Andres, Roger**
- 16:30      Effect of peat moisture content and bulk density on the self-sustained horizontal propagation of smouldering fires  
**Prat-Guitart, Nuria**

## Wednesday 15<sup>th</sup> July

**08:30 Registration open** (O'Brien Centre of Science)

### **09:30 – 10:30, Fire Effects on Hydrology**

Chair: Stefan Doerr (Swansea University)

- 09:30      Effects of fire and drainage on the organic geochemistry of tropical peat  
**Page, Susan**
- 09:45      Post-fire soil and nutrient losses on hill-slopes under slash-and-burn in the Southern of Brazil  
**Thomaz, Edivaldo**
- 10:00      Peatland ecohydrological resilience examined through thermal signatures  
**Kettridge, Nicholas**
- 10:30      Tea/Coffee

### **11:00 – 12:15, Fire Effects on Soil Properties**

Chair: Artemi Cerdà (University of Valencia)

- 11:00      Wildfire reduces soil water repellency in eucalypt forest of north-central Portugal?  
**Martins, Martinho**
- 11:15      Surface fire effects on soil microbial properties in a Mediterranean (*Pinus brutia*) area  
**Kaptanoğlu Berber, A. Sepken**
- 11:30      Changes in soil chemical properties after prescribed fire in a mountain area covered by shrubs  
**Fonseca, Felícia**
- 11:45      Changes in some soil parameters of three periods after a wild fire  
**Francos, Marcos**
- 12:00      Effect of fire on soil and biologic characteristics of forests: A case study Neka- Zalemroud forests – Iran  
**Eskandari, Saeedeh**
- 12:30      Lunch

**14:00 Keynote Talk:**

**The Automated Geospatial Watershed Assessment (AGWA) for Rapid Post-Fire Watershed Assessments**

Dr David Goodrich (USDA-ARS, Tucson, Arizona)

**15:00 – 16:00 Poster Session A**

Chair: Christine Switzer (University of Strathclyde)

4 minute quick-fire talk per poster (in front of poster)

**16:00 – 17:00, Computational and Novel Methods for Experimental Data**

Chair: Dave Goodrich (USDA-ARS, Tucson, Arizona)

- |       |   |
|-------|---|
| 16:00 | Combining computational methods and field data to quantify wildfire ash distribution in a post-fire landscape<br><b>Doerr, Stefan</b>                                   |
| 16:15 | Peat fires: Combining an in-depth spread model with laboratory experiments<br><b>Huang, Xinyan</b>  |
| 16:30 | Effects of relative humidity on soil water repellency and on contact angle measurements on a pre-heated soil: A laboratory approach<br><b>Jiménez Pinilla, Patricia</b> |
| 16:45 | Fire effect on soil organic matter bulk and compound specific isotopes (d13C, dD, IRMS & PY-CSIA) <b>González-Pérez, J.A</b>  |

## Thursday 16<sup>th</sup> July

### Fieldtrip to the Wicklow Mountains National Park and Glendalough

See FESP<sup>5</sup> website for details (<http://www.ucd.ie/ecomodel/fesp5>)

- 08:45      Leave UCD (O'Brien Centre for Science)
- 10:00      Peatland Ecology (Liffey Head Bog),  
*Jenni Roche: Biosphere Coordinator, Dublin Bay Biosphere Partnership*
- 11:00      Break ([\*Glencree Peace and Reconciliation Centre\*](#))
- 11:30      Fire in Upland Peatlands (Kippure fire),  
*Enda Mullen: DCO Wicklow Mountains National Park*
- 13:00      Lunch (Glendalough)
- 14:00      Glendalough Upper Lake
- 15:30      Glendalough 6<sup>th</sup> century monastic settlement
- 17:00      Leave Glendalough
- 18:00      Return to UCD

## **Friday, 17<sup>th</sup> July**

### **09:30 Keynote Talk:**

#### **Ground fuels are the key to understanding peatland wildfire severity**

Dr Matt Davies (Ohio State University)

### **11:00 – 12:15, Fire Effects on Organic Soil and Carbon Dynamics**

Chair: Giacomo Certini (Università degli Studi di Firenze)

- |       |  |                             |
|-------|--|-----------------------------|
| 11:00 | Charring temperature drives organic soil transformations during a boreal forest fire                         | <b>Santin, Cristina</b>     |
| 11:15 | Pyrogenic changes of soils and soil organic matter in boreal forests of the northern part of European Russia | <b>Dymov, A.A.</b>          |
| 11:30 | Fire as a main forming factor of a polygenetic soil in a charcoal kiln in Tuscany, Italy                     | <b>Arcenegui, Victoria</b>  |
| 11:45 | Post-fire impacts on losses of soil organic matter and its composition in Mediterranean eucalypt stand       | <b>Faria, Silvia Regina</b> |

12:30      Lunch

### **14:00 – 14:45, Ash Properties and Effects on Soils**

Chair: Matt Davies (Ohio State University)

- 14:00      Morphology and micromorphology of postpyrogenic soils in Russia  
**Maksimova Ekaterina**
- 14:15      Ground cover, ash colour, and fire severity assessment in the  
immediate period after a grassland fire in Lithuania  
**Pereira, Paulo**
- 14:30      The sensitivity of glomalin to the presence of ash after a wildfire  
**Lozano, Elena**

### **14:45 – 15:45 Poster Session B**

Chair: Claire Belcher (University of Exeter)

4 minute quick-fire talk per poster (in front of poster)

### **Conclusions**

- 15:45      Awards for best student talk and poster
- 16:15      Conclusions and Future FESP

**Conference Dinner**  
**(20:00, Nancy Hands Bar, Dublin)**