



## **EVENING MEETING**

**MONDAY 15 FEBRUARY 2016 at 5:30pm**

One Great George Street, London  
(Nearest tube: Westminster)

### **Real Time Monitoring of a Remote Welsh Dam**

By

**Samuel Tudor, Dwr Cymru Welsh Water  
Lara Fleat, Siemens**



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For a brief synopsis see overleaf

**Admission free  
Teas available from 5.00pm**

**For more information please contact  
Tim Fuller (BDS Secretary) on 020 7665 2234 or email : [bds@ice.org.uk](mailto:bds@ice.org.uk)**

This meeting will also be streamed live on the internet. For more details on  
how to view this meeting online please visit the BDS website.



## Real Time Monitoring of a Remote Welsh Dam

### Synopsis

Dŵr Cymru Welsh Water have a portfolio of some 81 large raised reservoirs and, given the 'bumpy' nature of Wales, some are particularly remote and difficult to get to. Dŵr Cymru Welsh Water have been working in partnership with Siemens and HR Wallingford to develop and implement a comprehensive real-time monitoring suite to aid surveillance of their more remote sites.

Ffynnon Llugwy is a Category A impounding reservoir located at an elevation of 580mAOD in the Ogwen Valley, Snowdonia National Park. Due to the reservoirs' remote situation there are regularly periods of up to a month during the winter when the reservoir becomes inaccessible.

Real-time monitoring provides Dŵr Cymru Welsh Water with a method of obtaining instrumentation data 24/7 and during periods that operational staff are not able to attend site. This is combined with Siemens continuous artificial intelligence (AI) software that monitors data streams, learns normal behaviour, and can trigger human interaction if anomalies are detected.

### Biography details for the presenter

#### **Mr Sam Tudor, Dwr Cymru Welsh Water**

Samuel Tudor has worked for Dŵr Cymru Welsh Water's Dam Safety Team for 4 years. During this time he has been a Reservoir Keeper, Reservoir Technician and is currently the Assistant Dam Safety Engineer in North Wales. Sam has gained a lot of experience over a short time in the monitoring and surveillance of dams as well as acting in the capacity of a technical representative and project manager for capital works on reservoirs including the Real-time monitoring project at Ffynnon Llugwy. Sam is the Chairman of the BDS Young Engineers Forum and an aspiring Supervising Engineer.

#### **Ms Lara Fleat, Siemens**

Lara is a Project Manager within the Siemens Industry Professional Services group and is leading delivery of the Ffynnon Llugwy project for Welsh Water.