

Location

The workshop is held at the University of Southampton, which is well served by transport links throughout the UK and Europe. Details of the location and suggested accommodation are available via the workshop website www.hylow.eu/workshop

Building 38/40, University Road,
Highfield, Southampton, SO17 1BJ

Registration and Contact Details

Registration is £30, which includes refreshments and lunch
To make a booking please follow the link on the website
Registration may be possible on the day but numbers are limited

For further detailed information please contact
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www.hylow.eu/workshop

HYLOW Workshop

Development of hydro power converters for low head differences

University of Southampton

7th November 2011

Invitation

You are warmly invited to the HYLOW workshop held at the University of Southampton. This workshop is aimed at disseminating the work developed during the HYLOW project, funded by the European Commission, to a wider audience.

Three New Technologies

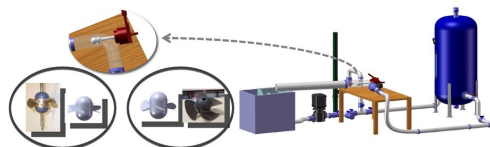
Hydrostatic Pressure Machine is a novel hydropower converter for head differences between 1 and 2.5 m, flow volumes from 1 to 10 m³/s with power ratings from 5 to 200 kW. The machine employs a new power conversion mechanism, using hydrostatic pressure, and is therefore a simple machine which is expected to be cost effective. The river bed is continuous, so that sediment passage is possible. The large cells imply that smaller fish may pass undamaged.



Free Stream Energy Converter: the energy of free streams has fascinated man for a long time, and floating mills were employed widely in Europe until the middle of the 19th Century. The kinetic energy of the currents in natural rivers is however very limited, and the conversion efficiencies of the old floating mills were low. The machine is a floating water wheel housed between two pontoons which are connected with a bottom plate. The specific hydrodynamic shape means that it has a significantly higher conversion efficiency than classic water mills.



Volumetric spin turbines: these micro-turbines were developed for application in pipe systems with low and medium pressures, and high volume flows where often the need arises to reduce pressure. The specific shape allows it to generate electricity from these pressure drops, where the energy was previously wasted. This is of particular importance since it allows for the generation of electricity in remote locations.



Programme

Time	Topic
8:30	Registration and coffee
9:30	Introduction : Low head hydro and the HYLOW project
9:45	Historical Perspective: Water wheels and their efficiencies
10:15	Overview of Hydrostatic pressure machine and other current available machines
11:00	Refreshments
11:30	Hydrostatic pressure machine and wheel design
12:30	Run of river installation
13:00	Lunch
14:00	Free stream energy conversion
14:30	Energy from water distribution systems
15:00	Environment issues and consequences
15:30	Refreshments
16:00	Open panel discussion
17:30	Close