

S-Lab Newsletter

Issue 4, June 2010



1) Free Events - Greening STEM (New) + Upcoming on Chemistry Labs, Clean Rooms and Good Housekeeping

Greening STEM: Systemic approaches and transfer of experience between individual disciplines - half day workshop at the Royal Academy of Engineering, London, 13 July 2010 (in collaboration with National HE STEM, and featuring presentations from Geoffrey Chase, Chair of the US Association for the Advancement of Sustainability in Higher Education, and Dr. Peter Hopkinson of the HEFCE-funded flagship project, Ecoversity).

Good Laboratory Housekeeping & Environmental Improvement – half day sessions at the University of Bradford (June 11), University College, London (June 16) and the University of Oxford (June 17).

Sustainable Laboratory Chemistry, University of York, June 14 - featuring presentations on greening the chemistry curriculum, reducing the environmental impacts of laboratory operation (by Amorette Getty of the University of California's LabRATS programme), and microscale chemistry (including live demonstrations).

The University of Southampton's Mountbatten Building and Sustainable Clean Rooms, June 18 – the RIBA Award judges felt that the Mountbatten – which contains 820m² of state-of-the-art clean rooms for nanotechnology, bionanotechnology and photonics - embodies "21st century scientific research in a sustainable, academic setting". The morning profiles the building itself (with an opportunity to tour) whilst the afternoon considers general issues of clean room energy efficiency and sustainability.

New and Refurbished Laboratories at the University of Newcastle, June 21 -examining the Medical Sciences New Building (morning) and the refurbished Bedson Chemistry Laboratory (afternoon), and concluding with a panel discussion of laboratory refurbishment.

UK Science Parks Association annual conference on laboratory best practice and future trends in Nottingham on June 10 will also feature a HEEPI/S-Lab presentation, and a workshop on scientific computing organised by our new Green In Silico project.

[Click here](#) for more details and booking for all events

2) Specialist Laboratory Energy Managers

S-Lab: Safe, Successful and Sustainable Laboratories.

A HEEPI Project

» **Free Events**

» **Lab Energy Management**

> **Ovens and Furnaces**

» **BREEAM and LEED**

» **Other News**

A new case study profiles Jo Hossell, Energy Manager at the University of York's Department of Biology (which accounts for a third of campus electricity consumption). As far as we know, she is the only dedicated energy manager in a UK academic laboratory. The complexity and mission critical nature of much laboratory energy consumption makes it difficult for central Estates staff to have influence, so local support is invaluable - as evidenced by an 8% annual reduction in the Department's electricity use in 2 years. [Click here](#) for the case study. [Click here](#) to see presentations by Jo and others at a recent S-Lab event. (NB Most presentations from past S-Lab events are available on the web site).

3) Laboratory Ovens and Furnaces

The S-Lab audits have highlighted the energy significance of ovens, furnaces and other drying and heating equipment in both chemistry and bioscience laboratories. Their high power rating (typically 0.2 – 2.5 kW) combined with their high usage rates (many are left on 24/7) means that a single device can consume 5,000 – 20,000 kWh of electricity, and therefore cost up to £2,000 to run, per year. Overall consumption can be reduced by switching off when not required, sharing between research groups, and buying the most energy efficient models. The latter option is difficult because of limited information but this may change after a new study by Cobham Technical Services to support the EU Eco-Design Directive. Its aim is to identify policy options and design changes to achieve greater energy efficiency. A draft report is available for comment on their [project website](#) and includes initial estimates of energy consumption, market size, and user requirements. If anyone has any data on energy consumption in use of lab ovens or furnaces or user requirements, please contact us and we will pass it on to Cobham.

4) Labs Achieve Excellent Platinum Status

Several laboratories have recently been achieved high ratings in both the UK BREEAM and US LEED green building assessment schemes, demonstrating that high standards can - and should! - be set for their environmental performance. A UK example is the BREEAM Excellent Medical Sciences New Building at the University of Newcastle, which is the focus of our June 21 event and will also be described in a future case study. In the US the Cooper Union New Academic Building, which houses a number of engineering laboratories in central New York, has achieved LEED Platinum. So too has the King Abdullah University of Science and Technology in Saudi Arabia, which was recently named as a 'Top 10' green building by the American Institute of Architects. Although this was a campus wide accreditation, an interesting laboratory energy efficiency feature was the use of the demand controlled ventilation which was discussed at our [2009 Cambridge workshop](#). The University's accreditation demonstrates how green building assessment is going international, and raises the question

of how the schemes compare. Our [Guide to High Performance Buildings](#) provides a brief summary. Whilst both have strengths and weaknesses, BRE believes that for carbon and energy the higher base line that exists in the UK and Northern Europe means that a Platinum building would only achieve a Very Good under BREEAM. LEED also has no equivalent of the special Laboratory Credits which have been established under BREEAM Higher Education.

5) Other News

Labs 21 Conference, Albuquerque, New Mexico, 28-30 September. [Click here](#) for conference details.

6) In Case You Missed It

Previous newsletters had discussions of minimising fume cupboard energy consumption (May) and energy efficient clean rooms (April), as well as details of new cases on the Centre for Cancer Research and Cell Biology building at Queen's University of Belfast and the University of Edinburgh's Chemical Management System. They can be accessed through our web site in the [Newsletters](#) section.

About Us

This newsletter is part of the S-Lab (Safe, Successful and Sustainable Lab) initiative of the Higher Education Environmental Performance Improvement (HEEP) project (see www.goodcampus.org). S-Lab works in collaboration with the US Labs21 initiative. In addition to covering our own activities, future editions will publicise other events and innovations re laboratory sustainability in all sectors. Please contact Lisa Hopkinson at l.m.hopkinson@bradford.ac.uk with any relevant information, or other comments on the newsletter.

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