

# S-Lab Newsletter

Issue 3, May 2010



This newsletter is part of the S-Lab (Safe, Successful and Sustainable Lab) initiative of the Higher Education Environmental Performance Improvement (HEEPI) project (see [www.goodcampus.org](http://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 us with any relevant info.

## 1) Events on Innovative Lab Design, Energy Efficiency, Sustainable Chemistry and More

Our current schedule is:

*Good Laboratory Housekeeping & Environmental Improvement* – half day sessions at the Universities of Bradford (June 11), UCL (June 16) and Oxford (June 17). All will feature Amorette Getty of the very successful LabRATS programme in the University of California (whose visit has been rescheduled due to volcanic ash).

*Sustainable Laboratory Chemistry*, University of York, June 14 - featuring presentations on greening the chemistry curriculum, reducing the environmental impacts of laboratory operation 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 820m<sup>2</sup> 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.

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

**S-Lab: Safe, Successful and Sustainable Laboratories.**

*A HE EPI Project*

- >> **Five free events on design, operation and chemistry**
- >> **Videoconferencing**
- >> **Presentations from past events**
- >> **Fume cupboard energy use**
- >> **Labs21 conference**

See [www.eventlink.org.uk](http://www.eventlink.org.uk) for more details and booking for all events

## 2) Minimising STEM-Related Travel Through Videoconferencing

HEEPI has a new project to better quantify the environmental benefits of videoconferencing (VC) in further and higher education, and - where justified - to encourage greater take up. The aim is to identify successful practice and then assist others in emulating them. An example highlighted by a previous HEEPI case was the [use of VC by the Scottish Universities Physics Alliance \(SUPA\)](#) to enable students to access specialist courses in other partner universities. Please let us know if you have good examples of VC use, or would like to work with us in pilot projects using it for scientific meetings.

## 3) Presentations from April Laboratory Environmental Improvement Events

As with previous S-Lab events, those from Edinburgh (23/4) and York (21/4) are now available. [Click here](#) to see presentations from Edinburgh on the new University of St Andrews Chemistry Laboratory (where we hope to run a workshop in November), auditing and energy efficiency actions at the University of Cambridge Chemistry Laboratory and the University of Edinburgh Cancer Research Building. An online demonstration of the new chemical management system in Edinburgh's Chemical Laboratory will be available shortly. The latter - featured in an S-Lab case - has revealed that the lab holds 300,000 chemicals! [Click here](#) to see presentations from the half day University of York event on the Department of Biology's Laboratory Auditing and Improvement actions - made by, to the best of our knowledge, UK higher education's only energy manager employed directly by a lab - and Lessons from S-Lab Auditing.

Many universities now have an Environmental Management System (EMS) to ensure that all environmental issues are identified and managed, and that there is continuous improvement in performance. In some cases, the EMS is a 'full blown' system which is compliant with all aspects of the ISO 14001 standard, but in others it is based on the staged approach developed by the HEFCE-funded Eco Campus project. Both approaches have struggled to deal with laboratories so the implementation of a school-level EMS in Cranfield University's School of Applied Sciences - which is also featured in our April 26<sup>th</sup> event - is unusual if not unique. Please get in touch if you know of other cases where EMS is making a difference in laboratory settings.

## 4) Minimising Fume Cupboard Energy Use

Did you know that one constant volume fume cupboard left

running 24/7 uses at least as much energy as an average UK house? A forthcoming S-Lab case study on fume cupboard monitoring and reporting at the University of Nottingham reports that their average is £5,000 a year per fume cupboard. The building management system (BMS) now tracks their energy consumption and reports it back to departments and technicians, who use it to encourage closure of sashes and switching off when safe. Their use of stickers and posters to encourage user awareness mirrors that of the University of California LabRATS '[Hoods Off](#)' initiative (see above). The Harvard Medical School (HMS) has also run a '[Shut the Sash](#)' campaign which reduced the average sash opening from 12 to 2 inches, saving over US\$100,000 in energy costs per year. Two investment approaches for existing facilities also been highlighted at recent S-Lab workshops. The University of Cambridge Chemistry Laboratory has installed Zone Presence Sensors (ZPS) to automatically close sashes on Variable Air Volume (VAV) fume cupboards when not in use. The University has found that it has enabled a 40% reduction in electricity consumption, with additional savings of heating energy, and without any safety problems (see the [presentation by Malcolm Tait](#) from our University of Edinburgh event on 23 April). Nottingham Trent University has also used Salix finance to install more energy efficient air handling unit motors (as we hope to describe in a future case).

## 5) Labs 21 Conference Flies High

The agenda is firming up for the world's premier sustainable laboratories conference, at Albuquerque, New Mexico, on 28-30 September. Many Brits and other Europeans attend for great information and many networking opportunities. For those interested in an extended trip, it is followed by the world's biggest hot air balloon festival, and - for science historians - a rare opening of the world's first nuclear test site to visitors. [Click here](#) for conference details.

## 6) In Case You Missed It ...

The April newsletter had a discussion of clean room efficiency, and 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. It can be viewed in the [Newsletters](#) section of Good campus.

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