Get Ready to Compete!

I2SL International Fume Hood Challenge



The International Institute for Sustainable Laboratories (I2SL) has launched its first-ever Fume Hood Challenge to engage lab buildings around the world in advancing the safe and efficient use of fume hoods. Designed to encourage behavior change and promote strategies to monitor and enhance fume hood performance, the Challenge will bring together green labs professionals, researchers, facilities staff, and safety officers with the shared goals of saving energy, enhancing safety, and earning the recognition of their peers.

The Challenge focuses on a shut-the-sash competition held in each participating building, with points given for successful outreach and savings results. Each building will select a Challenge coordinator who manages the Challenge tasks, coordinates with local teams, and submits data to I2SL. Crucially, the Challenge also highlights the connection of the fume hoods to the building's ventilation systems; coordinators will engage both facilities and safety personnel in Challenge activities.

Participation is free! Early registration is open, and I2SL will officially launch the Challenge in January 2027; participants will conduct their shut-the-sash competitions between January and June. All forms are due July 1, 2027, and the winners will be recognized at the I2SL Annual Conference in September.

How Will Labs Compete in the Challenge?

Participants may structure their shut-the-sash competitions and select local winners as they choose. Because fume hoods are part of a lab building's broader safety and ventilation systems, the I2SL Fume Hood Challenge will judge entries at the whole-building level.

Note: Since space in Year 1 of the Challenge will be limited, one building can participate per site in 2027. Participants can choose to select a building with higher potential impact, based on occupant interest, hood density, and the performance of system controls.

Challenge activities at each participating building include:

- Collecting basic information on the building, its fume hoods, and its energy use.
- Coordinating with facilities and safety personnel and, where possible, performing HVAC response tests to understand the impact of sash behavior on building systems and energy use.
- Educating users on the safe, appropriate, and efficient use of fume hoods.

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- Conducting a shut-the-sash competition to encourage users to close hood sashes whenever feasible, and selecting and recognizing local winners.
- Sharing the results of the shut-the-sash competition with I2SL.
- Exploring opportunities for further energy savings, such as hood hibernation or HVAC controls improvements.

Participants use online forms and free software tools from I2SL (the Lab Benchmarking Tool and the AIM Report) to report building data and obtain savings estimates. Participating buildings' performance is evaluated based on how effectively they implemented the preparation, competition, and reporting steps of the Challenge, and on the results achieved and efforts to identify further opportunities. I2SL provides detailed instructions, guides, case studies, tips, and FAQs.

Because participants will have varying levels of access to building automation systems and facility data, and because building systems differ in their levels of readiness and sophistication, the Challenge will recognize buildings at different levels of participation and data collection capabilities.

Fume Hoods and Energy

Fume hoods can be significant drivers of airflow in lab buildings, and leaving the sash open frequently means increased energy consumption, depending on a variety of factors. Keeping the sash closed when a hood is not in use can save energy and operating costs and reduce carbon emissions.

Preparing to Compete

While the shut-the-sash competitons will run January through June 2027, participants can prepare ahead for competing in Year 1 of the Fume Hood Challenge:

- Register early by December 15 to enhance your chances of having your organization participate.
- Pick a Challenge Coordinator to manage participation and coordination.
- Select a candidate building for participation in the Challenge.
- Engage green labs, facilities staff, safety professionals, and research leadership to ensure support for Challenge participation in 2027.
- Enter building data in the **Lab Benchmarking Tool** to get a head start on Challenge data submission and use the **free demo version of the AIM Report software** to investigate potential shut-the-sash savings.

Entering lab building data in the LBT and using the AIM demo are free; simply visit **https://lbt.i2sl.org** to set up an account. Read about **how to use the LBT** or review the **AIM Quick Start Guide** to get started.

Ready to Register?

Visit **link.i2sl.org/I2SLFumeHood**

I2SL thanks our Challenge sponsors and expert volunteers helping to develop the Fume Hood Challenge, including core contributors and Technical Advisory Groups.

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