How to make your laboratory safe

BY DOREEN LING

KOTA SAMARAHAN: The importance of a good laboratory lies within its safety, efficiency, and image, said Dr Prapaipit C Ternai, an academic advisor of the Faculty of Science in Chulalongkorn University in Thailand.

“A laboratory is more hazardous than most buildings. Each must be designed, constructed, maintained, and operated to reduce the occurrence of accidents and bring down the level of risks to an acceptable level,” she said.

This was said during the World Conference on Safety in Science, Industry, and Education 2013 as part of STEMFest held at Universiti Malaysia Sarawak (UNIMAS) here on Friday with the title ‘How To Make Your Lab To Be No.1.’

During her talk, she said that a good laboratory must be safe, energy saving yet comfortable and at an appropriate temperature, and environmentally friendly.

“There are four essential processes to obtain a safe, standard-compliant, and energy-saving laboratory and they are good laboratory design, installation, knowledge and maintenance,” she said.

She said that for a design that fits a standard-compliant laboratory, it has to pay attention to conceptual design and detailed design.

“Conceptual design involves zoning and layouts, furniture and equipment positions, and conditions. Information must be collected on chemicals, equipment, lab activities, workflow, and other relevant things.

“For detailed design, the details of every part of the walls, floors, ceilings, and furniture must be specified and which materials are compatible,” she said.

She added that the constructor or installer must understand the nature of the building and consult with the laboratory’s designer.

“This is to reduce any potential risks. Regular maintenance is also needed at least twice a year to ensure that everything in the laboratory is working and fully functional,” she said.