THEY NEED YOUR HELP TO SLEEP SOUNDLY AT NIGHT
LEADER OF THE BAND

She is a gǔ-zhēng player who once performed for former Canadian Prime Minister, Mr Pierre Trudeau. As a past President of the Rotary Club of Orchard, she led initiatives to help the down and out. She is also the leader of an intrepid team that is dedicated to protecting the life and limb of everyone working in the laboratories and research facilities of the Yong Loo Lin School of Medicine. Meet Professor Safety – Associate Professor Sim Tiow Suan from the Department of Microbiology and Immunology.
Assoc Prof Sim chairs the school’s Safety Committee, which was introduced in 2003 to ensure safe practices are observed in all department research facilities, including 18 wet laboratories. The committee comprises faculty representatives who are volunteers. Assoc Prof Sim also leads a 12-strong Research Facilities Management (RFM) team on safety inspection rounds around the school’s laboratories and facilities.

Ensuring staff compliance with safety guidelines was far from a walk in the park for Assoc Prof Sim in the beginning. She had to start off on a humble note. Prior to the committee’s formation, she had single-handedly bore the brunt of safety work.

“It was very, very difficult at the beginning.” Assoc Prof Sim remarked. Even after the Safety Committee was set up, there was little knowledge for them to tap on because the importance of safety in the laboratories and facilities was not well-understood and appreciated then.

“We started off knowing nothing because safety was not something that you must comply with then. There were no regulations we were actively engaged in enforcing,” Assoc Prof Sim added.

As the pioneers of academic safety in NUS Medicine, she and her committee painstakingly boned up on all standing safety guidelines and requirements as well as government regulations before they started work as the School’s safety champions.

Building the lab safety culture over time
Gradually, the committee also managed to stretch the scope of their responsibilities further, developing a cohesive safety framework. Collectively, they work closely with researchers to maintain a positive safety culture.
They assist Principal Investigators in seeking NUS Office of Safety, Health & Environment (OSHE)’s accreditation for research techniques and equipment and also provide hands-on training that complements OSHE’s online-based safety programmes. These sessions also provide safety pointers adapted to the specific needs of researchers based on OSHE’s guidelines.

“There was no good safety culture at the time. People were doing a lot of things incorrectly because they were not aware of the correct way to do things - of course everybody knew that we have to work safely, but how to work within the confines of safety regulations and to be safe was not established, and was not common knowledge to all,” Assoc Prof Sim explained.

Nowadays, thanks to their hard work, dangerous safety lapses are a distant memory, and the number of non-compliance cases are at an all-time low. Most of these are also minor infractions, such as the incorrect labelling of chemicals and improper donning of personal protection equipment (PPE). Asked if she had ever encountered any tricky incidents, inappropriate waste disposal was quickly highlighted.

“The mixing of incompatible biological waste due to improper disposal can result in explosions,” said Assoc Prof Sim. Past incidents of improper waste disposal prompted OSHE to stipulate that all biological waste should be disposed of within three months. Subsequently, the Safety Committee took on the responsibility of waste management for all central research facilities in 2012, and have never looked back since.

Safety inspections by Assoc Prof Sim and the Research Facilities Management (RFM) field team take place...
throughout the year. They keep an eye out for potential areas of concern at the labs and facilities they visit. Inspections can sometimes take an entire month to complete.

While there is a checklist to facilitate the inspections, the items to be checked vary every year depending on the safety regulations in effect. Laws governing the use and possession of research materials such as poisons and explosive precursors are regularly introduced or amended by government bodies such as the Ministry of Health (MOH) and the Singapore Civil Defence Force (SCDF). This makes the task more arduous as the committee needs to proactively update themselves on these changes so that they are always au fait with the current statutory requirements. In 2017, Assoc Prof Sim and the RFM team focused primarily on safety compliance pertaining to storage, inventory and access to biological materials regulated under the Biological Agents and Toxins Act (BATA).

**Setting, keeping, sharing the standards**

So, how does Assoc Prof Sim deal with recalcitrant safety breachers?

An affable approach is always preferred, but infringements are usually recorded before notices of non-compliance are sent to Principal Investigators of facilities where infringements were identified. Incidents of non-compliance with standing safety rules are classified as minor, major or critical, the latter representing a total violation of safety protocol which may lead to mortality. Different countermeasures are taken depending on the extent of non-compliance, and these sometimes involve legal intervention.

But Assoc Prof Sim also emphasised that the purpose of safety inspections is not just to check for safety non-compliance, but also to identify, commend and share good safety practices within the research community. Ultimately, the intended key message is for researchers to recognise the importance of safety at work in the labs.

But it was a startling observation during one of their routine inspections which eventually led to the revelation of the RFM team’s ultimate calling.

“We once visited a research floor where there was an emergency shower and eye-wash. However, there were no floor traps and if researchers need to use the equipment to flush off any chemicals, the effluent would have been all over the place!” Assoc Prof Sim recounted. They realised then that a total workplace safety culture should go beyond having the necessary equipment, to include research facilities and infrastructure that is built to cope with emergencies. This realisation prompted the RFM team to examine how facilities could be managed and designed better to enhance safety.

“I think we have used safety, and integrated safety into facilities management and research laboratory design. It’s more of applied safety now because we have adapted it to the laboratory infrastructure,” Assoc Prof Sim said. Yet, it is safe to say that the integration of safety may have gone beyond facilities management and into their daily lives.

“Safety has become second nature at work and at home. It has come to a point where I am unconsciously inspecting fire extinguishers in shopping centres to see if they are being serviced!” said the former gǔ-zhēng player with the Singapore National Youth Orchestra (SNYO) in her formative years, and the only female member (also the youngest then) to play for the respected National Theatre Chinese Orchestra.

While she no longer participates in orchestral performances, the gǔ-zhēng still comes alive in her hands when she gives the occasional performance. After which, she goes home for a good night’s sleep.

**Safety Day**

**26 July 2018**

Held biennially, Safety Day is an occasion for safety to be emphasised and advocated within the university. Introduced two years ago, Safety Day has since become a time for everyone to share, exhibit and feature their achievements in safety. In 2016, representatives from the Ministry of Health (MOH), Ministry of Manpower (MOM) and Workplace Safety and Health Council (WSH) were also invited to have an open forum session on safety.

Organised by the Research Facilities Management (RFM) team, the motto for Safety Day this year will be: A safe you is a safe me, titled as such in the belief that safety is a collective responsibility that should be shared by everyone. All 18 departments have been invited to host at least one booth at the event, and the organising body (RFM) hopes to host at least 20 to 25 booths on the day itself. There will also be a myriad of interactive games and activities to inculcate safety amongst the participants, so do visit the booths then to learn more about safety in NUS Medicine, and have fun!