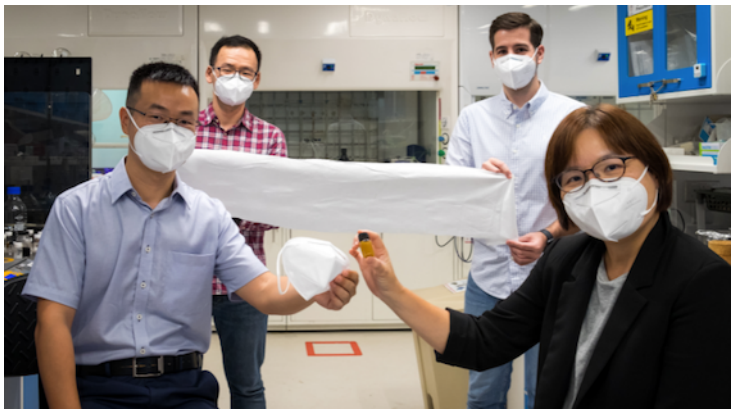
BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

NTU Singapore designs reusable nanotech mask to block germs, particles

June 10, 2021 | News

The team is now looking to work with local industry partners who are keen to license and scale up the production



Materials scientists from Nanyang Technological University (NTU Singapore) have developed a reusable “nanotech mask” that can block 99.9 per cent of bacteria, viruses and particulate matter (PM), as well as kill germs just in 45 seconds.

Its antimicrobial coating potency can last for at least 6 days, while its filtration efficiency surpasses those of standard N95 masks (95 per cent filtration of PM0.3).

It can also be washed and reused over 10 times, making it more sustainable than conventional disposable masks, but just as easy to breathe in.

The made-in-NTU nanotech mask is made with two key components: an antimicrobial coating made from copper nanoparticles developed and patented by Professor Lam Yeng Ming, coated on a non-woven fabric mask invented by Associate Professor Liu Zheng, which has a unique static-electricity property that draws and traps all nanoparticles and germs.

The team is now looking to work with local industry partners who are keen to license and scale up the production of their 2-in-1 mask and are currently preparing scientific papers for submission in scientific journals.