

She hunts killers for a living.

But they are not criminals of a common sort. Invisible to the naked eye, they mutate and elude, fast and furious, to outsmart mere mortals.

Meet Lisa Ng, Principal Investigator at the Singapore Immunology Network (SIgN), who is in a never-ending race to stop dangerous viruses in their tracks before they do further damage. She tracks them down by digging for clues, and builds a 'criminal' profile, detailing their characteristics, from the way they transmit to their weaknesses, and how they work in infected patients and animals.

A fan of detective novels and writers such as Agatha Christie, Stieg Larsson and Jo Nesbø, Lisa clues us in on her sleuth work.

"Given my inquisitive personality, if I hadn't become a principal investigator in infectious diseases, I would have been a private investigator or a police detective. In a way, the work is similar. Viruses are always trying to outsmart us and we are always trying to get ahead of them by following the trail they leave. Getting into the mind of a criminal is always exciting."



**Dr. Lisa Ng Fong Poh**  
Principal Investigator  
Singapore Immunology Network, (SIgN)

# CHASING SILENT KILLERS

Lisa has been making waves in the regional infectious diseases scene. In 2003, she was part of the team that researched the Severe Acute Respiratory Syndrome (SARS) virus. During the regional outbreak of bird flu between 2005 and 2007, her skills and experience were invaluable in stemming the crisis. Today, she runs her own laboratory at SIgN, set up in 2008.

“I hope to inspire other Singaporean women to become more confident and take on bigger roles in building and improving Singapore and the world.”

up the laboratory because they can give very different perspectives, and they dare to question what is already established.”

Her work is not confined within the walls of her laboratory. The “crime scenes” can be anywhere – centre of disease outbreaks, clinics and hospitals. Today, Lisa could be investigating new discoveries in diseases in Cambodia, and the next day, in Bangalore.

“You have to go out to the field, talk to people, discuss the situations and learn from them,” says Lisa. “Only by doing so can we make a difference in controlling and preventing infectious diseases.”

### Of Laboratories And Crime Scenes

Like a busy ‘crime-busting’ detective precinct, Lisa’s laboratory bustles with activity on any given day. Fellow researchers work on projects jointly, and Lisa ensures that teamwork and open communication are in place.

“Scientists should be generous and share openly so that we can further knowledge,” says Lisa. “When I get students attached to us, I pair them with a mentor so that they can learn from us. The learning goes both ways. When we get good students, it spices

### Stopping Infection In Its Tracks

The difference that Lisa and her team makes can be seen in the case of the Chikungunya outbreak. When the virus first emerged in the Indian sub-continent in 2006, Singapore’s government went into high alert immediately.

All the signs for a local outbreak were present – the mosquito species which spread the virus, the tropical climate and potential carriers of the virus. On top of

controlling the mosquito population, the virus and the disease had to be better defined.

“What was known about the virus then was very limited, and there was no research facility working on, for example, understanding how it impacts the human body after infection,” describes Lisa. “We had the opportunity to work with clinicians and patients in hospitals and that was the turning point. There were significant breakthroughs thanks to the close collaboration. We were able to define the antibodies produced by patients to neutralise the virus, and from there, we could develop good therapeutics that include pre-clinical vaccine development. It was all very exciting!”

The passion Lisa has for her work is infectious, and her curiosity ensures that she pushes on with dogged determination to decode the elusive breed of silent killers. “Nothing remains stationary in science, you keep learning new things,” Lisa asserts. “We have to constantly question and reinvent.”

