

# SARS Network

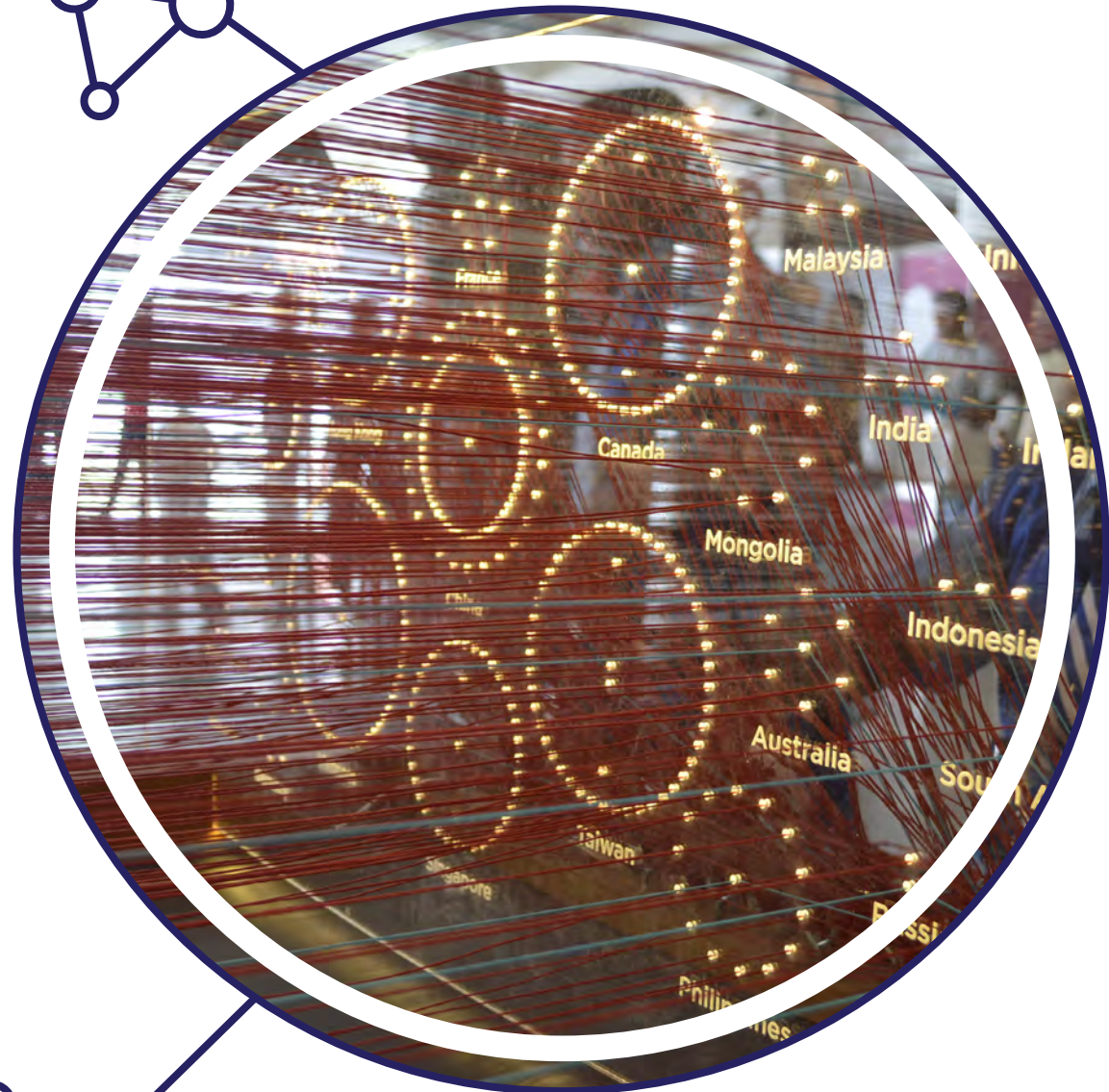
**H**ave you ever wondered whether there is a mathematical description of the way diseases spread in a population, either locally such as in the case of a dengue epidemic in a city such as Singapore or Delhi, or globally such as in the case of the SARS epidemic around the world? In fact there is not just one, but many different such descriptions. One of them is in terms of networks. This could be in terms of places

through which the disease spreads (as in the case of the actual exhibit described below); Or it could be in terms of the network of individuals who get infected or may infect others (some times through a “carrier” such as a mosquito in the case of dengue).

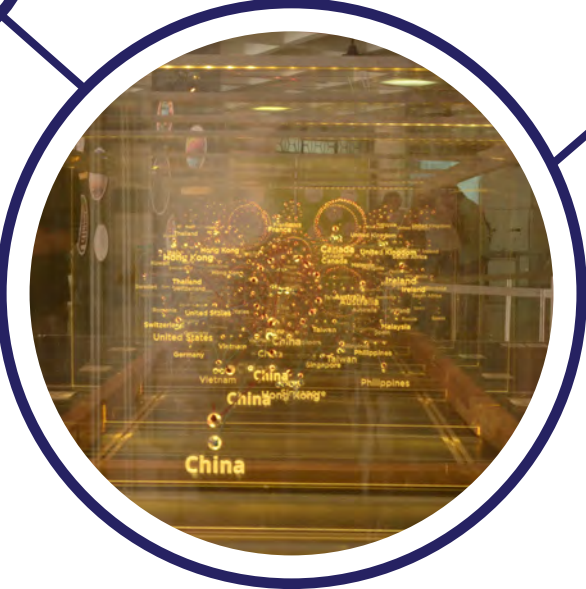
Severe acute respiratory syndrome (SARS) is a viral respiratory disease caused by the SARS coronavirus. An outbreak of SARS in Southern China caused an eventual 8,273 cases and 775 deaths in multiple countries between November 2002 and May 2003. Within weeks, SARS spread from Hong Kong to infect individuals in 28 countries in early 2003.

The installation contains a total of nine panels representing the duration across which the epidemic spread. Along with displaying the network of the spread of the epidemic, it also shows the exponential nature of its growth. What we see is the spatio-temporal spread (in space across the globe, and in time across just a few months) of the disease.

In the installation, there are 8 panels each showing the country-wise number of SARS cases during 8 months from November 2012 to June 2013. The strings cumulatively



# 2.2



installation has been derived from the Global Alert and Response (GAR) post, dated 31st December 2003 on the official World Health Organization (WHO) website. See [http://www.who.int/csr/sars/country/table2004\\_04\\_21/en/](http://www.who.int/csr/sars/country/table2004_04_21/en/).

Country	Cases	Country	Cases
Australia	6	Philippines	14
Canada	251	Romania	1
China	5327	Russia	1
France	7	Singapore	238
Germany	9	South Africa	1
Hong Kong	1755	South Korea	3
India	3	Spain	1
Ireland	1	Sweden	5
Indonesia	2	Switzerland	1
Italy	4	Taiwan	346
Kuwait	1	Thailand	9
Macao	1	United Kingdom	4
Malaysia	5	United States	27
Mongolia	9	Vietnam	63
New Zealand	1		

Table 1. Summary of probable SARS cases from 15th November 2002 to 15th May 2003

move towards the last panel in concentric circles. The central string represents the probable source from where the virus was imported into the country. The inner circle of strings signifies the number of cases in the country x 100 and the outer circle signifies the number of cases in the country x 1.

All the statistical data used to build this



# 2.2

November 2012

China

December 2012

China

January 2013

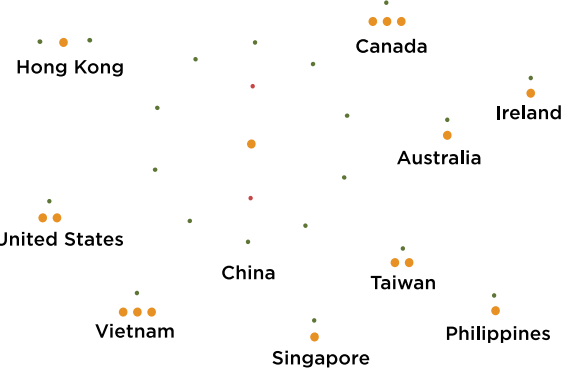
China

February 2013

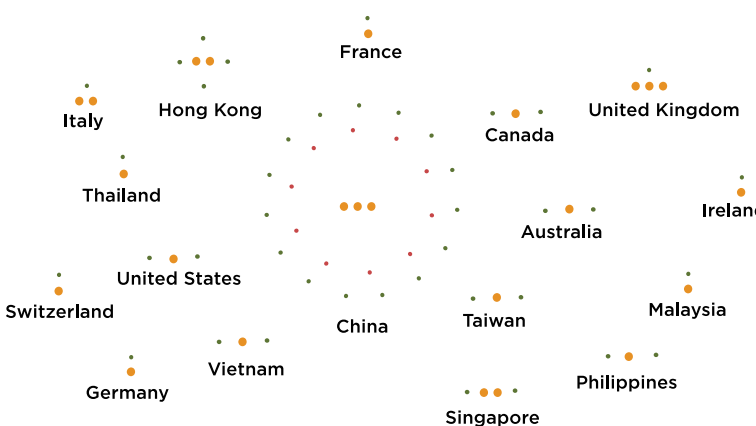
China

Hong Kong

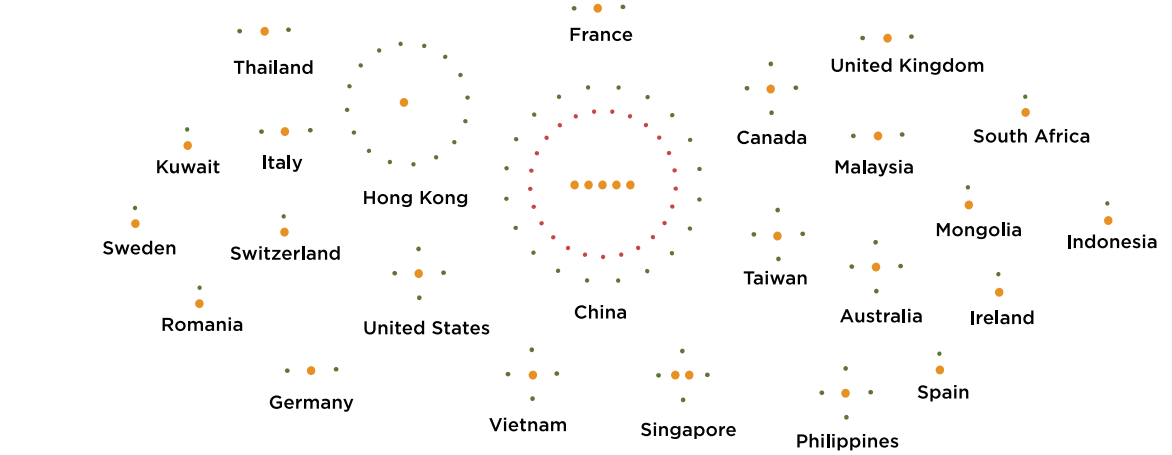
March 2013



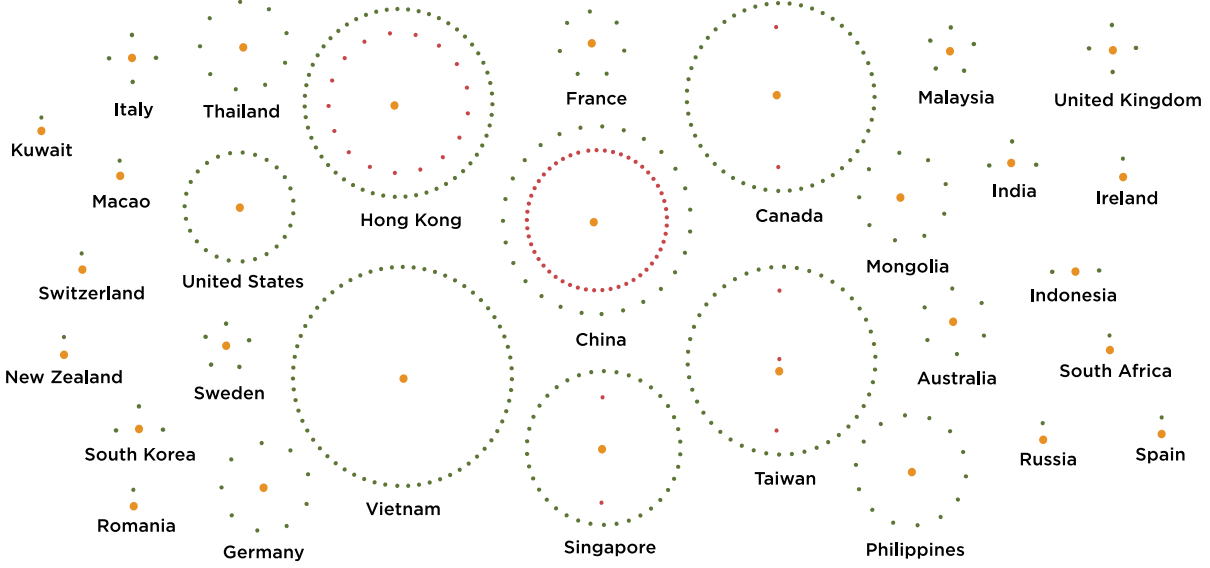
April 2013



May 2013



June 2013



The drawing above shows the eight panels for eight months from November-2012 to June-2013, each one showing the country-wise number of SARS cases.