



PRESS RELEASE

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NUS Receives US\$100,000 Grand Challenges Explorations Grant for Innovative Global Health Research by Assistant Professor Tong Yen Wah

The National University of Singapore (NUS) announced today that it has received a US\$100,000 Grand Challenges Explorations grant from the Bill & Melinda Gates Foundation. The grant will support an innovative global health research project conducted by Assistant Professor Tong Yen Wah, titled "Molecularly imprinted polymeric nanoparticles to capture viruses in treating infectious diseases – A synthetic antibody". Dr Tong from the Faculty of Engineering at NUS is the first researcher in Singapore to receive a direct grant from the Gates Foundation.

Dr Tong's project is one of 104 grants announced by the Gates Foundation for the first funding round of Grand Challenges Explorations, an initiative to help scientists around the world explore bold, new solutions for health challenges in developing countries. The grants were provided to all levels of scientists in 22 countries and five continents. NUS is the only Singapore institution/project to receive a Round 1 Grand Challenges Explorations grant.

To receive funding, Dr Tong showed in a two-page application how his idea falls outside current scientific paradigms and could lead to significant advances in global health if successful.

Dr Tong endeavours to develop a novel synthetic antibody to capture viruses and inactivate them. Currently, infectious viral diseases are managed mainly through immunisation and therapeutic treatment. The 'virus catcher' – an idea mooted by Dr Tong - is a potentially cheaper alternative that could possibly avoid some limitations of current treatments, and provide another useful tool in the war against viral infections such as influenza, SARS etc.

Dr Tong, who has appointments in the Department of Chemical and Biomolecular Engineering and the Division of Bioengineering at NUS, explained, "We are trying to develop a synthetic equivalent of human antibodies that can be used to fight infectious diseases that are caused by viruses, such as hepatitis, AIDS and influenza. We hope to develop nanoparticles that can recognize a particular virus, capture it and inactivate it. By doing so, we can remove the viruses in the body and prevent infection from taking place."

Dr Tong added, "We are honoured that our research work has gained the support of the Bill & Melinda Gates Foundation, which supports the development of highly innovative solutions to address global health issues, amongst its other funding priorities. We believe that this multi-

disciplinary project could provide an innovative solution to contribute towards infectious disease management. We are grateful that the Foundation is providing us with this opportunity to pursue an unconventional approach, which other funding agencies may have been reluctant to support due to the uncertainty in getting the desired results.”

The idea of a ‘virus catcher’ is an extension of Dr Tong’s earlier work on protein-imprinted polymeric nanoparticles. In the earlier work, Dr Tong successfully developed nanoparticles that can effectively capture one type of protein from a mixture of proteins, and this technology has important applications in the biopharmaceutical industry for separation and purification of protein-based products. This technology has recently been granted a provisional US patent in August 2008.

“I congratulate each individual who took the initiative to share their idea with us to help fight the world’s most serious diseases,” said Dr. Tachi Yamada, president of the Gates Foundation’s Global Health Program. “The number of creative approaches we received exceeded our highest aspirations. Projects from this initial pool of grants have the potential to transform health in developing countries, and I will be rooting for their success.”

About Grand Challenges Explorations

Grand Challenges Explorations is a five-year US\$100 million initiative of the Gates Foundation to promote innovation in global health. The program uses an agile, streamlined grant process – applications are limited to two pages, and preliminary data are not required. Proposals are reviewed and selected by a committee of foundation staff and external experts, and grant decisions are made within approximately three months of the close of the funding round.

Applications for the second round of Grand Challenges Explorations are being accepted through 2 November 2008, and topics for the third round will be announced in early 2009. Grant application instructions, including the list of topic areas in which proposals are currently being accepted, are available at www.gcgh.org/explorations.

For more information, please contact:

*Ms Fun Yip
Manager (Media Relations)
Office of Corporate Relations
National University of Singapore
Tel: 6516-1374
E-mail: fun.yip@nus.edu.sg*