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Title: EWI awards three research groups for breakthrough technologies for rapid microbial detection

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Three research groups will each receive close to \$2 million in funds to carry out R&D on the rapid detection of the waterborne parasite, Cryptosporidium, in drinking water worldwide.

The parasite in drinking water can cause diarrhoea.

The Environment & Water Industry Development Council, EWI, said two of the research groups are from Nanyang Technological University and one from the National University of Singapore

EWI had issued a Call for Request-for-Proposals in the area of rapid microbial detection last July.

Applicants were given the challenge to develop new monitoring and sensing solutions that can detect the presence and viability of the parasite in drinking water in under an hour.

Current techniques require about 6 hours or more.

EWI's Director for Capability Development, Harry Seah, said the reduction in detection time will enable water agencies worldwide to monitor the water quality more efficiently."

The three proposals awarded are helmed by scientists from Singapore.

Assoc Prof Lim Kian Meng from NUS makes creative use of sound waves to concentrate Cryptosporidium cells, before applying nanoparticles to achieve detection.

Assoc Prof Thomas Gong from NTU employs an innovative filtration method to capture parasite, which is subsequently detected using advanced DNA-based techniques.

Also from NTU, Assoc Prof Liu Aiqun will exploit the shape, size and bio-optical signatures of this parasite to carry out detection.

The Challenge Call attracted the interest of local and overseas institutions of higher learning, research institutes and the private sector.

Eighteen preliminary proposals were received in October 2008, and seven of the most promising ones were further developed and evaluated by EWI's Project Evaluation Panel.