

Student leads race for instant DNA detection

February 12 2014, by Fiona Macdonald



PhD candidate Evelyn Linaryd is working on a portable DNA testing device that will allow doctors, researchers and border security to identify samples within 10 minutes.

The diagnostic technology, called EzyAmp, can be used to quickly classify pathogens, bacteria, animals and plant life on-site without the need to send off DNA samples to a lab – a much-needed breakthrough.

"There's a whole field out there desperate for instant DNA detection, it's the Holy Grail," says Evelyn, who is currently completing her PhD with UNSW and Speedx Pty Ltd, a medical diagnostic company in Sydney.

Evelyn has already won two prizes for EzyAmp in the UNSW Innovation Awards in 2013, but she's now working on speeding up the detective process to under 10 minutes.

"At the moment we can do it in around 40 minutes, which is better than many technologies currently on the market, but we want it to be like the pin-prick blood glucose reader where you get the results almost immediately," she says.

If successful, the technology will have a big impact on a wide range of industries, from medicine and environmental monitoring to [border security](#).

"DNA is the signature of every living organism – if you know the sequence of DNA you can identify what biological specimen you have," says Evelyn.

"For example, the technology can be used by doctors in developing countries trying to work out whether a patient has tuberculosis bugs, or by transit officers in airports trying to assess a bio-threat."

The doctors or transit officers will then be able to take instant action to treat the condition or solve the problem – a time bonus that could save lives.

A science graduate with honours in molecular biotechnology, Evelyn was working as a research assistant at SpeedX when she realised the potential of EzyAmp and decided to further develop the technology as a PhD project at UNSW.

Although she's working in the lab fulltime, Evelyn has also taken advantage of the Student Entrepreneurship and Innovation opportunities offered by New South Innovations, the innovation arm of UNSW,

including the 'intrapreneurship' sessions, which teach students how to pitch their ideas.

After gaining more experience in industry, she'd one day like to use this knowledge to set up her own project and create more life-changing biomedical technologies.

"It sounds clichéd but ever since I was young I've always wanted to use science to improve people's lives. I want to make an impact," she says.

Her tip for new UNSW students? "Act as though you're already part of the industry," she says. "Don't just look at uni or marks, you need to be updated on what's going on in the world around you. Subscribe to biotech newsletters and go to talks. It puts all the hard work you're doing into perspective."

Provided by University of New South Wales

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