

Brainwave activity that reveals knowledge of crime

January 16 2020



Professor Robin Palmer is positive about preceding to the next stage of testing FBA technology and hopes to work with New Zealand Police to test it on actual suspects. Credit: University of Canterbury

An innovative research project that detects brain activity revealing

individuals' knowledge of criminal behavior is delivering positive results for a University of Canterbury (UC) led research team.

The [project](#) team, led by UC Director of Clinical Legal Studies Professor Robin Palmer, has been working for the past three years to attempt to validate Forensic Brainwave Analysis (FBA) technology. This technology uses an EEG (electroencephalogram) to detect brainwaves that indicate whether or not a person has specific knowledge contained in their brain. The knowledge may suggest that the tested person was involved in criminal behavior.

"Our initial expectations of the accuracy and reliability of the technology have been confirmed, and we are confident about positively proceeding to the next stage of the project," Professor Palmer says.

FBA works to uncover the knowledge a person has by measuring certain [brainwave](#) responses during testing.

The testing technique detects and interprets the behavior of the electrical brainwave known as P300. The P300 brainwave is produced as soon as the brain detects information that is of significant interest, for example, in a [criminal investigation](#) where there is unique information and detail only the offender or someone heavily compromised would know.

The project, funded by the New Zealand Law Foundation, involved two extensive experiments that involved 30 student volunteers and 15 sentenced prisoners who were tested on scenarios that took place on UC's campus.

This FBA technology (also known as 'brain-fingerprinting'), was pioneered by Dr. Lawrence Farwell of the United States, and the aim of the three-year project was to independently confirm his reported results. Dr. Farwell traveled to New Zealand a number of times to have

discussions, implement experiments and train testers on the correct use of his system. However, the final sequence of experiments were done independently of Dr. Farwell, while applying his prescribed testing protocols.

Professor Palmer hopes the technology could be applied to criminal proceedings especially pre-trial investigations as a way of eliminating people as possible suspects.

"The proposed next stage of the project is to apply the technology to criminal cases, and to compare the Farwell FBA system to rival FBA systems currently in use such as the Rosenfeld Concealed Information Test and the Brain Electrical Oscillation Signature system."

In 2020, with support from the New Zealand Police, the project team hopes to implement a pilot program and test actual suspects.

Provided by University of Canterbury

Citation: Brainwave activity that reveals knowledge of crime (2020, January 16) retrieved 20 June 2024 from

<https://medicalxpress.com/news/2020-01-brainwave-reveals-knowledge-crime.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.