

# **Brain Fingerprinting in Counterterrorism: The Key to Investigating the San Bernardino and Paris Terrorist Attacks, Bringing Terrorist Masterminds to Justice, Preventing Future Attacks, and Responding to the Migrant Crisis**

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## Introduction

Terrorists have done it again. They have murdered 14 people in San Bernardino and over 100 in Paris. Who are the terrorists? In these horrific crimes – and also in the 9/11, Charlie Hebdo, Boston Marathon, and Fort Hood terrorist attacks and many more – at least some of the perpetrators were known to authorities as terrorist suspects before the attacks, but authorities lacked enough evidence to take action until it was too late. As a result of this lack of information on exactly who the (already suspected) terrorists were and what they planned, many innocent people have died horrible deaths. This highlights the desperate need for a technology that can accurately detect not only who has perpetrated past crimes, but who is involved in the training and planning of future attacks. We have this technology.

**Brain Fingerprinting can accurately detect terrorists and criminals, even before they strike, by detecting the record of terrorist crimes, training, and planning stored in their brains. This is not science fiction. It has been tested and proven over 99% accurate at the FBI, the CIA, and the US Navy, published in leading peer-reviewed scientific journals, and ruled admissible in court.**

These horrific new terrorist crimes, along with the new migrant crisis – where numerous undetected terrorists are undoubtedly among those arriving in the West – and the clear threat to the US and the free world, highlight the desperate need for a scientific technology to detect those who plan, orchestrate, fund, or perpetrate terrorist crimes. Brain Fingerprinting accomplishes this by scientifically detecting the record of the planning or perpetration of terrorism and other crimes stored in the brains of terrorists and criminals. Brain Fingerprinting accurately detects perpetrators, and masterminds who have left no physical trace of their involvement. It can detect terrorists, members of a sleeper cell, terrorist masterminds, and terrorist plans, even before the terrorists strike. It detects other criminals in the same way.

The latest bloody Paris attacks are a terrifying escalation -- in scope, weapons, sophistication, and death toll. Unless we quickly implement scientific technology to detect terrorists, we can expect the pattern of ever larger and more deadly attacks to continue – today in Paris and San Bernardino, tomorrow in Washington, London, and throughout the free world.

## Brain Fingerprinting

- **Brain Fingerprinting: A revolutionary Technology** -- scientifically detects terrorists and criminals and exonerates the innocent by measuring brainwaves.
- Detects the record of the planning or perpetration of terrorist acts and crimes, terrorist training, or inside knowledge of a terrorist organization, stored in the brains of the terrorists. Detects other criminals in the same way.
- Tested and proven over 99% accurate at the FBI, the CIA, the US Navy, in the laboratory, and in real-world criminal cases.
- Helped to catch a serial killer and exonerate an innocent man falsely convicted of murder.
- TIME Magazine selected Dr. Larry Farwell, the inventor of Brain Fingerprinting, to the TIME 100: The Next Wave, the century's top innovators who may be "the Picassos or Einsteins of the 21st Century."
- Featured in national and international news media including **CBS Evening News, ABC World News, CNN, PBS, BBC, CBS 60 Minutes, ABC Good Morning America, the Discovery Channel, The New York Times, The Washington Post, TIME Magazine, and US News and World Report.**
- Patented; Ruled admissible in court; Published in the leading peer-reviewed scientific journals.
- Humane, preserves human rights, non-invasive.
- Additional applications: medical diagnosis of Alzheimer's and scientific evaluation of advertising.
- Principals include **Dr. Larry Farwell**, inventor of Brain Fingerprinting; **Major General (Ret.) Timothy Haake**, who has extensive experience and achievements in special operations, military affairs with the US government, law and criminal justice; and **Dr. Drew C. Richardson**, former FBI forensic scientist and chief of the FBI's chem/bio/nuclear counterterrorism unit, and one of the world's top experts in counterterrorism and forensic science.
- **Dr. Larry Farwell**, the inventor of Brain Fingerprinting is a Harvard educated neuroscientist who has conducted Brain Fingerprinting research at the FBI, the CIA, and the US Navy, published in leading peer-reviewed journals, and testified as an expert witness in court on Brain Fingerprinting science. **TIME** magazine selected Dr. Farwell to the TIME 100: The Next Wave, the 100 top innovators of this century who may be "the Picassos or Einsteins of the 21st century."

## The San Bernardino and Paris Attacks, the Migrant Crisis, and the Pattern of Terrorist Attacks

The recent bloody terrorist attacks in San Bernardino and Paris are the latest crimes in a series of escalating attacks against innocent civilians in Western countries.

The current migrant crisis has made the world a much more dangerous place. The influx of tens of thousands of migrants, including an untold number of terrorists, has highlighted a critical lack in past counterterrorism, counterintelligence, and law enforcement capabilities: Authorities have been unable to distinguish between terrorists and innocents until it is too late and the terrorists have carried out their terrorist attacks. This report examines how Brain Fingerprinting can effectively address this critical need.

Since the terrorist attacks of 9/11, the same scenario has been repeated over and over again in Western countries:

- Authorities are aware of a terrorist suspect, but...
- They lack sufficient evidence of his terrorist affiliations, capabilities, and/or plans to take action, until it is too late, and...
- The terrorist perpetrates a terrorist attack, causing...
- Destruction and loss of life.

The recent terrorist attacks in San Bernardino and Paris have followed this same pattern.

The San Bernardino terrorist attack is still in the early stages of investigation. According to currently available information, however, this most recent terrorist crime followed this same pattern. According to the FBI, the San Bernardino terrorist suspects were radicalized years ago, before they met each other and before the female came to the US. "FBI Director James Comey said Wednesday that Syed Rizwan Farook and his wife, Tashfeen Malik, began scheming to carry out a terrorist attack long before they were engaged and before she moved to the United States on a fiancée visa last year... Our investigation to date shows that they were radicalized before they started courting or dating each other online, and as early as the end of 2013, were talking to each other about jihad and martyrdom before they became engaged and married and were living in the U.S... We believe they were inspired by foreign organizations."<sup>i</sup>

As Iowa Senator Charles Grassley, Chairman of the Senate Judiciary Committee stated, "This is yet another example of the failure of the screening process for those entering the United States. Our government apparently didn't catch the false address in Pakistan she listed on her application or other possible signs that she was radicalized or an operative."

According to the FBI, the male suspect recently traveled to Saudi Arabia and Pakistan and was in touch with people with Islamist extremist views, but as in other cases authorities lacked sufficient evidence to take action until it was too late.<sup>ii</sup>

US intelligence agencies had information on four of the Paris terrorists suspects, but lacked sufficient evidence to take action. "These people were known to us, known to be involved in terrorist activity, known to be people who needed to be scrutinized," Senate Select Committee on Intelligence member Sen. James Risch told CNN.<sup>iii</sup>

"In 2010, [Paris terrorist suspect Omar Ismail] Mostefai had been the subject of a [French] police 'S' file for radicalization but the state prosecutor said he had never been implicated in any case of

a terrorist organization. Several homegrown terrorists before him had previously been the subject of the same kind of police file before later carrying out horrific attacks, including Mohamed Merah who carried out a gun attack on a Jewish school in Toulouse in 2012 after deadly attacks on soldiers, and Cherif Kouachi, who carried out the Charlie Hebdo attacks with his brother.”<sup>iv</sup>

“[French] Police stopped [Paris terrorist suspect] Salah Abdeslam hours after the attacks in a car on his way toward the Belgian border. They let him go because he apparently hadn't yet been linked to the terrorist operation.”<sup>v</sup>

“[Female Paris suicide bomber] Hasna Aitboulahcen, reportedly the woman who blew herself up in a police raid in Saint-Denis on Wednesday, was known by French intelligence to have "offered her services to commit terrorist attacks in France", according to iTele citing police sources. Aitboulahcen, a cousin of Abdelhami Abaaoud, the suspected mastermind of last Friday's Paris attacks, had been under ‘triple surveillance’ from French intelligence, judges and the police for drugs running and terror probes.”<sup>vi</sup>

Belgian counterterrorism authorities also were aware of at least three of the suspects before they struck, but like the Americans, they lacked sufficient evidence to take action. “Belgian federal prosecutor Eric Van Der Sypt said the Abdeslam brothers and Hadfi were known to Belgian authorities before Friday.”<sup>vii</sup>

“Salah Abdeslam and at least two other key suspects were on Belgian authorities' radar before Friday...In February, Belgian investigators questioned and released two brothers linked to the attacks, Ibrahim and Salah Abdeslam, prosecutor Eric Van der Sypt said.”<sup>viii</sup>

"[Paris terrorist suspect] Ibrahim [Abdeslam] tried to go to Syria and was sent back by the Turks in the beginning of 2015," Van der Sypt told CNN. "It was after that that we questioned him." Investigators released Ibrahim and his brother Salah Abdeslam in February after they denied they wanted to go to Syria.”<sup>ix</sup>

The Paris terrorist attack and other recent terror attacks in Europe have followed the same pattern that took place in previous attacks in the US, Europe, and elsewhere. The perpetrators of many of the most destructive terrorist acts have been known to counterterrorism and law enforcement agencies before they struck, but authorities have lacked sufficient evidence to take effective action until it was too late and the planned death and destruction had already taken place.

The perpetrators of major terrorist attacks on US soil were known to counterterrorism authorities, and suspected of terrorist connections or plans, before they committed their crimes. These include:

- The 9/11 terrorists;
- The Fort Hood shooter; and
- The Boston Marathon bombers.

In each case, however, authorities lacked sufficient objective evidence to take action to prevent the terrorist acts.

The same scenario has been repeated in many of the recent terrorist attacks in Europe. These include:

- The Charlie Hebdo terrorists (January 2015);
- The Copenhagen shooter (February 2015);
- The perpetrator of the beheading near Lyon, France (July 2015);

- The Toulouse and Montauban shooter (March, 2012)
- The Jewish Museum of Belgium shooter (May 2014);
- The Amsterdam-Paris train gunman (August 2015).

In every case, authorities knew about the perpetrators' potential terrorist involvement in advance, but lacked an effective means to distinguish definitively between deadly terrorists and innocent people with an apparently similar profile. Authorities were therefore unable to intervene in a timely manner, and the perpetrators were able to carry out their terrorist attacks without interference. Innocent people were killed in all of the above attacks, except the train attack in France, where a heavily armed gunman opened fire and wounded several people. Three American passengers and a Briton subdued the gunman, preventing what undoubtedly would have been another massacre.

## The Fundamental Problem that Allows Terrorists to Remain Undetected Until They Strike

In every case, counterterrorism and law enforcement agencies have lacked one critical capability: an objective means to distinguish between terrorists and innocent people, before the terrorists strike. Terrorists know who they are. They know what terrorist affiliations they have. They have inside information at least of their own terrorist plans, and often of secret information regarding a more extensive terrorist organization or network. They know what terrorist training they have. They know what specific terrorism-related skills, such as firearms and bomb making, they possess. They know what terrorist activities they have perpetrated in the past, and they know the details of the terrorist activities they plan for the future. All of this information is stored in their brains.

If all of this information were stored in their laptop computers, distinguishing terrorists from innocents would be easy. Authorities could simply scan the suspected terrorists' hard drives, detect the incriminating information, and know what the terrorists already know: who they are, what they have done, and what they have planned. Terrorists do not, however, generally make the mistake of storing this information on their computers or writing it down where it can be detected. This information is stored in their brains, where authorities have been unable to detect it. As a result of authorities' inability to detect this information, the perpetrators of all of the above terrorist attacks were able to remain undetected until they had perpetrated their planned murder and destruction – despite the fact that they were suspected terrorists.

This problem is exacerbated by the arrival of tens of thousands of migrants from Syria and surrounding countries. There is no question that most of these people are innocents. There also is no question that some of them are terrorists who have training, affiliations, and plans designed to spread death and destruction. Distinguishing between terrorists and innocents, already a critical need for effective counterterrorism, has become even more critical in light of the current migrant crisis.

## The Fundamental Problem in Investigating the Terrorist Attacks

Authorities have arrested dozens of people in connection with the Paris terrorist attacks. Some of these undoubtedly are terrorists who were involved in the planning and preparations for the attacks. Others are innocent people who happen to be friends or relatives of the terrorists. The critical task in the investigation is to distinguish accurately between these two very different types of individuals, to bring the perpetrators and planners to justice, and to exonerate and free the innocent.

## Brain Fingerprinting: A Solution to the Fundamental Problem in Counterterrorism – Investigation and Prevention

Brain Fingerprinting provides a scientific solution to the fundamental problem in counterterrorism: distinguishing between terrorists from innocents, before the terrorists strike. Brain Fingerprinting provides an objective, scientific technology to distinguish between terrorists and innocents by detecting the information stored in a terrorist's brain. As described above, the terrorists know who they are; what they have done; and what terrorist affiliations, training, and skills they possess. Brain Fingerprinting accurately and scientifically detects this information stored in the brain.

In this same way, Brain Fingerprinting provides the key to investigating who is responsible for the Paris terrorist attack and other terrorist crimes, and who is an innocent suspect. Those who planned and orchestrated the crimes know who they are. They know what they have done and what they have planned. This information is stored in their brains. Brain Fingerprinting can detect this information, accurately and scientifically.

### What is Brain Fingerprinting?

Brain Fingerprinting is a revolutionary new scientific technology to detect specific information stored the brain. It provides evidence to identify criminals and terrorists accurately and scientifically. It measures brainwave responses to terrorism-relevant or crime-relevant words or pictures presented on a computer screen, or information characteristic of people with specific training or expertise such as trained terrorists or bomb makers. Brain Fingerprinting identifies terrorists and criminals by detecting the specific terrorism-related or crime-related information stored in their brains, based on their brain responses. It has proven over 99% accurate in tests at the CIA, the FBI, and the US Navy. It has been ruled admissible in court. It is humane and non-invasive.

### How Brain Fingerprinting works

The fundamental difference between the perpetrator of a terrorist act or crime and an innocent person is that the perpetrator, having committed the crime, has the specific knowledge of the crime stored in his brain. An innocent suspect does not. Similarly, a terrorist mastermind or trained terrorist has specific terrorism-related knowledge stored in his brain. This is what Brain Fingerprinting testing detects, scientifically and accurately.

Words or pictures relevant to a terrorist act, crime, terrorist training, or specific knowledge or expertise are presented on a computer screen, in a series with other, irrelevant words or pictures. A suspect's brainwave responses are measured non-invasively using a headset equipped with EEG sensors. A proprietary computer program then analyzes the data to determine if the crime-relevant information is stored in the brain. A specific "P300-MERMER" brain response is emitted by the brain of a perpetrator who has the details of a crime stored in his brain, but not by an innocent suspect lacking this record in his brain. This is proven by extensive peer-reviewed, published scientific research. Dr. Farwell has offered a \$100,000 for beating a Brain Fingerprinting test, and no one has ever succeeded in doing so.

## Brain Fingerprinting Inventor Dr. Larry Farwell

Dr. Farwell is the inventor of Brain Fingerprinting and several related technologies based in the measurement and analysis of human brainwaves. Dr. Farwell is a Harvard-educated, groundbreaking neuroscientist and former Harvard Medical School research associate. He invented, developed, and patented the technology of Brain Fingerprinting. His research in developing, testing, and proving this technology included contracts totaling over \$1 million with the CIA and research with the FBI and the US Navy.

He has applied Brain Fingerprinting in criminal cases, including catching serial killer J. B. Grinder and helping to exonerate and free Terry Harrington, who had been falsely convicted of murder and sentenced to life in prison.

**TIME** magazine selected Dr. Farwell to the **TIME 100: The Next Wave**, the 100 top innovators who may be "the Picassos or Einsteins of the 21<sup>st</sup> century." He has been the focus of extensive national and international media attention on Brain Fingerprinting, with appearances on **CBS 60 Minutes** and **48 Hours**, **ABC World News**, **CBS Evening News**, **CNN**, **ABC Good Morning America**, **Discovery**, **PBS**, **BBC News**, major TV networks in the US, Canada, the UK, Japan, and worldwide, **The New York Times**, **The Washington Post**, **US News and World Report**, and many others throughout the world.

He invented and developed the first brainwave-based brain-computer interface (BCI) and conducted pioneering research in using brainwaves to operate a BCI for paralyzed patients, to drive a speech synthesizer, and to control robots with brainwaves.

Dr. Farwell holds a BA from Harvard University, a PhD from the University of Illinois, and a black belt in Kungfu.

## How Brain Fingerprinting helped to catch a serial killer and free an innocent man

### Brain Fingerprinting Helps to Catch a Serial Killer

Dr. Farwell conducted a Brain Fingerprinting test on serial killer J.B. Grinder that proved that the record stored in his brain matched a known murder. Faced with a certain conviction and a probable death sentence, Grinder pled guilty in exchange for life in prison. He also confessed to the murders of three other women.

### Ruled Admissible in Court; Man Falsely Convicted of Murder Freed after 23 Years

Brain Fingerprinting testing was ruled admissible in court in the case of Terry Harrington, who was falsely convicted of murder. After he had served 23 years of a life sentence, Dr. Farwell's Brain Fingerprinting test proved that the record in his brain did not match the crime scene. He is now a free man.

## Brain Fingerprinting in the news

Dr. Lawrence Farwell and Brain Fingerprinting testing have been featured on **CBS Evening News**, **ABC World News**, **CNN**, **ABC Good Morning America**, **CBS 60 Minutes**, **Fox News**, the **Discovery Channel**, **CBS 48 Hours**, and major television networks in Canada, the United Kingdom and Japan, as well as in **TIME**, **U.S. News and World Report**, **The Washington Post**,



**The New York Times**, and in many other newspapers, newsmagazines, and television news reports throughout the world.

**TIME** magazine selected Dr. Farwell to the “Time 100: The Next Wave,” the top innovators who may be “the Einsteins or Picassos of the 21<sup>st</sup> Century.”

## The role of Brain Fingerprinting in counterterrorism and law enforcement

Authorities can utilize the Brain Fingerprinting system to determine if an individual’s memory contains specific knowledge of any fact or situation, such as the details of a crime scene, bomb-making knowledge, or the inner workings of a terrorist organization. When those activities, or items associated with those activities, are recognized by the individual, months or even years later, the brain emits the involuntary response known as a P300. This brain response is a thoroughly researched neurological event that has been well documented over more than 25 years in scientific literature. Dr. Farwell has discovered that the P300 is part of a more comprehensive response known as a P300-MERMER. In studies at the FBI, the CIA, the US Navy, and elsewhere, the Company has developed and refined the Farwell Brain Fingerprinting System to detect the P-300 MERMER and the concealed knowledge it reveals with near-100% accuracy. The P300-MERMER and the method and apparatus for applying it have been patented and published in the peer-reviewed scientific literature.

We have used this technology in hundreds of tests in both real-life situations and laboratory conditions. For national security, counterterrorism, and law enforcement, this testing detected information related to two different types of activities:

- participation in a specific incident, or a particular crime.
- participation in a specific type of training or inside knowledge of a specific field.

Brain Fingerprinting scientifically, accurately, and objectively detects what a subject knows or does not know regarding a crime, specific training or expertise, or other information of interest.

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<sup>i</sup> <http://www.latimes.com/nation/la-na-san-bernardino-shooters-preplanning-20151209-story.html>

<sup>ii</sup> [http://www.nytimes.com/2015/12/04/us/san-bernardino-shooting.html?\\_r=0](http://www.nytimes.com/2015/12/04/us/san-bernardino-shooting.html?_r=0) ; <http://time.com/4134917/san-bernardino-shooter-saudi-arabia/>

<sup>iii</sup> <http://www.cnn.com/2015/11/17/europe/paris-attacks-at-a-glance/>

<sup>iv</sup> <http://www.theguardian.com/world/2015/nov/15/paris-attacker-omar-ismail-mostefai>

<sup>v</sup> <http://www.cnn.com/2015/11/18/world/paris-attacks/index.html>

<sup>vi</sup> <http://www.telegraph.co.uk/news/worldnews/europe/france/12002350/Paris-France-terror-attacks-isil-Saint-Denis-raid-Molenbeek-suspects-Syria-bombing-live.html>

<sup>vii</sup> <http://www.cnn.com/2015/11/17/europe/paris-attacks-at-a-glance/>

<sup>viii</sup> <http://www.cnn.com/2015/11/16/world/paris-attacks-suspects-profiles/index.html>

<sup>ix</sup> <http://www.cnn.com/2015/11/16/world/paris-attacks-suspects-profiles/index.html>