



Criminalistics Section - 2016

B210 Forensic Genetics in Brazil: A (Still) Brief History

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After attending this presentation, attendees will better understand how forensic genetics has been growing in Brazil and how this tool could help in reducing the threatening rate of 53,646 homicides and 50,320 rapes, estimated in 2013.¹

This presentation will impact the forensic science community by presenting the history of forensic genetics in Brazil.

The history of forensic genetics began in 1986 in England. Since then, DNA testing has become optimized and standardized for its use as criminal evidence by the international community. Two years later, a paternity test using DNA was performed in Brazil by Sérgio Pena, in a non-official laboratory. Despite Pena's success, the first official DNA laboratory was not created in Brazil until 1994 at the Police of Federal District (Brasília).

In 2004, when only five of the 27 Brazilian states had official forensic DNA laboratories, the Ministry of Justice implemented a national policy committed to providing infrastructure, well-trained forensic scientists, and integration between states and the Federal Police (PF). The laboratory web then began to be woven. The next year, PF's DNA laboratory was set up and started promoting competency events for official forensic scientists from all over the country. The laboratory team made their first contact with Federal Bureau of Investigation (FBI) in the same year, intending to acquire the Combined DNA Index System (CODIS). They had also planned for the implementation of a quality system since the laboratory's inauguration. This was achieved through an **International Organization for Standardization (ISO) 17025** consultation in 2008 and accreditation in 2014. Legal initiatives for a database creation and for legal writ of biological sample collection from sentenced criminals were also undertaken.

In 2009, an agreement was made between the FBI and Brazilian PF, allowing the use of CODIS (5.7.4 and 6.1 versions) in official laboratories. The 6.1 version was used for the second time in the world and the first time in a plane crash to support victim identification from the Air France 447 disaster. Experts from Brazilian PF identified all of the 50 bodies that were found using DNA, conforming to the International Criminal Police Organization (INTERPOL) proceedings, based on 430 reference profiles from relatives and direct references.² After the CODIS assignment, Brazilian states initiated the formal registration of their own databases. At the same time, national database conditions were provided. In 2012, Brazilian Congress passed a bill to collect DNA from those convicted of hideous crimes as well as from arrestees, under the conditions of a court order.³ In 2013, a decree put 2012's law into power and provided national database creation, as well as the DNA Databases Network, a web that would link state, federal, and national databases.⁴ Another two practical databases have been helping investigations in Brazil: (1) for missing persons from the military dictatorship period; and, (2) a national missing children and teenagers bank.

Forensic sciences are also alive at academic level. The Brazilian Academy of Forensic Sciences (BAFS) was conceived in 2011 during Brazil's candidature in the International Association of Forensic Sciences (IAFS) and was formally founded in 2012. Two conferences have been held since BAFS creation, promoting integration between research and applied knowledge for official laboratories.

In conclusion, this presentation provides a brief summary of forensic genetics development in Brazil and explains how DNA testing has been gaining space and strength at the judicial level.



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