



Last Word Society - 2017

LW6 The Mysterious Case of Lori Ruff — Solved!

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After attending this presentation, attendees will learn how high density autosomal Single Nucleotide Polymorphism (SNP) testing methods borrowed from the genetic genealogy community were used to identify a Jane Doe in a case in which forensic identification methods could not be applied. Although the identification methods used here have been very successful for the genetic genealogy community for identifying adoptees and long-lost family members, they are not presently available for use by law enforcement. Therefore, attendees will learn about identification techniques they may not yet be aware of, but that have great potential for future use by the forensic community.

This presentation will impact the forensic science community by demonstrating the successful resolution of a unique case of human identification using techniques borrowed from genetic genealogy. This presentation will broaden the understanding of various types of SNP metadata that can be extracted to reduce the complexity of analyses, leading to a better appreciation of high-density autosomal SNP testing as an alternate means of DNA identification.

The true identity of Lori Kennedy Ruff baffled authorities since her death on Christmas Eve of 2010. Although Lori was married and the mother of a young daughter, her family discovered that she had created a new identity nearly two decades earlier. A collection of personal items found in her strongbox after she died included a letter of reference written on stationery from a hotel in Thailand, a certificate from a parachute school, and a sheet of scribbled phone numbers of individuals who claimed they had never met her. There were also documents that revealed that in 1988, she had assumed the identity of Becky Sue Turner, a 2-year-old who had died in a fire in Fife, WA, in 1971, after which she immediately had her name changed legally to Lori Erica Kennedy.

Lori's identity change had been well planned. Despite investigations by the federal authorities, her life prior to 1988 remained an enigma. Various theories were advanced regarding who she was, but they were based on speculation. When no further leads were produced, the case was closed.

Yet the Ruff family still wanted to identify Lori for the sake of her young daughter. Because Lori had been cremated and her DNA was not available, the family had her daughter and Lori's husband tested by 23andMe, a commercial DNA testing company. Software tools provided by the company enabled this research to back out Lori's autosomal DNA results through phasing, which revealed a few close matches that could potentially provide clues to her identity; however, there were challenges in exploiting these matches because they were either anonymous, adopted, or unresponsive.

Using an innovative DNA mapping technique, the Geographical Relationship ID System (GRIDS), applied to the genealogies of more distant matches, this study was able to visualize geographical overlap among their families. Coupled with what little was known about her activities prior to 1988, this study was able to focus on areas where her family probably resided and identify possible family surnames.

Through autosomal phasing analysis and GRIDS, a first cousin was successfully identified, which led to Lori's family. None of the theories about Lori Ruff were true. She was simply a runaway teen from Philadelphia who could not get along with her stepfather.

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Lori Ruff, Autosomal DNA, Genetic Genealogy

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