Abstract Template

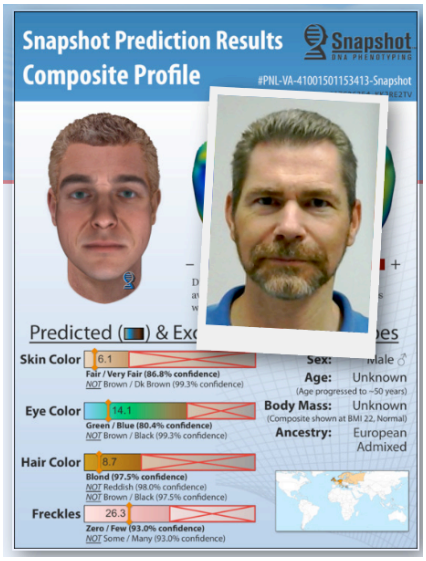
Title: The Evolution of SNP Genotyping for Forensic Investigations

Keywords: single nucleotide polymorphism, DNA phenotyping, genetic genealogy, kinship inference, DNA analysis, lead generation

I. Abstract Body (up to 250 words)

Less than a decade ago, the idea of using single nucleotide polymorphisms (SNPs) for forensic investigation was a foreign concept. Beginning with studies showing the association between specific genes and visible traits, researchers have since found new ways to exploit the full richness of the human genome. From a case study perspective, participants will gain an understanding of how SNPs (for DNA phenotyping, ancestry determination, kinship inference and genetic genealogy) are now being used to solve cases at an unprecedented rate. In the past year alone law enforcement agencies, both in the US and abroad, who have utilized these technologies, have been able to solve over 70 violent crimes, most of which had been cold for over 25 years.

II. Image:



III. Reference:

1) Greytak, E. M., Moore, C., & Armentrout, S. L. (2019). Genetic genealogy for cold case and active investigations, Forensic Science International.

2) EM Greytak, DH Kaye, B Budowle, C Moore, and SL Armentrout (2018). Privacy and genetic genealogy data. Science, 361(6405), 857.

3) E Greytak and C Moore (2018). Closing Cases with a Single SNP Array: Integrated Genetic Genealogy, DNA Phenotyping, and Kinship Analyses. International Symposium on Human Identification.

4) R Wiley, X Zeng, B Larue, E Greytak, S Armentrout, and B Budowle (2016). Blind Testing and Evaluation of a Comprehensive DNA Phenotyping System. International Symposium on Human Identification.

IV. Biography:

Dr. Steven Armentrout pioneered the use of SNP genotyping for forensic investigations. Beginning in 2011, with funding from the US Department of Defense, he led the research team that created Parabon® Snapshot®, the world's first software application able to predict physical appearance and ancestry of an unknown person from a crime scene DNA sample, making it available to law enforcement in 2015. Dr. Armentrout holds a PhD in Computer Science from the University of Maryland, College Park and has nearly 30 years of experience designing machine learning (A.I.) software to solve complex problems ranging from investment portfolio optimization to nanotechnology design and bioinformatics.

V. Presenting author details



Full Name: Steven L. Armentrout, PhD
Contact number: 703.689.9689 x201
Address: Parabon NanoLabs
11260 Roger Bacon Drive
Suite 406
Reston, VA 20190
United States
Twitter account: @ParabonSnapshot
Linked In account: Not applicable
Session name/ number:
Category: (Oral presentation/ Poster presentation): Oral
Passport Number: