# Parabon Celebrates Investigative Genetic Genealogy 5-Year Anniversary
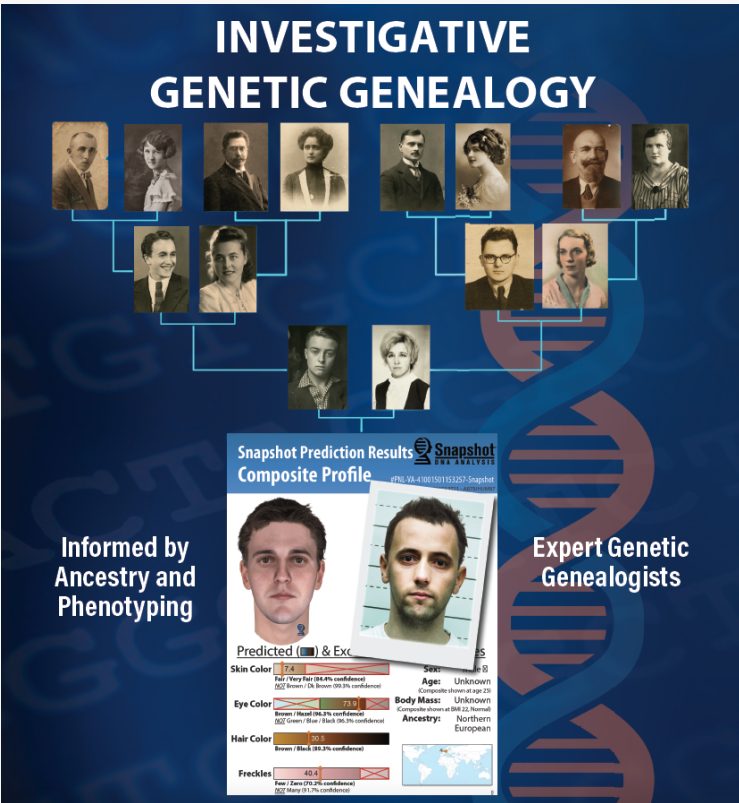
*Company that Redefined DNA Analysis Continues to Help Solve "Impossible" Cases*

RESTON, VIRGINIA, UNITED STATES, May 4, 2023 /EINPresswire.com/ -- Parabon, a DNA company known worldwide for generating leads for law enforcement through its Snapshot® Advanced DNA Analysis division, is celebrating the 5-year anniversary of its groundbreaking investigative genetic genealogy (IGG) service. Since launching IGG in May 2018, Parabon has helped law enforcement agencies positively identify over 265 persons-of-interest, a rate of about one per week for the past five years. Impressively, over 180 of those identifications were of violent offenders who committed heinous crimes such as rape and/or murder.



Illustration of a simplified family tree leading to a violent offender in a criminal case.

According to CEO Dr. Steven Armentrout, Parabon's highly skilled genetic genealogists give the company an edge in generating high-confidence leads. "Our investigative genetic genealogists are the most experienced on the planet and can solve complex cases that others can't. They are successful even when presented with challenges like low centimorgan sharing, unknown parentage, diverse biogeographical ancestries, and endogamy."

CeCe Moore, a pioneer in genetic genealogy and developer of the techniques widely-used today in the industry, joined Parabon as Chief Genetic Genealogist 5 years ago this month. She leads Parabon's IGG unit, which consists of three other genetic genealogists, all of whom she hand picked. "I've known my Parabon genetic genealogy colleagues for over a decade. Before joining Parabon, they were early adopters of genetic genealogy and helped thousands of adoptees, foundlings, donor-conceived persons, and many others solve family mysteries using autosomal DNA testing. Their expertise and dedication made them a perfect fit for the trailblazing work at

Parabon."

In addition to its professional IGG team, Moore attributes Parabon's success in generating high-confidence leads for detectives to Parabon's scientists and their expertise in working with SNPs and forensic-grade DNA samples.  "You can't conduct a genetic genealogy investigation unless you have good data." Moore added, "Parabon's scientists have been successfully processing forensic-grade DNA longer than anyone in the industry. Their expertise working with especially challenging DNA samples, like those involving mixtures, is unrivaled. There's really no one else who can match their track record of success."

**Caption:** A table of 15 Parabon law enforcement cases where identification was made from a mixed DNA sample. "Inferred suspect level" refers to the mixture level determined for the sample, such that 40% means the suspect was 40% of the mixture and the victim was 60%. "Call rate" refers to the percentage of targeted SNPs that were successfully genotyped before ("original") and after ("deconvoluted") bioinformatic mixture deconvolution. Mixed samples have decreased call rates, which can be improved through deconvolution.

| Date of Crime | Inferred Suspect Level | Original Call Rate | Deconvoluted Call Rate |
|---|---|---|---|
| 2015 | 40% | 71.6% | 87.4% |
| 2016 | 40% | 73.4% | 92.8% |
| 2007 | 50% | 68.8% | 92.1% |
| 2016 | 50% | 74.5% | 91.7% |
| 1998 | 60% | 75.7% | 92.4% |
| 1988 | 60% | 72.4% | 90.0% |
| 2016 | 60% | 76.9% | 87.3% |
| 1986 | 70% | 80.4% | 87.3% |
| 2010 | 80% | 74.7% | 89.1% |
| 1971 | 80% | 65.9% | 90.3% |
| 1990 | 80% | 83.6% | 90.4% |
| 2004 | 80% | 85.5% | 94.1% |
| 1967 | 80% | 70.8% | 85.1% |
| 1986 | 80% | 86.3% | 97.4% |
| 2017 | 80% | 82.4% | 96.7% |

A table of 15 Parabon law enforcement cases where identification was made from a mixed DNA sample.

Dr. Ellen Greytak, Parabon's Director of Bioinformatics and the Snapshot Division Leader, explained that Parabon developed laboratory protocols for processing forensic-grade DNA via both microarray genotyping and whole genome sequencing (WGS) several years ago and began working criminal cases using SNPs and forensic-grade DNA in 2014.  "I remember going to forensic genetics conferences and promoting the use of SNPs back when no one was interested in markers other than STRs. Now that SNPs have been so successful for lead generation, those conferences are almost entirely about SNPs! Without Parabon's foundational work pushing the forensics field forward, we would not have seen the amazing advances of the last 5 years and we would not see all these cases being closed today," Greytak said.

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In the past 5 years Parabon has generated over 265 positively identified leads, including 180 violent offenders, making Parabon the most experienced lead generation company in the industry."

*Steven Armentrout, PhD*

About the same time the company began performing casework, Parabon's bioinformatics team also developed an innovative mixture deconvolution capability for genome-wide genetic data that has proven beneficial in IGG cases. The capability is crucial for cases with mixtures, which are very common in violent crimes, especially those with a sexual assault component. More than a dozen identifications have been made from complex, highly mixed samples using Parabon's deconvolution procedure.

"Mixtures, especially 50/50 mixtures, are extremely difficult to analyze," said Dr. Greytak. "Our highly successful deconvolution procedure sets us apart from other IGG providers and allows us to successfully work extremely difficult cases that other labs would not be able to handle."

As Parabon looks to the future, it remains dedicated to continuing to help law enforcement make identifications and plans to focus energy on active violent offender cases. According to Armentrout, the company plans to announce a new IGG offering later this month.



Parabon's CEO Steven Armentrout, PhD with Chief Genetic Genealogist, CeCe Moore, and Director of Bioinformatics and Snapshot Division Leader Ellen Greytak, PhD

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