





Then we'll bring the evidence to the forensic science community for evaluation, where they can look at the data, and assess the results and the overall method, as well as the mathematical formulas and practical value."

According to Dr. Shriver, the next step will be to add the most informative and confirmed facial markers into a next-generation sequencing (NGS) workflow like the Illumina MiSeq FGx System, and begin offering trait value estimates based on those markers. "Another crucial step will be making sure that these systems are optimized for very small amounts of DNA," Dr. Shriver stated. "In a typical forensic scenario, you're working with 1 ng of total material. The ForenSeq™ assay is already optimized for 1 ng of human DNA samples and interrogates hundreds of SNP markers simultaneously. Those are important first steps."

"We've embarked on a long and interesting path of research," Dr. Shriver added. "I'm convinced based on our initial published and unpublished results that we will soon be able to make useful estimations of facial features from DNA samples."

## References

1. Claes P, Liberton DK, Daniels K, et.al. Modeling 3D facial shape from DNA. *Plos Genet.* 2014; 10(3):e1004224.
2. Fu Q, Hajdinjak M, Moldovan OT, et.al. An early modern human from Romania with a recent Neanderthal ancestor. *Nature.* 2015; 10.1038/nature14558.
3. Claes P, Hill H, Shriver MD. Toward DNA-based facial composites: preliminary results and validation. *Forensic Sci Int Genet.* 2014; 13:208–216.
4. Voss, K. DNA as a Sketch Artist: How Forensic Science Benefits from Physical Predictions. *Forensic Magazine.* 2015; May 15, 2015. Accessed August 18, 2015.

## Learn more about the Illumina products and systems mentioned in this article:

- MiSeqFGx System  
[www.illumina.com/systems/miseq-fgx.html](http://www.illumina.com/systems/miseq-fgx.html)
- ForenSeq DNA Signature Prep Kit  
[www.illumina.com/products/forenseq-dna-signature-kit.html](http://www.illumina.com/products/forenseq-dna-signature-kit.html)
- ForenSeq Universal Analysis Software  
[www.illumina.com/informatics/research/sequencing-data-analysis-management/forenseq-universal-analysis-software.html](http://www.illumina.com/informatics/research/sequencing-data-analysis-management/forenseq-universal-analysis-software.html)

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