

August Woerner, PhD
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Area of Expertise

Dr. August Woerner's research interests are generally in the areas of computation and population genetics, with a focus in forensics, bioinformatics and machine learning. August's current research projects run the gamut from streamlining bioinformatics pipelines—making them faster and more user friendly—to machine learning and statistical approaches to processing and calling MPS data, to inference problems in population genetics and genomics.

Qualifications

MS in Computer Science, University of Arizona
PhD in Genetics, University of Arizona

Recent Publications

mixIndependR: a R package for statistical independence testing of loci in database of multi-locus genotypes

Song, B., Woerner, A. E. & Planz, J., Dec 2021, In: BMC Bioinformatics. 22, 1, 12.

STRait Razor Online: An enhanced user interface to facilitate interpretation of MPS data

King, J. L., Woerner, A. E., Mandape, S. N., Kapema, K. B., Moura-Neto, R. S., Silva, R. & Budowle, B., May 2021, In: Forensic Science International: Genetics. 52, 102463.

Reducing noise and stutter in short tandem repeat loci with unique molecular identifiers

Woerner, A. E., Mandape, S., King, J. L., Muenzler, M., Crysap, B. & Budowle, B., Mar 2021, In: Forensic Science International: Genetics. 51, 102459.

A continuous statistical phasing framework for the analysis of forensic mitochondrial dna mixtures

Smart, U., Cihlar, J. C., Mandape, S. N., Muenzler, M., King, J. L., Budowle, B. & Woerner, A. E., Feb 2021, In: Genes. 12, 2, p. 1-21 21 p., 128.

Fractionation of DNA and protein from individual latent fingerprints for forensic analysis

Schulte, K. Q., Hewitt, F. C., Manley, T. E., Reed, A. J., Baniasad, M., Albright, N. C., Powals, M. E., LeSassier, D. S., Smith, A. R., Zhang, L., Allen, L. W., Ludolph, B. C., Weber, K. L., Woerner, A. E., Freitas, M. A. & Gardner, M. W., Jan 2021, In: Forensic Science International: Genetics. 50, 102405.

Numt identification and removal with RtNI

Woerner, A. E., Cihlar, J. C., Smart, U. & Budowle, B., 15 Oct 2020, In: Bioinformatics. 36, 20, p. 5115-5116 2 p.

An algorithm for random match probability calculation from peptide sequences

Woerner, A. E., Hewitt, F. C., Gardner, M. W., Freitas, M. A., Schulte, K. Q., LeSassier, D. S., Baniasad, M., Reed, A. J., Powals, M. E., Smith, A. R., Albright, N. C., Ludolph, B. C., Zhang, L., Allen, L. W., Weber, K. & Budowle, B., Jul 2020, In: Forensic Science International: Genetics. 47, 102295.

Copan microFLOQ® Direct Swab collection of bloodstains, saliva, and semen on cotton cloth

Sherier, A. J., Kieser, R. E., Novroski, N. M. M., Wendt, F. R., King, J. L., Woerner, A. E., Ambers, A. D., Garofano, P. & Budowle, B., 1 Jan 2020, In: International journal of legal medicine. 134, 1, p. 45-54 10 p.

Evaluation of 16S rRNA Hypervariable Regions for Bioweapon Species Detection by Massively Parallel Sequencing

Dias, V. H. G., Gomes, P. D. S. F. C., Azevedo-Martins, A. C., Cabral, B. C. A., Woerner, A. E., Budowle, B., Moura-Neto, R. S. & Silva, R., 2020, In: International Journal of Microbiology. 2020, 8865520.

A novel phylogenetic approach for de novo discovery of putative nuclear mitochondrial (pNumt) haplotypes

Smart, U., Budowle, B., Ambers, A., Soares Moura-Neto, R., Silva, R. & Woerner, A. E., Nov 2019, In: Forensic Science International: Genetics. 43, 102146.

Sponsored Projects

A Sustainable Approach to High Confidence Metagenomics Analysis of Complex Samples

Budowle, B. & Woerner, A.

Signature Science, LLC

30/05/17 → 7/05/18

Better algorithms and chemistry for mixture interpretation

Woerner, A. & Budowle, B.

NIJ: National Institute of Justice

1/01/19 → 31/12/20

Development of a Mitochondrial Mixture Database and Interpretation Tool

Budowle, B. & Woerner, A.

NIJ: National Institute of Justice

1/01/18 → 31/12/19

Proteos

Woerner, A. & Budowle, B.

Signature Science, LLC

2/07/18 → 1/07/19

Reducing Human Trafficking Through Forensics in Central America

Budowle, B. & Woerner, A.

US Department of State Bureau of INL

20/09/17 → 20/09/18