

# SYSTEMS INTEGRATION FOR MASSIVELY PARALLEL SEQUENCING METHODS



## BE READY FOR WHAT'S NEXT

The legal and technical landscape for DNA evidence is changing. Are you ready to implement massively parallel sequencing in your forensic laboratory? Battelle can help.

The Battelle Applied Genomics Team is working to bring massively parallel sequencing methods out of the research arena and into working forensic laboratories across the country and around the world. We bring together internationally recognized forensic experts, state-of-the-art technology and innovative software solutions to support your laboratory's implementation of methods that are transforming forensic DNA analysis.

## PROVEN SOLUTIONS FROM LEADING EXPERTS

At Battelle, we're working at the forefront of massively parallel sequencing (MPS) methods and technologies. We're not just delivering services and technology—we're advancing the science of DNA forensics. You can count on us for:

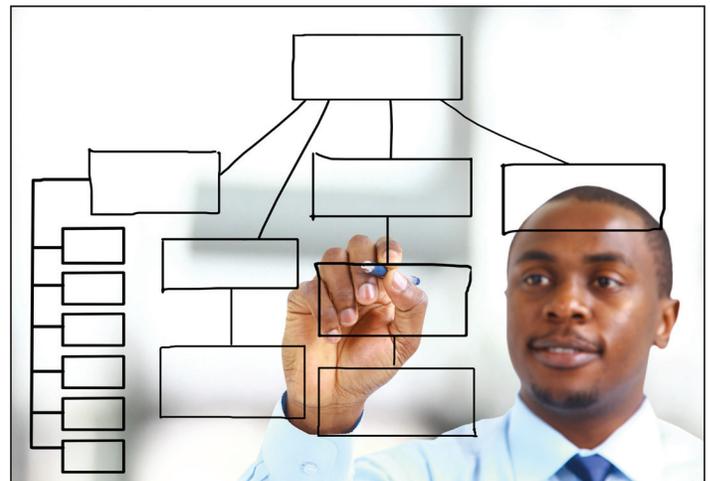
**Experience.** Our decades of experience working with defense and law enforcement agencies at all levels gives us a true understanding of the needs and workflows in forensics labs. This includes four years of proven experience implementing MPS technologies in the field for the Department of Defense.

**Expertise.** Some of the world's leading experts in MPS and forensic genomics are on our team and bring deep expertise in real-world forensic applications of MPS technologies. As the world's largest independent research organization, Battelle makes significant internal investments to develop, analyze and validate new MPS methods and technologies for forensic genomics.

**Objectivity.** As an established, independent research and development organization, Battelle offers objective assessments and recommendations and customized solutions tailored to your needs. We were selected to lead a National Institute of Justice (NIJ) study with seven partner forensic laboratories to evaluate MPS technologies, reagents, software and methods, giving us unparalleled insight into all of the options available.

## CUSTOMIZED, COMPREHENSIVE IMPLEMENTATION SOLUTIONS

Battelle offers a turnkey implementation solution to get you up and running with massively parallel sequencing, from start to finish. Or, we can provide targeted support in the areas you need the most. Our forensics experts will work with you to determine your needs and develop a customized program tailored to your goals and budget.



## OUR SERVICES

### Education and Training

Let our experts train yours. We can help you integrate massively parallel sequencing into your workflows and train laboratory personnel on the methods, processes and technologies they will use. Our trainers have extensive experience in forensic casework and laboratory workflows, and can develop a customized training plan to meet your needs.

### Methods Development and Validation

Validate your methods and ensure that they are delivering accurate results. We can help you set up effective workflows and quality control systems, provide objective analysis and recommendations, and offer validation services for future laboratory certification.

### Sample Preparation

Massively parallel sequencing introduces new DNA analytical steps, such as DNA library preparation. We can help you implement such steps, tailored to your selected instrumentation and analysis panels.

### Massively Parallel Sequencing Instrumentation

Integrate new massively parallel sequencing instruments into your lab. We'll evaluate your needs, facilitate strategy sessions to identify the sequencing solution best suited to achieve your mission, and support your laboratory's implementation of this technology.

### Data Analysis and Bioinformatic

The right software makes all the difference. We developed ExactID® to make analyzing massively parallel sequencing data fast, easy and highly accurate.

### Testing Services

Not ready to implement MPS in your lab? Let us run your samples in ours. We provide MPS testing services for unidentified human remains/missing persons, investigative genomics, cold cases and backlog support.

## Battelle ExactID®

ExactID, developed by Battelle, is the first and only reagent- and sequencer-independent massively parallel sequencing software for forensic DNA analysis. ExactID turns DNA into a very objective witness, providing a revolutionary new way to solve cases that have never been solved before.

- **Accurate and Reproducible:** A novel non-alignment signal processing method accurately types any allele sequence with >99% sensitivity and specificity. Concordance to both CE and alternative MPS chemistries.
- **Robust Performance:** Any STR allele can be typed, including previously unknown sequences. Capability to provide sequence data in regions flanking the STR repeat.
- **Database Functionality:** Provides sequence data back-compatible for STR and Y-STR markers within NDIS database, with corresponding CODIS export files.
- **Universal MPS Marker Solution:** Autosomal STR, Y-STR, SNP
- **Intuitive User Interface:** Friendly interface for basic as well as advanced data interpretation. Easy to use for staff training and technical competency.
- **Fast:** Ten second processing for a 100 MB FASTQ file.
- **DNA QAS:** Electronic and automated tracking of user analysis.
- **ISFG Allele Designation Compatible:** Generates repeatable ISFG-compatible allele designations for STR alleles.

## Ready to learn more?

Contact us today to talk with an applications expert.

800.201.2011  
solutions@battelle.org  
www.battelle.org

Every day, the people of Battelle apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio since its founding in 1929, Battelle serves the national security, health and life sciences, and energy and environmental industries. For more information, visit [www.battelle.org](http://www.battelle.org).

800.201.2011 | [solutions@battelle.org](mailto:solutions@battelle.org) | [www.battelle.org](http://www.battelle.org)