

## Introduction

The Molecular Genetics Core Facility (MGCF) is a non-profit core laboratory in the Division of Genomics and Genetics in Boston Children's Hospital. We offer genomics services for academic research institutions and have the ability to provide custom services not widely available from outside sources. BCH and HMS researchers are pioneers and require a Core Facility that is flexible and innovative.

- Additional machines to those pictured include: Bio-Rad CFX96 RT PCR system, Hamilton STARlet Automated Workstation, MJ Research (Bio-Rad) PTC-200 Thermal Cyclers, Covaris S2 Sonicator

## FIND US ON ILAB:

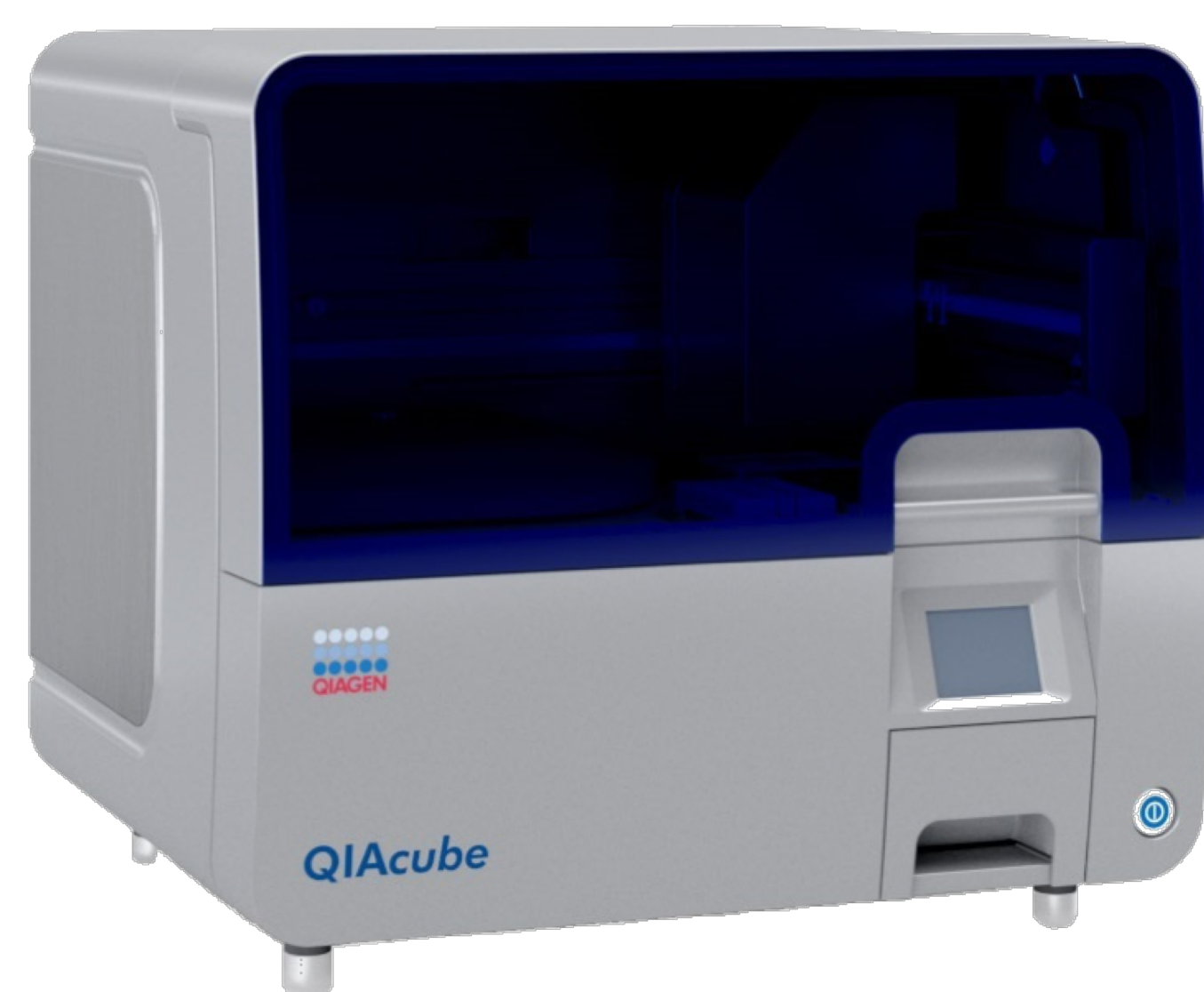
<https://childrenshospital.corefacilities.org/account/login>

## Industry standards



### ThermoFisher 3730 DNA Analyzer

- Gold Standard in medium-to-high throughput genetic analysis
- Sanger Sequencing
- Microsatellite analysis, AFLP, LOH, SSCP, SNP screening and SNP validation



### QIAGEN QIAcube

- Automation of trusted QIAGEN spin-column kits
- Elimination of manual processing steps
- Purification of DNA, RNA, or proteins



### Agilent 2100 Bioanalyzer

- Automated electrophoresis tool for the sample quality
- Provides highly precise analytical evaluation of various samples types in many workflows, including next generation sequencing (NGS), gene expression, biopharmaceutical, and gene editing research
- Objective assessment of sizing, quantitation, integrity and purity from DNA, and RNA

## Popular on Longwood



### ThermoFisher GeneChip™ Scanner 3000 7G System

- Fully integrated platform for conducting research using GeneChip™ brand probe arrays
- Comprehensive selection of arrays available for expression profiling on multiple species
- Standardized and validated for robust, reproducible experimental results, including GeneChip™ microarray-specific controls for critical assay steps
- Free analysis software, TAC console



### Fluidigm Biomark

- Automates PCR reactions in nanoliter volumes
- Real-time or end-point read modes
- Gene expression, Genotyping, Digital PCR
- 48x48, 96x96, 192x24 formats

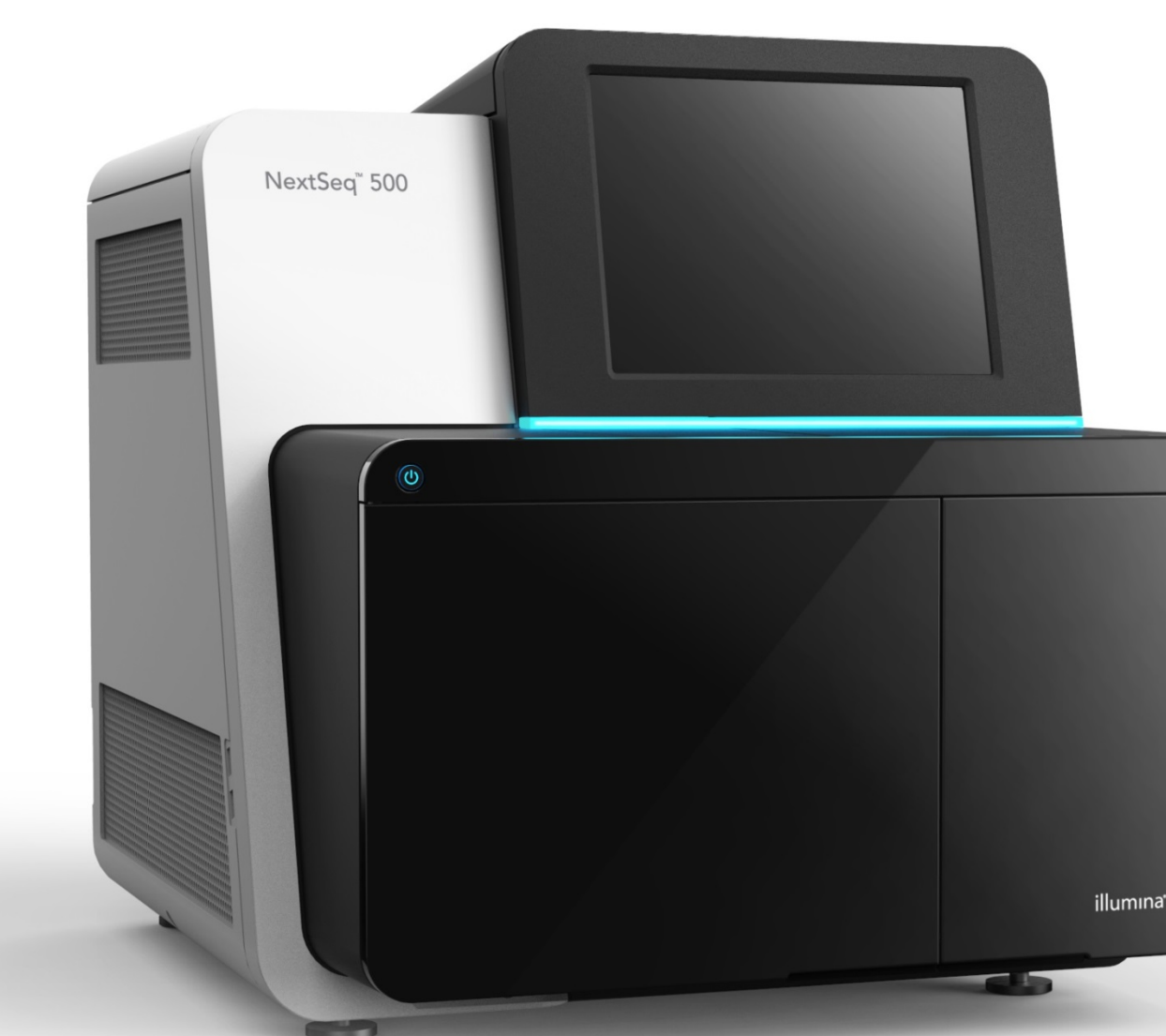


### Agilent SureScan Microarray Scanner

- Provides laser-induced fluorescence scanning designed to read microarrays printed on standard 1 inch by 3 inch glass slides.
- Comparative Genomic Hybridization (CGH) & CGH + SNP Microarrays
- Flexible and affordable custom design microarrays
- Available for full and self service

## New and Exciting

The core provides training of BCH investigators and their staff on the latest techniques and approaches to molecular genetics.



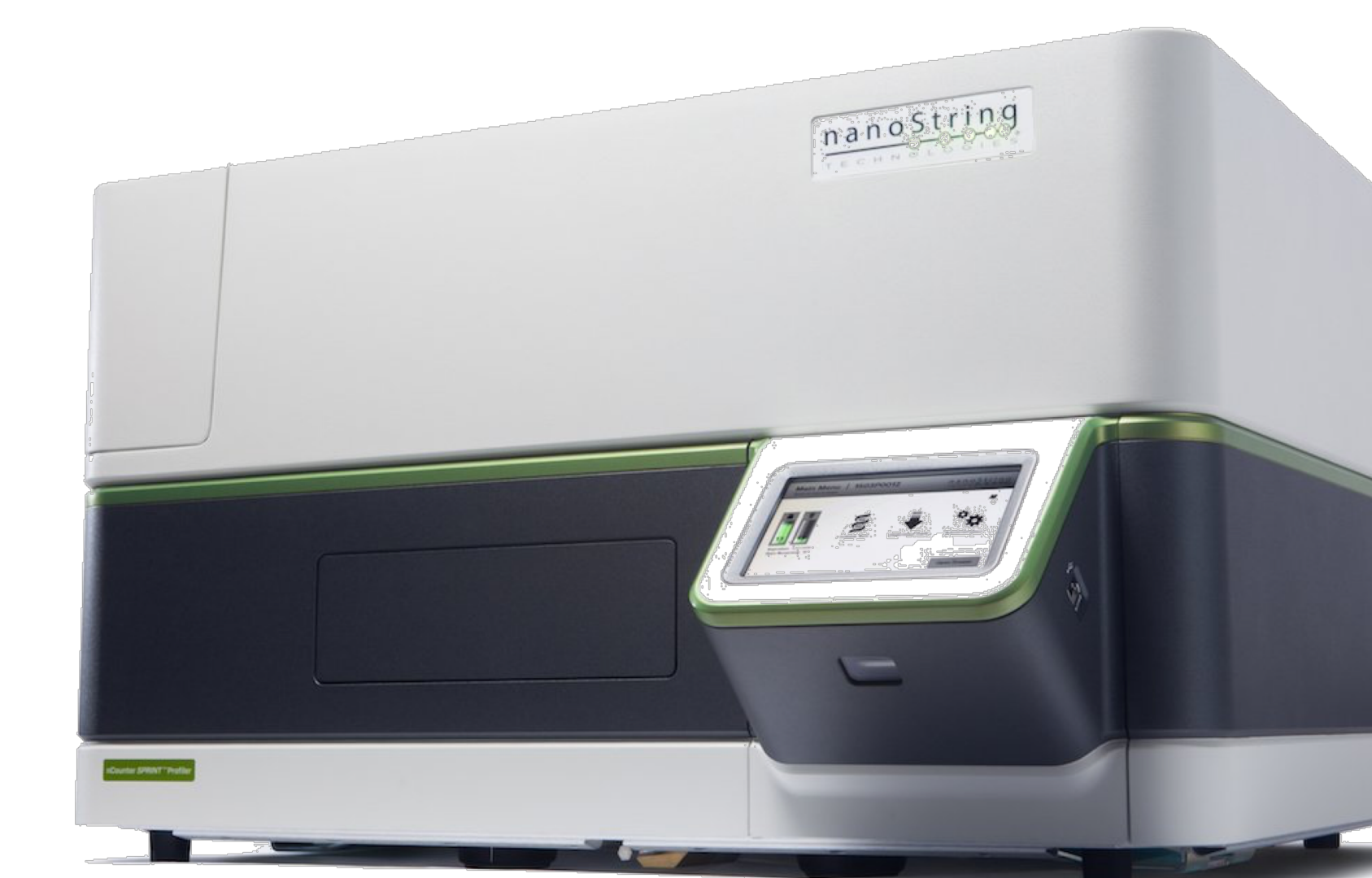
### Illumina NextSeq 500

- High quality, high coverage genome
- Streamlined library preparation using high quality TruSeq library preparation kits
- Single, paired-end, and indexed sequencing



### BIORAD QX200 ddPCR System

- Detect rare DNA target copies with unmatched sensitivity
- Determine copy number variation with unrivaled accuracy
- Measure gene expression levels with exquisite precision
- Available for full and self service



### Nanostring Technologies' nCounter Sprint Profiler

- Molecular barcoding technology for RNA, DNA, and protein profiling applications
- Analyze 10s to 100s of targets simultaneously using single-tube multiplexing
- Detect small fold changes
- simple CSV file that contains direct counts for each target

Come and see us! CLS 16<sup>th</sup> floor

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