

# GENOMICS RESOURCE CENTER (GRC)

CIBR: Center for Innovative Biomedical Resources

## APPLICATIONS AND SERVICES

### Sequencing Applications

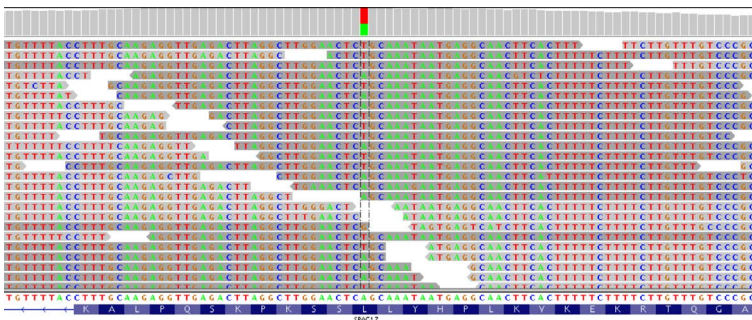
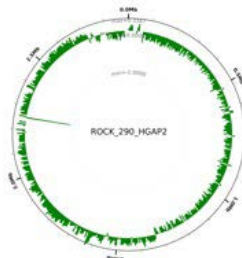
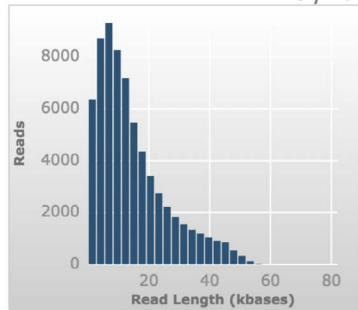
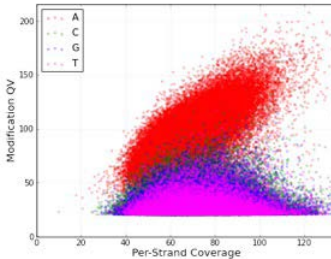
- *de novo* Whole Genomes
- Comparative Genomes
- Human Genomes & Exomes
- Transcriptomes
- Custom Capture
- ChIP-Seq
- Methylation & Base Modification Detection
- Ecological and Organismal Metagenomes
- Amplicon Sequencing
- Custom Applications

### Analysis Services

- Genomic and Metagenomic Sequence Assembly
- Comparative Genome Analysis
- Phylogenomic Analysis
- SNP, Indel, and Structural Variant Detection
- Epigenomic Analysis
- Pathway & Network Analysis
- Sequence Data Storage and Distribution
- Custom Data Analysis

### Our Sequencing Platforms

- Illumina HiSeq 2500 & 4000
- Illumina MiSeq and MiSeqDx
- PacBio RS II & Sequel
- Oxford Nanopore MinION
- NanoString nCounter MAX
- 10x Genomics Chromium System



## MISSION

The Genomics Resource Center (GRC) is a high-throughput core laboratory and data analysis group supporting the scientific programs of the Institute for Genome Sciences, University of Maryland Baltimore and its collaborators utilizing state-of-the-art technology to generate high quality genomic data in a cost effective manner.

## ABOUT GRC

Led by Dr. Lisa Sadzewicz, Administrative Director, and Mr. Luke Tallon, Scientific Director, who together have more than 40 years' experience in managing high-throughput sequencing and analysis operations, the multi-disciplinary GRC group includes scientists, bioinformatics software engineers, bioinformatics analysts, project managers, and research specialists who have extensive experience in planning and managing projects, ranging in scope from small-scale amplicon and plasmid sequencing to large-scale comparative genomic and transcriptome sequencing.

The laboratory services offered by the GRC include sample quality assessment, library construction, sequencing and analysis of a broad range of sample types.

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## Why the GRC?

Genomic technologies and applications now permeate both basic and clinical research. Personalized medicine is being driven by genomic data. However, transforming the data into medical knowledge is the primary challenge facing researchers today. Led by investigators with more than 40 years of experience at a major genome center, the GRC offers expertise in a compact, nimble, and responsive core. We cultivate long-standing relationships with genomic technology providers to gain early access to new platforms and to maintain our cutting-edge advantage. We offer services using any combination of our sequencing platforms and bioinformatics analysis pipelines.

## Who can work with the GRC?

Everyone! We strive to bring the increasing power and decreasing cost of genomic analysis to a continually expanding research community. We provide services to a wide range of researchers - from experienced genomic scientists, to clinicians, to computer scientists. Prior experience with genome sequencing is not required. No matter your experience or expertise, we can guide you through every phase of the process and ensure that your project completes on time and on budget.

## What types of projects does the GRC take on?

We routinely work with projects that range from a single sample, to multi-year projects with thousands of samples. On average, we have more than 30 active projects ongoing, and our capacity grows each year. While we have particular expertise in microbial genomics, human microbiome studies, and human genome analysis, if it can be sequenced and analyzed, we can do it! From viral genomes to human genomes, from metagenomes to metatranscriptomes, and everything in between, we have experience sequencing and analyzing a wide variety of samples. Whether you are interested in only sequencing, or a combination of sequencing and analysis, we can customize the project to meet your needs.

## How does it work?

We tailor each project to the needs of the researcher. We conduct an initial consultation to develop a project plan that utilizes the most efficient and effective combination of available platforms and analysis pipelines to accomplish the goals of the project. This customized project plan serves to ensure the services provided by GRC address the underlying scientific question(s) driving the project. As the project commences, we initiate regular project updates, deliver data and quality metrics as they are generated, and conduct a post-project consultation to guide each researcher through the results.

## CONTACT



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## Blog

<http://grcblog.igs.umaryland.edu>