



*Scientific Bio-Minds*

*Life begins here...*

BIOINFORMATICS SUPPORT IN GENOMIC RESEARCH

# ENGAGING WITH GENOMIC SERVICES THEY'RE READY, ARE YOU?



## **Services for researchers engaging in case-control, family-based, or proband-only genome studies of disease, pharmacogenomics, and cancer**

With the rapid evolution of next-generation DNA sequencing technologies, the cost of sequencing a human genome has plummeted, and genomics has started to pervade health care across all stages of life — from preconception to adult medicine. Challenges to fully embracing genomics in a clinical setting remain, but some approaches are starting to overcome these barriers, such as community-driven data sharing to improve the accuracy and efficiency of applying genomics to patient care.

Scientific Bio-Minds has providing Genomic Data Analysis Services for Research, focusing on accuracy in sequencing, analysis, and interpretation of human genomes. Personalis believes that accuracy is crucial in medicine, both in research and ultimately in clinical use. We support researchers engaging in case-control, family-based, or proband-only genome studies of disease, pharmacogenomics and cancer.

## **Engaging Analysis of Large Genomic Data**

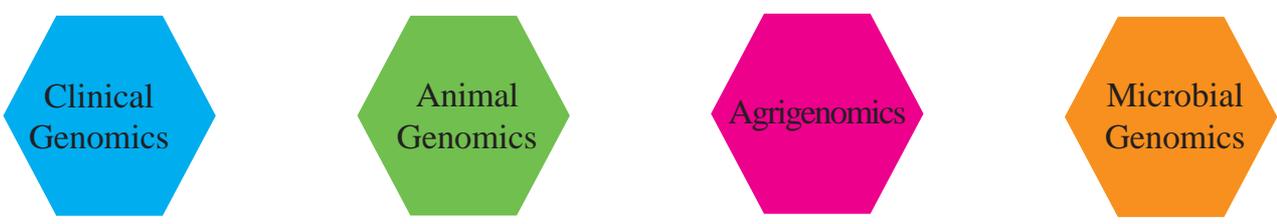
Characteristics of large health care organizations such as their population size, extensive data collections, and existing infrastructure make these organizations useful systems in which to carry out implementation research.

The implementation of genomics in clinical care can be accelerated by having health economists, ethicists, and regulatory personnel work in parallel with researchers, rather than in sequence, to effectively and efficiently change practice.

Many researchers underestimate the amount of time, funding, and personnel required to engage minority populations in research. Recruiting racial and ethnic minorities to participate in genomic research requires specialized expertise early on in the study design and additional efforts for recruitment, retention, and proper clinical support following the release of test results.

Engaging with implementation scientists early in the translational process can increase the likelihood that new genomic approaches will be adopted and adhered to in the clinic.

### **Service Areas**



## What we offer?

Scientific Bio-Minds is providing Bioinformatics services to the genomic research

### **Bioinformatic Analyses for Next-Generation Sequencing**

#### **Genome de-novo assembly of read data**

- *De-novo assembly of reads into sequence contigs*
- *Generation of contig sequences in FASTA format and a contig report containing basic size statistics of contigs*
- *Structural annotation*

#### **Resequencing & variant calling**

- *Alignment of reads against a reference genome*
- *Identification of germline variants or somatic mutations*
- *Annotation of the impact of the variants*

#### **ChIP sequencing**

- *Alignment of reads against a reference genome*
- *ChIP-seq analysis to determine peaks and their genomic regions and peaks*
- *Peak annotation (nearest gene information)*

#### **Transcriptome de-novo assembly of read data**

- *De-novo assembly of reads into sequence contigs*
- *Generation of contig sequences in FASTA format and a contig report containing basic size statistics of contigs*
- *Functional annotation*

#### **RNA sequencing**

- *Alignment of reads against a reference genome*
- *Calculation of gene expression levels*
- *Calculation of differential gene expression levels between samples/groups*
- *Identification of exon splice crossing sequencing reads*

#### **Metagenomics analysis**

- *Blasting of reads against the appropriate database*
- *List of Taxonomic classification with percentage of each classification in the sample*

### **Bioinformatic Analyses for gene expression microarrays**

- *Calculation of gene expression levels*
- *Calculation of differential gene expression levels between samples/groups*
- *Identification of splice events*

## Customized Algorithm Design for Genomic Sequencing Data Analysis

Our team of computer science, IT professionals and Bioinformaticians will help to design and develop new customized tools, algorithms, Softwares for genomic data analysis, interpretation and also report generation.

We also provide molecular, Biochemical and Immunology based diagnostic services to identify the diseases.

### *BIOINFORMATICS ANALYSIS IN GENOMIC RESEARCH*

#### **About us**

Scientific Bio-Minds was founded in 2008 with a mission to create bio-IT solutions for the analysis, interpretation, and application of biological and molecular data. We have upgraded the solutions on software development, tools development and Applications development on molecular diagnostics to predict the disease. We also provide services on customized gene panels for molecular diagnostics. Our solutions help genomics and proteomics researchers in the biopharma industry and in academia leverage computational power to discover new drug leads, verify lab experiments and cut significant research time. Our core technologies are NGS Data analysis, Microarray Data analysis, Drug discovery and Development.

#### *Contact us*

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