Phinomics

Enabling Technologies for 21st-century Molecular Medicine

- Among the obstacles to advancing personalized medicine in the 21st century are limitations of current DNA-sequencing technologies, which are preventing full access to important details of genomic information. At least 20% of our genome consists of DNA sequences that are resistant to sequencing by current methods; these sequences are highly variable among individuals and cell types and are important markers of cellular development, aging, health, and disease. Novel tools for uncovering details of genome sequence and structure are essential for comprehensive genomic analysis and ultimately needed for state-of-the-art diagnostic and therapeutic applications.

- **Phinomics** provides products and services that integrate single-molecule/single-cell DNA-analysis techniques with proprietary workflows, advanced bioinformatics, and leading sequencing instrumentation to uncover novel personalized details of genome structure and sequence. Our team brings more than 30 years of research on DNA structure and properties to state-of-the-art solutions that overcome limitations in Next-generation DNA-sequencing (NGS) technologies.

Markets:

- **Cancer Diagnostics and Therapeutics**
  - Our technologies resolve DNA rearrangements and polymorphisms that are not detectable by standard genomic methods
- **Immune Response and Vaccine Development**
  - Find and characterize early markers of Ig and TCR gene recombination
- **Stem-cell Therapeutics**
  - Monitor conversion of stem cells to differentiated cell types
- **Microbiome Analysis**
  - Identify virulence factors and antibiotic-resistance elements in complex microbial populations

Proprietary IP: