Axio
PARTNERS IN RESEARCH

Statistical Genetics and Genomics

Our Statistical Genetics and Genomics services include:

Power & Sample Size Analysis
- Sequencing- and microarray-based expression analysis
- Multi-arm and case/control Genome-Wide Association Studies (GWAS)
- Experimental design for all genetic and genomic assay studies

Genetic Data Analysis
- GWAS
- Candidate Gene Analysis
- Copy Number Variation (CNV) Analysis
- Genotype Imputation

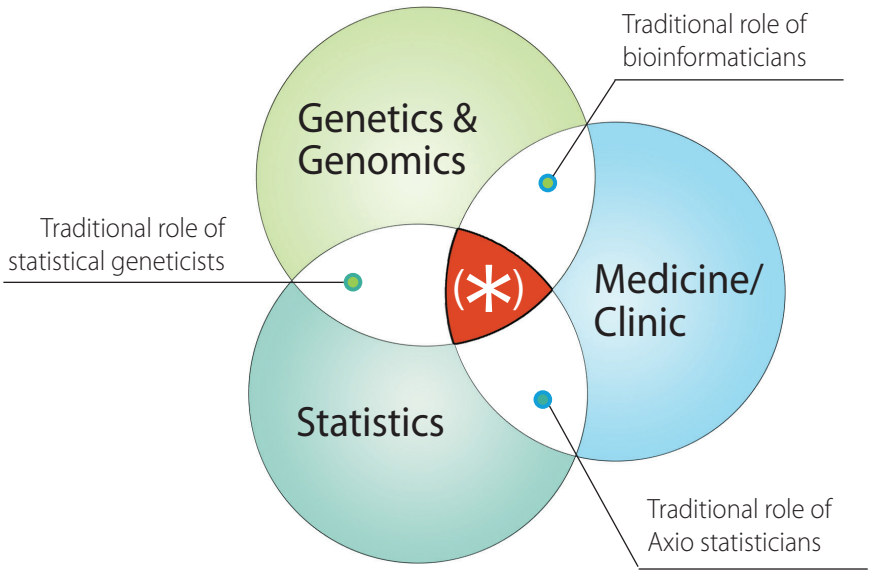
Gene Set Enrichment Analysis (GSEA)
- Fisher Exact and Contingency table-based analysis
- Bayesian GSEA
- Expression- / CNV- / Methylation-based analyses
- SNP-based analyses

Genomic Data Analysis
- Gene expression and RNAseq profiles
- Methylation Status analysis
- Nanostring® data analysis

Diagnostic Development
- Drug repositioning/prediction of response to therapeutics
- Patient stratification for clinical trials
- Prediction of subject level disease state or tumor type

Analysis of complex data sets generated by advanced genomic technologies—especially next-generation sequencing—is intrinsically statistical. Axio offers a comprehensive range of statistical genetics and genomics research services to pharmaceutical and biotechnology companies, diagnostic companies, and academic and government laboratories focused on **drug discovery, drug repositioning,** and **companion diagnostics** development. Merging deep experience in **statistical genetics, bioinformatics and biostatistics** with **clinical understanding,** our highly trained PhD/MS staff apply leading-edge statistical and computational methods to support experimental design, analysis, and interpretation of high-throughput data to expedite genomic discovery.

* Axio Statistical Genetics: A leading-edge multidisciplinary approach



Axio

Axio merges advanced capabilities in statistical genetics, bioinformatics and biostatistics with clinical experience to support the translation of genomic discovery into drug discovery/development, drug repositioning, and companion diagnostics development.

Expertise

Axio staff have deep expertise in genetic and genomic data analysis from years of experience facilitating pharmaceutical companies with drug discovery, drug repositioning, and diagnostic panel development. Our staff of expert statistical geneticists and bioinformaticians have experience across a broad range of areas, including:

- Design of gene expression and GWAS studies
- Genotype imputation
- GWAS analysis
- Gene Expression and RNAseq analysis
- CNV/DNAseq and methylation analysis
- Model building
- Gene set enrichment analysis
- Diagnostic panel creation and other machine-learning analyses
- Proteomic/metabonomic analyses using mass spectrometry data
- Meta analysis

Please contact us if you would like to discuss specific skillsets required for your project.

Capabilities

Our staff can support your project from full execution to assisting your staff in project implementation, including projects already under way. Our range of services is comprehensive and includes, but is not limited to, the following areas:

- Custom statistical method development and application for genetic and genomic assay data
- Custom software development for genetic and genomic data analysis
- Genetic and genomic data pipeline development
- Experimental design for genomic and GWAS
- Analysis of genetic and genomic high-throughput data
- Analysis of genetic and genomic data in clinical trials

Tools

Whenever possible, Axio leverages available open source tools for data analysis. In cases for which open source tools are not an option, Axio Statistical Genetics staff rely on their 20+ years of experience developing custom software tools for genetic and genomic data analysis. Our development environment is structured to facilitate compliance with regulatory requirements when necessary.

- We leverage the open source tools available from projects such as the Bioconductor project
- Axio uses its own custom R and python software, developed over almost two decades of genetic and genomic data analysis
- We can create custom tools in R, Python, C++, and C# to analyze your data

- The Axio Statistical Genetics team comprises PhD- and MSc-level scientists trained in both biostatistics/statistics and genetics.
- Our expertise can maximize your genetic and genomic discovery programs' potential for success.
- Our experience in creating diagnostic panels using genetic and genomic data will enhance your future clinical trial design.

Axio
PARTNERS IN RESEARCH

AXIO RESEARCH
2601 4th Avenue, Suite 200
Seattle, WA 98121

T: (206) 547-2829
F: (206) 547-4671
E: info@axioresearch.com

www.axioresearch.com