

# PATRIC: THE BACTERIAL BIOINFORMATICS RESOURCE CENTER

PATRIC, the PATHosystems Resource Integration Center, is the NIH/NIAID-funded Bacterial Bioinformatics Resource Center, a web-based resource providing integrated omics data and analysis tools to support biomedical research on bacterial infectious diseases and antimicrobial resistance. At PATRIC, users can upload their private data into a workspace, analyze it using high-throughput services, compare it with other public data using visual analytics tools, and share results with other PATRIC users.

Visit: <https://patricbrc.org>



## KEY FEATURES

- Comprehensive collection of microbial genomes and related 'omics data
- Uniform microbial genome annotations
- Curated genome metadata and AMR phenotypes
- Easy to use high-throughput computational analysis services
- Integrated analysis and visualization tools
- Private workspace for analysis of user data
- User data sharing and publishing
- Programmatic access via Command-line Interface
- Bulk data upload and download via FTP

## DATA TYPES

- 185,000 public microbial genomes
- 10,000 plasmids, 4,800 bacteriophages, 10 eukaryotic hosts
- Genome annotations: genes, RNAs, repeats, CRISPRs, and protein functions
- Protein families, subsystems, and pathways
- AMR genes, virulence factors, drug targets, essential genes, and transporters
- AMR phenotype data for 25,000 genomes and 130 antibiotics
- 829 transcriptomic datasets
- 65M protein-protein interactions

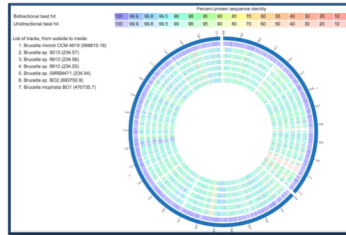
## ANALYSIS SERVICES

- Comprehensive Genome Analysis
- Genome Assembly and Annotation
- Similar Genome Finder and BLAST
- Proteome Comparison
- Protein Family Sorter
- Pathway Comparison and Metabolic Model Reconstruction
- Phylogenetic Tree Construction
- Variation/SNP Analysis
- RNA-Seq and Expression Analysis
- Tn-seq Analysis
- Metagenomic Binning
- ID Mapping

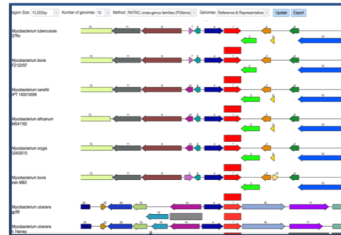
## VISUAL ANALYTICS



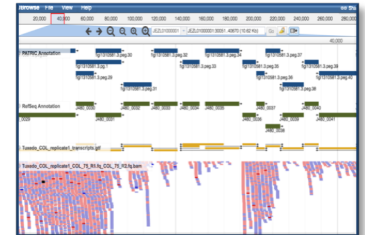
GENOME METADATA



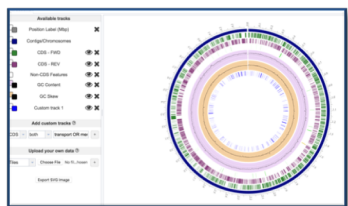
PROTEOME COMPARISON



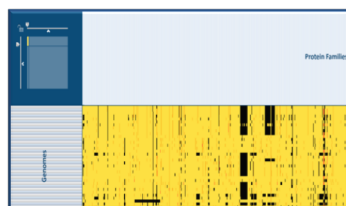
COMPARE REGION VIEW



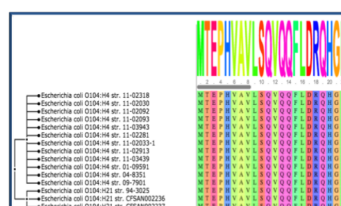
GENOME BROWSER



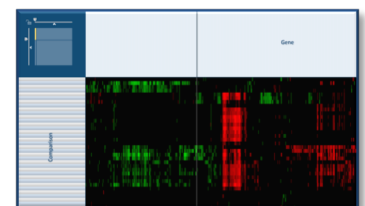
CIRCULAR GENOME VIEWER



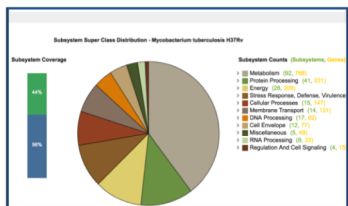
PROTEIN FAMILY SORTER



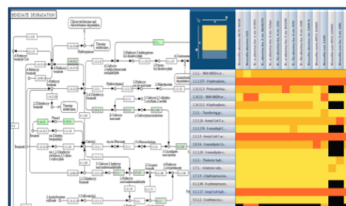
MSA AND GENE TREE



GENE EXPRESSION



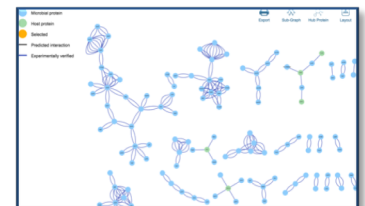
SUBSYSTEM OVERVIEW



PATHWAY MAP



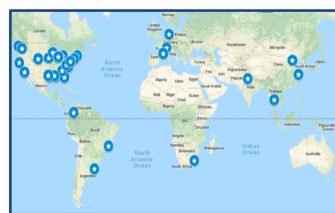
PHYLOGENETIC TREE



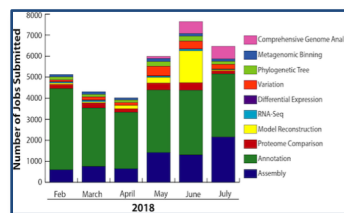
PROTEIN INTERACTIONS

## OUTREACH

- Online tutorials and guides
- 66 workshops worldwide
- 2000 workshop participants
- Monthly webinars
- Twitter - @PATRICBRC
- YouTube - PATRICBRC
- Facebook – facebook.com/patricbrc



WORKSHOPS



ANALYSIS SERVICE USAGE

## PATRIC USAGE

- 8,100 registered users
- 6,000 analysis jobs/month
- 150,000 page views/month
- 5,000 unique visitors/month
- 7,700 PATRIC/RAST citations