



GNomEx Genomic Experiment Repository & LIMS

CONFIGURATION

GNomEx has unlimited configuration options. Users have complete control of what data should be collected for an experiment or analysis. New experiment platforms can be defined as new sequencing hardware becomes available. Multiple cores can be defined to support different sequencing centers.

COLLABORATION

GNomEx documents, organizes, and tracks high-throughput next-generation sequencing experiments performed by the High-Throughput Genomics and Bioinformatic Analysis Shared Resource.

INTEGRATION

Integrates with itBioPath for access to specimen data and ordering of experiments. Linked to other HCI databases (CCR, RSR, Tumor Registry, Molecular Profiling, and CORE) for access to critical data from research and clinical systems.

The screenshot shows the GNomEx web application interface. At the top, there is a search bar and navigation tabs for Experiments, Analysis, Data Tracks, Topics, Workflow, Products, Billing, Users & Groups, Configure, and Reports. Below the navigation, there is a sidebar with a tree view of experiments organized by SYSTEM Lab. The main area displays a table of 25 experiments with columns for Experiment #, Date, Recipient, Project, Experiment Type, Monocorey, Analysis?, and Analysis Names. The table contains various experiment entries with their respective dates and details.

GNomEx is a software solution developed by the Huntsman Cancer Institute (HCI) Research Informatics Shared Resource (RISR). It documents, organizes, and tracks data produced by the High-Throughput Genomics and Bioinformatic Analysis Shared Resource.

GNomEx serves as a data repository for genomic experiments and analyses. It also serves as a laboratory information management system (LIMS) that records information at all steps of the experimental process.

Through GNomEx, researchers can submit experiment requests electronically, check the status of pending experiments, and collect results for both raw and analyzed data files.

In addition to capturing experiment requests, researchers can organize experiments within project folders, and they can create and search structured annotations on projects, experiments, and their samples.

GNomEx helps manage experiments as they are performed in the laboratory. It tracks experimental parameters at every workflow step, documents protocols associated with experimental handling of the samples, registers barcodes for the tracking of sequencing data and flowcells, and manages billing.

REPORTING

Experiment results and downstream analyses can be downloaded as individual files or at the folder level.

Guest users can browse experiments and download data that has been made publicly available.

SECURITY

Safeguards experiment annotations and data files so that only permitted researchers are allowed access. Investigators can broaden access to an experiment in order to share it with outside collaborators or make it publicly available.

GNomEx Features

GNomEx documents, organizes, and tracks experiments performed by the High-Throughput Genomics and Bioinformatic Analysis Shared Resource.

Experiment Ordering – A wizard-like interface walks the researcher through the steps of ordering an experiment (submitting a request). Automatic email functionality keeps the researcher informed on sample quality and experiment status.

Experiment Annotation – Supports annotating experiments with the experiment design and sample characteristics.

Experiment Browsing and Searching – Organizes experiments within project folders. Supports browsing by experiment platform, date, and name of the researcher or lab group. Allows performing simple text searches as well as advanced, criteria-based searches on experiments and associated analyses.

Serving Experimental Results and Analysis Data Files – Allows downloading experiment results and downstream analyses as individual files or at the folder level.

Public Experiment Repository – Guest users can browse experiments and download data that the researcher has made publicly available.

Laboratory Workflow – Supports tracking experiment progress via a worklist and each lab step involved in the sequencing. Provides screens for managing and documenting laboratory protocols associated with experimental processes.

Billing – Generates charges based on structured pricing sheets that the core facility reviews and approves. Automatically emails each lab's billing contact an invoice of the services performed during the month. GNomEx interfaces with the University general ledger system for electronic billing.

Requirements

- Google Chrome (latest)
- Microsoft Edge (latest)
- Safari (latest)

Services Available

Training
Technical Support
Application Configuration
Query and Report Generation