

# Enhancements to MISO: An open-source community-driven LIMS

Heather Armstrong<sup>1</sup>, Dillan Cooke<sup>1</sup>, Tony DeBat<sup>1</sup>, Andre Masella<sup>1</sup>, Christopher Salt<sup>2</sup>, Robert Davey<sup>2</sup>, Morgan Taschuk<sup>†1</sup>

<sup>1</sup> Ontario Institute for Cancer Research, Toronto, Canada

<sup>2</sup> The Genome Analysis Centre, Norwich, UK

<sup>†</sup> Corresponding author

**Project Website:** <http://tgac.github.io/miso-lims/>

**Source Code:** <https://github.com/TGAC/miso-lims/>

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Laboratory Information Management Systems (LIMS) are most beneficial when they mirror lab procedures closely. Sequencing LIMS need to track sample receipt and preparation, record results from quality control, submit libraries for sequencing, and monitor results. Commercial LIMS require license fees and ongoing support contracts to keep software up-to-date and bug-free. New features are only considered once there is demand from a sufficient number of customers. Purchasing a commercial LIMS is often infeasible or impractical for smaller sequencing centres or those who focus on technical developments in sequencing practice. Using an open source LIMS allows the cost of updates to be distributed amongst its users. Developers can directly fix bugs and add new features as desired, and these benefits can be shared with the community without incurring further costs.

MISO is an open-source LIMS used and developed by several institutes in the UK, the Netherlands, and Canada. Since last presented at BOSC, we have expanded its functionality. Now, users can create and propagate detailed samples through customizable laboratory workflows. Web-based bulk entry is available in many places, avoiding the need to use external spreadsheets. Using the new order system, users can request the number and type of sequencing runs for each pool of samples and track outstanding requests. We have added support for barcoded storage tube boxes and integrated MISO with the Thermo Scientific VisionMate plate scanner. Sequencer information pages have detailed support history. Change logs now record user modifications on almost every entity. The bundled MISO analysis server can launch primary analysis processes both on LSF and Slurm. We have also made the codebase much more robust through intense bug fixing and increased test coverage, thus providing stability enhancements and simplified deployment.

MISO is available on Github at <https://github.com/TGAC/miso-lims/> under GPL v3.