



Title of Proposed Project

Increasing throughput for high throughput sequencing library preparation workflows

Name of Core Facility

High Throughput Sequencing Facility ([HTSF](#))

Core Director Name *Official contact for the program*

Samantha Pattenden

Project Description

The goal of this project is to evaluate DNA and RNA sequencing library preparation kits on the TECAN Fluent automated liquid handling platform for improvement in library prep throughput. The postdoc will be responsible for evaluating each library preparation kit on the automated liquid handler and comparing the sequencing data to manual preparation. Training will involve general sequencing library preparation and developing scripts for liquid handling and automation. The HTSF is looking to increase sample capacity while reducing sample turnaround time. Liquid handling is a vital part of this workflow that needs a dedicated person for initial development.

Expected Skill Development

Knowledge of workflows in sequencing facilities, expertise in DNA and RNA library preparation and pooling for sequencing, automated liquid handling workflows, and exposure to quality analysis for DNA and RNA sequencing data.

Scheduling Considerations

This project would need at least 1 full day per week in person at the high throughput sequencing facility.

Estimated Time Commitment

8 hours/week

Expected Project Duration

12 weeks

Designated Mentor(s)

Samantha Pattenden, Interim Managing Director, meeting once per week

Piotr Mieczkowski, Director, meeting as needed for data analysis

Grey Allen, Director of Sequencing Library Preparation, lab mentorship and training

How often will the mentor meet with the participating postdoctoral scholar?

Weekly check-ins

As needed / flexible

Required Background or Skills

Experience with library preparation for sequencing, familiarity with analysis of DNA sequencing data, not needed but helpful if prior experience with liquid handling platforms, interest in high throughput sequencing technologies and methods.

Onboarding Plan

Onboarding will be additional time. EHS training specific to the HTSF can be completed online. In-person training will be conducted when the postdoc joins the facility, where they will be trained on the use of equipment and protocols necessary to complete the project through 1-on-1 interactions with facility staff prior to beginning independent studies.

Training duration will depend on the experience of the postdoc.

Training Plan

The postdoc will be trained on all instrumentation and software needed to complete the project.

Potential Deliverables/Outcomes

Method development

Poster presentation

Skill Development