Requesting a LabLink user ID

Before submitting samples for processing and analysis, you must request access to the system. LIMS administrators will then review your request, and once approved, send you a confirmation e-mail.

Because account contact information is tied to a specific e-mail address, this account should be for a **single user**, not a shared, lab account.

To request a LabLink user ID:
- Go to the RTSF Genomics Core LabLink home page (https://msu.claritylims.com/lablink/login)
- Below the User ID and Password fields click Request for a User ID. The LabLink Sign Up page opens.
- On the LabLink Sign Up page, complete the form. Mandatory fields are outlined in red:
  o **First name**: Type your first name.
  o **Last name**: Type your last name.
  o **Title**: Optional.
  o **Phone**: Type your phone number.
  o **Email address**: Type your e-mail address. This will be your User ID. This e-mail address will be used for all future e-mail correspondence, such as when you forget your password or request a change to your password.
  o **Submitting Lab Name**: Enter the name of your supervising Principal Investigator and institution (University).
- Check the I'm not a robot box. You may or may not be asked a CAPTCHA question.
- Click the Request User ID button.
- A confirmation message will appear if your request has been successfully sent. Click OK to dismiss this message.
- Your request will be reviewed by the MSU Genomics Core. When approved you will receive an email informing you.
- In this email there will be a link directing you to the Password Reset page to allow you to set your initial password.
  o Please pay attention to the password complexity rules listed on this page:
    ▪ Must be at least 12 characters long
    ▪ Must include at least one special character (# $ % ? ! @, etc.)
    ▪ Must include at least one number
    ▪ Must contain at least one lowercase and one uppercase letter
  o Enter your desired password in the New Password field. Reenter in the Confirm New Password field.
  o Click the Reset Password button.
- You will receive an email reporting successful reset of your password.

After you receive confirmation that your account has been approved you may log in to your account to submit samples.

Submitting samples through LabLink

Creating the submission sheet

Sample information is submitted using a sample submission form, a specially preconfigured Excel worksheet. Descriptions and download links for these forms are found on the Genomics Core LIMS Project Submission page:
https://rtsf.natsci.msu.edu/genomics/lims-project-submission.aspx.
There are different versions of the sample submission form template available for download depending on the type of project you will be submitting. There are specific instructions provided for each submission type in the corresponding Excel template file. Carefully read and follow these instructions as you fill out your sample sheet. The different submission sheet templates available and their corresponding project types are:

TapeStation/Bioanalyzer submission in tubes
Used when submitting genomic DNA, total RNA, mRNA, dsDNA PCR products or completed Illumina sequencing libraries for analysis on the Bioanalyzer or TapeStation only. Samples are submitted in individual Eppendorf tubes. A maximum of 15 samples may be submitted in individual tubes, larger submissions must use 96 well plates.

TapeStation/Bioanalyzer submission in 96 well plate(s)
Used when submitting genomic DNA, total RNA, mRNA, dsDNA PCR products or completed Illumina sequencing libraries for analysis on the Bioanalyzer or Fragment Analyzer only. Samples are submitted in 96 well, PCR type plates. Submissions of 16 or more samples must be in plates.

Nanopore DNA/RNA samples in tubes
Used when submitting DNA, cDNA or RNA samples for Oxford Nanopore library preparation and sequencing. Samples are submitted in individual Eppendorf tubes.

Illumina Amplicon metagenomics samples in 96 well plate(s)
Used when submitting either metagenomic DNA for 16S-V4 library preparation, 16S-V3V4 library preparation or primary PCR products of your amplicon of interest.

When submitting DNA, RNA or prepared libraries for Illumina sequencing there are different forms in each of the sections below to request sequencing using either the new NovaSeq 6000 or the MiSeq. Please make sure to select the proper form.

DNA/RNA samples in tubes
Used when submitting DNA or RNA samples for standard Illumina shotgun DNA-Seq, mRNA-Seq, small RNA-Seq or other types of library preparation. Samples are submitted in individual Eppendorf tubes.

DNA/RNA samples in 96 well plate(s)
Used when submitting DNA or RNA samples for standard Illumina shotgun DNA-Seq, mRNA-Seq, small RNA-Seq or other types of library preparation. Samples are submitted in 96 well, PCR type plates.

User prepared libraries in tubes
Used when submitting already prepared, Illumina compatible libraries. Libraries are submitted in individual Eppendorf tubes. (See below regarding Index IDs.)

User prepared library pool(s)
Used when submitting already prepared AND pooled, Illumina compatible libraries. Library pools are submitted in individual Eppendorf tubes. (See below regarding Index IDs.)

Index IDs

When submitting prepared libraries for sequencing, either as individual libraries or pool(s) each library must have an Index ID associated with it. Only Index IDs already preconfigured in the ClarityLIMS system may be used and they must be entered on your sample sheet in a very specific format. There are two additional Excel files available for download which include all the acceptable index IDs currently available; one file includes Single Index IDs and the other Dual Index IDs. Download the appropriate file, and follow the instructions in that file to copy and paste exactly the correct Index IDs for each library.

NOTE: If you are unable to find an appropriate Index ID for your libraries then please contact the MSU Genomics Core at gtsf@msu.edu for help. DO NOT proceed with your submission until you have consulted with the genomics core.

NanoString expression analysis

Used when submitting RNA or lysed cells for NanoString nCounter expression analysis projects. In addition to Sample information you must also provide information about the NanoString expression Panel (CodeSet) which is to be used for your experiment.

GeneScan Fragment Analysis

Used when you are submitting samples for one of the genotyping applications: AFLP, STR or Microsattelite. In addition to basic sample information you must also indicate what size standard should be used for your assay.

Double check the information for errors and save the Excel file in a convenient location on your computer.

Create your project and upload sample information

When submitting samples, you are first asked to create a Project. This is because the LIMS uses Projects as the foundation for all work performed in the system. A Project stores the information about the user who creates it, significant dates, the status of the Project, permissions, and any user-defined information that a lab would like to collect. After creating a Project, you can add samples to the Project and the lab will then run Processes on those samples to perform the desired analysis.

To specify the Project that will contain your samples:
- On the Projects home page, click the Create button (blue "+") at the upper right. The Projects / Create a New Project page opens.
  SECTION 1 - PROJECT INFORMATION
- Fill in the Project Information fields. Mandatory fields are highlighted with a red asterisk:
  - **Project name**: Type a name for the Project. This Project name should be relatively short but meaningful.
  - **Project Type:** Select the appropriate project type from the drop-down menu.
  - **Long Project Name**: (Optional) This field allows you to provide a more descriptive project name if you wish; it is solely for your information.
  - **Payment Method**: Select one of the payment methods from the drop-down menu.
  - **Account number**:
    - If you selected MSU Account above please enter the MSU Account number here. Include the subaccount information if you are using one.
    - If you selected PO please enter your institutions Purchase Order number here and submit a copy of your PO along with your sample submission form.
    - If Credit Card or Other please contact the RTSF Genomics Core to discuss payment. DO NOT ENTER YOUR CREDIT CARD NUMBER ON THIS FORM!
    - Payment information must be entered or otherwise provided to the RTSF Genomics Core before any work will be performed on your samples.
  - **Did you download a new submission form?**: Select 'Yes' or 'No' from the drop-down menu. You should download a new form for EVERY project so you should be answering Yes.
  - **Note**: (Optional) Enter any additional information you feel is necessary such as special handling instructions, additional sample information, etc.
- Click the Continue button to proceed to the next section. NOTE: the Continue button is not active unless all mandatory fields are complete.
  SECTION 2 - UPLOAD SAMPLES
- Click the Browse Document button. From the File Open dialog that appears locate and select the Excel file you created above; click Upload.
  - LabLink will read your file and present a list of the sample information found. (Do not worry if the 'Total Samples' number is incorrect, this is a bug but is inconsequential.)
  - If you note that some information is incorrect you can edit your original Excel file, click the Replace button at the top of the list to update the information.
- Click the Continue button to proceed to the next section.
  SECTION 3 - UPLOAD ADDITIONAL DOCUMENTS
- You may upload additional, supporting files for your project here, for example:
  - Gel images for Amplicon project submissions.
  - Bioanalyzer/TapeStation reports for RNA submissions.
- If you have no additional documents click the Skip button.
- To upload a document click Browse Documents. From the File Open dialog that appears locate and select the file you want to upload; click Upload.

- You may upload multiple documents by clicking Upload Another Document.
- When you have finished uploading files c lick the Continue button to proceed to the next section.

  ### SECTION 4 - REVIEW PROJECT
- Review the information for your project.
- Confirm that the information is correct and that you will be unable to make changes after the project is submitted by clicking the 3 check boxes at the bottom of the page.
- Click the Submit Project button. The project will be created and samples entered (this may take a few moments for large projects).
- A message informing you that your Project has been successfully created will appear. Click the View Confirmation button.

  ### PROJECT SUBMISSION CONFIRMATION
- A new browser tab (or window) will open with the Project Submission Confirmation page.
- Using your browser's File->Print command print out the Confirmation form.
  - NOTE: For projects with a large number of samples it is acceptable to print only the first page of the Confirmation.
- Sign the form (only one signature is required).
- Submit the signed copy of your form along with your samples to the RTSF Genomics Core submission -20˚C freezer outside of Room S-18 Plant Biology Laboratories Building.