DNA methylation workshop -preparations

Shumaila Sayyab

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Contents

Preworkshop setup

These steps are required to get you started with the account setup and DNA methylation data analysis. If you already have R and RStudio installed on your laptop then you can start with the DNA methylation packages installation as explained under "R and RStudio". However, Inorder for this workshop to go smooth and avoid installation of packages in R (that takes a lot of time), I instead have setup everything at NSC in Maria Lerm's group project *NAISS 2023/5-510* .

Follow the steps below:

Step1. NSC account application

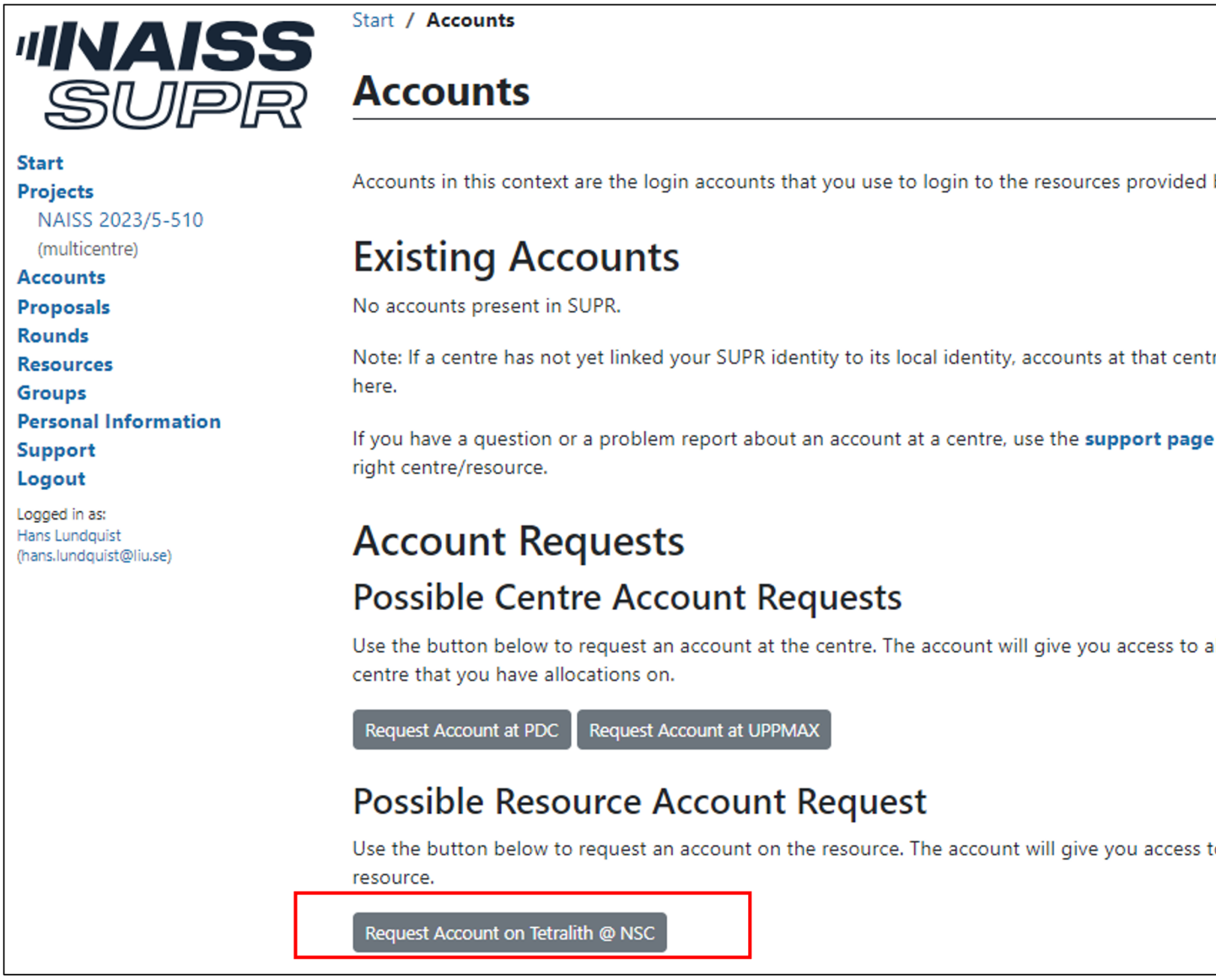
- please request a membership to this project: **NAISS 2023/5-510** at NSC

Request membership to project

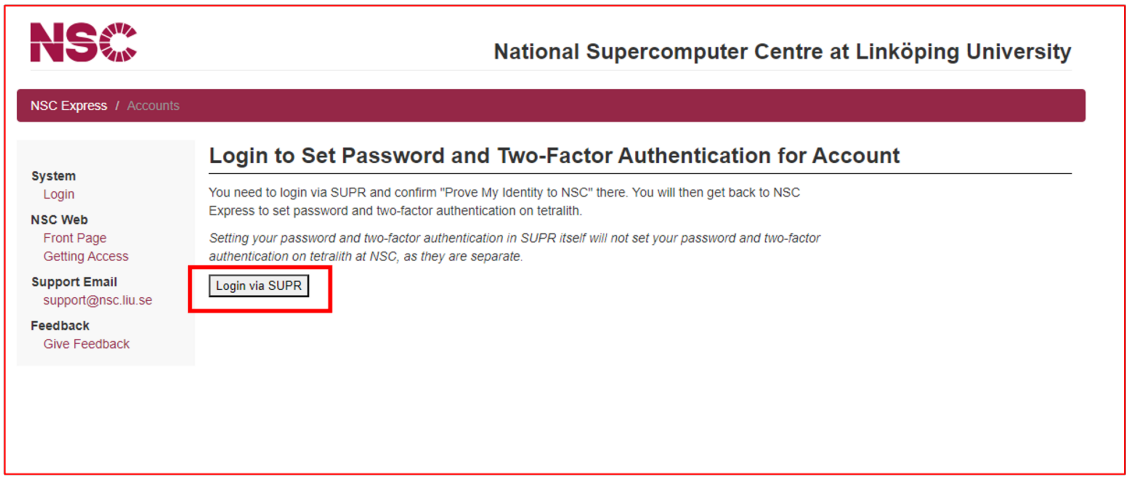
> Go to SUPR's project membership request function to request membership in the NAISS 2023/5-510. If SUPR requests that you log in, use Alternative 1: Login Using SWAMID, select "Linköping University" as your login provider and log in using your LiU student account. Press the Request button on the NAISS 2023/5-510 On the next page, write "workshop" in the "Message to the PI" box and press Request Membership.

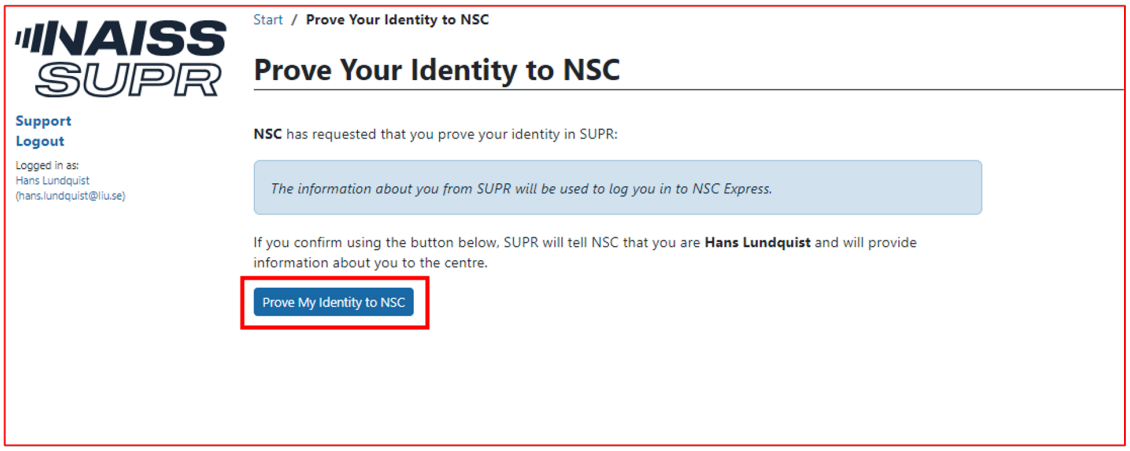
Request an account on the resource

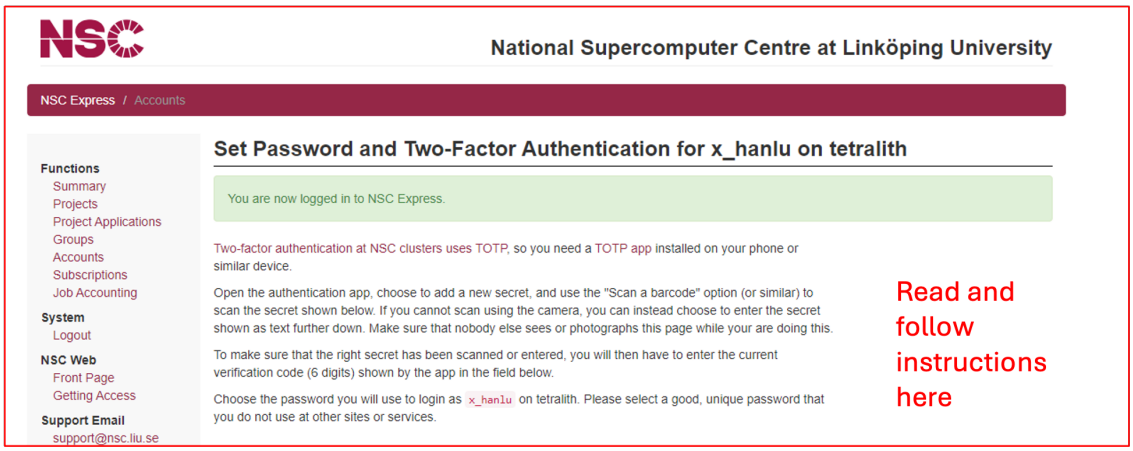
Once your membership has been approved, you will get emails from NSC /SNIC that "You have been added to the following project in SUPR:" Follow the instructions and check this link https://supr.naiss.se/account/ by logging in. Go the account tab and click **"Request Account on Tetralith @ NSC"**. As shown below.



You will get emails with your user id, and instructions to setup passport and two factor authentication on your phone. (see some screenshots as an example)







Step2. ThinLinc

We will use ThinLinc (a remote desktop) to run graphical applications on NSC.

To install ThinLinc go to https://www.cendio.com/ and choose the appropriate link for your operating system from **Download the ThinLinc client!** link. To start ThinLinc open the application and enter the following:

Server: tetralith.nsc.liu.se

Användarnamn: your username

Lösenord: your password

Login to NSC

Once login is successful, open terminal, and write the commands below.

- if you have macOS we will OPEN Terminal
- if you have windows we will OPEN Gitbash

Great you are all set for now !!

```
# Login to NSC
ssh -X x_USERNAME@tetralith.nsc.liu.se
```

R and RStudio (optional)

- If you have R already installed in your own computer, you can as an alternative try to install the packages required for analysis yourself. Though its more time consuming and laborious, therefore we go with step1 and step2.
- please make sure you have a version not older than 4.0.
- To install R statistical software go to the r-project.org and choose the appropriate link for your operating system.
- To install RStudio go to posit.co and choose the appropriate link for your operating system.

Packages to install:

install.packages("rmarkdown") install.packages("ChAMP") install.packages("minfi") install.packages("limma")