

# Bioinformatics session

A two-day workshop for  
bioinformaticians and molecular  
biologists with focus on the TSO500  
pipeline in InPreD



# Overview

1. Setup
2. Development & Collaboration
3. Nextflow
4. tso500\_nxf\_workflow
5. Python

# 1. Setup

# Create a GitHub account

- go to <https://github.com/> and click on `Sign up`



# Create a GitHub account

- enter your email

Welcome to GitHub!

Let's begin the adventure

**Enter your email\***

→ coder@inpred.no

Continue

# Create a GitHub account

- set a password

Welcome to GitHub!

Let's begin the adventure

Enter your email\*

✓ coder@inpred.no

Create a password\*

→ ●●●●●●●●



Continue

# Create a GitHub account

- choose a username

Welcome to GitHub!

Let's begin the adventure

Enter your email\*

✓ coder@inpred.no

Create a password\*

✓ ••••••••••

Enter a username\*

→ inpredder

Continue

# Create a GitHub account

- choose email preferences

## Email preferences

☐ Receive occasional product updates and announcements.

Continue



# Create a GitHub account

- solve the puzzle



# Create a GitHub account

- create your account



# Create a GitHub account

- find the activation code in the email you received



Here's your GitHub launch code, @inpredder!



Continue signing up for GitHub by entering the code below:

40619601

Open GitHub

# Create a GitHub account

- select the desired options

This will help us guide you to the tools that are best suited for your projects.

How many team members will be working with you?

☒ Just me

☐ 2-5

☐ 5-10

☐ 10-20

☐ 20-50

☐ 50+

Are you a student or teacher?

☒ N/A

☐ Student

☐ Teacher

Continue

## What specific features are you interested in using?

Select all that apply so we can point you to the right GitHub plan.



Collaborative coding

Codespaces, Pull requests, Notifications, Code review, Code review assignments, Code owners, Draft pull requests, Protected branches, and more.



Automation and CI/CD

Actions, Packages, APIs, GitHub Pages, GitHub Marketplace, Webhooks, Hosted runners, Self-hosted runners, Secrets management, and more.



Security

Private repos, 2FA, Required reviews, Required status checks, Code scanning, Secret scanning, Dependency graph, Dependabot alerts, and more.

# Create a GitHub account

- choose the free plan

**Free**

- > Unlimited public/private repositories
- > 2,000 CI/CD minutes/month  
Free for public repositories
- > 500MB of Packages storage  
Free for public repositories
- > 120 core-hours of Codespaces compute
- > 15GB of Codespaces storage
- > Community support

Continue for free

# **1. Setup**

**Be added to InPreD organisation at GitHub**

# 1. Resources

- [Getting started with your GitHub account](#)

## 2. Development & Collaboration

- short git introduction (basic git commands, optional)
- branching system (gitflow workflow)
- github actions (linting, testing, building)
- pull requests (best practice)
- release and semantic versioning
- licensing



### 3. Nextflow

- general (install, best practice)
- nf-core template
- stubbing

## 4. `tso500_nxf_workflow`

- status
- demonstration

## 5. Python

- general (best practice, cli)
- unit testing (pytest)

## Resources

- [Gitflow](#)
- [github actions](#)
- [nf-core](#)
- [pytest unittesting](#)
- [semantic versioning](#)