Welcome to this Training Session with Theiagen Genomics

We will soon be getting started

Course Introduction

Training Workshop Instructors

Inês Mendes, PhD

- Senior Bioinformatics Scientist with Theiagen Genomics since 2023
- PhD in Computational Biology
- MSc in Bioinformatics and Computational Biology
- BSc in Cellular and Molecular Biology

Training Workshop Instructors

Shelly Scribner, PhD

- Public Health Team Lead with Theiagen Genomics
- PhD in Microbiology and Immunology
- BS in Biology

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Training Workshop Resources

Training Information, Communication, and Support

- **GitHub Repo** created to host training resources and information:
  - https://github.com/theiagen/Mid-Atlantic-SDP4PHB-2025
- **Support contact**:
  - support@theiagen.com

Training Objectives

Software Development Practices for Public Health Bioinformatics

- Knowledge of **best software development practices applied to public health bioinformatics** such as **design documents** and the use of **integrated development environments**
- Proficiency in using **version control systems** for collaborative development
- Ability to deploy **continuous integration** and acceptance testing
- Understanding **workflow managers** and how to construct an analysis pipeline

Training Format

Virtual Training Workshop

All sessions hosted via Zoom. Below are key dates for this workshop (all in Eastern Time):

- **Tuesday (x4), February 04 - 25, 2025, 11:00 am**
    - Training Lectures & Exercises (90m)
- **Thursdays (x4), February 06 - 27, 2025, 11:00 am**
    - Training Office Hours (60m)

All participants should have received a
Calendar invite *with Zoom call-in information*

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Course Agenda

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Week 1 - 3: Software Development Practices

Focus on the development life cycle and best practices for sustainable bioinformatics solutions

- Will consist of both live lectures and hands-on exercises

Week 4: Use of Workflow Managers

Use of **Zoom polls** to assess understanding throughout

Focus on building and deploying a Nextflow workflow

- Will consist of both live lectures and hands-on exercises

Course Agenda

Software Development Practices

Week 1 - February 04/06, 2025

- Introducing the development journey with a focus on design documents a development environments

Week 2 - February 11/13, 2025

- Focus on Git fundamentals and collaborative development practices

Week 3 - February 18/20, 2025

- Focus on testing and bringing code modifications into production

Course Agenda

Use of Workflow Managers

Week 4 - February 25/27, 2025

- Basics of workflow managers, with a focus on Nextflow
    - Local and Docker deployment

GitPod Access for Hands-On Exercises

GitPod Access for Hands-On Exercises

Prerequisites for Hands-On Exercises

In addition to lectures, this course consists of several hands-on exercises to reinforce the coursework material. To participate in these exercises, trainees will need the following resources:

1. GitHub Account
2. GitPod Account
3. GitPod Configuration for Public Repositories
4. GitPod Workspace

Detailed instructions *for setting these up are available in our course* **GitHub repository**

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