

## Hands-on Computational Biology Workshop

# An Introduction into Mining Human Population Cohorts

The recent years have seen an explosion of human biomedical data ascertained from hundreds of thousands of healthy and diseased volunteers globally. A large fraction of these data is being ascertained in population cohorts and human biobanks that link phenotype information with genetics. At a summary level these data can be queried through easy-to-use computational tools and browsers.

This hands-on workshop will provide an introduction to some of the most frequently accessed human population resources. Participants will learn how the information therein is being utilized to create cutting-edge translational research insights in academia and industry. They will receive guidance on how to explore and analyze available public genetic and genomic datasets and learn how these can generate insights around research questions of interest to them.

Among others, we will discuss and learn how to utilize information from the following resources:

1. **UK Biobank** (<https://www.ukbiobank.ac.uk>)
2. **FinnGen** (<https://www.finnngen.fi/en>)
3. **Open Targets** (<https://platform.opentargets.org>)

At registration, participants will be asked to nominate some genes and diseases of personal interest. Participants will have the opportunity to immediately apply the acquired knowledge in three Practical Sessions during the course and receive guidance on how to best utilize the available information for their respective projects. Participants will need to bring a laptop with access to the internet. No prior computational skills are required. Participant number is limited to 30.

Join us for an interactive and informative workshop where you can enhance your computational biology skills and gain practical experience on how to leverage some of the most cutting-edge and exciting human biomedical datasets for your research!

## Faculty

**Heiko Runz**, EMBL Heidelberg, Heidelberg-Mannheim Health + Life Science Alliance

**Juha Karjalainen**, Regeneron Genetics Center/ FIMM / Broad Institute

**Helena Cornu**, Open Targets / European Bioinformatics Institute

**Target group:** Advanced Life Science researchers (PhD or equivalent) from JGU, IMB, LIR, UM, TRON

**Date & Time:** 15 March 2024, **9:00-14:30**

**Location:** SR 1 (00.301), Biozentrum 1 JGU, Hanns-Dieter-Hüsch-Weg 15, 55128 Mainz

**Fee:** 50 € (no-refund for no-shows)

**Registration:** To register, please fill this form <https://forms.office.com/e/xBFJwLOEfK> by **1 March 2024**. As the number of participants is limited to 30, we will inform you shortly after the deadline whether your registration was successful.

**Contact:** [iqcb@uni-mainz.de](mailto:iqcb@uni-mainz.de)

## Workshop Agenda

**New**

Time	Topic	Facilitators
9:00-9:05	Welcome	Christof Niehrs
9:05-9:15	Aims and Introductions	Heiko Runz
9:15-9:45	Background: Large population cohorts	Heiko Runz
9:45-10:30	UK Biobank & population sequencing	Heiko Runz
10:30-11:15	Practical Session 1: <i>gnomAD, UKB Data Showcase, genebass</i>	Heiko, Juha, Helena
11:15-11:45	FinnGen	Juha Karjalainen
11:45-12:30	Practical Session 2: <i>PheWeb, Risteys</i>	Juha, Heiko, Helena
12:30-13:00	Working Lunch	all
13:00-13:30	Open Targets	Helena Cornu
13:30-14:15	Practical Session 3: <i>OT, OT Genetics</i>	Helena, Heiko, Juha
14:15-14:30	Close-out	all