

'Ensembl Genome Browser workshop @DANDRITE

The 'Introduction to the Ensembl Genome Browser' workshop offers participants the possibility of gaining lots of hands-on experience in the use of the Ensembl genome browser, but also provides them with the necessary background information. The workshop will be facilitated by Ensembl Outreach Officer Louise Paola Mirabueno from EMBL-EBI.

Content

The workshop consists of a series of modules, listed below. Most modules consist of a presentation and a demonstration of the tools, followed by the opportunity to do exercises. Participants are encouraged to bring problems/questions about their research and we will try to tackle these during the workshop using Ensembl.

- Introduction to Ensembl: origin, goals and organisation of the Ensembl project
- Genebuild: how are Ensembl gene and transcripts annotated? Explore the Ensembl genome browser to visualise and export gene and transcript data.
- Data export with BioMart: retrieving genomic information using a web interface (no programming required).
- Comparative genomics and proteomics: the Ensembl analyses that allow you to compare the genes and genome sequences between species - orthologues, whole genome alignments and syntenic regions
- Variation: Exploring SNPs and other polymorphisms, haplotypes, linkage disequilibrium and structural variants through the Ensembl genome browser
- Regulation: Exploring sequences that may be involved in gene regulation

Learning outcomes

At the end of this course participants should be able to:

- view genomic regions and manipulate the view to add features they are interested in.
- explore information about genes and their sequences, and export gene data in bulk using BioMart.
- analyse genomic variants and associated phenotypes and their own variation data using the VEP.
- view homologous genes and genomic regions, functional elements involved in gene regulation and their activity in different cell types.

Prerequisites

This course is aimed at wet-lab scientists and bioinformaticians. Participants should have degree-level understanding of molecular biology/genetics and be proficient at using web browsers.

It is important that all participants bring their own laptop for the individual exercises. It is recommended to use the browsers Chrome or Firefox.

Programme for the Ensembl Genome Browser workshop @DANDRITE

Date: 27 September 2023

Location: 1870-816 (Faculty Club at MBG)

Time (CEST)	Activity
08:30-09:00	Soft landing with coffee, tea, and a croissant
09:00-10:15	Introduction to Ensembl and the Region in Detail View
10:15-10:30	Coffee/tea break
10:30-12:00	Genes and transcript annotation
12:00-13:00	Lunch Break, sandwiches, and a soda
13:00-14:30	Variation data and the Variant Effect Predictor (VEP)
14:30-14:45	Coffee/tea break
14:45-15:30	Comparative Genomics
15:30-16:15	Regulatory data
16:15-16:50	BioMart
16:50-17:00	Wrap up and feedback

NB! These times are approximate and may be subject to change.

Registration

Registration deadline is 12 September 2023. There are 30 seats, and they are allocated on a first-come, first-served basis. [Please click here to sign up.](#)

Participation is free, but in case of no-show, you will be charged a fee of 200 DKK.