Ensembl Train the Trainer Workshop

Universidad de los Andes
Wednesday, 19th March 2025

Welcome to the *Living Document* for this Ensembl Train the Trainer workshop. Everyone who is registered for the course has access to edit this document. Please feel free to use this document to ask questions to the Ensembl team throughout the workshop. If you wish to ask questions privately, please do not hesitate to contact the Ensembl Helpdesk.

The *Living Document* is a great way of capturing the knowledge exchanged during the course and saving it for future use by yourselves and those who can't attend this course. Remember - you don't have to contribute, but any additions will be welcomed!

The course learning outcomes are:

- Describe what makes good / bad training and the skills needed by a trainer.

- Appreciate your own learning approach, how it may differ from others and how you can deliver training appropriate to different learning approaches.

- Design a training session with appropriate aims and learning objectives tailored to your audience.

- Use existing Ensembl training materials to create your own training materials.

- Deliver a short training course on using an aspect of Ensembl.

Course Overview

Agenda

Wednesday, 19th March 2025 (times shown in GMT-5)	
09:00 – 10:30	Principles of bioinformatics training
10:30 – 10:50	Break
10:50 – 12:00	Components of Ensembl training
12:00 – 13:00	Lunch break
13:00 – 14:30	Practical
14:30 – 14:50	Break
14:50 – 16:50	Practical
16:50 – 17:00	Feedback and wrap-up

Trainers

Louisse Paola Mirabueno

Demo, exercises and slides available to download

https://training.ensembl.org/events/2025/2025-03-19-UniAndes-TtT

Feedback survey

https://forms.gle/nYKWmtg1HSeF7Sko9

We would really appreciate it if you could share your thoughts with us regarding these sessions. We are interested in your opinions, how you feel the experience has benefited you and how it could be improved. If you could find a few minutes to complete a short survey at the end of the last session it would really help us in improving the training we can deliver.

Questions

If you have any questions/problems that you would like to share and apply to the whole class please add them below.

Write your **question** after the last one you can see in this document (you can add any screenshots if you think it might help. We will **answer** your question underneath.

1. **Q:**

   A:

2. **Q:**

   A:

3. **Q:**

   A:

4. **Q:**

   A:

5. **Q:**

   A:

6. **Q:**

   A:

7. **Q:**

   A:

8. **Q:**

   A:

9. **Q:**

    A:

10. **Q:**

    A:

11. **Q:**

    A:

12. **Q:**

    A:

13. **Q:**

    A:

14. **Q:**

    A:

15. **Q:**

    A:

Practical

Task

You have one hour to prepare a 5-minute training session on your following topic. Your training session can include:

➔ Some background information about the data
➔ Information about where to find the data in Ensembl
➔ A step-by-step demonstration and/or hands-on element

Content

Consider the principles of bioinformatics training and components of Ensembl training when preparing your training session.

Your session should include one SMART learning objective. You may use existing Ensembl training materials modified to fit your teaching style.

If you wish to use slides, please use the provided presentation template.

Target audience

Your target audience is undergraduate and PhD students in the field of molecular biology.

Delivery

You will deliver your session to your peers. You have five minutes to deliver your training session, followed by a Q&A and feedback on your delivery.

Resources

This section of the *Living Document* provides additional resources that might be useful to you in training others, developing bioinformatics skills and knowledge, and creating Ensembl training materials.

Train the trainer

You can find many useful online resources to help you become a better trainer, including free online courses and publications discussing teaching:

- [Train the Trainer: Design Genomics and Bioinformatics Training](#) (free online course) developed by [Wellcome Connecting Science](#)

- [Application of a bioinformatics training delivery method for reaching dispersed and distant trainees](#) (Hall, et al., 2021)

- [Ten simple rules for organising a bioinformatics training course in low- and middle-income countries](#) (Moore, et al., 2021)

- [Peer Teaching as Bioinformatics Training Strategy: Incentives, Challenges, and Benefits](#) (Rahman, et al., 2022)

Genomics and bioinformatics training

We have collated a list of resources focusing on genomics and bioinformatics training below:

- The [EMBL-EBI Training portal](#) provides courses related to genomics and bioinformatics, including free [on-demand online training](#), data resource tutorials and recorded [webinars](#).

- The Global Organisation for Bioinformatics Learning, Education and Training ([GOBLET](#)) is an international community that organises various bioinformatics-related events and provides open-source training materials and resources.

- The University of Manchester has curated a [Collection of Bioinformatics Learning/Training Materials](#).

- You can explore a [list of free online bioinformatics courses](#) curated by the Federal Institute of Technology (ETH) Zurich.

- The Online Bioinformatics Resources Collection ([OBRC](#)) contains annotations and links for 2,408 bioinformatics databases and software tools.

Ensembl sites

There are several Ensembl sites (largely divided into divisions). Depending on your species of interest, you may want to visit one of the following:

- Ensembl (vertebrate species)

- Ensembl Genomes (non-vertebrate species)

- Portals:

  - Ensembl GRCh37

  - Ensembl COVID-19

- Ensembl Beta (new Ensembl website)

- Ensembl Projects (list of collaborations that Ensembl is involved in)

Ensembl training

For more in-depth Ensembl training, you can find links to online tutorials, walk-throughs and exercises below:

- Ensembl: Quick Tour

- Ensembl: Browsing Genomes

- Ensembl Genomes (non-chordates): Quick Tour

- Ensembl REST API

- Webinar: Introducing the New Ensembl Genome Browser

- Ensembl Training (walk-throughs and exercises)

EMBL-EBI training

- EMBL's European Bioinformatics Institute (EMBL-EBI)

- EMBL-EBI databases and tools

- The EMBL-EBI Training portal provides courses related to genomics and bioinformatics, including free on-demand online training, data resource tutorials and recorded webinars (available on the training portal or YouTube).