## Autumn school 2022 – Programme

*Time frames include breaks*

| DAY 1 | Monday, November 21 14:00 – 18:00 |
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**14:00 – 17:00**     **Fariza TAHI & Guillaume POSTIC,** Université d'Evry Paris-Saclay

**Topic :** Bioinformatics tools for non-coding RNAs – Introduction to nc-RNA analysis on EvryRNA(Part ½)

EvryRNA platform is a web server providing various algorithms and bioinformatics tools developed in the laboratory IBISC of UEVE/Genopole, and dedicated to the prediction and the analysis of non-coding RNAs (ncRNAs). These RNAs are regulators of gene expression control and genome stability. They are involved in different biological processes, and some of them, including microRNAs, are known to be involved in many diseases such as cancer and neurodegenerative diseases. Their study provides insight into how living organisms function, including differentiation and cell proliferation, but also to consider new therapeutic approaches for genetic diseases and cancer.

*19:00 – 21:00*        *DINNER*

| DAY 2 | Tuesday, November 22 PRACTICAL SESSION BIOINFORMATICS |
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*8:00 – 8:45*          *BREAKFAST*

**9:00 – 12:30**       **Fariza TAHI & Guillaume POSTIC,** (Part 2/2)

**Topic :** Bioinformatics tools for non-coding RNAs

*12:30 – 13:30*        *LUNCH*

**14:00 – 18:00**      **Roland KRAUSE,** University of Luxembourg

**Topic** : Session Reproducible Manuscripts

After we have collected precious samples, conducted costly experiments and spent years of CPU time to analyse them with bioinformatics pipeline we type up the results. In the long process of writing the manuscript, we identify mistakes, rerun parts of the analysis and change the document after comments from collaborators and reviewers. In that complex process we often lose the connection between the data.

In this session I will show you how to make the process easier by intersecting text and analysis code such that each number and every figure can be traced back to where it was computed and still get a Word file out at the end.

*19:00 – 21:00*  *DINNER*

| DAY 3 | Wednesday, November 23<br>PRACTICAL SESSION – BIOINFORMATICS |
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*8:00 – 8:45*  *BREAKFAST*

**9:00 – 12:30**  **Trainees session: participants are invited to present their research**

*12:30 – 13:30*  *LUNCH*

**14:00 – 18:00**  **Valentin LOUX,** Inrae

**Topic :** "GALAXY: Quality control, alignment and variant calling"

*19:00 – 21:00*  *DINNER*

| DAY 4 | Thursday, November 24<br>PRACTICAL SESSION – BIOSTATISTICS |
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*8:00 – 8:45*  *BREAKFAST*

**9:00 – 12:30**  **Aleena MUSHTAQ (following, part 1/2),** EMBL-EBI

**Topic** : An introduction to browsing genes and genomes with Ensembl

The Ensembl Browser workshop is an introductory workshop aimed at wet-lab scientists and bioinformaticians who are new to using Ensembl. This workshop is also suitable for scientists who are familiar with Ensembl, but would like to refresh their knowledge and learn more about Ensembl. The workshop will cover accessing data using the Ensembl genome browser web-interface.
By the end of the course, participants will be able to:

- Navigate Ensembl using the web browser platform
- Access main data types in Ensembl: genomes, genes, and genetic variation
- Annotate your own variant data with the Variant Effect Predictor (VEP)
- Mine Ensembl data using BioMart

*12:30 – 13:30*  *LUNCH – end of the summer school*

*14:00 – 17:00*  **Aleena MUSHTAQ (following, part 1/2),** EMBL-EBI

**Topic** : An introduction to browsing genes and genomes with Ensembl