The Marseille Rare Diseases Institute launches its 2024 PhD program. Discover below the first trainings open for registration !

📢 The Marseille Rare Diseases institute - MarMaRa- launches a PhD program for 2024.

These trainings are opened in priority to PhD students but if the maximum capacity of attendees is not reached, Master students, engineers and researchers are welcomed. Our trainings are in English (unless all participants are French-speaking) and almost all are in distance. European and international students are welcome !

After each training you will receive a certificate of attendance and PhD students of AMU can have up to 7h/training validated by their Doctoral School.

- 12/03: Statistics for genomics: continuous probability distributions (remote)
- 18/03: Introduction to microscopy for cell and tissue imaging (face-to-face)
- 24/04: Fundamental notions in medical genetics (remote)
- 29/05: Statistics for genomics: discrete probability distributions (remote)
- 06/06: Single cell RNA-seq analysis (remote)

[Registration open] Statistics for genomics: continuous probability distributions

The objective of this workshop is to propose an introduction to popular statistical methods and tests used in the field of genomics. The course will typically cover continuous probability distribution (e.g. normal, t distribution) and procedures of hypothesis testing (t-test, ANOVA). Examples will be typically taken from the field of biology (e.g. differential gene expression). Practical sections will be performed in R language. However only basic instructions will be used and, thus, no particular skill in informatics should be required.

📍 Where ? distance learning (Zoom)

📅 When ? **Tuesday 12 March 2024**

📌 Registration : https://columbo.univ-amu.fr/index.php/725794?lang=fr

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[Registration open] Introduction to microscopy for cell and tissue imaging

This course will cover how light-matter interactions lead to the formation of images of cells and tissues in a microscope (eg,diffraction, refraction, scattering), will detail key optics notions that affect image formation (eg resolution, numerical aperture, aberrations), and provide an overview of the main microscopy techniques used in biology and their applications to cell and tissue imaging.

📍 Where ? face-to-face, Institut Fresnel,
52 Avenue Escadrille Normandie Niemen, 13013 Marseille

📅 When ? **Monday 18 March 2024**

📌 Registration : https://columbo.univ-amu.fr/index.php/489738?lang=fr

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[Registration open] Fundamental notions in Medical Genetics

This session provides fundamental information about basic genetics concepts, including cell structure, the molecular & biochemical basis of disease, major types of genetic disease, laws of inheritance, mosaicism, polysomy, polyploid, parental digenism, oligogenism and the impact of genetic variation. A particular emphasis will be addressed for diagnosis of rare diseases, diagnostic wandering, diagnostic deadlocks.

📍 Where ? distance learning (Zoom)

📅 When ? **Wednesday 24 April 2024**

📌 Registration : https://columbo.univ-amu.fr/index.php/367728?lang=fr

[Registration open] Statistics for genomics: discrete probability distributions

The objective of this workshop is to propose an introduction to popular statistical methods and tests used in the field of genomics. The course will typically cover discrete probability distributions (e.g. binomial, hypergeometric and negative binomial distribution), and hypothesis testing (e.g. Fisher's Exact test and hypergeometric test). Examples will be typically taken from the field of biology (e.g. functional enrichment analysis). Practical sections will be performed in R language. However only basics instructions will be used, and, thus, no particular skill in informatics should be required.

📍 Where ? distance learning (Zoom)

📅 When ? **Wednesday 29 May 2024**

📌 Registration : https://columbo.univ-amu.fr/index.php/113132?lang=fr

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[Registration open] Workshop on Single-cell RNA-seq

In this training, participants will learn about the fundamentals of single-cell analysis using Seurat. Beginning with pre-processing steps, attendees will learn techniques used for quality control, normalization, and data scaling to ensure robust downstream analyses. They will then explore dimensionality reduction methods and clustering to visualize complex cellular landscapes. Finally, they will learn about differential gene expression analysis, unravelling the molecular signatures that define cellular diversity and response to experimental stimuli. The tutorial will be conducted within the R/RStudio environment. While prior familiarity with the language is advantageous, participants can also focus on understanding the diverse steps involved in the analysis process.

📍 Where ? distance learning (Zoom)

📅 When ? **Thursday 6 June 2024**

📌 Registration : https://columbo.univ-amu.fr/index.php/539436?lang=fr

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If you have any question, please contact us:
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- Cécile Bernard, Project manager (cecile.bernard.1@univ-amu.fr)

And stay tuned ! Other trainings will be available ...

Therapy of rare diseases
Genome editing
Epigenomics
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