

CIVIS Blended mobility project
Virtual component

Technical innovations in basic and translational research

Applications to Immunology-Oncology

VIRTUAL COMPONENT OF THE BLENDED MOBILITY (5 COURSES)

Cytometry (mass, flow, spectral ...)

Theoretical principle of flow, spectral and mass cytometry; applications to the monitoring of immune responses in cancer patients.

Organoids

In vitro assays using new biological 3D models and examples of applications to drug screening for cancer patients.



Genomics (CRISPR, RNAseq, TCRseq ...)

Dissecting molecular mechanism of immune subversion.

Proteomics

Exploration of protein modification and applications to analysis of therapeutic antibodies and biomarkers.

Microscopy-Imaging

Visualization of cell-cell interactions using cryo-electron microscopy, 3D Super-resolution microscopy and intravital microscopy.

Genomics

Hands-on introduction to RNA-Seq.

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<https://sumeetpalsingh.github.io/>

Hands-on course

Hands-on analysis of RNA-Seq count data

- Count Matrix
- Normalization
- Differential Gene Expression Analysis
- Representation of DGE (Volcano Plot)
- Functional Analysis (GO Terms)

Module Repository

- https://github.com/sumeetpalsingh/CIVIS_NGS

sumeetpalsingh / CIVIS_NGS

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sumeetpalsingh Create README.md 6a8df57 19 seconds ago 4 commits

Presentations	Create README.md	19 seconds ago
LICENSE	Initial commit	26 minutes ago
README.md	Update README.md	7 minutes ago

README.md

Hands-on course on RNA-Seq Analysis

Course on analysis of NGS RNA-Seq data using online tools.

The course can be followed with zero prior knowledge of any bioinformatics tool or coding.

Topics Covered

About

Hands-on course on RNA-Seq analysis

rna-seq genomics galaxy-project

Readme

GPL-3.0 License

Releases

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RESEARCH ARTICLE

Systems biological assessment of immunity to mild versus severe COVID-19 infection in humans

 Prabhu S. Arunachalam^{1,*},  Florian Wimmers^{1,*},  Chris Ka Pun Mok^{2,*},  Ranawaka A. P. M. Perera^{3,*},  Madeleine...

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To investigate this further and to independently validate the observations in the CITE-seq analysis, we performed bulk RNA sequencing (RNA-seq) analysis of PBMCs in an extended group of subjects (17 COVID-19 patients and 17 healthy controls) from the same cohort. We first evaluated whether the ISG signature containing 33 genes identified in the CITE-seq data was also observed in the bulk RNA-seq dataset. We observed a strong induction

<https://science.sciencemag.org/content/369/6508/1210>