


Course overview

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Bioinformatics and Biostatistics Unit, CIPF

24 Oct 2018

 Unidad de
Bioinformática y
Bioestadística


PRINCIPE FELIPE
CENTRO DE INVESTIGACION



WODA

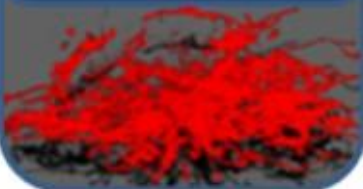
WEB-BASED OMICS DATA ANALYSIS

The UBB-CIPF is a technical and scientific unit that aims to **promote biomedical research** from the interaction with the groups and services of our center.

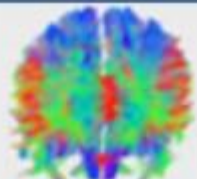


PRINCIPE FELIPE
CENTRO DE INVESTIGACION

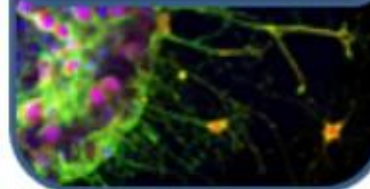
Molecular Basis
of Human
Diseases



Neuroinflammation
and neurological
impairment



Advanced
Therapies



New Technologies
For Biomedical
Research





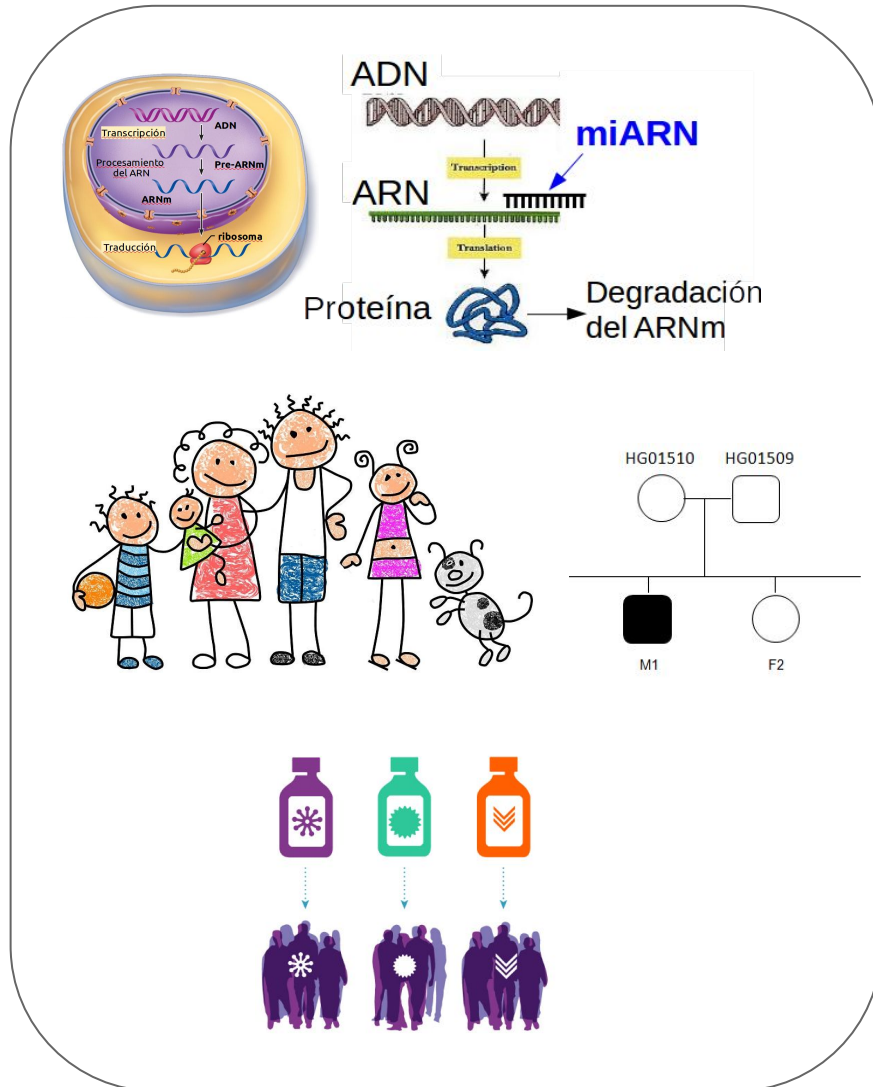
UBB team



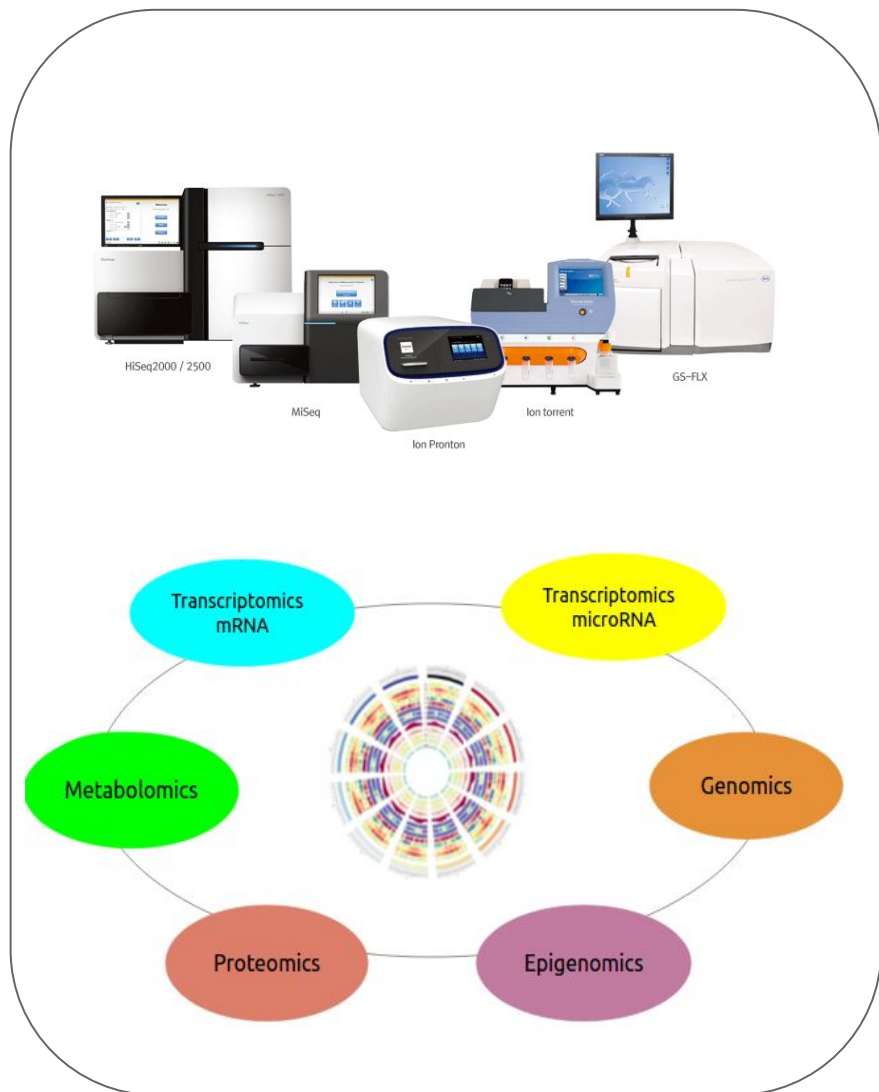
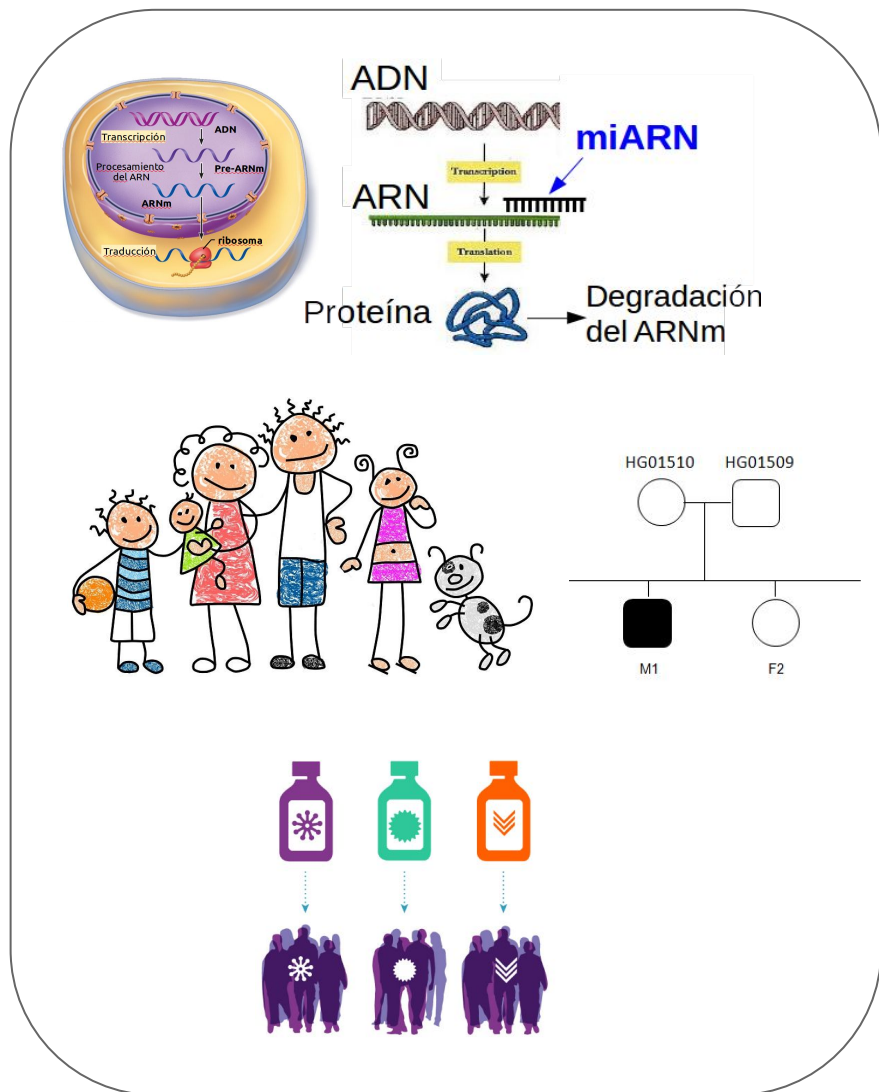
<http://bioinfo.cipf.es/ubb/>



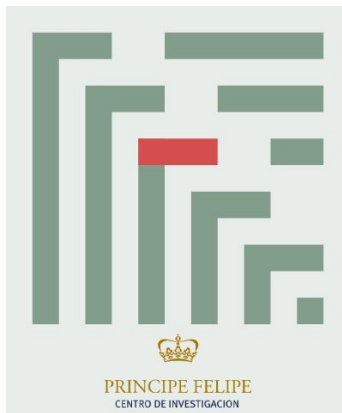
Why this Unit at CIPF?



Why this Unit at CIPF?



What activities do we do?



Bioinformatics &
Biostatistics Unit



UBB activities

1. Consulting

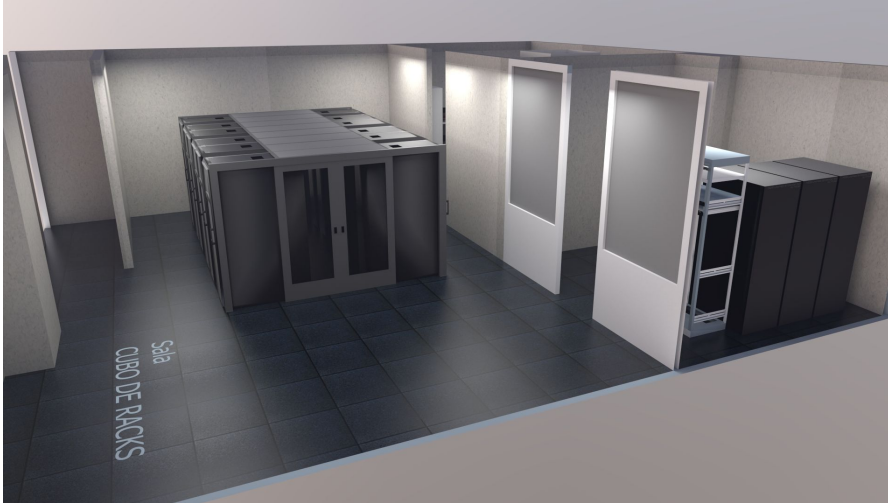
2. Teaching

3. Cluster
coordination

4. Research



UBB activities



3. Cluster coordination

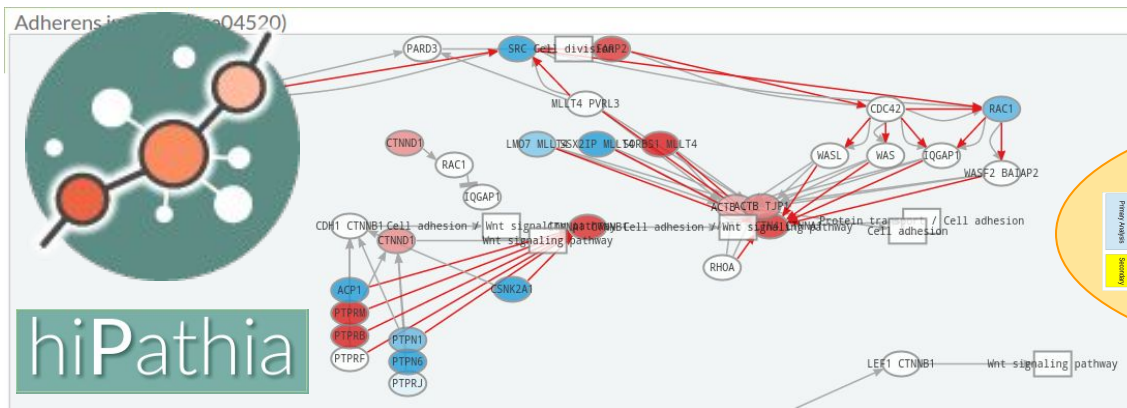
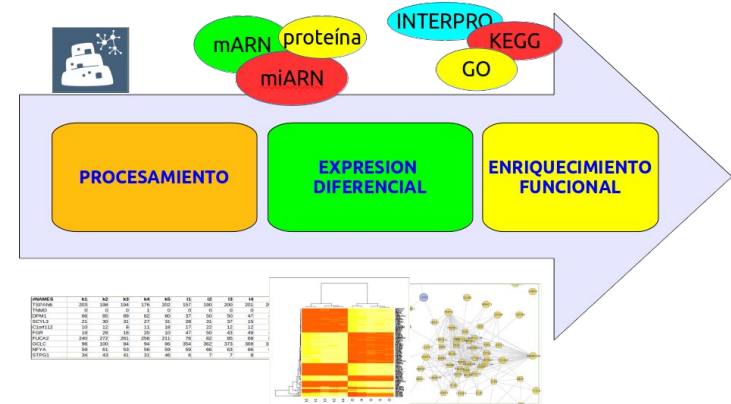
- Computing cluster 44 nodes
- 600 CPU's
- RAM 11 TB
- 1 PB (130.000 DVDs)



UBB activities

4. Research activities

- **Methods** for omics data analysis
- Research **projects**





WEB-BASED OMICS DATA ANALYSIS

WODA

24-26 October 2018

A course specifically designed to learn how to perform
a NGS analysis pipeline in the simplest way

MAIN TOPICS:

- Basic statistical backgrounds
- Main biological/clinical databases
- Differential expression
- Functional analysis
- Pathway analysis tools
- Data Visualization



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Bioestadística



PRINCIPE FELIPE
CENTRO DE INVESTIGACION

What is WODA?



A Practical course
Web-based resources
Free tools

Start point: processed or normalized data
Any laptop or pc



Programming skills
Raw data processing
Powerful computational infrastructure

Toolbox



Omics toolbox

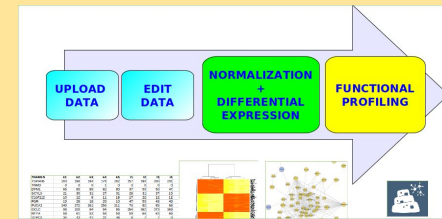
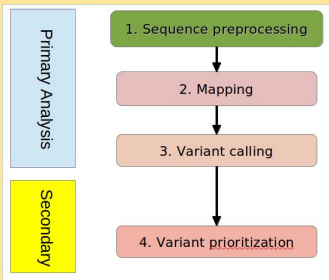
hiPathia



Babelomics 5



PathAct



TEAM

CIBERER Copy Number Variation

BierApp

CSVS

Program. Day 1

11:00 – 11:15 Registration

11:15 – 11:45 Welcome, course overview

11:45 – 13:00 Introduction

13:00 – 14:30 Lunch break

14:30 – 16:00 Omics-based biomarkers detection

16:00 – 16:15 Coffee break

16:15 – 18:00 Visualization of omics data

Program. Day 2

9:30 – 11:00 Functional profiling I

11:00 – 11:30 Coffee break

11:30 – 13:00 Prioritization of variants and genes

13:00 – 14:30 Lunch break



14:30 – 16:00 Functional profiling II

16:00 – 16:15 Coffee break

16:15 – 18:00 Signalling pathways analysis

Program. Day 3

9:30 – 11:00 Single-cell analysis

11:00 – 11:30 Coffee break

11:30 – 13:00 Working with your data

13:00 – 13:15 Course feedback and wrap up



Logistics

- wiki: <http://bioinfo.cipf.es/WODA18>
- wifi: WODA, password: woda2018
- lunch menu
- certificates
- twitter: #WODA18 @UBB_CIPF @CIPFciencia

Any question?

