



# SINGLE-CELL GENOMICS

## FOR BEGINNERS

### 2<sup>nd</sup> Edition



### PROGRAMME

April 3<sup>rd</sup> to 13<sup>th</sup>, 2024

#### April 3<sup>rd</sup>, Wednesday

09:30 - 10:00: WELCOME and course overview

10:00 - 11:00: INTRODUCTION TO SINGLE-CELL GENOMICS: TBA.

**Cátia Moutinho, GWCCG Garvan Institute, Australia**

11:00 - 12:00: INTRODUCTION TO PRACTICAL SESSION I: Protocols and overview on sample preparation.

**Ana Munoz-Manchado, University of Cádiz, Spain**

12:00 - 13:30: LUNCH Break.

13:30 - 14:30: PRACTICAL SESSION I: TBA.

14:30 - 18:00: PRACTICAL SESSION I: Hands-on sample preparation.

#### April 4<sup>th</sup>, Friday

09:30 - 12:30: PRACTICAL SESSION I continued: Hands-on sample preparation.

12:30 - 13:30: LUNCH Break.

13:30 - 14:30: INTRODUCTION TO PRACTICAL SESSION II: Protocol and stepwise objectives of Chromium Next GEM.

**Ana Mendanha Falcão, ICVS, Portugal**

14:30 - 17:00: PRACTICAL SESSION II: Hands-on protocol from chromium Next GEM Single Cell kits.

17:00 - 18:00: INSPIRATIONAL TALK: TBA.

**Ana Munoz-Manchado, University of Cádiz, Spain**

#### April 5<sup>th</sup>, Friday

09:30 - 10:30: SELF LEARNING: The basics of R programing.

10:30 - 12:30: INSPIRATIONAL TALK: TBA.

**Gonçalo Castelo-Branco, Karolinska Institutet, Sweden (Portuguese Glia Meeting)**

12:30 - 14:30: LUNCH Break.

14:30 - 17:30: SELF LEARNING: The basics of Python programing.

#### April 8<sup>th</sup>, Monday

09:30 - 10:30: INSPIRATIONAL TALK: TBA.

**Fernanda Marques, ICVS, Portugal**

10:30 - 12:30: INTRODUCTION TO PRACTICAL SESSION III: Introduction to single-cell genomics computational analysis.

**Nuno S. Osório, ICVS, Portugal**

12:30 - 14:00: LUNCH Break.

14:00 - 18:00: PRACTICAL SESSION III: Data analysis for single-cell/nucleus RNA-seq: getting started, part 1.

*programming languages and required packages*

#### April 9<sup>th</sup>, Tuesday

09:30 - 10:30: INSPIRATIONAL TALK: TBA.

**Carina Soares-Cunha, ICVS, Portugal**

10:30 - 12:30: INTRODUCTION TO PRACTICAL SESSION IV: Introduction to data analysis for single-cell/nucleus RNA-seq.

12:30 - 14:00: LUNCH Break

14:00 - 15:00: INSPIRATIONAL TALK: “Applications of single-cell ATAC-seq data”.

**Gabriel Santpere-Baró, Hospital del Mar Medical Research Institute, Spain**

15:00 - 18:00: PRACTICAL SESSION IV, part 1: Hands-on data analysis for single-cell/nucleus RNA-seq.

#### April 10<sup>th</sup>, Wednesday

09:30 - 12:30: PRACTICAL SESSION IV, part 2: Hands-on data analysis for single-cell/nucleus RNA-seq.

12:30 - 14:00: LUNCH Break.

14:00 - 17:00 PRACTICAL SESSION IV, part 2: Hands-on data analysis for single-cell/nucleus RNA-seq.

#### April 11<sup>th</sup>, Thursday

09:30 - 12:30: PRACTICAL SESSION IV, part 3: Hands-on data analysis for single-cell/nucleus RNA-seq.

12:30 - 14:00: LUNCH Break.

14:00 - 15:00: INSPIRATIONAL TALK: TBA.

**Noel Miranda, LUMC, Netherlands**

14:00 - 18:00: PRACTICAL SESSION IV, part 3: Hands-on data analysis for single-cell/nucleus RNA-seq.

#### April 12<sup>th</sup>, Friday

09:30 - 12:30: PRACTICAL SESSION IV, part 4: Hands-on single-cell/nucleus RNA-seq data analysis.

12:30 - 14:00: LUNCH Break.

14:00 - 15:00: INSPIRATIONAL TALK: “Single-cell genomics in the brain: opening doors to understand Multiple Sclerosis”.

**Ana Mendanha Falcão, ICVS, Portugal**

15:00 - 18:00: PRACTICAL SESSION IV, part 4: Hands-on single-cell/nucleus RNA-seq data analysis.

#### April 13<sup>th</sup>, Saturday

09:00 - 10:00: INSPIRATIONAL TALK: TBA.

**Bruno M. Costa, ICVS, Portugal**

10:00 - 12:00: INTRODUCTION TO SPATIAL TRANSCRIPTOMICS: the GPS on single cell.

12:00 - 13:00: INSPIRATIONAL TALK: TBA.

**Lars Borm, Vlaams Instituut voor Biotechnologie, Belgium**

13:00 - 13:30: Wrap-up.