

# HUMAN CELL ATLAS LATIN AMERICA



## 1st Human Cell Atlas Latin America Single Cell RNA-seq Data Analysis Workshop

A hands-on Introduction to single-cell analysis

APRIL 26th to MAY 7th, 2021

First Week

### Day 1: Monday, 26 April, 2021

- 11:00 **Opening remarks and Welcome**
- 11:15 Introduction to single cell analysis and the Human Cell Atlas
- 12:15 Cellular Heterogeneity in Liver and Drivers of Disease
- 13:15 **Break**
- 14:00 Ethical issues and governance of biobanks. A perspective from Latin America
- 15:00 Single cell sequencing and cancer: heterogeneity, diversity in normal and tumor tissues
- 16:00 **Break**
- 16:30 **Project Design Discussion**

The times below reflect GMT-3 (Greenwich Mean Time -3). Be sure to double check your Calendar to ensure you are joining the meetings at the right time for your country.

- Patricia Severino PhD, Wilson A Silva Jr PhD, Enrique Hernandez-Lemus PhD, Vinicius Maracaja-Coutinho PhD*
- Dana Pe'er, PhD (Sloan Katterling Institute, USA)*
- Tallulah Andrews, PhD (University Health Network, CA)*
- Ana Palmero, PhD (National Ministry of Health, Argentina)*
- Alfredo Hidalgo-Miranda, PhD (INMEGEN, MX)*

### Day 2: Tuesday, 27 April, 2021

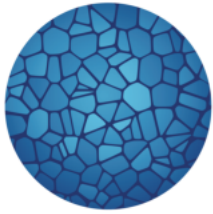
- 11:00 **Opening remarks**
- 11:15 Data quality analysis, filtering, normalization and error corrections
- 12:15 Navigating single cell transcriptomics data
- 13:15 **Break**
- 14:00 Public repositories for single cell genomics and transcriptomics
- 15:00 Cells of the human gut mapped through space and time
- 16:00 **Break**
- 16:30 **Project Design Discussion**

- Patricia Severino PhD, Wilson A Silva Jr PhD, Enrique Hernandez-Lemus PhD, Vinicius Maracaja-Coutinho PhD*
- Shyam Prabhakar, PhD (Genome Institute of Singapore, SG)*
- Muzlifah Haniffa, PhD (Newcastle University, UK)*
- Enrique Sapena-Ventura, PhD (EMBL/EBI, UK)*
- Rasa Elmentaite, PhD (Wellcome Sanger Institute, UK)*

### Day 3: Wednesday, 28 April, 2021

- 11:00 **Opening remarks**
- 11:15 Dimensionality reduction and clustering in scRNA-seq
- 12:15 M3K: An efficient software for preprocessing RNA-seq datasets
- 13:15 **Break**
- 14:00 Pseudotime and gene trajectories
- 15:00 A single cell atlas of the healthy breast and its relevance to breast cancer
- 16:00 **Break**
- 16:30 **Project Design Discussion**

- Patricia Severino PhD, Wilson A Silva Jr PhD, Enrique Hernandez-Lemus PhD, Vinicius Maracaja-Coutinho PhD*
- Gerda Kildisiute, PhD (Wellcome Sanger Institute, UK)*
- Milos Nikolic, PhD (University of Edinburgh, UK)*
- Robert Amezcua, PhD (Fred Hutchinson Cancer Research Institute, USA)*
- Harikrishna Nakshatri, PhD (Indiana University, USA)*



# HUMAN CELL ATLAS LATIN AMERICA



## Day 4: Thursday, 29 April, 2021

11:00	<b>Opening remarks</b>	<i>Patricia Severino PhD, Wilson A Silva Jr PhD, Enrique Hernandez-Lemus PhD, Vinícius Maracaja-Coutinho PhD</i>
11:15	Wiretapping cell-cell communication	<i>Nathan Lewis, PhD (University of California, San Diego, USA)</i>
12:15	Computational resources for inferring cell-cell communication	<i>Erick Armingol (University of California, San Diego, USA)</i>
13:15	Break	
14:00	Spatiotemporal Reconstruction of multicellular interactions from single-cell genomics data	<i>Qing Nie and Suoqin Jin, PhD (Univ. of California, Irvine, USA)</i>
15:00	Mapping the Human Liver Microenvironment in Health and Disease	
16:00	Break	
16:30	Project Design Discussion	<i>Sonya MacParland, PhD (University of Toronto, Canada)</i>

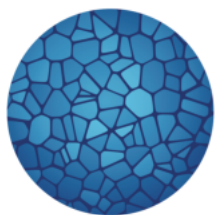
## Day 5: Friday, 30 April, 2021

11:00	<b>Opening remarks</b>	<i>Patricia Severino PhD, Wilson A Silva Jr PhD, Enrique Hernandez-Lemus PhD, Vinícius Maracaja-Coutinho PhD</i>
11:15	Exploring and standardizing single cell multi-omics to build a robust atlas	<i>Jay Shin, PhD (RIKEN, Japan)</i>
12:15	Extracting knowledge and insights from publicly available scRNAseq data	<i>Helder Nakaya, PhD (University of Sao Paulo, Brazil)</i>
13:15	Break	
14:00	Spatial transcriptomics - Imaging meets single cell biology	<i>Musa Mhlanga, PhD (Radboud University, Netherlands)</i>
15:00	Building and using a Human Kidney Cell Atlas	<i>Menna Clatworthy, PhD (University of Cambridge, UK)</i>
16:00	Break	
16:30	Project Design Discussion	

## Second Week

### Day 6: Monday, 3 May, 2021

11:00	<b>Opening remarks</b>	<i>Patricia Severino PhD, Wilson A Silva Jr PhD, Enrique Hernandez-Lemus PhD, Vinícius Maracaja-Coutinho PhD</i>
11:15	Getting started with scRNA-seq analyses with Bioconductor	<i>Leonardo Collado, PhD (Lieber Institute for Brain Development, Johns Hopkins Medical Campus, USA)</i>
12:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>
13:15	Break	
14:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>
16:30	Break	
17:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>



# HUMAN CELL ATLAS LATIN AMERICA



## Day 7: Tuesday, 4 May, 2021

11:00	<b>Opening remarks</b>	<i>Patricia Severino PhD, Wilson A Silva Jr PhD, Enrique Hernandez-Lemus PhD, Vinícius Maracaja-Coutinho PhD</i>
11:15	Dimension reduction and clustering	<i>Martin Peifer, PhD (University of Cologne, DE)</i>
12:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>
13:00	Break	
14:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>
16:30	Break	
17:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>

## Day 8: Wednesday, 5 May, 2021

11:00	<b>Opening remarks</b>	<i>Patricia Severino PhD, Wilson A Silva Jr PhD, Enrique Hernandez-Lemus PhD, Vinícius Maracaja-Coutinho PhD</i>
11:15	Interactive analysis environment for scRNA-Seq, based on Galaxy	<i>Pablo Moreno, PhD (EMBL/EBI, UK)</i>
12:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>
13:00	Break	
14:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>
16:30	Break	
17:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>

## Day 9: Thursday, 6 May, 2021

11:00	<b>Opening remarks</b>	<i>Patricia Severino PhD, Wilson A Silva Jr PhD, Enrique Hernandez-Lemus PhD, Vinícius Maracaja-Coutinho PhD</i>
11:15	Inferring cell-cell communication and interactions from single-cell transcriptomics	<i>Erick Armingol, PhD (University of California, San Diego, USA)</i>
12:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>
13:00	Break	
14:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>
16:30	Break	
17:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>

## Day 10: Friday, 7 May, 2021

11:00	<b>Opening remarks</b>	<i>Patricia Severino PhD, Wilson A Silva Jr PhD, Enrique Hernandez-Lemus PhD, Vinícius Maracaja-Coutinho PhD</i>
11:15	Data visualization	<i>César Prada, PhD (University of Oxford, UK)</i>
12:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>
13:00	Break with guest speaker	<i>Timothy Tickle, PhD (TERRA)</i>
14:00	Project Development (hands-on)	<i>Simultaneous Activities in Brazil, Mexico and Chile</i>
16:30	Break	



# HUMAN CELL ATLAS LATIN AMERICA

Genomic Activities in Brazil, Mexico and Chile



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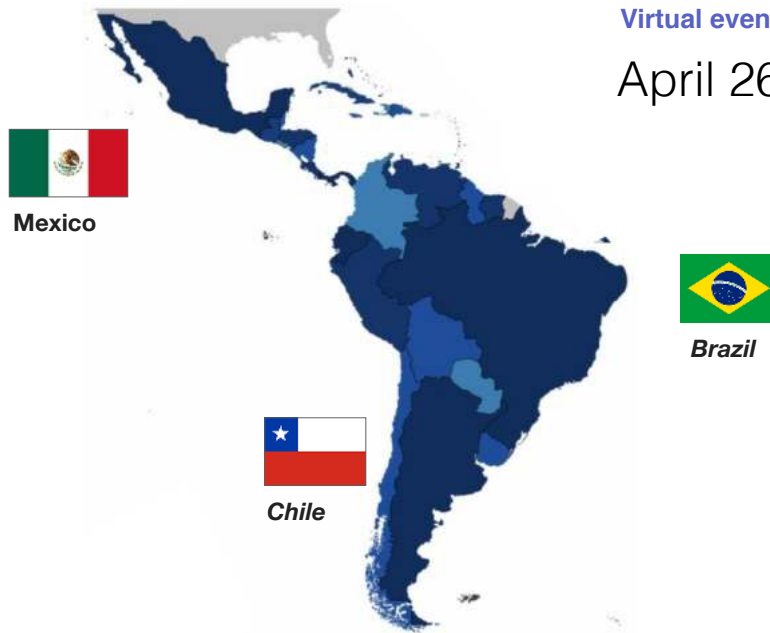
*A hands-on Introduction to single-cell analysis*

Virtual event

April 26<sup>th</sup> to May 7<sup>th</sup>, 2021

Brazil-Chile-Mexico  
HCA Tripartite Workshop

GMT-3



Mexico



Brazil



Chile

### Organizing Committee

Enrique Hernandez-Lemus PhD  
John Randell PhD  
Kristine Schwenck Manager, Events and Projects, HCA  
Patricia Severino PhD  
Tracey Andrew Executive Administrator, HCA  
Vinicius Maracaja-Coutinho PhD  
Wilson Araújo Silva Jr PhD

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Vinicius Maracaja-Coutinho PhD  
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