

Cell Dynamics in Developmental Systems *PSL-Qlife Winter school – February 8th - 12th 2021*

Monday, February 8th

Tuesday, February 9th

Wednesday, February 10th

Thursday, February 11th

Friday, February 12th

9.15-9.30 am **P. Charnay** (intro)

9.30-11.00 am **I. Arganda-Carreras**
Introduction to Bioimage Analysis:
from the digital image to deep learning

11.00-11.30 am break

11.30-12.30 am **L. Noiret**
Single-Cell RNA-sequencing data
analysis: an overview of the
tools and applications

12.30-1.30 pm lunch

1.30-5.00 pm
Numerical workshop

**Building bioimage
analysis workflows
with Image/Fiji**

I. Arganda-Carreras
O. Leroy

1.30-5.00 pm
Numerical workshop

**Single-cell RNA-
sequencing data
analysis**

L. Noiret
N. Lehmann
E. Van Leen

9.30-11.00 am **C. Godin, P. Lemaire**
From microscopy images to the
quantification of morphogenesis

11.00-11.30 am break

11.30-12.30 am **R. Zinzen**
More than the sum of its parts:
Emergence of cellular identities
in the Drosophila embryo

12.30-1.30 pm lunch

1.30-5.00 pm
Numerical workshop

**Segmentation,
exploration,
visualization, cell
tracking (3D)**

P. Lemaire
C. Godin
G. Malandain
M. Petit

1.30-5.00 pm
Numerical workshop

**Mapping single-cell
RNA-sequencing
data on tissue
using computations**

L. Noiret
N. Lehmann
E. Van Leen

9.30-11.00 am **R. Etournay, M. Merkel**
Multiscale analysis of
tissue deformation

11.00-11.30 am break

11.30-12.30 am **S. Aerts**
Deciphering gene expression
programs using single-cell multi-omics

12.30-1.30 pm lunch

1.30-5.00 pm
Numerical workshop

**Data visualization
and multiscale
analysis of tissue
deformation
(TissueMiner, 2D)**

R. Etournay
M. Merkel

1.30-5.00 pm
Numerical workshop

**Single cell transcriptomics,
gene regulatory networks
and identification of cell
states in space and time
(SCENIC, cisTOPIC)**

S. Aerts
S. Aibar
S. Floc'hlay

9.30-11.00 am **F. Graner, G. Gay**
Modeling tissues: numerical
simulations & continuum mechanics

11.00-11.30 am break

11.30-12.30 am **S. Giacomello**
Development and application of Spatial
Transcriptomics to mammalian
and plant species

12.30-1.30 pm lunch

1.30-5.00 pm
Numerical workshop

**Modeling
morphogenesis
in 2D and 3D**

G. Gay
S. Theis

1.30-5.00 pm
Numerical workshop

**Exploration of gene
expression patterns
in tissue sections
by Spatial
Transcriptomics**

S. Giacomello
Y. Masarapu
S. Saarenpää

1.30-5.00 pm
Numerical workshop

**Integration of
spatial and
genomics data**

E. Faure
P. Lemaire
B. Gallean

1.30-5.00 pm
Numerical workshop

**Integration of
spatial and
genomics data**

E. Faure
P. Lemaire
B. Gallean

5.00-6.00 pm break

6.00-7.00 pm **C. P. Heisenberg**
Tissue phase transitions in
zebrafish gastrulation

7.00-7.15 pm break

7.15-8.45 pm
Flash talks

5.00-6.00 pm break

6.00-7.00 pm **V. Grieneisen**
From Cell to Tissue Polarity: Crossing
kingdoms in the quest of symmetry
breakage and patterning robustness

7.00-7.15 pm break

7.15-8.45 pm
Student poster presentation

5.00-6.00 pm break

6.00-7.00 pm **L. Périé**
Quantitative aspects in hematopoiesis

5.00-6.00 pm break

6.00-7.00 pm **H. Jönsson**
How to grow into a shape?

7.00-7.15 pm break

7.15-8.45 pm
Student poster presentation

5.00-6.00 pm break

6.00-7.00 pm **D. Vignjevic**
Cell migration in gut homeostasis