

Elias VENTRE

27/09/1990

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Postdoctoral fellow at UBC

EDUCATION

- 2019-2022 **ENS Lyon – PhD in applied mathematics.**
- *Analysis, calibration and evaluation of stochastic models of gene expression, supervised by Thibault Espinasse, Olivier Gandrillon and Thomas Lepoutre.*
- 2017-2019 **UCBL Lyon 1 – Master in applied mathematics, with highest honor (2/39).**
- 2013-2015 **ENSA Paris-Belleville – Master in Architecture.**
- *One-year exchange program in UC, Santiago de Chile (2014).*
- 2010-2013 **ESTP Paris – Master in Building Engineering.**
- 2008-2010 **Lycée Fénelon – Classes préparatoires aux grandes écoles.**
- 2008 **Lycée Louis Le Grand – High School Diploma, with honor.**

TEACHING & PROFESSIONAL ACTIVITIES

- Since 2022 **University of British Columbia, Postdoctoral fellow.**
- *Trajectory inference from single-cell data with lineage tracing, supervised by Geoffrey Schiebinger and Young-Heon Kim.*
 - *In charge of the course of Integral Calculus for 1st-year students.*
- 2019-2022 **UCBL, Teaching assistant (3 semesters).**
- *In charge of the course of General Mathematics for 1st-year and 2nd-year students.*
- 2018-2019 **LBMC, Internships in applied mathematics.**
- *Mathematical formulation of Waddington Landscape for a stochastic hybrid model of gene expression (4 months).*
 - *Computation of transfer entropy for a Piecewise Deterministic Markovian Process (1 month).*
- 2015-2017 **SYNTESIA, Project manager in Building Information Modeling (22 months).**
- 2013 **ARTER, Engineering of ephemeral art (6 months).**

LANGUAGES

French	Mother tongue.
English & Spanish	Fluent.
Informatics	Python & C, Latex.

PUBLICATIONS

- arXiv*, 2022 **Convergence of the Sinkhorn algorithm when the Schrödinger problem has no solution**
Aymeric Baradat, Elias Ventre
- bioRxiv*, 2022 **One model fits all: combining simulation and inference of gene regulatory networks**
Elias Ventre, Ulysse Herbach, Thibault Espinasse, Gérard Benoît, Olivier Gandrillon

BMC Biology, 2022

Evidence for close molecular proximity between reverting and undifferentiated cells

Souad Zreika, Camille Fourneaux, Elodie Vallin, Laurent Modolo, Rémi Seraphin, Alice Moussy, Elias Ventre, Matteo Bouvier, Anthony Ozier-Lafontaine, Arnaud Bonnaffoux, Franck Picard, Olivier Gandrillon, Sandrine Giraud

In Silico Biology, 2021

Reverse engineering of a mechanistic model of gene expression using metastability and temporal dynamics

Elias Ventre

J. Math. Biol., 2021

Reduction of a stochastic model of gene expression: Lagrangian dynamics gives access to basins of attractions as cell types and metastability

Eias Ventre, Thibault Espinasse, Charles-Edouard Bréhier, Vincent Calvez, Thomas Lepoutre, Olivier Gandrillon

TALKS & POSTERS

01/2022	Université de Lyon, MMCS group – Lyon.
12/2021	NETBIOS research group – virtual.
12/2021	MAMOVI research group – Paris.
06/2021	Université de Lorraine, Probability group – Nancy.
05/2021	SMAI, Congress – Poster.
12/2020	SinCellMod-2020 – Virtual.
10/2020	ANR SingleStatOmics – Virtual.
02/2020	CIRM, Research School – Poster.
10/2019	INRIA-Bio Workshop – Lyon.

SCHOOLS AND CONFERENCES

February, 03-07th, 2020: School – PDE and Probability for biology – CIRM.

June, 21-25th, 2021: Conference – Congress of SMAI – La grande motte.

July, 18-22th, 2022: School – Transport in physics, biology and urban traffic – CEMRACS (CIRM).

PERSONAL

Violin and Guitar.

Acting in lay theatre.

Tennis in competition, hiking.