

Elias VENTRE

27/09/1990

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## Curriculum Vitae

### EDUCATION

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- Since 2019      **INRIA Dracula & LBMC – PhD in applied mathematics.**  
▪ *Stochastic hybrid processes for modeling gene expression at the single-cell level.*
- 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 Fénélon – Classes préparatoires aux grandes écoles.**
- 2008            **Lycée Louis Le Grand – High School Diploma, with honor.**

### TEACHING & PROFESSIONAL ACTIVITIES

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- Since 2019      **UCBL, Teaching assistant.**  
▪ *In charge of the course of General Mathematics for 1<sup>st</sup>-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

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

### PUBLICATIONS

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- bioRxiv*, 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 Bonnaïffoux, 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**  
Elias Ventre, Thibault Espinasse, Charles-Edouard Bréhier, Vincent Calvez, Thomas Lepoutre, Olivier Gandrillon

## TALKS & POSTERS

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

## PERSONAL

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Violin and Guitar.

Acting in lay theatre.

Tennis in competition, hiking.