Edouard Hannezo | Curriculum Vitae

Nationality : French Date of Birth : 21^{st} of November 1986

Education

PhD in Biological Physics at the **Institut Curie**, co-advised by Jean-Francois Joanny and Jacques Prost. Completed with **Highest Honors**.	2010-2014
B.Sc. in Chemistry, **B.Sc.** and **Masters** in Physics with **Highest Honors** at the **École Normale Supérieure of Paris** and at the **University Pierre et Marie Curie.**	2006-2010
"Classes préparatoires" specialized in **Mathematics**, **Physics**, and **Chemistry**, corresponding approximately to a two-year university diploma in those three disciplines.	2004–2006
French Baccalauréat with **Highest Honors**.	2004

Work Experience

Assistant Professor at the **Institute of Science And Technology**, Austria	2017-2023
Sir Henry Wellcome Fellow of the **Wellcome Trust**, based in the Gurdon Institute, Cambridge	2015-2017
Junior Research Fellow at **Trinity College, University of Cambridge**, and at the Cavendish Laboratory, working with Prof. Benjamin Simons.	2015-2019
Supervisions at **Trinity College, University of Cambridge**, of Part IB physics students (2 hours/week).	2015-2016
Short Postdoctoral Position in the Developmental Biology Department at the **Institut Curie**, under the supervision of Yohanns Bellaiche	2014
Visiting Scholar at **Harvard University**. I worked in the Experimental Soft Condensed Matter Group (**David A. Weitz)**, and studied the properties of collective cell dynamics as a function of cell density	2008

Languages and other skills

- **French** : Mother tongue
- **English** : Fluently spoken and written
- **Spanish** : Intermediate
- **Mandarin Chinese** : Beginner.
- **Portuguese** : Beginner.
- **Computer Skills** : Fortran, LaTeX, Matlab, C++, Python.

Publications

Peer-reviewed papers

- **Multipotent basal stem cells support directed large-scale epithelial flows in adult human prostate**
  M. Moad*, **E. Hannezo***, S. Buczacki, ... B. Simons and R. Heer, in press, **Cell Reports**, (2017)
  *Co-first authors
- **Transmission of cytokinesis forces via E-Cadherin dilution and actomyosin flows**
  D. Pinheiro, **E. Hannezo***, S. Herstzerg*, ..., and Y. Bellaiche, **Nature**, 545 (7652), 103-107 (2017)
  *Co-second authors
- **Identity and dynamics of mammary stem cells during branching morphogenesis (Research Article)**
  C. Scheele*, **E. Hannezo***, ..., B. Simons and J. Van Rheenen, **Nature**, 542 (7641), 313-317 (2017)
  *Co-first authors
- **RhoA regulates actin network dynamics during apical emergence in multiciliated cells.**
  J. Sedzinski, **E. Hannezo**, F. Tu, M. Biro and J. Wallingford, **J Cell Sci**, 130(2) :420-42 (2017)
- **Defining the clonal dynamic leading to basal cell carcinoma initiation (Research Article)**
  A. Sanchez-Danes*, **E. Hannezo***, ... , B. Simons and C. Blanpain, **Nature**, 536(7616), 298-303, (2016)
  *Co-first authors
- **Interplay of migratory and division forces as a generic mechanism for stem cell patterns**
  E. Hannezo*, A. Coucke and J-F. Joanny, **Phys. Rev. E**, 93(2), 022405. (2016)
  * Corresponding author
- **Emergence of an apical epithelial cell surface in vivo**
  J. Sedzinski*, **E. Hannezo***, F. Tu, M. Biro and J. Wallingford, **Dev. Cell**, 36 (1), 24-35, (2016)
  *Co-first author
- **Physics of active jamming during collective cellular motion in a monolayer**
  S. Garcia, **E. Hannezo**, J. Elgeti J-F. Joanny, P. Silberzan, N. Gov, **PNAS**, 112 (50), 15314-15319, (2015)
- **Assembly and positioning of actomyosin rings by contractility and PCP**
  I. Sehring, P. Recho, E. Denker, ... , **E. Hannezo***, B. Dong*, D. Jiang*, **eLife**, 4 :e09206., (2015) (Cover article)
  *Corresponding author
- **A cortical instability drives supracellular actin ring formation in biological tubes**
  E. Hannezo*, B. Dong*, P. Recho, J-F. Joanny and S. Hayashi, **PNAS**, 04762, (2015) (Highlighted article)
  * Co-first and corresponding author.
- **Dynamic model of Heat Transfer in an porous wick of Capillary Pumped Loop**
  R. Boubaker, V. Platel, A. Berges, M. Bancelin, **E. Hannezo**, **App. Therm. Eng.**, 76, 1-8 (2014)
- **Balance between Apical Growth and Matrix Resistance Determines Epithelial Tubule Shape**
  B. Dong, **E. Hannezo**, S. Hayashi, **Cell reports**, 7(4), 941-950 (2014)
- **Homeostasis and dynamics of stem-cell tissues**
  E. Hannezo*, J-F Joanny and J. Prost, **J. R. Soc. Interface**, 11 (93), 20130895 (2014)
  * Corresponding author
- **Theory of epithelial sheet morphology in three dimensions**
  E. Hannezo*, J-F Joanny and J. Prost, **PNAS** 111 (1), 27-32 (2013)
  * Corresponding author
- **Alignment of cellular motility forces with flow as a mechanism for efficient wound healing**
  M. Basan, J. Elgeti, **E. Hannezo**, W-J Rappel and H. Levine, **PNAS** (2013) (Inaugural article)
- **Mechanical instabilities of biological tubes**
  E. Hannezo, J-F Joanny and J. Prost, **PRL** 109, 018101 (2012)
- **Instabilities of Monolayered Epithelia : Shape and Structure of Villi and Crypts**
  E. Hannezo, J-F Joanny and J. Prost, **PRL** 107, 078104 (2011) (Highlighted article)

- **Notch Lineages in Intestinal Stem Cells Determined by A New Set of Knock-In Mice**
  S. Fre, **E. Hannezo**, S. Sale, M. Huyghe, ... , S. Artavanis-Tsakonas, **PLoS ONE** 6(10) : e25785 (2011)
- **Glass-like dynamics of collective cell migration**
  T. Angelini, **E. Hannezo**, X. Trepat, J. Fredberg and D. Weitz, **PNAS**, 4714-4719 (2011) (Cover article)
- **Cell Migration Driven by Cooperative Substrate Deformation Patterns**
  T. Angelini, **E. Hannezo**, X. Trepat, J. Fredberg and D. Weitz, **PRL** 104, 168104 (2011)

Invited talks and seminars

- 09/2017 : **A quantitative self-organised model of branching morphogenesis**. "Organization and Dynamics of Living Systems", Cargese, France
- 07/2017 : **Collective stem cell dynamics during epithelial morphogenesis**. "5th Course in Advances in Stem Cell Biology", Pasteur, France
- 05/2017 : **Predicting the growth and invasive potential of tumours in mouse tail epidermis**. Symposium The Physics of Cancer. Valencia, Spain
- 05/2017 : **A new self-organised mechanosensing pathway**. 50^{th} symposium of the Japanese Society of Developmental Biology, Tokyo
- 05/2017 : **Predicting the growth and invasive potential of tumours in mouse tail epidermis**. Stem Cell Lunches, UCL , UK
- 06/2016 : **Branching morphogenesis in the pubertal mammary gland**. Symposium of the Japanese Society of Developmental Biology 2016, Japan
- 05/2016 : **Cortical instabilities and pattern formation**. Institute of Frontier Sciences, Kyoto University, Japan
- 05/2016 : **Predicting the growth and invasive potential of tumours in mouse tail epidermis**. CiM-IMPRS International PhD retreat of the Max Planck Institute, Munster, Germany
- 04/2016 : **Branching morphogenesis in the pubertal mammary gland**. ITN-Biopol PhD retreat, Rome, Italy
- 09/2015 : **Cortical instabilities and pattern formation**. CBIt workshop, "Morphogenesis and computational modelling", University Paul Sabatier (Toulouse), France
- 08/2015 : **Cortical instabilities and pattern formation**. Two seminars for researchers and graduate students of the Marine Biology Institute, Qingdao University, China.
- 11/2014 : **Biophysical models of epithelia**. Seminar of the Computational Physics Department, Forschungszentrum, (Juelich), Germany
- 10/2014 : **Formation of biological tubes in vivo**. Seminar of the Biology Department, University Paul Sabatier (Toulouse), France
- 02/2014 : **Biophysical models of epithelia**. Seminar of the Chemical Physics Department, Weizmann Institute, Israel
- 02/2014 : **Biophysical models of epithelia**. Seminar of the Center for Biology and Physics, Rockefeller University, USA
- 12/2013 : **Epithelial cell morphology and growth in 3D**. Seminar at the Lewis Stigler Institute, Princeton, USA
- 11/2013 : **Models of growth, patterning and stem cell dynamics in epithelial tissues**. Seminar of the Physics Department, Niels Bohr Institute, Danemark
- 10/2013 : **Epithelial cell morphology in 3D : a model of active foams**. Seminar of the Oxford Centre for Soft and Biological Matter, UK
- 05/2013 : **Epithelial cell morphology in 3D**. Seminar of the LTPMS, Université Paris Sud, Orsay, France
- 12/2012 : **From mechanical instabilities ofepithelial tissues to morphogenesis,stem cell dynamics and cancerogenesis**. Seminar of the Center for Developmental Biology, RIKEN Institute, Japan
- 09/2012 : **Growth and instabilities of epithelial tissues**. ESF Exploratory Workshop on the "Physics of Cancer", Varenna, Italy
- 05/2012 : **Mechanical Instabilities of Epithelial Tissues**. Seminar in the Mahadevan group, SEAS, Harvard University, USA

Courses and contributed talks

- May 2015 : Young Embryologist Network conference in King's College, London (1 day conference in which I gave a contributed talk)
- August 2014 : EMBL Symposium on "Epithelia : the building blocks of multicellularity" (1 week conference in which I gave a contributed talk)
- Summer 2013 : Santa Barbara Advanced School of Quantitative Biology (6 weeks Research Course on "Live Imaging of Morphogenesis")
- Summer 2012 : Santa Barbara Physics of Cancer workshop (8 weeks workshop in which I gave a contributed talk)
- April 2012 : Embo Course on "Mesoscopic origins of cell behaviours" (1 week conference in which I gave a contributed talk)
- June 2011 : Les Houches course on "Computational Approaches to Soft Matter" (3 weeks courses in which I gave a contributed talk)

General public articles and interventions

- "Mathematical modelling in biology" (2015), interview with Arte (franco-german TV channel).
- "Cancer and Randomness ?" (2015), invited speaker in the "Science, Research, Society" forum organised by "Le Monde", France's leading newspaper
- "Cancer and Randomness ?" (2015), article in the French magazine "La Recherche"
- "Does cancer play dice ?" (2015), article in "Le Monde", France's leading newspaper
- "Angelina Jolie and the return of Pascal's wager" (2013), article in "Le Journal du Dimanche".
- "Young smiles in research" (2011), radio interview on "France Culture"

Scientific distinctions

- 2015 : **Sir Henry Wellcome Fellowship** from the Wellcome Trust
- 2014 : **Young Researcher Prize** from the Bettencourt-Schuller Foundation
- 2014 : **Junior Research Fellowship** from Trinity College, Cambridge.
- 2010 : **PhD grant** from the French Ministry of Research.

Reviewing activity

- Reviewer for PNAS, Nature Communications, Physical Review Letter, Physical Review E, PloS One, Langmuir, New Journal of Physics, Heliyon, Journal of Theoretical Biology, Journal of the Mechanical Behavior of Biomedical Materials, Biophysical Journal and European Physical Journal (named Distinguished EPJ Referee in 2013).

Address : Am Campus 1, 3400 Klosterneuburg, Austria