

Curriculum vitae — Maël Montévil

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Employment History

Université Paris 1 Contractual researcher (PI), half time IHPST - UMR 8590, grant Cogito Foundation	Paris 2019 – —
IRI - Centre Pompidou Post doctoral researcher, half time since oct. 2019 Chaire de recherche contributive with B. Stiegler	Paris 2018 – —
Université Paris VII - Diderot Post doctoral researcher MSC - 7057, Labex “Who am I?” with S. Douady and J. Gayon	Paris 2015 – 2017
CNRS / Université Paris I - Panthéon Sorbonne Post doctoral fellow IHPST - UMR 8590, grant ISC Île de France with J. Gayon and M. Mossio	Paris 2013 – 2014
Tufts University Post doctoral associate Soto and Sonnenschein Lab with A. Soto and C. Sonnenschein	Boston 2012 – 2013
Université Paris V - Descartes Pre-doctoral fellowship Research was performed in LIENS, ENS de Paris with G. Longo	Paris 2008 – 2011
École Normale Supérieure (ENS) de Cachan Normalien Student of ENS	Cachan 2004 – 2008

Education

Université Paris V - Descartes and ENS de Paris PhD degree in Frontiers in life sciences PhD program (FdV) <i>Supervisor, Giuseppe Longo: “Biological time and extended critical transitions: Towards an objectivization of the living state of matter”</i>	Paris 2011
Université Paris V - Descartes MS (Master II) in Interdisciplinary approaches to life sciences (AIV) MS (Master II) in Cognitive Sciences (Cogmaster)	Paris 2008 2007
ENS de Cachan - Paris VII BS and MS (Licence and Master I) in Mathematics	Paris 2006
Université Paris I - Panthéon Sorbonne BS (Licence) in Philosophy	Paris 2005
ENS de Cachan Élève in Mathematics <i>Not associated to a specific degree, intensive formation</i>	Cachan 2004-2008

Lycée Chateaubriand	Rennes
BS (Classe préparatoire MPSI-MP*) in Mathematics and Physics	2001-2004
<i>Intensive formation to enter the "grandes Écoles"</i>	

Other Research Experience

VISITING SCHOLAR

The Graduate School of Creative Arts and Media, Technological University Dublin	Dublin (Ir.)
Entropy and the Anthropocene. Secondment, european projet <i>Real Smart Cities</i> . in (1 month)	July. 2019
July 2015 Variability in vitro and in vivo in biological systems. Soto and Sonnenschein lab, Tufts University School of Medecine, Boston, USA	
June 2015 Interventionist accounts of causality in dynamical systems. Paul Griffith, University of Sydney, Sydney, Australia.	
January 2014 Collagen organization in 3D cell cultures. Soto and Sonnenschein lab, Tufts University School of Medecine, Boston, USA	

INTERNSHIPS

Internship in Microbiology - Université Paris V	Paris
Bi-stability of Lac-operon of E. coli in INSERM-U571, Necker <i>Supervisors: François Taddei et Lydia Roberts</i>	2008
Internships in Theoretical biology - ENS	Paris
<i>Supervisors: Giuseppe Longo (and unofficially Francis Bailly)</i>	
Thermodynamical aspects of biological complexity. in LIENS	2007
Which criticality for biology? Form self-organized criticality to extended critical situations. in LIENS	2006
Turing, the imitation game and morphogenesis. in LIENS	2005

Service To Profession

Organization of conferences

- Seminar: *Informatique et générations* with IRI, AAGT and the Internation group, festival Agir pour le vivant, Arles, France, august 25-27, 2020
- Workshop : *What does "disruption" means for endocrine disruptors?* IHPST, Paris, France, may 14, 2020
- *Symposium: The Science of Systems and Life: Alternative Philosophies, new Mathematics* with ETH Zürich and the Cardano group, ETH Zürich, Zürich, Switzerland, october 25, 2018.
- Workshop: *La médecine au chevet de l'IA médicale : nécessité d'un fondement théorique du vivant pour aborder les nouvelles technologies de manière rationnelle* with Onteis, ISC, Paris, France, september 29 2018
- Conference *Transitions et crises : mathématiques, finance, écosystèmes* with the Cardano Group,, École Normale Supérieure, Paris, France, may 28 2018.
- Conference *Une économie contributive dans une société du soin* with IRI team, MSH Paris Nord, Saint-Denis, France, 13-15 march 2018

- Biodiversité et résilience *Approches théoriques et modélisation de la diversité biologique et résilience dynamique des systèmes complexes organisés multi-échelles : du système immunitaire aux macro-écosystèmes* with Véronique Thomas-Vaslin. 12-14 october 2015, Paris, France.
- IAS-IHPST meeting: *Boundaries and levels of biological organization* with Leonardo Bich, 1-2 july 2014, San Sebastian, Spain.

Referee for the journals *Acta Biotheoretica*, *Synthese*, *British Journal for the Philosophy of Science*, *BioEssays*, *Philosophical Transactions of the Royal Society B: Biological Sciences*, *Frontiers in Physiology*, *Journal of Theoretical Biology*, *Journal of the Royal Society Interface*, *Perspectives on Science*, *Theory in Biosciences*, *Physica A: Statistical Mechanics and Its Applications*, *The European Physical Journal A*, *Chaos, Solitons & Fractals*, *Entropy*, *Ecological Complexity*, *Journal of Theoretical and Applied Vascular Research*, *Mathematics*, *Entropy*, *Mathematics and Computers in Simulation*, *Progress in Biophysics and Molecular Biology* and *Science and Education*. See <https://publons.com/a/1333770/>.

Review Editor for the journal “Frontiers in fractal physiology”.

Editorial board *Links*, arts, sciences, et complexité.

Invited editor *Axioms* journal special issue : “Perspectives on Big Data and Data Sciences.”

Scientific board CNRS thematic school *BioPerspectives, nouvelles perspectives en philosophie de la biologie*.

Roadmap update French Complex Systems network, june 2017.

Webmaster for the book series *Vision des sciences*, Hermann, <http://www.visions-des-sciences.eu/>.

Member Cardano Gorup and International Society for the History, Philosophy, and Social Studies of Biology (ISHPSSB).

Service to Society

Federal Drug Administration (FDA) Participation to the project Clarity BPA, on the impact of bisphenol A.

Programme National de Recherche « Risques environnementaux et sanitaires liés aux OGM » (Risk’OGM) Participation to the organization of the colloquium: *l'évaluation face aux enjeux globaux — Biologie, techniques et vulnérabilités*.

Scientific advisor Onteis company. <http://onteis.com>.

Multiple talks for the general public.

Contribution to the building of a major project, *Territoires d'innovation* : with multiple actors of the Plaine Commune (93) territory. Submitted Avril 2019.

Conception, funding, instanciation and participation to the “clinique contributive” programme at Saint Denis , a program of contributive research with Mari-Claude Bossière, child psychiatrist, and IRI.

Teaching

ACCREDITATION (published [here](#).)

Accreditation in section 68 (Biology of organisms) — 2016

Accreditation in section 72 (Epistemology, history of sciences and techniques) — 2017

TEACHING

2016 and 2017 **Master of philosophy** “Logique et philosophie des sciences” (LOPHISC), Course in Philosophy of Biology (M1) (2h). Mentoring of M1 and M2 students.

2014 **Theoretical biology courses** ÉNS, in the context of Ana Soto’s Blaise Pascal chaire.

2013 **Mentoring** Ingenieur in training Université de Technologie de Compiègne, internship at Tufts University. A paper has been published.

2012 and 2013 **Mentoring of Highschool students** Tufts University.

Other knowledge and skills

LANGUAGES

French : Mother Tongue.

English : Fluent.

German : Elementary.

Latin : Beginner.

SKILLS

Computer : Lua \LaTeX , Asymptote, Libreoffice, ImageJ, Drupal, ...

Programming : Linux Shell, Matlab (and Octave), Maple, Cran *R*, imageJ, *C*, Java (Simulations, analyse de données, d’images, représentation de données)

Experimental biology : Microbiology. Traditional cell culture and 3D cell culture. Dissection. Confocal microscopy. Flowcytometry.

Representative publications

- Maël Montévil. 2019a. “Measurement in biology is methodized by theory.” *Biology & Philosophy* 34, no. 3 (April): 35. ISSN: 1572-8404. <https://doi.org/10.1007/s10539-019-9687-x>
- Maël Montévil. 2019b. “Possibility spaces and the notion of novelty: from music to biology.” *Synthese* 196, no. 11 (November): 4555–4581. ISSN: 1573-0964. <https://doi.org/10.1007/s11229-017-1668-5>
- Maël Montévil, Matteo Mossio, A. Pocheville & G. Longo. 2016. “Theoretical principles for biology: Variation.” *Progress in Biophysics and Molecular Biology* 122 (1): 36–50. ISSN: 0079-6107. <https://doi.org/10.1016/j.pbiomolbio.2016.08.005>
- Maël Montévil, L. Speroni, Carlos Sonnenschein & Ana M. Soto. 2016. “Modeling mammary organogenesis from biological first principles: Cells and their physical constraints.” *Progress in Biophysics and Molecular Biology* 122 (1): 58–69. ISSN: 0079-6107. <https://doi.org/10.1016/j.pbiomolbio.2016.08.004>
- Maël Montévil & Matteo Mossio. 2015. “Biological organisation as closure of constraints.” *Journal of Theoretical Biology* 372:179–191. ISSN: 0022-5193. <https://doi.org/10.1016/j.jtbi.2015.02.029>
- G. Longo & Maël Montévil. 2014. *Perspectives on Organisms: Biological time, symmetries and singularities*. Lecture Notes in Morphogenesis. Heidelberg: Springer. ISBN: 978-3-642-35937-8. <https://doi.org/10.1007/978-3-642-35938-5>