Lucas Gautheron

Computational Models of Human & Social Behavior

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Education

2022-2025 **Ph.D. candidate, Sociology**, *Interdisciplinary Centre for Science and Technology Studies, Wuppertal*, Germany
"Modeling research dynamics in high-energy physics". Supervisors: Thomas Heinze & Radin Dardashti. $3^{1/2}$ years contract.

2021-2022 **M.A., History and Philosophy of Science**, *Université Paris-Cité*, [Class rank: 1st]
Thesis : "Too beautiful to be false, or too beautiful to be true? Searching supersymmetry at the *Large Hadron Collider*". Supervisors: Olivier Darrigol & Elisa Omodei.

2014-2018 **Master 1, Theoretical and Experimental Physics**, *Ecole Normale Supérieure de Cachan (Paris-Saclay)*
Full scholarship & civil-servant status.

2012-2014 **PCSI/PC***, *Lycée Berthollet*, Annecy
Mathematics, physics and chemistry. Preparation for the competitive entrance exams of the Écoles Normales Supérieures (research oriented top higher education institutions).

Research

Mar 2023 on-going **Research Assistant (linguistics, part time)**, *Laboratoire de Sciences Cognitives et Psycholinguistique (LSCP - DEC - École Normale Supérieure)*, Paris
Investigating correlations between speech heard and produced by young infants.

Feb 2023 Aug 2023 **Visiting PhD student**, *Medialab, Sciences Po Paris*

Sep 2020 Nov 2021 **Engineer (linguistics)**, *Laboratoire de Sciences Cognitives et Psycholinguistique (LSCP - DEC - École Normale Supérieure)*, Paris
Study of language acquisition across cultures through naturalistic long-form audio recordings.

Oct 2016 Jan 2017 **Research Internship (astrophysics)**, *Laboratoire Univers et Théories (LUTH - INSU - CNRS)*, Paris Meudon
Influence of the nuclei distribution on weak interactions' rates in core-collapse supernovae.

May 2016 Jul 2016 **Research Internship (particle physics)**, *Laboratoire de Physique Nucléaire et des Hautes Énergies (LPNHE - IN2P3 - CNRS)*, Paris
Diphoton analysis and phenomenology for the ATLAS experiment.

Oct 2015 Jan 2016 **Research Internship (astrophysics)**, *Laboratoire d'Annecy-Le-Vieux de Physique Théorique (LAPth - IN2P3 - CNRS)*, Annecy-Le-Vieux
History of modern cosmology & science communication (website)

May 2015 Jul 2015 **Research Internship (particle physics)**, *Laboratoire d'Annecy-Le-Vieux des Particules (LAPP - IN2P3 - CNRS)*, Annecy-Le-Vieux
Particle physics for the ATLAS experiment.

Preprints

[1] **L. Gautheron**. *Balancing Specialization and Adaptation in a Transforming Scientific Landscape*. Dec. 2023. URL: https://arxiv.org/abs/2312.14040.

Peer-Reviewed Publications

[2] A. Cristia, **L. Gautheron**, and H. Colleran. "Vocal input and output among infants in a multilingual context: Evidence from long-form recordings in Vanuatu". In: *Developmental Science* (Feb. 2023). URL: https://doi.org/10.1111/desc.13375.

[3] **L. Gautheron** and E. Omodei. "How research programs come apart: The example of supersymmetry and the disunity of physics". In: *Quantitative Science Studies* 4.3 (2023), pp. 671–699. ISSN: 2641-3337. URL: `https://direct.mit.edu/qss/article/4/3/671/117340/How-research-programs-come-apart-The-example-of`.

[4] **L. Gautheron**, N. Rochat, and A. Cristia. "Managing, storing, and sharing long-form recordings and their annotations". In: *Language Resources and Evaluation* (Feb. 2022). URL: `https://link.springer.com/10.1007/s10579-022-09579-3`.

[5] M. Lavechin, M. de Seyssel, **L. Gautheron**, E. Dupoux, and A. Cristia. "Reverse Engineering Language Acquisition with Child-Centered Long-Form Recordings". In: *Annual Review of Linguistics* 8.1 (Jan. 2022), pp. 389–407. URL: `https://www.annualreviews.org/doi/full/10.1146/annurev-linguistics-031120-122120`.

Invited Talks

[6] **L. Gautheron**. "Balancing Specialization and Adaptation in a Transforming Scientific Landscape: Modelling scientists' behavior with Natural Language Processing". NLP Seminar, LATTICE, Montrouge. Nov. 2023.

[7] **L. Gautheron**. "Too beautiful to be false, or too beautiful to be true: supersymmetry and the future of high-energy physics". 2JM seminar, Sciences Po, Paris. May 2023.

[8] **L. Gautheron** and A. Cristia. "A python package for long-form recordings and their annotations". Bergelson group, Duke University, North Carolina [online]. June 2021.

Contributed Talks

[9] **L. Gautheron**. "From Colliders to Cosmos: Dynamics of Cooperation and Collaboration in High-Energy Physics". Summer school "Collaboration and Interdisciplinarity in Science and Technology", Wuppertal, Germany. Sept. 2023. URL: `https://grk2696.de/?page_id=349`.

[11] **L. Gautheron**. "Probing Socio-Epistemic Dynamics in High-Energy Physics Using the Inspire HEP Database". Big Data & HPS. May 2023. URL: `https://scientoconference.com/bigdatahps2023/`.

[12] **L. Gautheron**. "La désunité de la physique des hautes-énergies". XIVe Congrès de la Société française d'histoire des sciences et des techniques: symposium "La physique de l'après Seconde guerre mondiale, entre ruptures et continuités", Bordeaux, France. Apr. 2023. URL: `https://sfhst-2023.sciencesconf.org/`.

[13] **L. Gautheron**. "The many faces of supersymmetry: Supersymmetry across subcultures of High-Energy Physics, 1971–2019". 2022 History of Science Society Annual Meeting: group session on Historical Epistemology of Particle Physics and Quantum Gravity, Chicago, IL, United States. Nov. 2022. URL: `https://hssonline.org/page/hss22`.

[14] **L. Gautheron**. "Who trusts supersymmetry? Probing quantitative methods for investigating research orientations in High-Energy Physics". 4th International Spring School of the Epistemology of the Large Hadron Collider: The History, Philosophy and Sociology of Large Scale Experiments, Wuppertal, Germany. Mar. 2022. URL: `https://www.lhc-epistemologie.uni-wuppertal.de/events/events/spring-school-2022-1`.

Grants

2023	**G-Research**, *Grants for PhD students and postdocs in quantitative fields; 1,000£*	

Journalism

Dec 2019 – Nov 2020	**President & Publication Manager**, *Société de Production Le Média*, Montreuil. Head of a production company with 12+ full-time workers.
Sep 2018 – Sep 2020	**Journalist**, *Le Média*, Montreuil. Data journalism and book reviews.

Selected press articles

[15] **L. Gautheron** and C. Gence. "[DATA] Les morts invisibles du coronavirus : la vérité derrière les chiffres officiels (The Hidden Toll of Coronavirus: Revealing the Truth Beyond Official Numbers)". In: *Le Média* (Apr. 4, 2020). URL: `https://www.lemediatv.fr/articles/2020/data-les-morts-invisibles-du-coronavirus-la-verite-derriere-les-chiffres-officiels-SaYKcOT9RFaTkUMNO7HOYg`.

[16] **L. Gautheron** and C. Gence. "[DATA] Lutte contre le COVID-19 : oui, la lenteur de l'État français a tué (Fatal Sluggishness: How France's COVID-19 Response Cost Lives)". In: *Le Média* (Apr. 23, 2020). URL: `https://www.lemediatv.fr/emissions/2020/data-lutte-contre-le-covid-19-oui-la-lenteur-de-letat-francais-a-tue-PtqelwZ3SmalFijh_IZrvA`.

[17] **L. Gautheron**. "Référendum ADP : les médias au service du pouvoir (Silencing Democracy: Media Blackout on the ADP Privatization Referendum)". In: *Le Média* (Aug. 1, 2019). URL: `https://www.lemediatv.fr/emissions/2019/referendum-adp-les-medias-au-service-du-pouvoir-0z4S258wQWObV9CQ7R4jow`.

[18] T. Kouamouo and **L. Gautheron**. "Élections européennes : un vote de classe avant tout (European Elections: It's Always About Class!)" In: *Le Média* (June 4, 2019). URL: `https://www.lemediatv.fr/articles/2019/elections-europeennes-un-vote-de-classe-avant-tout-Db1jRBt_S6Cz91TlQMSG_A`.

[19] **L. Gautheron**. "Des chiffres pour appréhender l'anti-Mélenchonisme de la presse". In: *Marianne* (Dec. 1, 2017). URL: `https://www.marianne.net/agora/tribunes-libres/des-chiffres-pour-apprehender-l-anti-melenchonisme-de-la-presse`.

Programming

Jul 2013 **Back-end developer**, *Électricité réseau Distribution de France (ErDF)*, Annecy
Automated retrieval of large amounts of data from other company-wide applications.

2011 **Volunteer**, *AssaultCube*
2014 Development of a C++ 3D video game as part of an international team of volunteers.

Skills & interests

Programming Python (expert), and C, C++, Fortran & Arduino (proficient); Stan, PyTorch; Pandas, SQL, HDF; PHP, HTML, JS

Languages French (native), English (fluent/C2); Spanish (beginner)

Interests Energy transition; climate change and the polycrisis; microcontroller programming