Patrick Landon Ferree

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Interests

History, philosophy, and sociology of modern biomedical sciences; philosophy of science in practice; science studies

Education

University of Copenhagen — Copenhagen, DK
Ph.D. Fellow in Science Studies (**in Progress**) — Mar 2024 - Present

Duke University School of Medicine — Durham, NC, USA
Ph.D. in Cell Biology — Apr 2022
- *Dissertation:* Temporal regulation of cell divisions in the embryo of *Drosophila melanogaster*
- *Committee:* Stefano Di Talia, Michel Bagnat, Danny Lew, Bernard Mathey-Prevot, Nick Buchler

University of California, San Diego — La Jolla, CA, USA
B.S. in Chemistry, B.A. in Philosophy, Minor in Political Science, *magna cum laude* — Jun 2012

Experience

University of Copenhagen — Copenhagen, DK
Graduate Student Researcher, Advisor: Karin Tybjerg, Ph.D. — Mar 2024 - Present
- *Affiliation 1:* Medical Museion, Department of Public Health, Faculty of Health and Medical Sciences
- *Affiliation 2:* Novo Nordisk Foundation Centre for Basic Metabolic Research
- *Programs:* Medicine, Culture, and Society; Cardiometabolic Research in Society and Culture
- *Research:* Knowledge communities and technology platforms in the biomedical sciences

The National Research Centre for the Working Environment — Copenhagen, DK
Postdoctoral Researcher, Advisor: Keld Alstrup Jensen, Ph.D. — Jun 2022 - Mar 2024
- *Affiliation:* Section for Chemistry and Microbiology
- *Research:* Airborne particles in workplace environments

Copenhagen Institute for Futures Studies — Copenhagen, DK
Junior Health Associate, Advisor: Bogi Eliasen — Jan - Jun 2022
- *Research:* Futures of healthcare and biomedicine

Duke University School of Medicine — Durham, NC, USA
Graduate Student Researcher, Advisor: Stefano Di Talia, Ph.D. — Sep 2014 - Apr 2022
- *Affiliation:* Department of Cell Biology
- *Program:* Cell and Molecular Biology
- *Research:* Cell cycle regulation in the early fly embryo

University of Texas, El Paso — El Paso, TX, USA
Research Technician, Advisor: Laura O'Dell, Ph.D. — Jan 2013 - Sep 2014
- *Affiliation:* Department of Psychology
- *Research:* Neuroscience of drug addiction in rats

Scripps Institute of Oceanography — La Jolla, CA, USA
Undergraduate Researcher, Advisor: Lynn Russell, Ph.D. — Jan - Sep 2012
- *Affiliation:* Aerosol Research Group
- *Research:* Chemistry and physics of atmospheric aerosols

Manuscripts in progress

P. L. Ferree, M. Polat, J. K. Nøjgaard, K. A. Jensen, "Airborne particulate matter and diesel engine exhaust on infrastructure construction sites in the Copenhagen metropolitan area" (**Revise and Resubmit**).

P. L. Ferree, C. Ribalta, A., CØ Jensen, A. Brostrøm, T. Berthing, K. A. Jensen, "Airborne microplastics in the plastics recycling and manufacturing industry" (**in Preparation**).

P. L. Ferree, S. Brantley, T. Starr, A. Chao, S. Di Talia, "Activatror and repressor dynamics time mitosis during *Drosophila* gastrulation" (**in Preparation**).

Publications

[1] **P. L. Ferree**, "Temporal regulation of cell divisions in the embryo of Drosophila melanogaster", Ph.D. dissertation, Duke University, 2022.

[2] **P. L. Ferree**, M. Xing, J. Q. Zhang, and S. Di Talia, "Structure-function analysis of Cdc25 Twine degradation at the Drosophila maternal-to-zygotic transition ", *Fly*, vol. 16, no. 1, pp. 111–117, Dec. 2022, ISSN: 1933-6934.

[3] **P. L. Ferree** and S. Di Talia, "Developmental Biology: Embryos Need to Control Their Nucleotides Just Right", *Current Biology*, vol. 29, no. 7, R252–R254, Apr. 2019, ISSN: 09609822.

[4] **P. L. Ferree** and S. Di Talia, "Chemical Waves in Embryonic Cell Cycles", *Israel Journal of Chemistry*, vol. 58, no. 6, pp. 714–721, 2018, ISSN: 18695868.

[5] **P. L. Ferree** and S. Di Talia, "For Embryos, Mother Can Only Take You So Far", *Developmental Cell*, vol. 42, no. 3, pp. 203–205, 2017, ISSN: 18781551.

[6] **P. L. Ferree**, V. E. Deneke, and S. Di Talia, "Measuring time during early embryonic development", *Seminars in Cell & Developmental Biology*, 2016, ISSN: 10849521.

[7] L. M. Carcoba, J. E. Orfila, L. A. Natividad, O. V. Torres, J. A. Pipkin, **P. L. Ferree**, E. Castañeda, D. E. Moss, and L. E. O'Dell, "Cholinergic transmission during nicotine withdrawal is influenced by age and pre-exposure to nicotine: Implications for teenage smoking", *Dev. Neurosci.*, vol. 36, no. 3-4, pp. 347–355, 2014, ISSN: 14219859.

[8] O. V. Torres, J. A. Pipkin, **P. L. Ferree**, L. M. Carcoba, and L. E. O'Dell, "Nicotine withdrawal increases stress-associated genes in the nucleus accumbens of female rats in a hormone-dependent manner", *Nicotine and Tobacco Research*, vol. 17, no. 4, pp. 422–430, 2014, ISSN: 1469994X.

Select Talks and Poster Presentations

P. L. Ferree, C. Ribalta, A. Jensen, J. K. Nøjgaard, S. Nielsen, N. Sahlgren, T. Berthing, K. A. Jensen, "Workplace exposure to ultrafine particles, chemicals, and dust during plastic production with recycled plastics", British Occupational Hygiene Society: Inhaled Particles and NanOEH, Manchester UK, May 2023 (**Talk**).

P. L. Ferree, A. De Simone, S. Di Talia, "An activator-repressor model for improved temporal precision of transcription", Quantitative Biology (Q-Bio), Oahu, HI, USA, Feb. 2019 (**Talk**).

P. L. Ferree & C. Bunce, "The Questions of Developmental Biology", The Society for Developmental Biology (SDB), Boston, MA, USA, July 2019 (**Poster**).

P. L. Ferree, A. De Simone, S. Di Talia, "An activator-repressor model for improved temporal precision of transcription", Tissue Self-Organization: Challenging the Systems, Heidelberg, Germany, March 2018 (**Poster**).

P. L. Ferree, A. Momen-Roknabadi, S. Di Talia, "Precise timing of mitosis during *Drosophila* gastrulation", Winter School on Quantitative Biology, International Center for Theoretical Physics, Trieste, Italy, Dec. 2017 (**Poster**.)

Select Schools and Workshops Attended as a Student

Crossing the Disciplinary Boundaries of Physics, Bohr Centennial, Copenhagen, Denmark, August 2023. *Three days of presentations on the history of physics and its impact on other sciences, especially biology.*

Workshop on Methods in the Philosophy of Science, Vienna, Austria, May 2023. *Two days of presentations and discussions on contemporary methods in philosophy of science.*

Summer School on the History of the Life Sciences, Ischia, Italy, June 2022. *One week of presentations and discussions on the theme of kinship and other relations in biology.*

Winter School on Quantitative Biology, International Center for Theoretical Physics, Trieste, Italy, December 2017. *Two weeks of pedagogical lectures, presentations, and discussions between physicists and biologists.*

Popular Writing

P. L. Ferree, "Algorithms to live by: how we will one day build a digital embryo", CIFS, 2022.

P. L. Ferree, "Digital twins in future healthcare", CIFS, 2022.

P. L. Ferree, E. Balk-Møller, "DNA sequencing: The future is in the whole thing", CIFS, 2022.

References

Karin Tybjerg, Ph.D.
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Keld Alstrup Jensen, Ph.D.
Professor, Section for Chemistry and Microbiology, National Research Centre for the Working Environment
Relationship: Postdoc advisor, Email: kaj@nfa.dk, Phone: +45 20 76 47 31

Stefano Di Talia, Ph.D.
Associate Professor, Department of Cell Biology, Duke University
Relationship: Ph.D. advisor, Email: stefano.ditalia@duke.edu, Phone: +1 919 684 8079

Sara Green, Ph.D.
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