

# Arnon Levy

## *Curriculum Vitae*

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### Appointments

Senior Lecturer, The Hebrew University of Jerusalem, 2014 – present

Polonsky Postdoctoral Fellow, The Van Leer Jerusalem Institute, 2010 – 2014

### Education

Harvard University, Ph.D., philosophy, 2010

Harvard University, A.M. (equivalent to an M.Sc.), organismic and evolutionary biology, 2010

The Hebrew University of Jerusalem, 2003, B.Sc. *Magna cum Laude*, joint honors: philosophy and biology

### Areas of Specialization

Philosophy of science, philosophy of biology, philosophy of neuroscience

### Areas of Competence

Moral & political philosophy, philosophy of mind, aesthetics: fiction and representation in art

### Publications

#### Book

1. "Explanation and Understanding", Routledge New Problems of Philosophy (under contract).

#### Edited volume:

2. "The Scientific Imagination: Philosophical and Psychological Perspectives" (co-edited with Peter Godfrey-Smith), Oxford University Press (under contract).

Research articles:

3. "Game Theory, Indirect Modeling & the Origins of Morality", Journal of Philosophy (2011) CVII(4):171-187
4. "Information in Biology: A Fictionalist Account", Nouûs (2011) 45(4):640-657
5. "Models, Fictions and Realism: Two Packages", Philosophy of Science (2012), 79(5):738-748
6. "Three Kinds of New Mechanism", Biology & Philosophy (2013), 28 (1):99-114
7. "Abstraction and the Organization of Mechanisms" (with William Bechtel), Philosophy of Science (2013), 80 (2):241-261
8. "What was Hodgkin and Huxley's Achievement?" British Journal for the Philosophy of Science (2014), 65 (3):469-492
9. "Machine-likeness and Explanation by Decomposition" Philosophers' Imprint (2014), 14(6)
10. "Modeling without Models", Philosophical Studies (2015), 172(3):781-798
11. "Design sans Adaptation" (with Sara Green and William Bechtel), European Journal for Philosophy of Science (2015), 5(1):15-29.
12. "Engineering & Biology: Counsel for a Continued Relationship" (with Brett Calcott, Mark Siegel, Orkun Soyer and Andreas Wagner), Biological Theory (2015), 10(1): 50-59.
13. "Model Organisms are not (Theoretical) Models" (with Adrian Currie), British Journal for the Philosophy of Science (2015), 66(2): 327-348.
14. "The Unity of Neuroscience: a Flat View", Synthese (2016), 193(12): 3843–3863.
15. "The Debunking Challenge to Realism: How Evolution Ultimately Matters" (with Yair Levy), (2016) Journal of Ethics and Social Philosophy. [www.jesp.org/articles/download/the-debunking-challenge-to-realism.pdf](http://www.jesp.org/articles/download/the-debunking-challenge-to-realism.pdf).
16. "Models and Scientific Realism: Strange Bedfellows?" in Saatsi, J. (Ed.), The Routledge Handbook of Scientific Realism (2017), London: Routledge.
17. "Causal Order and Kinds of Robustness", forthcoming in Gissis, S., Lamm, E., Shavit, A. (Eds.), Landscapes of Collectivity in the Life Sciences, Cambridge, MA: MIT Press.
18. "Metaphor and Scientific Understanding", forthcoming in Levy, A. & Godfrey-Smith, P. (Eds.) The Scientific Imagination: Philosophical & Psychological Perspectives, Oxford University Press.
19. "Introduction" (With Peter Godfrey-Smith), forthcoming in Levy, A. & Godfrey-Smith, P. (Eds.) The Scientific Imagination: Philosophical & Psychological Perspectives, Oxford University Press.
20. "Modeling and Simulation" (With Brett Calcott), forthcoming in Nuño de la Rosa, L. & Müller, G.B. (Eds.), The Evolutionary Developmental Biology Reference Guide, Springer.
21. "Three Conceptions of Machine Analogies", forthcoming in Holt, L., Serban, M. & Sune Holm (Eds.), Living Machines? Philosophical Perspectives on the Engineering Approach in Biology, London: Routledge.

### Book reviews:

22. "The organic codes: a review of Marcello Barbieri", (co-authored with Eva Jablonka), Acta Biotheoretica (2004), 52(1): 65-69.
23. "Explaining what? A Review of Explaining the Brain by Carl Craver," Biology & Philosophy (2009), 24: 137-145.
24. "Makes a difference: a Review of Depth, by Michael Strevens", Biology & Philosophy (2011) 26: 459-467.
25. "Anchoring Fictional Models: a Review of Models as Make-Believe by Adam Toon", Biology & Philosophy (2013), 28(4): 693-701.
26. "Essay Review: In search of Mechanisms", Philosophy of Science (2015), 82(2): 321-325.
27. "How to do Science with Models by Axel Gelfert", forthcoming in Notre Dame Philosophical Reviews.

### **Awards, Honors, Fellowships**

"Model Organisms are not (Theoretical) Models" selected as *BJPS* Editor's Choice, winter 2015  
Visiting Fellowship, Centre for the Foundations of Science, The University of Sydney, 2012  
Fellow, Israel Institute for Advanced Studies, group on Computation & the Brain 2011  
George Plimpton Adams dissertation Prize, Harvard University, 2010  
Whiting Dissertation Completion Award, Harvard University, 2010-2011 (declined)  
Mind, Brain & Behavior Summer Research Award, Harvard University, summer 2009  
Bechtel Prize for best philosophy essay, Harvard University, 2008-09  
Graduate Fellow, The Edmond J. Safra Center for Ethics, Harvard University, 2008-09  
Mind, Brain & Behavior Graduate Student Term-Time Award, Harvard University, Spring 2008  
Graduate School of Arts and Sciences Merit Fellowship, Harvard University, Fall 2007  
Yedlin Prize for excellence in the study of philosophy, Hebrew University, 2001  
Dean's List, Faculty of Humanities, The Hebrew University of Jerusalem, 2000, 2001.

### **Selected Presentations**

"A Plea for Pragmatics"  
*Prague University*, May 2017; *Hebrew University*, June, 2016

"Towards Mechanism 2.0: Expanding the Scope of Mechanistic Explanation" (With William Bechtel)  
*Philosophy of Science Association*, Atlanta, November 2016

"Informational Metaphors and Scientific Understanding" (Invited talk)  
University of Copenhagen, August 2016

"Causal Order and Kinds of Robustness" (Invited talk)  
*Landscapes of Collectivity*, Tel Aviv University, June 2015; *Robustness in Neuroscience*, University of Pittsburgh, November 2015

"Abstraction & Idealization 2.0"  
*Israeli Association of Philosophy*, Tel Aviv, February 2015; University of Cyprus, May 2015

"Against the Ontic Conception of Scientific Explanation"  
*Philosophy of Science Association*, Chicago, November 2014

"Causal Order & the Uniqueness of Biology" (Invited talk)  
Department of Philosophy, *the University of Copenhagen*, November 2014

"Scientific Explanation: A Two-Dimensional view"  
*Van Leer Jerusalem Institute*, *The Hebrew University* – philosophy colloquium; *UNC Chapel Hill*, May 2014

"Against the Layered Picture of Neuroscientific Explanation" (Invited talks)  
*Interlevel Relations in Cognitive Neuroscience (Cologne)*, *Experimentation in Neuroscience (Pittsburgh)*, September-November 2013

"Machine-Likeness and Explanation by Decomposition"  
*University of Oslo*, May 2013

"What is Life? 2.0"  
*Between Biology & Physics: Reduction, Emergence & Complexity*, Van Leer Jerusalem Institute, December 2012

"Causal Organization and Machine-likeness"  
*Philosophy of Science Association*, San Diego, November 2012

"Model Organisms are not Models"  
*Australasian Association of Philosophy*, July 2012; *EASPLS Geneva*, September 2012

"Causal Organization and Strategies of Abstraction" (Invited talks)  
*Sydney University*, May 2012; *Australian National University*, June 2012

"What's at Stake in Mechanism(s) Debates"  
*International Society for the History, Philosophy & Social Studies of Biology*, Salt Lake City, July 2011

"Evolutionary Models and Political Stability"  
Evolution, Cooperation & Rationality, *Bristol University*, June 2011

"What was Hodgkin and Huxley's Achievement?" (Invited talk)  
*Philosophy & the Brain*, The Hebrew University of Jerusalem, May 2011

"Fictional Models De Novo and De Re" (Invited talk)  
*Models and Make-Believe*, Harvard University, March 2010

"Internal Progress & Illusions of Understanding: Skyrms on the Evolution of Justice"

*International Society for the History, Philosophy & Social Studies of Biology*, Brisbane, Australia, July 2009

“Idealization, Fiction & Causal Understanding” (Invited talk)  
Models & Fiction, *London School of Economics*, London, UK, March 2009

“Idealization & Explanation in Models of the Evolution of Morality” (Invited talk)  
Departmental colloquium, The department of History, Philosophy & Sociology of Science, *The Hebrew University of Jerusalem*, Israel, January 2009

“Source-Driven Learning & the Evolution of Morality”  
*Philosophy of Biology at Dolphin Beach 2*, Australian National University, August 2007

## Grants

**Germany-Israel Fund (GIF) Young Scholars Program**, €18,000. Topic: Philosophical Foundations of Systems Biology". 2017-18

**Interuniversity PhD Program in History and Philosophy of the Life Sciences**, ~NIS 3,500,000 (distributed across HUJI, TAU, BIU)  
The Humanities Fund (Rothschild Foundation/CHL), 2016-2022,

## Mentoring

- ❖ Jonathan Nejenso, Ph.D. in Philosophy (IHPLS). Topic: Philosophical foundations of memory research (Ongoing)
- ❖ Aya Evron, Ph.D. in Philosophy (IHPLS). Topic: TBD (Ongoing)
- ❖ Nadav Rubinstein. Ph.D. in Philosophy (IHPLS). Topic: TBD (Ongoing)
- ❖ Itiel Itzhaki, M.A. M.A. in History and Philosophy of Science. Topic: Structural Realism (ongoing)
- ❖ Avraham Munitz, M.A. in Philosophy. Topic: How to Think About the Mechanism of Alzheimer's?
- ❖ Or Jupiter, M.A. in Philosophy. Topic: How to define life? (Graduated)
- ❖ Efraim Wallach, M.A. in History and Philosophy of Science. Topic: Niche Construction and Explanations of Human Evolution (graduated)

## Professional Service

Co-director, Interuniversity PhD program in *History and Philosophy of the Life Sciences* (joint project with Tel Aviv University, Bar-Ilan University)

Referee for: Australasian Journal of Philosophy, Biology & Philosophy, British Journal for Philosophy of Science, Ergo, Erkenntnis, European Journal for Philosophy of Science, Israel Science Foundation, The Monist, Nous, The Netherlands Organisation for Scientific Research, Philosophia, Philosophical

Studies, Philosophy & Theory in Biology, Philosophy of Science, Studies in the History and Philosophy of Biology and the Biomedical Sciences, SPP, Synthese, Teorema.

Organizer or co-organizer for the following conferences:

- “Ethics & Biology: Challenges & Prospects”, Hebrew University's Centre for Moral & Political Philosophy, June 2017
- Annual conference of the Israeli Association of Philosophy, Jerusalem, February 2016
- HUJI/UNC joint bi-annual workshop, topic: Scientific Explanation, May 2014
- “Models & Explanation”, The Van Leer Institute, June 2014
- “Between Biology & Physics: Reduction, Emergence & Complexity”, VLJI & TAU, December 2012
- Co-Organizer, workshop on “Explanatory Styles in Biology”, VLJI, March 2012
- The 13th Annual Harvard/MIT Graduate Student Philosophy Conference, 2005

Mind, Brain & Behavior Steering Committee member, Harvard University, 2007-08, 2008-09

Collaborating researcher, “Causation and Reduction in Systems Biology” project, University of Oslo.

### **References:**

Peter Godfrey-Smith (CUNY Grad Center & Sydney University, Philosophy)  
[pgodfreysmith@gmail.com](mailto:pgodfreysmith@gmail.com)

William Bechtel (UCSD, Philosophy)  
[bill@mechanism.ucsd.edu](mailto:bill@mechanism.ucsd.edu)

David Haig (Harvard, Organismic & Evolutionary Biology)  
[dhaig@oeb.harvard.edu](mailto:dhaig@oeb.harvard.edu)

Ned Hall (Harvard, Philosophy)  
[ehall@fas.harvard.edu](mailto:ehall@fas.harvard.edu)

Oron Shagrir (Hebrew University, Philosophy)  
[shagrir@cc.huji.ac.il](mailto:shagrir@cc.huji.ac.il)