

Philippe Verreault-Julien

Curriculum Vitæ

Philosophy & Ethics Group
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Areas

- Specialization Philosophy of Science, Philosophy of Artificial Intelligence, Philosophy of Economics
Competence Ethics, Epistemology, Philosophy of Biology, Philosophy of the Social Sciences, Political Philosophy

Affiliations

- 2021/09– **Postdoctoral Researcher**, Philosophy & Ethics Group, Eindhoven University of Technology
2019/09 – 2021/08 **Postdoctoral Researcher**, Centre for Philosophy of Natural and Social Science, London School of Economics and Political Science

Education

- 2019 **PhD Philosophy**, Erasmus University Rotterdam, Thesis: *Understanding With Models*
Supervisors: Julian Reiss and Jack Vromen
2013 **MA Philosophy**, Erasmus University Rotterdam
Supervisor: Julian Reiss
2009 **Minor Economics**, Université Laval
2009 **BA Philosophy**, Université Laval

Publications

Journal Articles

- 2023 Toy models, dispositions, and the power to explain. *Synthese*, 201 (5): 171.
<https://doi.org/10.1007/s11229-023-04084-8>
2022 Representing non-actual targets? *Philosophy of Science*, 89 (5): 918–927.
<https://doi.org/10.1017/psa.2022.53>
Hamilton's rule: a non-causal explanation? *Studies in History and Philosophy of Science*, 92: 109–118. <https://doi.org/10.1016/j.shpsa.2021.11.008>. (with Vaïos Koliofotis)
2021 Factive inferentialism and the puzzle of model-based explanation. *Synthese*, 199(3): 10039–10057. <https://doi.org/10.1007/s11229-021-03235-z>
How-possibly explanations in economics: anything goes? *Journal of Economic Methodology*, 28(1): 114–123. <https://doi.org/10.1080/1350178X.2020.1868779> (with Till Grüne-Yanoff)

- 2019 How could models possibly provide how-possibly explanations? *Studies in History and Philosophy of Science Part A*, 73: 22–33. <https://doi.org/10.1016/j.shpsa.2018.06.008>
- Understanding does not depend on (causal) explanation. *European Journal for Philosophy of Science*, 9(18): 1–20. <https://doi.org/10.1007/s13194-018-0240-6>
- 2017 Non-causal understanding with economic models: the case of general equilibrium. *Journal of Economic Methodology*, 24(3):297–317. <https://doi.org/10.1080/1350178X.2017.1335424>

Conference Proceedings

- 2022 From explanation to recommendation: ethical standards for algorithmic recourse. In *Proceedings of the 2022 AAAI/ACM Conference on AI, Ethics, and Society*, 712–22. AIES '22. <https://doi.org/10.1145/3514094.3534185> (with Emily Sullivan)

Book Chapter

- 2022 Explanation in economics. In *The Routledge Handbook of Philosophy of Economics*, edited by Julian Reiss and Conrad Heilmann, 300–315. New York: Routledge. <http://dx.doi.org/10.4324/9781315739793-27>
- In Preparation Regulation and justification in explainable artificial intelligence. In *Philosophy of Science for Machine Learning: Core Issues and New Perspectives*, edited by Juan M. Durán and Giorgia Pozzi. Synthese Library. (with Carlos Zednik)
- Three strategies for salvaging epistemic value in deep neural network modeling. In *Modeling the Possible*, edited by Tarja Knuuttila, Till Grüne-Yanoff, Rami Koskinen, and Ylwa Sjölín Wirling. Routledge.

Other Contributions

- 2019 Understanding with models. *Erasmus Journal for Philosophy and Economics*, 12(1), 133–136. <https://doi.org/10.23941/ejpe.v12i1.413>
- 2012 Review of Bernard Walliser's *Comment raisonnent les économistes: les fonctions des modèles*. *Erasmus Journal for Philosophy and Economics*, 5(2): 144–150. <https://doi.org/10.23941/ejpe.v5i2.112>

Presentations

Refereed International Conferences

- 2023 *Ethical nudging with opaque recommender systems?*, XVI Conference of the International Network for Economic Method, Ca' Foscari University of Venice, 24–26 May 2023.
- Five lessons large language models teach us about understanding*, The Philosophy of Deep Learning, New York University, 24–26 March 2023.
- 2022 *Understanding and how-possibly explanations: why can't they be friends?*, PSA 2022, 28th Biennial Meeting of the Philosophy of Science Association, Pittsburgh (USA), 10–13 November 2022. (with Till Grüne-Yanoff)
- Salvaging epistemically possible how-possibly explanations from epistemic opacity*, Issues on the (Im)possible Conference 2022, Tilburg, 17–18 October 2022.
- Ethical nudging with opaque artificial intelligence systems?*, Ethics of Socially Disruptive Technologies (ESDIT) 2022 International Conference, Leiden, 6–7 October 2022.

- From explanation to recommendation: ethical standards for algorithmic recourse*, 5th AAAI/ACM Conference on AI, Ethics, and Society (AIES '22), Oxford, 1-3 August 2022. (with Emily Sullivan)
- Explanation in economics*, Society for Philosophy of Science in Practice (SPSP) 9th Biennial Conference, Ghent University, 2-4 July 2022.
- Toy models, dispositions, and the power to explain*, Canadian Society for the History and Philosophy of Science Annual Conference, 16-19 May 2022.
- Recommander pour le bien-être: vers des standards éthiques pour le recours algorithmique*, Congrès annuel de l'ACFAS, Université Laval, 9-12 May 2022. (with Emily Sullivan)
- How-possibly explanations and the accurate representation of dispositions*, 4th SURE Workshop, Fordham University, 21-23 April 2022.
- 2021 *Modal opacity in artificial intelligence systems*, 2021 OZSW Conference, Tilburg University, 3-4 December 2021.
- Representing non-actual targets?*, PSA 2020/2021, 27th Biennial Meeting of the Philosophy of Science Association, Baltimore (USA), 11-14 November 2021.
- How-possibly explanations in economics: anything goes?*, INEM Session, PSA 2020/2021, 27th Biennial Meeting of the Philosophy of Science Association, Baltimore (USA), 11-14 November 2021.
- The method of cases in economics: a challenge for naturalism?*, EPSA21, University of Turin, 15-18 September 2021.
- Representing non-actual targets?*, Canadian Society for the History and Philosophy of Science Annual Conference, University of Alberta, 29 May-2 June 2021.
- How-possibly explanation and understanding*, 3rd SURE Workshop, Radboud University, 15-17 April 2021. (with Till Grüne-Yanoff)
- 2020 *Representing and understanding (im)possible targets?*, 2nd SURE Workshop, Emory University, 12-13 March 2020.
- 2019 *Inferentialism and representation: chasing factivity*, EPSA19, University of Geneva, 11-14 September 2019.
- Philosophical methodology in theoretical modelling: the case of herd behaviour*, Economic Behaviours: Models, Measurement, and Policies, Lake Como School of Advanced Studies, 30 June-5 July 2019.
- 2018 *Hamilton's rule: understanding the disagreement about its explanatoriness*, 2018 OZSW Conference, University of Twente, 9-10 November 2018. (with Vaios Koliofotis)
- Learning and understanding with models: same same but different?*, Models of Explanation, University of Turin, 11-13 June 2018.
- Hamilton's rule: understanding the disagreement about its explanatoriness*, Workshop: Explanation and Understanding, Ghent University, 23-25 May 2018. (with Vaios Koliofotis)
- Learning and understanding with models: same same but different?*, Models and Simulations 8, University of South Carolina Columbia, 15-17 March 2018.
- 2017 *Learning and understanding with models: same same but different?*, What to make of highly unrealistic models?, University of Helsinki, 12-13 October 2017.

- Models and how-possibly explanations: a demarcation problem*, EPSA17, University of Exeter, 6–9 September 2017.
- How possibly could economic models be 'how-possibly explanations'?*, XIII. Conference of the International Network for Economic Method, Donostia - San Sebastian, 28–30 August 2017.
- Models and how-possibly explanations: a demarcation problem*, ninth European Congress of Analytic Philosophy (ECAP 9), LMU Munich, 21–26 August 2017.
- How possibly could how-possibly explanations explain?*, EIPE 20th Anniversary Conference, Erasmus University Rotterdam, 22–24 March 2017.
- 2016 *The inferentialist conception of model-based understanding*, 2016 OZSW Conference, University of Groningen, 9–10 December 2016.
- Non-causal understanding with economic models: the case of general equilibrium*, 3rd International Conference Economic Philosophy, GREQAM Aix-en-Provence, 15–16 June 2016.
- A case for non-causal understanding with models*, Models & Simulations 7, University of Barcelona, 18–20 May 2016.
- 2015 *Understanding doesn't depend on explanation. Understanding depends on dependence*, 2015 OZSW Conference, VU University Amsterdam, 11–12 December 2015.
- A case for non-causal understanding with economic models*, XII. Conference of the International Network for Economic Method, University of Cape Town, 19–22 November 2015.
- 2014 *Understanding through counterfactual analysis modelling*, III Conference of the ENPOSS European Network for the Philosophy of the Social Sciences European Network for the Philosophy of the Social Sciences Conference, Universidad Nacional de Educación a Distancia (UNED), 10–12 September 2014.
- Understanding through counterfactual analysis modelling*, British Society for the Philosophy of Science Annual Meeting 2014, University of Cambridge, 10–11 July 2014.
- Understanding through counterfactual analysis modelling*, 2014 OZSW Graduate Conference in Theoretical Philosophy, VU University Amsterdam, 26–28 May 2014.
- Understanding through counterfactual analysis modelling*, Models and Simulations 6, University of Notre Dame, 9–11 May 2014.
- 2013 *The explanatoriness of economic models: a case for understanding*, XI. Conference of the International Network for Economic Method, Erasmus University Rotterdam, 13–15 June 2013.
- The explanatoriness of economic models: a case for understanding*, Explanatory Power II: Understanding Through Modeling, Ruhr-University Bochum, 25–26 April 2013.
- The explanatoriness of economic models: a case for understanding*, Graduate Conference in Theoretical Philosophy 2013, University of Groningen, 18–20 April 2013.
- 2012 *'Models-as-mediators': is there a missing link?*, Annual meeting of the Canadian Society for the History and Philosophy of Science, University of Waterloo, 27–29 May 2012.
- 2011 *Les contrefactuels en science économique: quelle causalité pour quel usage?*, Congrès annuel de l'ACFAS, ACFAS, Université de Sherbrooke, 12 May 2011.

Invited

- 2021 *Representing non-actual targets?*, Modeling the Possible Workshop, University of Vienna, 3 March 2021.

Teaching

Lecturer (Instructor of Record)

- 2015-2020 *Philosophy of Economics*, The Hague University of Applied Sciences
2018-2019 *Values, Welfare, and Cooperation*, Erasmus University Rotterdam
2018 *Political Philosophy*, VU Amsterdam–John Stuart Mill College
2017-2018 *Philosophy of the Social Sciences* (graduate level), University of Amsterdam
2017 *Philosophy of Science*, VU Amsterdam–John Stuart Mill College

Lecturer and Seminar Instructor

- 2022-2023 *USE Basic: Ethics and History of Technology*, Eindhoven University of Technology
2019 *Ethics and International Business*, University of Groningen
2016 Seminar on ‘Models and Explanation’ for *Advanced Philosophy and Methodology of Economics* (graduate level), Erasmus University Rotterdam
2015-2016 Seminar on ‘Facts and Values’ for *Advanced Philosophy and Methodology of Economics* (graduate level), Erasmus University Rotterdam

Teaching Assistant

- 2014-2015 *Philosophy of Economics*, Erasmus University Rotterdam
2011 *Philosophy of Physics*, Université Laval
2010-2011 *Introduction to Philosophy of Science*, Université Laval

Teaching Qualification

- 2019 University Teaching Qualification (UTQ/BKO), University of Amsterdam

Grants and Awards

Research Grants

- 2019-2021 Postdoctoral fellowship (CAD\$110,000), Fonds de recherche du Québec — Société et Culture (FRQSC)
2013-2016 Doctoral scholarship (CAD\$60,000), Fonds de recherche du Québec — Société et Culture (FRQSC)
2013-2016 Doctoral scholarship (€43,200, *declined*), Erasmus Institute for Philosophy and Economics

Others

- 2017 Travel grant (GBP£250), European Philosophy of Science Association (EPSA)
2017 Travel grant (US\$250), Institute for New Economic Thinking YSI Young Scholar workshop
2015 Travel grant (US\$800), Institute for New Economic Thinking YSI Young Scholar sessions

- 2011-2013 Fee waiver for non-EU students (€3,500), Erasmus Institute for Philosophy and Economics
- 2010 *Bourse d'études du fonds ÆLIÉS*. Scholarship rewarding involvement as a representative in various associations (CAD\$1,500), ÆLIÉS

Service

Editorship

- 2017-2022 Member and chair of the Editorial Oversight Board of the *Erasmus Journal for Philosophy and Economics*.
- 2014-2017 Co-editor and chair of the *Erasmus Journal for Philosophy and Economics* (EJPE). EJPE is a peer-reviewed, bi-annual, open access, international academic journal. It has been selected for coverage in Scopus, among others. As editor, I was in charge of managing articles submissions, but also of planning book reviews and preparing interviews. I was also the editor responsible of the formatting and of the website. As EJPE's chair I oversaw the general good working order of the journal.

Referee

The British Journal for the Philosophy of Science, Economics & Philosophy, Ethica, European Journal for Philosophy of Science, Erasmus Journal for Philosophy and Economics, Foundations of Science, Journal of Economic Methodology, Minds and Machines, Studies in History and Philosophy of Science, Synthese.

Organization

- 2022- Management team, Eindhoven Center for the Philosophy of Artificial Intelligence, Eindhoven University of Technology
- Co-host, '<AI & Equality>: A Human Rights Toolbox' workshop series, Eindhoven University of Technology
- 2020-2021 Co-organizer, INEM session symposium on 'Modality and How-Possibly Explanations in Economics', PSA 2020/2021, 27th Biennial Meeting of the Philosophy of Science Association, Baltimore (USA), 11–14 November 2021.
- 2015-2016 Co-convenor, INEM-CHESS-EIPE Summer School in Economics and Philosophy, University of the Basque Country, San Sebastián-Donostia

Academic Committees

- 2010-2011 Graduate Representative, Graduate Programme Committee, Faculty of Philosophy, Université Laval
- 2007-2008 Undergraduate Representative, Faculty Council, Faculty of Philosophy, Université Laval
- 2007 Undergraduate Representative, Electoral College for Université Laval's President Election
- 2006-2007 Studies Commission, Undergraduate Representative, Université Laval
- 2005-2006 Undergraduate Representative, Student Affairs Commission, Université Laval
- 2005-2006 Undergraduate Representative, Library Advising Committee, Université Laval

Student Associations Representation

- 2016 Interim Graduate Representative, PhD programme association, Faculty of Philosophy, Erasmus University Rotterdam
- 2010 Secretary-General, *Table de concertation étudiante du Québec*
- 2009-2010 Vice Secretary-General, *Table de concertation étudiante du Québec*
- 2009-2010 President, *Association des chercheur(e)s étudiant(e)s en philosophie*, Faculty of Philosophy, Université Laval
- 2007-2008 Vice President for Educational Affairs, *Association des Étudiants(es) Prégradués(ées) en Philosophie*, Faculty of Philosophy, Université Laval
- 2006-2007 Vice President for Academic Affairs, *Confédération des associations d'étudiants et d'étudiantes de l'Université Laval*, Université Laval
- 2005-2006 President, *Association des Étudiants(es) Prégradués(ées) en Philosophie*, Faculty of Philosophy, Université Laval

Other Academic Activities

- January 2015 and 2016 Visiting Fellow, Department of Philosophy, Durham University

References

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Paul Tan (teaching reference)
The Hague University of Applied Sciences
Faculty of Business, Finance & Marketing
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PhD Thesis

Title *Understanding With Models*

Supervisors Julian Reiss and Jack Vromen

Abstract Theoretical modelling raises many epistemological challenges. Models appear to explain economic phenomena, yet they also seem to lack crucial features theories of scientific explanation usually require, for instance faithfully representing causal factors of interest. My doctoral thesis aims at answering the following central and general question: what, if anything, can we learn from theoretical models? It does so by showing that models may provide epistemic benefits in the form of understanding even when they do not actually explain or when they do not provide causal knowledge. The second chapter of my thesis examines the inferentialist-behavioural account of understanding and argues that it does not allow to distinguish between the sense of understanding and genuine understanding. I submit that we can view it as offering an evaluative account of understanding instead than a substantive one. The third chapter analyses one purported solution to the problem of representation, namely the factive brand of inferentialism. I argue the account can't distinguish merely phenomenological from explanatory representation and conclude by presenting a dilemma inferentialism faces. The fourth chapter characterizes what I call the narrow knowledge account of understanding and then shows that its two tenets, i.e., that one understands only if 1) one has knowledge of causes and 2) that knowledge is provided by an explanation, are untenable. The fifth chapter develops a novel account of how-possibly explanations which claims that what demarcates these explanations from how-actually explanations is that the former provide knowledge of possibility whereas the latter provide knowledge of actuality. The sixth and final chapter is a detailed case study of the general equilibrium case in economics. I argue that the model offers non-causal understanding via a how-possibly mathematical explanation.