Sander Beckers
Curriculum Vitae

e-mail: srekcebrednas@gmail.com
website: bit.ly/sanderbeckers

Research Areas

Areas of Specialization: Causality, Philosophy of AI, Philosophy of Science

Areas of Competence: Formal Epistemology, Ethics, Wittgenstein

Employment

2021-current	Postdoctoral scholar (supervisor: Konstantin Genin) Cluster of Excellence in Machine Learning, University of Tübingen
2019-2021	Humboldt postdoctoral fellow (supervisor: Stephan Hartmann) Munich Center for Mathematical Philosophy, LMU
2020 Fall	NIAS-Lorentz Theme-group fellow on Explainable AI in medicine, Netherlands Institute for Advanced Studies, Amsterdam
2019 January	Visiting scholar (host: Frederick Eberhardt) Division of the Humanities and Social Sciences, Caltech
2018-2019	Postdoctoral scholar (supervisor: Jan Broersen) Reins project: https://responsibleintelligentsystems.sites.uu.nl Department of Philosophy and Religious Studies, Utrecht University
2017 Fall	Visiting postdoctoral scholar (supervisor: James Conant) Institute of Philosophy, Leipzig University
2016-2017	Visiting B.A.E.F. Fellow (supervisor: Joe Halpern) Department of Computer Science, Cornell University
2010-2011	Researcher at University of Leuven, EAVISE research group *Project: S.O.S. OpenCL: Multicore Cooking*
2008-2009	(part-time) internship as actuary Aon Benfield Belgium and BNP Paribas Belgium, Employee Benefits

Grants and Fellowships

2020 Fall	NIAS-Lorentz Theme Group
2019-2021	Humboldt Research Fellowship for Postdoctoral Researchers
2016-2017	Research Fellowship, Belgian American Educational Foundation
2012-2015	Ph.D. Grant for Fundamental Research, Flanders Innovation & Entrepreneurship

Education

2012-2016 Ph.D. in Computer Science, October 2016
KULeuven - University of Leuven, Belgium
Dissertation: Actual Causation: Definitions and Principles
Supervisors: Hendrik Blockeel and Joost Vennekens

2013 Fall Visiting doctoral researcher (host: Stephan Hartmann)
Munich Center for Mathematical Philosophy, LMU

2011 Master in Mathematics, University of Leuven (distinction)
Dissertation: Deductive Reasoning in Guarded FO(ID)
Supervisor: Marc Denecker

2008 Bridge program in Mathematics, University of Leuven

2011 Master in Philosophy, University of Leuven (distinction)
Dissertation: Wittgenstein en het Ethische
Supervisor: Arnold Burms

2004 Bachelor in Philosophy, University of Antwerp (distinction)

Refereeing

AAAI Conference on Artificial Intelligence (Program Committee 2017, 2020, 2021), AI & Society, Australasian Journal of Logic, Erkenntnis, Dialectica, Ethics and Information Technology, European Journal for Philosophy of Science, ICML workshop, Information, International Joint Conference on Artificial Intelligence (Program Committee 2020), Journal of Causal Inference, Journal of Philosophical Logic, Journal of Social Philosophy, Kriterion, Mind, Minds and Machines, Philosophy of Science, Review of Symbolic Logic, Philosophy and Theory of Artificial Intelligence, Synthese, The Philosophical Review

Research

Publication List

Major Publications

[1] Beckers, S. (2021). Causal Sufficiency and Actual Causation. *Journal of Philosophical Logic*

[2] Beckers, S. (2021). The Counterfactual NESS Definition of Causation. In *Proceedings of the AAAI Conference on Artificial Intelligence*, vol 35, no 7, 6210-6217.

[3] Beckers, S. (2021). Equivalent Causal Models. In *Proceedings of the AAAI Conference on Artificial Intelligence*, vol 35, no 7, 6202-6209.

[4] Beckers, S., Eberhardt, F., and Halpern, J.Y. (2019). Approximate Causal Abstraction, In *Proceedings of the 35th Conference on Uncertainty in Artificial Intelligence* (UAI 2019)

[5] Beckers, S. and Halpern, J.Y. (2019). Abstracting Causal Models, In *Proceedings of the AAAI Conference on Artificial Intelligence*, vol 33, 2678-2685.

[6] Beckers, S. (2018). AAAI: an Argument Against Artificial Intelligence, In Vincent C. Müller (ed.), *Philosophy and Theory of Artificial Intelligence 2017,* (SAPERE; Berlin: Springer), 235-247.

[7] Beckers, S. and Vennekens, J. (2018). A Principled Approach to Defining Actual Causation, *Synthese*, 195(2), 835-862.

[8] Beckers, S. and Vennekens, J. (2017). The Transitivity and Asymmetry of Actual Causation, *Ergo*, 4(1),1-27.

[9] Beckers, S. and Vennekens, J. (2016). A General Framework for Defining and Extending Actual Causation using CP-logic, *International Journal for Approximate Reasoning*, 77: 105-126.

Other Publications

[10] Beckers, S. (2017). AAAI: an Argument Against Artificial Intelligence, In *Proceedings of the 3rd International Workshop on AI, Ethics and Society*.

[11] Beckers, S. and Vennekens, J. (2015). Towards a General Definition of Actual Causation Using CP-logic. In *Proceedings of the 2nd International Workshop on Probabilistic Logic Programming co-located with ICLP*, *volume 1413 of CEUR Workshop Proceedings*, 19–38.

[12] Beckers, S. and Vennekens, J. (2015). Combining Probabilistic, Normative, and Causal Reasoning in CP-logic, In *Proceedings of the 12th International Symposium on Logical Formalizations of Commonsense Reasoning*, 32-38.

[13] Beckers, S. and Vennekens, J. (2012). Counterfactual Dependency and Actual Causation in CP-logic and Structural Models: a Comparison. In *Proceedings of the Sixth STAIRS, volume 241 of Frontiers in Artificial Intelligence and Applications*, 35–46.

[14] Beckers, S., De Samblanx, G., De Smedt, F., Goedemé, T., Struyf, L., and Vennekens, J. (2012). Parallel hybrid SAT solving using OpenCL. In *Proceedings of Benelux Conference on Artificial Intelligence*, 11-18.

[15] Beckers, S., De Samblanx, G., De Smedt, F., Goedemé, T., Struyf, L., and Vennekens, J. (2011). Parallel SAT-solving with OpenCL. In *Proceedings of the IADIS International Conference on Applied Computing*, 435-441.

Talks

Conferences

2021 ‘The Counterfactual NESS Definition of Actual Causation’, AAAI Conference on Artificial Intelligence, online

2021 ‘Equivalent Causal Models’, AAAI Conference on Artificial Intelligence, online

2019 ‘Formalizing Mental Causation’, EPSA conference, Geneva, Switzerland

2019 ‘Approximate Causal Abstraction’, UAI conference, Tel Aviv, Israel

2019 ‘Abstracting Causal Models’, DIEP Conference, Amsterdam, the Netherlands

2019 ‘Formalizing the Causal Conditions for Moral Responsibility’, REINS closing conference, Utrecht University, the Netherlands

2019 ‘Abstracting Causal Models’, AAAI Conference on Artificial Intelligence, Honolulu, United States

2018 ‘Formalizing Mental Causation’, OZSW conference, Enschede, the Netherlands

2018 ‘Causation and the Principle of Alternative Possibilities’, Causes, Norms, and Decisions Workshop, Hannover, Germany

2017 ‘A Formal Approach to Frankfurt-style Cases’, OZSW conference, Doorn, the Netherlands

2017 ‘AAAI: an Argument Against Artificial Intelligence’, Philosophy and Theory of Artificial Intelligence, Leeds, UK

2017 ‘AAAI: an Argument Against Artificial Intelligence’, European Conference for Analytic Philosophy, Munich, Germany

2017 ‘AAAI: an Argument Against Artificial Intelligence’, AAAI Workshop on AI, Ethics and Society, San Francisco

2016 ‘The Transitivity and Asymmetry of Actual Causation’, Philosophy of Science in a Forest, Doorn, the Netherlands

2015 ‘A Principled Approach to Defining Actual Causation’, Conference of Logic, Methodology and Philosophy of Science, Helsinki, Finland

2015 ‘Combining Probabilistic, Causal, and Normative Reasoning using CP-logic’, AAAI Spring Symposium: Commonsense Reasoning, Stanford University

2013 ‘Dual Inheritance Theory as an Integration of Biology and the Humanities’, Reduction and Emergence in the Sciences conference, Munich Center for Mathematical Philosophy

2013 ‘A Pragmatic Approach to Causality’, OZSW conference, University of Rotterdam

2013 ‘Actual Causation in Cases of Preemption: the CP-logic Approach’, Graduate Conference in Theoretical Philosophy, University of Groningen, the Netherlands

2012 ‘Actual Causation in Cases of Preemption: the CP-logic Approach’, Great Plains Graduate Conference in Philosophy, Kansas University

2012 ‘Counterfactual Dependency and Actual Causation in CP-logic and Structural Models: a Comparison’, STAIRS conference, Montpellier, France

2012 ‘Parallel hybrid SAT solving using OpenCL’, BNAIC, Maastricht University, the Netherlands

2011 ‘Parallel SAT-solving with OpenCL’, IADIS, Rio de Janeiro, Brazil

Invited Talks and Colloquia

2021 ‘Reflections on the Causal Approach to Fair AI’, Invited speaker, AI Challenges to Established Legal Institutions, (online)

2021 ‘Causal Sufficiency and Actual Causation’, Invited speaker, Logic Lunch Seminar Series, Milano Logic Group, (online)

2021 ‘Actual Causation and Moral Responsibility’, Invited speaker, Cognition, Values, and Behaviour Lab Meetings, LMU-Munich, Germany (online)

2020 ‘Accountability in medical autonomous systems: ethical and epistemological challenges for explainable AI’, NIAS Theme group, NIAS seminar, Amsterdam, the Netherlands (online)

2020 ‘Formalizing Non-Reductive Supervenience using Causal Models with Constraints’, Invited speaker, Symposium on Interventionism and Causal Exclusion, Nijmegen, the Netherlands

2019 ‘Causation and the Principle of Alternative Possibilities’, Invited speaker, Free Will and Causality conference, Dusseldorf, Germany

2018 ‘Applying Causal Modeling to Philosophical Issues’, Invited talk, Logic and Metaphysics Workshop, CUNY

2017 ‘Formal Ethics’, Invited talk, Center for Human-Compatible AI, UC Berkeley

2015 ‘A Principled Approach to Defining Actual Causation’, Invited talk, Tilburg Center for Logic, Ethics, and Philosophy of Science, the Netherlands

2015 ‘The Problem of Actual Causation’, Epistemology Reading Group, Department of Linguistics and Philosophy, MIT

2014 ‘Actual Causation using CP-logic’, Declarative Languages and AI seminar, University of Leuven, Belgium

2013 ‘Actual Causation using CP-logic’, colloquium, Munich Center for Mathematical Philosophy

2013 ‘Actual Causation: the CP-logic Approach’, Invited talk, INRIA, Grenoble, France

2013 ‘Actual Causation in Cases of Preemption: the CP-logic Approach’, Center for Logic and Analytic Philosophy colloquium, University of Leuven, Belgium

2012 ‘Parallel hybrid SAT solving using OpenCL’, Declarative Languages and AI seminar, University of Leuven, Belgium

Teaching

Utrecht University

Undergraduate program Philosophy, tutorials:
- 2018-2019: Logic for philosophers
- 2018-2019: Epistemology and Philosophy of Science
- 2019: Philosophical Reflection on Scientific Models of Man

Undergraduate program in Artificial Intelligence, lectures:
- 2018: Introduction to Statistics

Master in Artificial Intelligence:
- 2018: Philosophy of AI, tutorials
- 2018-2019: Philosophy of AI, two guest lectures

University of Leuven

Undergraduate program Civil Engineering, exercise classes:
- 2014-2015 Introduction to Programming: Python
- 2012-2013 Introduction to Programming: Java

Undergraduate program Industrial Engineering, exercise classes:
- 2015: Introduction to the IDP knowledge base system
- 2014-2015 Introduction to Programming: Python
- 2010-2013 Introduction to Programming: C

Languages

Dutch: native speaker
English: excellent
French: good
German: moderate
Spanish: beginner