THOMAS BLANCHARD
Curriculum Vitae

Born 07/07/1984 in Auxerre (France)
Married, one child (*2019)

Professional address:
Philosophisches Seminar
Universität zu Köln
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21 Rue de la Villette
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PROFESSIONAL EXPERIENCE

2020-   *Akademischer Rat auf Zeit*, **University of Cologne**, Department of Philosophy
Chair of Modern and Contemporary Theoretical Philosophy (Prof. Andreas Hüttemann)

2023   Part-Time Lecturer, **University Paris Nanterre**, Department of Philosophy
(Spring Semester)

2014-20   Assistant Professor, **Illinois Wesleyan University** (Bloomington IL, USA), Department of Philosophy
Tenured in February 2020

2015-16   Postdoctoral researcher in philosophy and psychology, **University of California – Berkeley**, Department of Psychology, Concepts and Cognition Lab (PI: Prof. Tania Lombrozo)
Within the Templeton Project "Varieties of Understanding"

2010-12   Teaching Assistant, **Rutgers University** (New Brunswick NJ, USA), Department of Philosophy

2006-07   French Lecturer, **Rutgers University**, Department of French

EDUCATION

2014   Ph.D. in Philosophy, Rutgers University
Dissertation Title: "*Causation in a Physical World*"
Dissertation Advisor: Prof. Barry Loewer
Dissertation Committee: Prof. Branden Fitelson (Rutgers University), Prof. Jenann Ismael (University of Arizona), Prof. Jonathan Schaffer (Rutgers University)
N.B: Rutgers University does not confer distinctions to dissertations

2014	Graduate Certificate in Cognitive Science, Rutgers University, Center for Cognitive Science (RUCCS) *Requires 9 credits in cognitive science as well as the completion of a research project with a member of the RUCCS*
2008	Master in Philosophy and Social Sciences, EHESS – Institut Jean Nicod (Paris) Thesis Title: "*Reduction in the Special Sciences*" *Summa cum Laude*
2006	*Agrégation* in Philosophy (ranked first nationally) National competitive exam required for teaching philosophy in France
2005	*Maîtrise* (one-year postgraduate degree) in Philosophy, Université Paris 1 Panthéon-Sorbonne *Summa cum Laude*
2004	B.A. in Philosophy, Université Paris 1 Panthéon-Sorbonne *Magna cum Laude*
2003-08	Non-degree student, Ecole Normale Supérieure (ranked 3d on entrance exam)
2001-03	Preparatory courses for the exam entrance to the Ecole Normale Supérieure, Lycée Henri IV (Paris)
2001	Baccalauréat, Lycée Européen Charles de Gaulle (Dijon) *Summa cum Laude*
2001	Deutsches Abitur, Lycée Européen Charles de Gaulle (Dijon) *As part of a French-German High School Program* *Summa cum Laude* (*1,2*)

VISITING POSITIONS AND SHORT-TERM STAYS

07/2013	Summer School "Philosophy and Cosmology", UC-Santa Cruz
Spring 08	Visiting Graduate Student, New York University, Department of Philosophy
2006-07	Visiting Graduate Student, Rutgers University, Department of Philosophy

AREAS OF SPECIALIZATION AND COMPETENCE

AOS: Philosophy of science (esp. causation and explanation), epistemology
AOC: Philosophy of mind and cognitive science, philosophy of biology and medicine, metaphysics, decision theory

FELLOWSHIPS AND GRANTS

2023	*Kopf Frei Plus* grant for the employment of a student help (6 months), University of Cologne *Program to support postdoctoral and Mittelbau employees with family responsibilities*

2019	Research grant for a research project on the temporal asymmetry of knowledge, Illinois Wesleyan University
2017	Junior sabbatical leave, Illinois Wesleyan University *Awarded annually to three assistant professors at Illinois Wesleyan University*
2015-16	Postdoctoral fellowship, UC–Berkeley
2014	Teaching grant for the development of the course "God and Science", Illinois Wesleyan University
2014	Two-year postdoctoral fellowship, University of Graz, Department of Philosophy (*declined*)
2013-14	Emily B. Sellon Doctoral Fellowship *Awarded annually to two philosophy graduate students at Rutgers University*
2013-14	Bevier Fellowship *Awarded annually to 12 graduate students at Rutgers University*
2013	Templeton Fellowship for the summer school "Philosophy and Cosmology"
2012	Mellon Summer Fellowship *Awarded annually to three graduate students at Rutgers University*
2012-13 2008-10	Rutgers Excellence Fellowship *Awarded for three years to each philosophy graduate student admitted at Rutgers University*

TEACHING EXPERIENCE

See Appendix A for information on the content of courses and Appendix B for teaching statement

COURSES TAUGHT
(S1 : FALL/WINTER SEMESTER ; S2 : SPRING/SUMMER SEMESTER)

AT UNIVERSITY PARIS NANTERRE

S2 2022-23   **The Mind-Body Problem** (24h; 3d-year B.A. course)

AT THE UNIVERSITY OF COLOGNE

Anfängerseminare (Introductory courses)

S2 2022-23   **Introduction to Philosophy of Mind** (21h)

S1 2022-23   **Introduction to Philosophy of Science** (21h)

S2 2021-22   **Introduction to Philosophy of Mind** (21h)

S1 2021-22   **Introduction to Philosophy of Science** (21h)

S2 2020-21   **Introduction to Philosophy of Mind** (21h)

S1 2020-21   **Introduction to Philosophy of Science** (18h)

Mittelseminare (Advanced B.A./Master courses)

S2 2022-23   **Philosophy of Medicine** (21h)

S1 2022-23   **Freedom of the Will** (21h)

S2 2021-22   **Science in Crisis? A Philosophical Look at the Reproducibility Crisis** (21h)

S1 2021-22   **Philosophy of Medicine** (21h)

S2 2020-21   **Scientific Explanation** (21h)

S1 2020-21   **Freedom of the Will** (21h)

AT ILLINOIS WESLEYAN UNIVERSITY

Introductory courses (for the general education curriculum)

S2 2019-20   **Science and Religion** (2 sections, 35h each)

S2 2018-19   **Introduction to Philosophy of Science** (35h)
                Science and Religion (2 sections, 35h each)

S1 2018-19   **Mind and World** (2 sections, 35h each)

S2 2017-18   **Science and Religion** (2 sections, 35h each)

S2 2016-17   **Science and Religion** (2 sections, 35h each)

S1 2016-17   **Mind and World** (2 sections, 35h each)

S2 2014-15   **Science and Religion** (2 sections, 35h each)

S1 2014-15   **Mind and World** (2 sections, 35h each)

Specialty courses (for philosophy majors)

S2 2019-20   **Philosophy of Natural Science** (35h)

S1 2018-19   **Knowledge, Belief and Society** (35h)

S2 2017-18   **Philosophy of Natural Science** (35h)

S2 2016-17   **Philosophy of Time** (35h)

S1 2016-17   **Epistemology** (35h)

S2 2014-15   **Philosophy of Natural Science** (35h)

S1 2014-15   **Epistemology** (35h)

AT RUTGERS UNIVERSITY

S2 2011-12 **Introduction to Modern Philosophy** (37h)

S1 2011-12 **Introduction to Logic** (37h)

S2 2010-11 **Introduction to Ethics** (teaching assistant for Holly Smith, 2 sections, 23h each)

S1 2010-11 **Introduction to Philosophy** (teaching assistant for Steven Stich, 2 sections, 23h each)

07/2010 **Introduction to Philosophy** (37h)

OTHER TEACHING ACTIVITIES

2018-19 First-year advisor for 8 incoming students, Illinois Wesleyan University

07/ 2018 Lecturer for the Summer School "The History and Metaphysics of the Concept of Laws of Nature", Central European University (Budapest).
2 sessions of 2h each (on logical empiricism and on causation and laws of nature)

2016-19 Faculty liaison to the philosophy student club, Illinois Wesleyan University

2014 Teaching assistant for the course "Philosophy of Social Science" by Martin Bunzl, Rutgers University
Grading and one lecture on reduction and autonomy in social science

2013 Teaching assistant for the course "Social Epistemology" taught by Alvin Goldman
Grading and four lectures (on testimony, collective belief, judgment aggregation and epistemic approaches to democracy)

PUBLICATIONS

See Appendix C for abstracts of main publications and Appendix D for research statement

(**anonymously peer-reviewed)

ARTICLES

[1] Blanchard, T. (2023). The Causal Efficacy of Composites: A Dilemma for Interventionism. *Philosophical Studies*, forthcoming. (**)

[2] Blanchard, T. (2023). Causation and the Time-Asymmetry of Knowledge. *Australasian Journal of Philosophy*, forthcoming. (**)

[3] Blanchard, T. (2022). Specificity of Association in Epidemiology. *Synthese*, 200, 482. https://doi.org/10.1007/s11229-022-03944-z. (**)

[4] Blanchard, T. (2022). Host Specificity in Biological Control. *British Journal for the Philosophy of Science*, forthcoming. https://doi.org/10.1086/721088. (**)

[5] *Blanchard, T.*, Murray, D., & Lombrozo, T. (2022). Experiments on Causal Exclusion. *Mind & Language*, 37(5), 1067-1089. (**)

[6] Blanchard, T. (2020). Explanatory Abstraction and the Goldilocks Problem: Interventionism Gets Things Just Right. *British Journal for the Philosophy of Science*, 71(2), 633-663. (**)

[7] Blanchard, T. (2018). Bayesianism and Explanatory Unification: A Compatibilist Account. *Philosophy of Science*, 85(4), 682-703. (**)

[8] *Blanchard, T.*, Vasilyeva, N., & Lombrozo, T. (2018). Stability, Breadth and Guidance. *Philosophical Studies*, 175(9), 2263-83. (**)

[9] Vasilyeva, N. (†), *Blanchard, T.* (†)*, & Lombrozo, T. (2018). Stable Causal Relationships Are Better Causal Relationships. *Cognitive Science*, 42(4), 1265-98. (**) († = equal contributions)

[10] *Blanchard, T.,* Lombrozo, T., & Nichols, S. (2018). Bayesian Occam's Razor is a Razor of the People. *Cognitive Science*, 42(4), 1345-59. (**)

[11] Blanchard, T. (2016). Physics and Causation. *Philosophy Compass*, 11, 256-266. (**)

BOOK CHAPTERS
[12] Blanchard, T. (2023). Best-System Laws, Explanation and Unification. *In* Hicks, M., Jaag, S., & Loew, C. (ed.), *Humean Laws for Human Agents*. Oxford: Oxford University Press, forthcoming.

[13] *Blanchard, T.* & Schaffer, J. (2017). Cause without Default. *In* Beebee, H., Hitchcock, C. & Price, H. (ed.), *Making a Difference: Essays on the Philosophy of Causation*. Oxford: Oxford University Press, pp. 175-214.

ARTICLE IN CONFERENCE PROCEEDINGS
[14] Vasilyeva, N., *Blanchard, T.*, & Lombrozo, T. (2016). Stable Causal Relationships are Better Causal Relationships. *In* Papafragou, A., Grodner, D., Mirman, D., & Trueswell, J.C. (ed.), *Proceedings of the 38th Annual Conference of the Cognitive Science Society*, pages 2263-2268. Austin, TX: Cognitive Science Society. (**)

COMMENTARY ON TARGET ARTICLE
[15] Blanchard, T. (2010). Default Knowledge, Time-Pressure and the Theory-Theory of Concepts (Commentary on *Doing without Concepts* by E. Machery). *Behavioral and Brain Sciences*, 33(2-3), 206-7. (**)

ENCYCLOPEDIA ARTICLE
[16] Blanchard, Thomas. (2018). La causalité (Causation). *In* Kristanek, M. (ed.), *L'Encyclopédie philosophique*. URL : http://encyclo-philo.fr/causalite-a/ (**)

ANNOTATED BIBLIOGRAPHY

[17] Goldman, A., & *Blanchard, T.* (2012). Bibliography on Social Epistemology. *Oxford Bibliographies Online*. URL: http://www.oxfordbibliographies.com/view/document/obo-9780195396577/obo-9780195396577-0088.xml

BOOK REVIEWS

[18] Blanchard, T. (2017). Review of Jenann Ismael, *How Physics Makes Us Free. Journal of Philosophy*, 114(3), 160-164. (**)

[19] Blanchard, T. (2015). Review of Mathias Frisch, *Causal Reasoning in Physics. Notre Dame Philosophical Reviews*. URL: http://ndpr.nd.edu/news/58425-causal-reasoning-in-physics/

[20] Blanchard, T. (2014). Review of Douglas Kutach, *Causation and Its Basis in Fundamental Physics. Philosophy of Science*, 82(2), 330-333.

WORK IN PROGRESS

1. *Habilitationsschrift* (expected completion : July 2023)
Director : Prof. Andreas Hüttemann
Title: Interventionism, High-Level Explanation, and Exclusion

My habilitation work is a collection of articles that have appeared in print or are yet to be published, and explores how the interventionist account of causation and explanation can help us make sense of various features of explanation and causal representation in the high-level sciences. It consists of three parts. One part explores and empirically documents the role that interventionist notions of proportionality and stability play in high-level sciences. A second part offers a modified version of Woodward's well-known account of causal specificity in biology and offers case studies of the roles that specificity notions play in applied ecology, medicine, and epidemiology. The third part is devoted to the exclusion problem. It criticizes existing interventionist solutions to the problem, and proposes a new one.

2. One manuscript under submission: "Causal Modeling, Causal Exclusion and Mutual Dependence" (avec Andreas Hüttemann). Submitted to *Philosophy & Phenomenological Research*.

3. Three articles in préparation :

- "Interventionist Decision Theory and Determinism"
- "The Non-Specificity of Placebos"
- "Does Proportionality Support the Causal Autonomy of the Special Sciences?"

PRESENTATIONS

INVITED PRESENTATIONS

2022   "Causal Modeling, Causal Exclusion, and Symmetric Dependence" (with Andreas Hüttemann)
Research seminar of Prof. Thomas Kroedel, University of Hamburg, June 2022.

2022   "Causal Modeling, Causal Exclusion, and Symmetric Dependence" (with Andreas Hüttemann)
Workshop *(Non)-Reductionism in Philosophy of Mind*, University of Salzburg, September 2022.

2021   "A New Interventionist Exclusion Argument"
Jewett Society, Oxford University, May 2021.

2020   "The Significance of Specificity (and Related Notions) for Experimental Causal Inference"
Workshop *Causal Distinctions: Specificity and Beyond*, University of Cologne, October 2020.

2020   "Agency Theories of Causation"
Graduate Seminar "Causation" of David Papineau, CUNY (New York), March 2020.

2019   "Variable Choice and Level of Explanation"
Seminar of the research group *Sciences, Normes et Décisions*, Université Paris-Sorbonne, December 2019.

2019   "Experiments on Causal Exclusion"
Workshop *Experimental Philosophy of Science*, University of Aarhus, October 2019.

2018   "Interventionist Decision Theory and Determinism"
Conference *Causes, Norms and Decisions*, Leibniz Universität Hannover, August 2018.

2018   "Causation: The (Neo-)Reichenbachian Way"
Conference *The Future of the Foundations of Physics*, Columbia University, March 2018.

2017   "Is Causation a Matter of Perspective?"
Workshop *Where is there Causation?*, University of Umeå, November 2017.

2016   "Physics and the Causal Asymmetry"
Conference *Causation in a Physical World*, University of Cologne, June 2016.

2016   "A Unificationist Best System Account of Laws"
Workshop on Philosophy of Physics, University of Arizona, February 2016.

2015   "Interventionism and Causal Decision Theory"
University of Illinois Urbana-Champaign, Department of Philosophy Colloquium, April 2015.

2014   "Why do Causes Explain their Effects? A Unificationist Answer"
Illinois State University, Department of Philosophy Colloquium, October 2014.

2014   "Causation, Evidence and Decision"
University of Delaware, Department of Philosophy, January 2014.

2014   "Causation, Evidence and Decision"

Rice University, Department of Philosophy Colloquium, January 2014.

2014   "Causation, Evidence and Decision"
Illinois Wesleyan University, Department of Philosophy Colloquium, January 2014.

REFEREED PRESENTATIONS

2022   "Causal Modeling, Causal Exclusion, and Symmetric Dependence" (with Andreas Hüttemann)
Triannual Conference of the *Gesellschaft für Wissenschaftsphilosophie* (GWP), Technische Universität Berlin, August 2022.

2022   "Papineau on Causal Inference"
Annual Conference of the British Society for the Philosophy of Science, University of Exeter, July 2022

2021   "Specificity of Association in Epidemiology"
8th Congress of the *Société de Philosophie des Sciences*, University of Mons, September 2021.

2021   "Specificity of Association in Epidemiology"
Biannual Conference of the European Society for Philosophy of Science (EPSA), University of Turin, September 2021.

2021   "A New Interventionist Causal Exclusion Argument"
Annual Conference of the Society for the Metaphysics of Science (SMS), online, September 2021.

2017   "A Unificationist Best System Account of Laws"
Annual Conference in History and Philosophy of Science, University of Colorado (Boulder), October 2017.

2016   "Stable Causal Relationships are Better Causal Relationships" (poster)
Congress of the Society for Philosophy and Psychology, Austin, June 2016.

2015   "Soft Interventionism"
Conference *New Trends in Metaphysics of Science*, Université Paris 1 Panthéon-Sorbonne, December 2015.

2015   "Pourquoi les causes expliquent-elles leurs effets? Une réponse unificationniste"
Congress of the Francophone Society for Analytic Philosophy (SOPHA), Université de Montréal, June 2015.

2012   "General Causation and Chance"
Annual Conference of the British Society for Philosophy of Science, University of Sterling, June 2012.

2012   "Causation, Chance and Decision Theory",
Ernst Mach Colloquium, University of Prague, June 2012.

INVITED COMMENTS

2018   Comments on Jessica Rifkin (Stanford University), "Leibniz and the Problem of Agency"

Conference *The History and Metaphysics of Laws of Nature*, Central European University, Budapest, July 2018.

2018   Comment Christian List (LSE), "Arrow's Theorem in Individual and Social Epistemology"
Conference for Alvin Goldman, Rutgers University, New Brunswick, February 2018.

2015   Comment on Nina Emery (Brown University), "A Scientific Realist's Guide to Objective Probability"
Annual Conference of the Society for Metaphysics of Science, Newark (NJ), September 2015.

2010   Comment on Marco Nathan (Columbia University), "The Role of Distributions in Scientific Explanation"
Princeton-Rutgers Graduate Conference in Philosophy, May 2010.

OTHER SCIENTIFIC ACTIVITIES

2022-23   Member of an interdisciplinary working group on causation in ecology, Occitanie Biodiversity Project (BioDivOc), University of Montpellier and CNRS-SETE (Experimental and Theoretical Ecology Lab)

2022   Organizer of the conference "Agency, Time and the Physical World: A Workshop with Barry Loewer", University of Cologne, September 2022

2014-23   Reviewer for *British Journal for the Philosophy of Science*, *Dialectica*, *Ergo*, *European Journal for Philosophy of Science*, *International Studies in the Philosophy of Science*, *Journal of Philosophy*, *Logique et Analyse*, *Mind*, *Philosophy and Phenomenological Research*, *Philosophy of Management*, *Philosophy of Science*, *Synthese*, *Thought*.

2019   Reviewer for the *Handbook of Rationality* (MIT Press)

2016-23   *Philpapers* category editor for "Causation" (www.philpapers.org)

2012-14   Editorial Assistant for *A Companion to David Lewis*, edited by Barry Loewer and Jonathan Schaffer, Wiley-Blackwell

2010-11   Organizer of the Rutgers graduate working group in philosophy of science

2010-11   Co-organizer of the Princeton-Rutgers graduate conferences in philosophy 2010 and 2011

ADMINISTRATIVE SERVICE

AT ILLINOIS WESLEYAN UNIVERSITY

2018-20   Member of the Nominating Committee
(*in charge of university elections at Illinois Wesleyan University*)

2018-20	Member of the Institutional Animal Care and Use Committee (*Ethics review board for research and teaching activities involving animals at Illinois Wesleyan University*)
2018-19	Member of the Faculty-Staff Recognition Committee
2016-20	Member of the Institutional Review Board (*Ethics review board for research involving human subjects at Illinois Wesleyan University*)
2016-20	Philosophy liaison to the Illinois Wesleyan University Library

LANGUAGES

French (native), English (native-level proficiency), German (read, spoken, written)

APPENDIX A: CONTENT OF COURSES

AT UNIVERSITY PARIS NANTERRE

The Mind-Body Problem (S2 2022-23):

Advanced introduction to analytic philosophy of mind through the mind-body problem. After an examination of the classical Cartesian arguments for dualism, the course focuses on the main materialist approaches proposed in the 20th century, with particular attention paid to the computational theory of mind and the problem of phenomenal consciousness.

AT THE UNIVERSITY OF COLOGNE

Introduction to Philosophy of Mind (S2 2022-23, 2021-22 and 2020-21):

Introduction to analytic philosophy of mind through the lens of the mind-body problem. The course examines the main theories of mind (dualism, behaviorism, identity theory, functionalism, representational and computational theory) and three issues for contemporary materialistic accounts: the Chinese room argument, the naturalization of mental content and the problem of phenomenal consciousness.

Introduction to Philosophy of Science (S1 2022-23, 2021-22 and 2020-21):

The first part of the course examines empiricist approaches to science (with particular focus on inductivism and falsificationism), followed by Kuhn's and post-Kuhnian approaches. The second part is devoted to an examination of some important scientific concepts (explanation, laws of nature, and controlled experiment). The course concludes with a discussion of some philosophical questions about the role of social and moral values in science (inductive risk, bias in science, and science governance).

Philosophy of Medicine (S2 2022-23 and S1 2021-22):

The course begins with an examination of the main positions on the nature of disease (naturalism, normativism, hybrid positions and eliminativism). The second part concerns issues of evidence in medicine (evidence-based medicine and its critics, RCTs, causal inference from observational studies). Additional topics covered include: precision and personalized medicine, screening programs, placebos and alternative medicine, over-medicalization and medical nihilism.

Free Will (S1 2022-23 and 2020-21):

A course on the problem of free will and determinism in the analytic tradition, beginning with classic statements of compatibilism and incompatibilism offered by Ayer and Chisholm, followed by an examination of van Inwagen's consequence argument, Frankfurt's rejection of the principle of alternative possibilities, and the rise of source compatibilist and incompatibilist views. The course ends with a discussion of recent work on free will (including List, Sartorio, and Vargas).

Science in Crisis? A Philosophical Look at the Reproducibility Crisis (S2 2021-22):

The course focused on the "reproducibility crisis" in psychology, social sciences and biomedicine. It begins with an examination of the notion of replication and its importance in the scientific method, and continues with a study of the explanations that have been proposed for the reproducibility crisis: the limits of classical statistics, p-hacking and other questionable research practices, publication bias, the role of the social structure of science and the incentives it generates, etc. Through this examination, the course provides an advanced introduction to some central themes in contemporary philosophy of science, including debates on frequentism and Bayesianism, on scientific experimentation and on the role of social factors in science.

Scientific Explanation (S2 2020-21):

The course began with an examination of the main contemporary approaches to scientific explanation (deductive-nomological, unificationist and causal). It continued with an examination of several themes related to the notion of scientific explanation: the choice of levels of explanation, mathematical and structural explanations of empirical phenomena, the role of explanation in scientific inference, the nature of explanation in history, and the value of explanation in science.

AT ILLINOIS WESLEYAN UNIVERSITY

Introduction to Philosophy of Science (S2 2018-19):

Introductory course for a generalist (non-scientist) audience. The first part of the course examined the question of rationality and objectivity in science through an examination of what separates science from pseudoscience and a study of experimental practice in the natural sciences. The second part of the course focused on the ethics of science and the role of moral and political values in scientific research.

Science and Religion (S2 2014-15, 2016-17, 2017-18 and 2019-20):

Course intended primarily for science students. It focused on three scientific fields (biology, cosmology, psychology) and their complex relationship with Western religious thought. It also examined the relationship between science and religion from a political and historical perspective, notably through the study of the relationship between Galileo and the Church and the controversies surrounding the teaching of intelligent design in the United States.

Mind and World (S1 2014-15, 2016-17 and 2018-19):

An introductory course in metaphysics and epistemology. The aim of the course was to make non-specialist students aware of the interest and specificity of the philosophical approach through the examination of ancient, modern and contemporary perspectives on five themes (the existence of God, the nature and sources of knowledge, personal identity, free will, and the value of philosophy).

Philosophy of Natural Science (S2 2014-15, 2017-18 and 2019-20):

Advanced introduction to history and philosophy of science. The first part of the course was devoted to an examination of the Copernican revolution in astronomy. The second part examined the main philosophical approaches to science offered in the 20th science. The course closed with an overview of more recent work on the rationality of scientific inference, laws of nature, and social aspects of science.

Knowledge, Belief and Society (S1 2018-19):

Advanced introduction to epistemology through the lens of social epistemology. Topics covered included peer disagreement, social influences on belief, testimony, group beliefs, epistemic injustice, and the epistemology of political and scientific institutions. Along the way, the course introduced students to some prominent themes in 20th century epistemology (e.g. debates concerning the nature and structure of knowledge and the internalist or externalist nature of justification).

Philosophy of Time (S2 2016-17):

The first objective of the course was to examine the tension between our physical theories of time and our ordinary experience of temporality, through an in-depth examination of the theory of special relativity and the debate between so-called "static" and "dynamic" theories of time. The second objective was to use time as a prism through which different philosophical notions (causality, free will, knowledge, decision, etc.) can be studied, and thus develop students' abilities to build bridges between different fields of philosophy.

Epistemology (S1 2014-15 and S1 2016-17):

Advanced introduction to contemporary analytical epistemology. Topics covered included skepticism, the definition of knowledge, the structure and nature of justification, internalism and externalism, reliabilism vs. evidentialism, and naturalized epistemology.

AT RUTGERS UNIVERSITY

Introduction to Modern Philosophy (S2 2011-12):

Course designed for first and second year philosophy students. The course examined six authors (Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume) and focused on five themes in their writings: the nature and sources of knowledge, God, mind and body, freedom, causality. Although the approach is structured by the classical opposition rationalism/empiricism, one of the goals of the course was to question the limits of this distinction.

Introduction to Logic (S1 2011-12)

Introduction to propositional logic and first-order predicate logic. The course began with the study of the concepts of truth and logical consequence, Boolean connectors, and formal proofs in propositional logic and truth tables. The second part of the course dealt with first-order predicate logic (quantification, formal proofs, model theory for predicate calculus). Half of each session was devoted to group exercises.

Introduction to Ethics (S2 2010-11)

Seminar sessions for a lecture course taught by Holly Smith devoted to the examination of major ethical and meta-ethical theories. The seminar consisted primarily of concrete moral case studies and was intended to help students develop and apply their knowledge of key ethical concepts and theories.

Introduction to Philosophy (S1 2010-11):

Seminar sessions for a lecture course taught by Steven Stich. The majority of the tutorials were devoted to individual group exercises to supplement the lecture (argument reconstruction, case studies, writing practice).

Introduction to Philosophy (Summer 2010)

Introductory course centered around six themes (God, knowledge, freedom, personal identity, ethics, the meaning of existence).

APPENDIX B: TEACHING STATEMENT

Since the start of my teaching career in 2010, I have had the chance to teach a large range of bachelor and master courses in a variety of domains and to a wide variety of audiences, including not only philosophy students at all levels of study but also non-philosophy students with sometimes no prior philosophical knowledge. I have extensive experience teaching introductory courses in philosophy of science and in other areas of theoretical philosophy such as logic, epistemology, metaphysics and the philosophy of mind. At a more advanced level, I have taught a range of courses on specific issues in general philosophy of science as well as courses focused on specific research practices, methods and issues in particular sciences. For example, I have recently taught

courses on the reproducibility crisis in psychology as well as courses in the philosophy of medicine that examined in detail current research practices and scientific norms in those fields. Many of the courses I have taught were geared to scientist audiences. Thus, at Illinois Wesleyan University I regularly taught a course on science and religion taken mainly by physics, engineering and biology majors, and my courses in philosophy of medicine at the University of Cologne include a number of medical students. In addition to teaching courses, I have also taken up a number of other pedagogical responsibilities during my career. Thus at Illinois Wesleyan University, I contributed to the renewal of the philosophy curriculum and led a project for a new minor degree in philosophy of science and mathematics for science students.

My teaching experience has led me to emphasize a number of goals in my teaching. While my main objective in all my courses is to help my students develop their analytical and argumentative skills, I also try to modulate my objectives and teaching methods according to the level, needs and expectations of my students. At the introductory level, I focus on stimulating my students' interest for philosophical questions and promoting the success of all my students (especially the most fragile). I seek to achieve those objectives by choosing topics and texts that are especially attention-grabbing for beginning students, and by using methods that foster the engagement and participation of all students, such as pair or small-group activities. At a more advanced level, my main goals are to help students deepen their knowledge of and interest for the sub-disciplines I taught, and to initiate them to research practices (e.g., through oral presentations or literature review.) Because the areas I teach can be highly technical and foreboding to students, a further goal I have in all my classes is to help students appreciate the relevance and interest of the questions addressed in class. For example, in my introductory philosophy of science courses, I often have students critically reflect on intuitive views of science and the oversimplified picture of science associated with them (e.g., that science is based on unprejudiced observation of the world, and straightforward derivation of scientific theories from these observations.) By loosening the grip that such a picture exerts on them, my goal is to thereby foster their active engagement with the subtle and complex accounts of science offered by contemporary philosophy. I pay special attention to this issue when teaching science students, e.g. by having explicit discussions of the nature and value of philosophical methods. I also try to choose topics and questions that are especially relevant to their own fields, and to confront philosophical perspectives with texts and traditions from other disciplines. For example, my recent philosophy of science courses gave a large place to texts and authors from social psychology, medicine and epidemiology.

Overall, I believe that over the course of my career I have had some success crafting effective teaching strategies for meeting these teaching goals. When I received tenure at Illinois Wesleyan University in 2020, the tenure committee stated that there is "consistent and converging evidence that you are an excellent teacher who is successful at getting students to engage with abstract philosophical problems… [and] to engage students in the humanities whose first academic interest is the natural sciences and to cultivate interdisciplinary thinking in your courses". More recently, in September 2021 an evaluation of student satisfaction was conducted within the philosophy department at the University of Cologne. My two courses "Introduction to Philosophy of Mind" and "Scientific Explanation" received evaluations of 4,5 and 5 (out of 5) respectively.

I believe that my teaching experience puts me in a position to usefully contribute to the teaching activities of the philosophy and engineering departments at Heidelberg University, in a variety of ways. If I were recruited, I would be able to teach a variety of courses in philosophy of science and technology (as well as other areas of theoretical philosophy if needed), and to fulfil other teaching responsibilities such as student research supervision. I would also be happy to create new courses and modules that would be of interest to engineering students. For example, I would welcome the opportunity to teach a philosophy of science course specifically geared toward engineering students, and which could give special emphasis to issues of particular importance in the engineering sciences (e.g. modelling, idealization, or experimental design). I could also draw on my experience to develop courses on ethical issues in the engineering and life sciences (e.g. on research ethics or integrity, or broader ethical issues having to do with responsible design and use of technologies), as these are topics I regularly teach in my philosophy of science courses, and on which I have experience as a former member of research ethics committees. In addition, I would be happy to teach courses in the philosophy of technology (including biotechnology) a topic to which I have given increasing prominence in my recent teaching, in particular in my philosophy of medicine class, where we discuss issues such as precision medicine, screening program and drug design. Finally, I would especially welcome the opportunity to team-teach classes on such issues with faculty members from other departments, as my own experience as a student as well as reports from colleagues lead me to believe that this is an especially stimulating way for students (perhaps especially non-philosophy students) to engage with philosophical questions, as well as an excellent opportunity to revivify one's teaching practices.

APPENDIX C: ABSTRACTS OF MAIN PUBLICATIONS

[1] Blanchard, T. (2023). The Causal Efficacy of Composites: A Dilemma for Interventionism. *Philosophical Studies*, forthcoming.

Argues that the interventionist account of causation faces a dilemma concerning macroscopic causation. Interventionism must either require interventions on a composite object to hold the behavior of its parts fixed, or allow such interventions to vary the behavior of those parts. The first option runs the risk of making wholes causally excluded by their parts, while the second runs the risk of mistakenly ascribing to wholes causal abilities that belong to their parts only. I show that current versions of interventionism all face one horn or the other of the dilemma, and conclude that making sense of macroscopic causation remains a live issue for interventionism.

[2] Blanchard, T. (2023). Causation and the Time-Asymmetry of Knowledge. *Australasian Journal of Philosophy*, forthcoming.

Argues that the knowledge asymmetry (the fact that we know more about the past than the future) can be explained as a consequence of the well known "causal Markov condition", which implies that causes of a common effect are generally statistically independent, whereas effects of a common cause are generally correlated. I show that together with certain facts about the physics of our world, the statistical independence of causes severely limits our ability to predict the future,

whereas correlations between joint effects make it so that no such limitation holds in the reverse temporal direction.

[3] Blanchard, T. (2022). Specificity of Association in Epidemiology. *Synthese*, **200, 482. https://doi.org/10.1007/s11229-022-03944-z.**

The epidemiologist Bradford Hill famously argued that in epidemiology, specificity of association (the fact that an environmental or behavioral risk factor is associated with just one or at most a few medical outcomes) is strong evidence of causation. Prominent epidemiologists have dismissed Hill's claim on the ground that it relies on a dubious `one-cause one effect' model of disease causation. The paper examines this methodological controversy, and argues that specificity considerations do have a useful role to play in causal inference in epidemiology. I argue that specificity considerations help solve a pervasive inferential problem in contemporary epidemiology: the problem of determining whether an exposure-outcome correlation might be due to confounding by a social factor. This examination of specificity highlights how the methodology of epidemiology relies on local tools designed to address specific inference problems peculiar to the discipline, and shows that observational causal inference in epidemiology can proceed with little prior knowledge of the causal structure of the phenomenon investigated.

[4] Blanchard, T. (2022). Host Specificity in Biological Control. *British Journal for the Philosophy of Science*, **forthcoming. https://doi.org/10.1086/721088.**

This paper focuses on host specificity, a kind of biological specificity that has not yet been discussed in the growing literature on biological specificity, and which concerns the extent to which a species is selective in the range of other species it exploits for feeding and/or reproduction. I focus on the role of host specificity in biological control, a field of applied ecology that deals with the suppression of pests through the use of living organisms. I argue that host specificity cannot be fully understood in terms of Woodward's well-known account of causal specificity and that to account for it we need a notion of causal specificity that takes into consideration the extent to which a variable's effects are similar to one another – a dimension not captured in Woodward's account. I further show that the literature on host specificity in biological control holds useful lessons for the question of the practical relevance of causal specificity in biology.

[5] *Blanchard, T.*, **Murray, D., & Lombrozo, T. (2022). Experiments on Causal Exclusion.** *Mind & Language*, **37(5), 1067-1089.**

Intuitions play an important role in the debate over Kim's exclusion problem, yet whether laypeople have the relevant intuitions We report the results of three experiments examining whether laypeople really have the relevant intuitions ascribed to them by Kim and others. We find little support for Kim's view and the principles on which it relies. Instead, we find that laypeople are willing to count both a multiply realized property and its realizers as causes, and regard the systematic overdetermination implied by this view as unproblematic.

[6] Blanchard, T. (2020). Explanatory Abstraction and the Goldilocks Problem: Interventionism Gets Things Just Right. *British Journal for the Philosophy of Science*, **71(2), 633-663.**

Theories of explanation need to account for a puzzling feature of our explanatory practices: the fact that we prefer explanations that are relatively abstract but only moderately so. The paper argues that the interventionist account of explanation provides a natural and elegant explanation of this fact. By striking the right balance between specificity and generality, moderately abstract explanations optimally subserve what interventionists regard as the goal of explanation, viz. identifying possible interventions that would have changed the explanandum.

[7] Blanchard, T. (2018). Bayesianism and Explanatory Unification: A Compatibilist Account. *Philosophy of Science*, **85(4), 682-703.**

It is widely held the ability of a hypothesis to explain a range of phenomena in a unifying way contributes to the hypothesis's credibility in light of these phenomena. I propose a Bayesian justification of this claim that reveals a hitherto unnoticed role for explanatory unification in evaluating the plausibility of a hypothesis: considerations of explanatory unification enter into the determination of a hypothesis's prior by affecting its 'explanatory coherence', that is, the extent to which the hypothesis offers mutually cohesive explanations of various phenomena.

[8] *Blanchard, T.*, **Vasilyeva, N., & Lombrozo, T. (2018). Stability, Breadth and Guidance.** *Philosophical Studies*, **175(9), 2263-83.**

Much recent work on explanation in the interventionist tradition emphasizes the explanatory value of "stable" causal generalizations. We argue that two separate explanatory virtues are lumped together under the term `stability'. We call these two virtues breadth and guidance respectively. We argue that an adequate theory of explanatory goodness should recognize breadth and guidance as distinct virtues, as breadth and guidance track different ideals of explanation, satisfy different cognitive and pragmatic ends, and play different theoretical roles in (for example) helping us understand the explanatory value of mechanisms.

[9] Vasilyeva, N., *Blanchard, T.,* **& Lombrozo, T. (2018). Stable Causal Relationships Are Better Causal Relationships.** *Cognitive Science*, **42(4), 1265-98.**

We report three experiments investigating whether people's judgments about causal relationships are sensitive to the stability of such relationships across a range of background circumstances. We show that people are more willing to endorse causal and explanatory claims based on stable (as opposed to unstable) relationships, even when popular measures of causal strength are held constant, and that stable causal relationships may be seen as better guides to action.

[10] *Blanchard, T.,* **Lombrozo, T., & Nichols, S. (2018). Bayesian Occam's Razor is a Razor of the People.** *Cognitive Science*, **42(4), 1345-59.**

Occam's razor—the idea that all else being equal, we should pick the simpler hypothesis—plays a prominent role in ordinary and scientific inference. One potential explanation of this fact known

as Bayesian Occam's razor (BOR) is that more complex hypotheses tend to be more flexible—they can accommodate a wider range of possible data—and that flexibility is automatically penalized by Bayesian inference. In two experiments, we provide evidence that people's intuitive probabilistic and explanatory judgments follow the prescriptions of BOR. In particular, people's judgments are consistent with the two most distinctive characteristics of BOR: They penalize hypotheses as a function not only of their numbers of free parameters but also as a function of the size of the parameter space, and they penalize those hypotheses even when their parameters can be "tuned" to fit the data better than comparatively simpler hypotheses.

[11] Blanchard, T. (2016). Physics and Causation. *Philosophy Compass*, 11, 256-266.

Offers an overview of debates surrounding the role and status of causation in physics. Russell famously argued that modern physics has no need for causal notions but also that our belief in causation is a relic of a pre-scientific view of the world. The paper surveys contemporary arguments for claiming that the fundamental physical structure of our world doesn't contain causal relations, as well as dissenting view.

[12] Blanchard, T. (2023). Best-System Laws, Explanation and Unification. *In* Hicks, M., Jaag, S., & Loew, C. (dir.), *Humean Laws for Human Agents*. Oxford: Oxford University Press, forthcoming.

The paper argues that current "pragmatic" versions of the so-called "best-system" account of physical laws, according to which laws are cognitive tools tailored to the specific needs and limitations of creatures like us, has trouble making sense of certain key features of the practice of fundamental physics. It offers a new version of the best-system approach that puts the explanatory role of laws front and center.

[13] *Blanchard, T.* & Schaffer, J. (2017). Cause without Default. *In* Beebee, H., Hitchcock, C. & Price, H. (dir.), *Making a Difference: Essays on the Philosophy of Causation*. Oxford: Oxford University Press, pp. 175-214.

A number of philosophers of causation have argued that causal models -the most popular tool in science to represent causal structure – must be supplemented with a distinction between default and deviant events. We argue that the notions of 'default' and 'deviant' influence causal judgement, but we claim that this influence is best understood as arising through a general cognitive bias concerning the availability of alternatives. We also argue that arguments for incorporating a default-deviant distinction in causal models reveal that more attention is needed concerning what counts as an apt causal model.

APPENDIX D: RESEARCH STATEMENT

My research focuses primarily on causal reasoning and explanation in the "high-level" sciences – sciences such as biology, neuroscience or psychology that deal with complex macroscopic phenomena situated at higher levels of organization. My research program lies in the tradition of

the interventionist and causal modelling account of causation, an interdisciplinary approach to causation that integrates insights from philosophy, computer science and statistics, and on which causes are understood as handles that can be used to control their effects. On this approach, causal reasoning and explanation find their roots in a pragmatic interest in controlling and modifying our environment. My research program draws on this approach to better understand the role that causal reasoning plays in high-level scientific explanations and in practical applications of high-level theories, and to shed light on various concepts, puzzles and debates in those sciences. This research relies on a variety of methods including not only traditional philosophical analysis, but also formal studies of the logic of causal and explanatory reasoning, empirical studies of causal cognition and case studies in particular sciences (for example in theoretical and applied ecology, medicine and epidemiology). It is also strongly interdisciplinary: for example, some of my research stems from joint work with cognitive psychologists, and has been published in interdisciplinary cognitive science journals. In the coming years, I intend to develop this program by further developing two research projects that I initiated in the last few years.

The first project concerns the phenomenon of *causal selection* in the high-level sciences. A key feature of these sciences is that their practitioners tend to regard some of the causes of the phenomena they study as more important or explanatory than others. (Witness the popular idea in molecular biology that DNA is a more important cause of protein synthesis than other cellular components, or Ernst Mayr's emphasis on the importance of "ultimate" causes in evolutionary biology.) The project seeks to better understand the nature and grounds of causal selection in the context of explanation (why are some causes more explanatory than others?) and in contexts of practical and technological applications of high-level sciences. (For example, one of my recent publications focuses on "biological control" - the use of predators and parasitoids for pest control – and examines the causal properties that ecologists regard as desirable in good biological control agents.) Contrary to what a number of philosophers have claimed, the hypothesis I explore is that causal selection is neither capricious nor arbitrary, and stems from an interest in identifying robust strategies for controlling our environment. More precisely, the hypothesis is that practices of causal selection aim to identify causes that have objective properties that make them especially practically and theoretically valuable. Two dimensions on which I have focused in recent work are *stability* (the ability of a causal relationship to resist external perturbations) and *specificity* (the ability of a cause to target a specific effect in a range of candidates). In the coming years, I intend to continue this research project by examining further roles that notions of causal stability and specificity play in specific sciences – for example, the role that the notion of "specific mode of action" plays in drug design and selection in medicine. I also intend to look at other causal distinctions that have an impact on causal selection but have been little explored in the philosophy of causality; for example, the distinction between "structuring" and "triggering" causes, which shows up in various high-level sciences from medicine to the social sciences. The topic of causal selection would lend itself straightforwardly to collaborative research related to the topics studied at the IMSEAM. For example, philosophers of biology have argued that causal selection in biology displays a preference for "normal" and "natural" causes of biological processes. Because those notions become problematic in synthetic biology, exploring the phenomenon causal selection in this domain might not only help us better understand research and design practices in this field, but also shed new light on the phenomenon of causal selection generally.

The second project concerns the issue of *levels of explanation*. Generally, a single phenomenon can be explained at different levels, for example social, psychological, or neurological. And in a number of contexts, we tend to favor higher-level to lower-level explanations. Thus, an explanation of cell division in biological terms seems much more enlightening than an explanation that focuses on the whole of the microphysical processes that take place during cell division. Understanding this phenomenon is an important task in the philosophy of science, not least because an explanation of it would shed light on the popular idea that high-level sciences are "autonomous" vis-à-vis fundamental physics. Yet the reason why certain levels of explanation are better than others remains disputed. Moreover, the question of levels of explanation raises the formidable problem of "causal selection": if one assumes, as many scientists do, that all phenomena in our universe are the result of microphysical causes, this seems to exclude the possibility of causation and hence explanation at higher levels (be they biological, psychological, social, etc.). The problem is to understand how causation and explanation at macroscopic levels are possible (and even indispensable) in a world governed entirely by microphysical laws. The first aim of my project is to develop an interventionist theory of levels of explanation, according to which the superiority of high-level explanations lies in the fact that they identify particularly effective intervention on their explanatory targets. The second is to enrich our understanding of the phenomenon of levels of explanation through the study of certain scientific examples that have so far received little attention in the literature. For example, through participation in an interdisciplinary research group on causation in ecology, I have taken an interest in the issues of levels of explanation in ecosystem and biodiversity ecology. (Some ecologists argue that for conceptual reasons the biodiversity of an ecosystem cannot in itself have effects on other aspects of the ecosystem, these other aspects having to be explained at a lower level - that of the species that compose the ecosystem in question). This is one issue I intend to explore more in the coming years. The question of levels of representations and explanation in synthetic biology and materials science could be another area of inquiry that could give rise to collaborative research at the IMSEAM,. Finally, in the coming years I also intend to explore the connections between the philosophical literature on levels of explanation and the one in machine learning, where this theme is also actively explored. (Particularly relevant here is research on "causal feature learning", which aims at building algorithms for the automatic discovery of macroscopic causal relations on the basis of macroscopic level data). There is currently little work connecting these two literatures, which nevertheless deal with very similar problems. My work will aim at bridging this gap, exploring in particular how an interventionist approach to levels of explanation could contribute to research on automatizing macroscopic causal discovery in machine learning.