Mario Günther

Research Profile

AOS: Epistemology, Logic, Metaphysics

AOC: Decision Theory, Ethics, Philosophy of Science, Philosophy of AI

Positions

22- **Assistant Professor**
Munich Center for Mathematical Philosophy, LMU Munich
Academic Visitor 2022
University of Edinburgh

19-21 **Research Fellow**
"Humanising Machine Intelligence"
Australian National University
Academic Visitor 2021
London School of Economics & Political Science

18-19 **Research Fellow**
"Reasoning with Conditionals" (DFG Project)
University of Regensburg

Education

2019 **PhD in Philosophy**
"Learning, Conditionals, Causation"
Munich Center for Mathematical Philosophy & Graduate School of Systemic Neurosciences, LMU Munich
Hannes Leitgeb, Stephan Hartmann

2015 **Master in Logic and Philosophy of Science**
"Non-Monotonic Logics, Artificial Neural Networks, and Complexity Considerations in the Horn Case"
Munich Center for Mathematical Philosophy, LMU Munich

2012 **Bachelor in Philosophy and Cognitive Science**
"The Methodology of Scientific Research Programmes as Modification of Popper's Falsificationism"
Albert Ludwig University Freiburg
Erasmus Year 2011-12
Université Paris-Sorbonne (Paris IV)

Journal Articles

2022 "Causal and Evidential Conditionals"
Minds and Machines (forthcoming)

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English, German, French, Ancient Greek

2022 "Bayesians Still Don't Learn from Conditionals" (with Borut Trpin)
Acta Analytica (forthcoming)

2022 "Ramsey's Conditionals" (with Caterina Sisti)
Synthese (forthcoming)

2022 "Actual Causation" (with Holger Andreas)
dialectica (forthcoming)

2022 "Epistemic Sensitivity and Evidence"
Inquiry (forthcoming)

2022 "Counterfactuals for Causal Responsibility in Legal Contexts" (with Holger Andreas and Matthias Armgardt)
Artificial Intelligence and Law (forthcoming)

2022 "A Connexive Conditional"
Logos and Episteme 13(1):55-63.

2022 "Algorithmic and Human Decision Making: For a Double Standard of Transparency" (with Atoosa Kasirzadeh)
AI & Society 37:375-381.

2021 "Difference-Making Causation" (with Holger Andreas)
Journal of Philosophy 118(12):680-701.

2021 "A Ramsey Test Analysis of Causation for Causal Models" (with Holger Andreas)
British Journal for the Philosophy of Science 72(2): 587-615.

2020 "Causation in Terms of Production" (with Holger Andreas)
Philosophical Studies 177(6): 1565-1591.

2019 "On the Ramsey Test Analysis of 'Because'" (with Holger Andreas)
Erkenntnis 84(6):1229-1262.

2018 "Learning Conditional Information by Jeffrey Imaging on Stalnaker Conditionals"
Journal of Philosophical Logic 47 (5):851-876.
Winner of a Wolfgang Stegmüller Award

2017 ["Learning Conditional and Causal Information by Jeffrey Imaging on Stalnaker Conditionals"](#)
Organon F, 24(4):456-486.

Conference Proceedings

2019 ["Defining Selection Functions"](#) (with Holger Andreas)
The Logica Yearbook 2018, 1-13.

2017 ["Disjunctive Antecedents for Causal Models"](#)
Proceedings of the 21st Amsterdam Colloquium, 25-34.

Encyclopedia Entries

2021 ["Regularity and Inferential Theories of Causation"](#) (with Holger Andreas)
The Stanford Encyclopedia of Philosophy

Other Publications

2020 ["Large-scale facial recognition is incompatible with a free society"](#) (with Seth Lazar and Claire Benn)
The Conversation.

2020 ["Was wird die Künstliche Intelligenz für Versicherungsunternehmen bedeuten?"](#) (German)
prae|faktisch.

2018 ["What's Hot in Mathematical Philosophy?"](#)
The Reasoner, 12 (11): 90-91.

2014 ["Logical Symbolism vs. Dynamicist Connectionism: Is there a Difference in Computational Power?"](#)
Incipiens, 2(1):5-28.

Teaching Positions

Lecturer

2022 "Intro to Decision Theory" (German)
LMU Munich

2022 "Causation" (English)
LMU Munich

2021 "Philosophy, AI, and Society" (English)
with Pamela Robinson and Sarita Rosenstock
Australian National University

2020 "Conditionals" (English)
with Alan Hájek
Australian National University

2020 "Fair Machine Learning" (English)
University of Bayreuth

2019 "Decisions, Fairness, and Machine Learning" (English)
University of Bayreuth

2018 "Decisions and Machines" (English)
University of Bayreuth

2017 "Philosophy of AI" (English)
University of Bayreuth

Teaching Assistant

2020 "Logic & Critical Thinking" (English)
Colin Klein

2019 "The Moral and Political Philosophy of AI" (English)
Seth Lazar

2018 "Ethics of AI" (English)
Fiorella Battaglia & Atoosa Kasirzadeh

2018 "Versions of Realism" (English)
Julian Nida-Rümelin

2017/18 "Logic I" (German)
Hannes Leitgeb

2017 "Epistemology and Ethics" (English)
Julian Nida-Rümelin

2017 "Introduction to Philosophy of Science" (German)
Alexander Reutlinger

2016 "Introduction to Philosophy of Science" (German)
Alexander Reutlinger

2016 "The Foundation of the Philosophy of Morals with Kant" (German)
Fiorella Battaglia

2015/16 "Human Liberty vs. Freedom of Will" (German)
Fiorella Battaglia

2015 "Responsibility in the Sciences and Technology" (German)
Fiorella Battaglia

2015 "Philosophy of Mind" (English)
Stephan Sellmaier

2014/15 "Life-form and Science" (German)
Fiorella Battaglia

2014/15 "Metaethics: Constructivism and Realism" (German)
Fiorella Battaglia

2014 "Metaethical Foundation of Moral Reasoning" (German)
Fiorella Battaglia

| 2013/14 | "Robotisation of Warfare. Risk, Ethics and Politics" (German) |
| | Fiorella Battaglia |

| 2010/11 | "Cognitive Science II" (German) |
| | Gerhard Strube |

| 2010/11 | "Logic I" (German) |
| | Markus Junker |

Organisation of Events

2022 Workshop "Responsibility & AI"
University of Vienna
Co-organizer

2021 Seminar "Humanising Machine Intelligence" (led by Seth Lazar)
Australian National University
Convener

2020 Reading Group on "Conditionals" (with Frank Jackson, Alan Hájek, and Brian Hedden)
Australian National University
Organizer

2019 Workshop "Decision Theory & the Future of Artificial Intelligence"
Australian National University
Co-organizer

2019 Workshop "Knowledge of Knowledge"
University of Regensburg
Co-organizer

2018 Seminar "The Ethics of Artificial Intelligence"
Venice International University, San Servolo, Italy
Co-organizer

2018 Seminar "Versions of Realism"
Venice International University, San Servolo, Italy
Co-organizer

2017 International Workshop "Democracy as a Form of Life"
Parmenides Foundation, Germany
Co-organizer

2017 ECAP9 Symposium on "Current Trends in Neurophilosophy"
LMU Munich, Germany
Organizer at the 9th European Congress of Analytic Philosophy

2017 Conference "Causation, Explanation, Conditionals"
Ev. Akademie, Tutzing (Lake Starnberg) and LMU Munich, Germany
Main organizer of an international conference supported by the Graduate School of Systemic Neuroscience, the Bernstein Center for Computational Neuroscience, and the Munich Center for Mathematical Philosophy

2017 Seminar "Epistemology and Ethics"
Venice International University, San Servolo, Italy
Co-organizer

2015 Conference "Predictive Brain"
Venice International University, San Servolo, Italy
Co-Organizer

Honors, Awards, Grants

2022 Wolfgang Stegmüller Award
"Learning Conditional Information by Jeffrey Imaging on Stalnaker Conditionals"

2022 "A Unifying Theory of Conditionals" (declined)
Walter Benjamin Grant
Deutsche Forschungsgemeinschaft (DFG)

2019-22 Postdoctoral Research Fellow
ANU Grand Challenge Humanising Machine Intelligence

2018-20 Postdoctoral Research Fellow
Deutsche Forschungsgemeinschaft (DFG)

2015-19 Doctoral Fellowship Grant
Graduate School of Systemic Neuroscience

2014 Top 10% of the master students of the Munich Center for Mathematical Philosophy (refund of study fees).

2011-12 Grant for independent studies
Université Paris-Sorbonne (*Paris IV*)

2009/10 Top 5% in the Cognitive Science II exam
Albert Ludwig University Freiburg

2008 Top 10% in the Formal Logic I exam
Albert Ludwig University Freiburg

Selected Talks

2022 "Legal Proof is Rational Belief of Guilt" (refereed)
96th Joint Session of the Aristotelian Society and the Mind Association
University of St Andrews

2022 "An Epochetic Account of Causation" (invited)
Conference on Formal Models of Causation in Law
University of Hamburg

2022 "When Should We Attribute Beliefs to AI Systems?" (invited)
Workshop on Responsibility & AI
University of Vienna

2022 "Legal Proof is Rational Belief of Guilt" (invited)
Philosophy of Science Conference
Inter-University Centre Dubrovnik

2022 "Indicative Difference-Making" (refereed)
American Philosophical Association Pacific Division
University of Vancouver

2022 "When Should We Attribute Beliefs to AI Systems?" (invited)
Department of Philosophy
National Taiwan University

2022 "Fair Machine Learning and Causality" (invited)
Institute of Law, Politics, and Development
Sant'Anna School of Advanced Studies, Pisa

2022 "Legal Proof is Rational Belief of Guilt" (invited)
Center for Logic, Language, and Cognition
University of Turin

2022 "Actual Causation" (invited)
The LSE Choice Group
London School of Economics & Political Science

2021 "How to Attribute Beliefs to AI Systems?"
Workshop "Philosophy of Science Meets Machine Learning" (refereed)
University of Tübingen

2021 "An Analysis of Actual Causation" (refereed)
XXV. Kongress der Deutschen Gesellschaft für Philosophie
University of Erlangen

2021 "Difference-Making Causation" (invited)
Philosophy Seminar
University of Sydney

2021 "Difference-Making Causation" (refereed)
Difference-Making and Explanatory Relevance: An International Conference
University of Hamburg

2021 "Probabilities of Conditionals" (refereed)
Conference of the Australasian Association for Logic
Universities of Queensland and Melbourne

2021 "Probabilities of Conditionals and Imaged Probabilities" (invited)
Philosophy Departmental Seminars
Australian National University

2021 "Laws of Nature as Patterns in the Vast Mosaic of Data Points" (invited)
Humanising Machine Intelligence Retreat
Australian National University

2021 "Probabilities of Conditionals and Imaged Probabilities" (invited)
School of Philosophy and Social Development
Shandong University, China

2021 "Probability of Guilt" (invited)
Humanising Machine Intelligence Seminar
Australian National University

2020 "Moral Reasons for Decision-Making Algorithms and their Complexity" (invited)
Humanising Machine Intelligence Retreat
Australian National University

2020 "A Theory of Conditionals" (invited)
"If ifs and ands were pots and pans … ": Qualitative and Quantitative Approaches to Reasoning and Conditionals
University of Regensburg, Germany

2020 "An Analysis of Actual Causation" (with Holger Andreas) (refereed)
Bayesian Epistemology: Perspectives and Challenges
Munich Center for Mathematical Philosophy

2020 "Bayesian's Still Don't Learn from Conditionals" (with Borut Trpin) (refereed)
Bayesian Epistemology: Perspectives and Challenges
Munich Center for Mathematical Philosophy

2020 "Algorithmic Recommendations for Judicial Sentences" (with Katie Steele) (refereed)
~~Ethics of Data Science Conference~~
University of Sydney, Australia

2020 "Algorithmic and Human Decision Making: Three Arguments for a Double Standard of Transparency" (with Atoosa Kasirzadeh) (refereed)
Ethics of Data Science Conference
University of Sydney, Australia

2020 "A 'Rawlsian' Constraint on Insurance Pricing in the Age of ML" (invited)
AI and Insurance Workshop
Gradient Institute, Sydney

2019 "An Analysis of Actual Causation" (refereed)
New Zealand Association of Philosophers - Annual Conference
University of Auckland, New Zealand

2019 "On Causal Bayes Nets" (invited)
Retreat of Computational Media Lab
Australian National University, Kioloa, Australia

2019 "An Analysis of Actual Causation" (invited)
Philosophy Departmental Seminars
Australian National University, Canberra, Australia

2019 "Learning Subjunctive Conditional Information" (refereed)
16th CLMPST
Czech Technical University, Prague, Czech Republic

2019 "A Strengthened Ramsey Test for Causal Explanations" (refereed)
ExLog2019 - Explaining with Logic
UCLouvain, Louvain-la-Neuve, Belgium

2019 "A Strengthened Ramsey Test Semantics for Missing-Link Conditionals" (invited)
Conditional Logics and Conditional Reasoning: New Joint Perspectives
Schloss Dagstuhl, Leibniz Center for Informatics, Germany

2018 "A Non-Bayesian Resolution to the Judy Benjamin Problem " (invited)
University of Regensburg, Germany

2018 "Interventionist Mental Causation and the Methods of Cognitive Neuroscience" (refereed)
26th Biennial Meeting of the Philosophy of Science Association
Seattle, USA

2018 "Interventionist Mental Causation and the Methods of Cognitive Neuroscience" (refereed)

The 2nd Conference of the East European Network for Philosophy of Science
University of Bratislava, Slovakia

2018 "Explanatory Conditionals" (refereed)
11th MuST Conference in Philosophy of Science: Models of Explanation
University of Turin, Italy

2018 "Interventionist Mental Causation and the Methods of Cognitive Neuroscience: The Explanatory Merit of Functional Reduction" (invited)
Jerusalem-Munich Workshop
Edelstein Center for Philosophy of Science, Israel

2018 "Interventionist Mental Causation and the Methods of Cognitive Neuroscience"
(invited)
University of British Columbia, Canada

2017 "Disjunctive Antecedents for Causal Models"
(invited)
Amsterdam Colloquium Workshop on Causality and Semantics
Institute of Logic, Language, and Computation, Netherlands

2017 "Disjunctive Antecedents for Causal Models"
(invited)
Munich Center for Mathematical Philosophy
LMU Munich, Germany

2017 "Interventionist Mental Causation based on Neuroscientific Methods" (invited)
ECAP9 Symposium on "Current Trends in Neurophilosophy"
LMU Munich, Germany

2017 "Learning Conditional & Causal Information by Jeffrey Imaging on Stalnaker Conditionals"
(invited)
University of British Columbia, Canada

2017 "Learning Conditional & Causal Information by Jeffrey Imaging on Stalnaker Conditionals"
(invited)
University of Bayreuth, Germany

2017 "Causation as Production" (invited)
LMU Munich, Germany

2017 "Learning Conditional Information by Jeffrey Imaging on Stalnaker Conditionals" (invited)
CAS Workshop "Learning Conditionals"
LMU Munich, Germany

2016 "The Predictive Role and Content of Memory in Friston's Free Energy Framework"   (refereed)
Workshop on Memory Consolidation
Venice International University, Italy

2016 "Learning Conditional Information by Jeffrey Imaging on Stalnaker Conditionals"   (refereed)
International Rationality Summer Institute
Justus Liebig University, Germany

2016 "Learning Conditional Information by Jeffrey Imaging on Stalnaker Conditionals"   (refereed)
The Inaugural Conference of the East European Network for Philosophy of Science
New Bulgarian University, Bulgaria

2016 "A Ramsey Test Analysis of 'Because'"   (refereed)
2nd Munich Graduate Workshop in Mathematical Philosophy: Formal Epistemology
Munich Center for Mathematical Philosophy, LMU Munich, Germany

2015 "Formal Intro to the Free Energy Principle and Bayesian Inference"   (invited)
Opening lecture for the Predicitive Brain Conference at Venice International University
San Servolo, Italy

2015 "Intro to Non-Monotonic Logics, Artificial Neural Networks, and Complexity Considerations in the Horn Case"   (invited)
TU Munich, Germany

2013 "A Reconstruction of Descartes's Dream Argument"   (refereed)
Presentation for the DGL (Decisions, Games, Logic)
Royal Institute of Technology (KTH), Stockholm, Sweden

Service

2022 "ACM Conference on Fairness, Accountability, and Transparency"
Seoul, South Korea
Programm committee member

2020 "Data, AI and Society Seminar Series"
Australian National University
Permanent Panelist for the public online seminar series

2020 "Ethics of data science conference 2020"
University of Sydney
Program committee member

2019 "Conditional Logics and Conditional Reasoning: New Joint Perspectives"
Schloss Dagstuhl, Leibniz Center for Informatics
Collector for the Dagstuhl report

2017 "Causation, Explanation, Conditionals"
Graduate School of Systemic Neuroscience, Bernstein Center for Computational Neuroscience, Munich Center for Mathematical Philosophy, LMU Munich
Program chair

2016 "2nd Munich Graduate Workshop in Mathematical Philosophy: Formal Epistemology"
Munich Center for Mathematical Philosophy, LMU Munich
Program committee member for the Munich Center for Mathematical Philosophy

Journal Reviewing

Synthese (11x), *Philosophical Studies* (2x), *Analysis* (2x), *Erkenntnis* (2), *Australasian Journal of Philosophy*, *Noûs*, *Philosophy of Science* (2x), *Minds and Machines*, *Kriterion*, *Mind & Language*, *Episteme*, *Review of Symbolic Logic*, *Journal of Philosophical Logic* (2x).

Research Stays

2022 "Academic Visitor"
University of Edinburgh

2021 "Academic Visitor"
London School of Economics & Political Science

2018 "International Rationality Summer Institute 2018"
LMU Munich, Irsee

2017 Research Stay
University of British Columbia, Kelowna

2016 "International Rationality Summer Institute 2016"
Justus Liebig University, Aurich

2015 "European Summer School of Logic, Language and Computation"
University Pompeu Fabra, Barcelona

2011-12 "Studies in Philosophy and Cognitive Science"
University Paris-Sorbonne (Paris IV), Paris

Supervision

2020 "Sleeping Beauty and Belief Updating" (Independent Study with Honours Student)
Huon Porteous
Australian National University

2019 "An Ethical Governor for Reinforcement Learning Agents" (MA Thesis)
Torben Swoboda
University of Bayreuth

References

Prof. DDr. Hannes Leitgeb
Chair of Logic and Philosophy of Language
Head of the Munich Center for Mathematical Philosophy
LMU Munich
✉Hannes.Leitgeb@lmu.de

Prof. Dr. Stephan Hartmann
Chair of Philosophy of Science
Head of the Munich Center for Mathematical Philosophy
LMU Munich
✉S.Hartmann@lmu.de

Prof. Dr. Alan Hájek
Research Professor
School of Philosophy
Australian National University
✉Alan.Hajek@anu.edu.au

Prof. Dr. Igor Douven
Research Professor
Sciences, Normes, Décision
Centre National de la Recherche Scientifique
Université Paris IV – La Sorbonne
✉Igor.Douven@sorbonne-universite.fr

Prof. Dr. Katie Steele
Professor of Philosophy
School of Philosophy
Australian National University
✉Katie.Steele@anu.edu.au

Prof. Dr. Gregory Wheeler
Professor of Theoretical Philosophy & Computer Science
Director of the Centre for Human and Machine Intelligence
Frankfurt School of Finance and Management
✉G.Wheeler@fs.de

Prof. Dr. Olivier Roy
Chair of Philosophy 1
Department Chair of Philosophy
University of Bayreuth
✉Olivier.Roy@uni-bayreuth.de

Prof. Dr. Dr. hc. Julian Nida-Rümelin, Former Minister of State
Former Chair of Philosophy and Political Theory
LMU Munich
✉Julian.Nida-Ruemelin@lrz.uni-muenchen.de