Academic Report for 2017 (01.01.2017- 31.12.2017)

Prof. Dr. Stephan Hartmann

April 30, 2018

2017 was another exciting year for the MCMP in general and the Chair of Philosophy of Science in particular. The MCMP continues to be a world-leading place for mathematical philosophy and the philosophy of science. It attracts a large number of researchers from all over the world to work together with our vibrant research community and to present their work. Our postdocs and PhD students keep on getting positions in excellent departments all over the world. Also in 2017, we hosted several major conferences, workshops and a summer school. Besides, we intensified our collaborations with researchers from the University of Cambridge (on Decision Theory and the Future of AI) and from Israel (on physicalism, reductionism and the philosophy of physics).

One research focus was a project on *Reasoning and Argumentation in Science* that was generously supported by LMU's Center for Advanced Studies (CAS) for which we are very thankful. This project resulted in a host of publications which appeared or are about to appear in major philosophy and psychology journals, stressing the interdisciplinary character of our work.

As in previous years, our research remains organized in three research groups, focusing on problems from the **foundations of physics**, working on the application of **modeling and simulation methods in philosophy**, and addressing problems from **general philosophy of science and formal epistemology**. All groups continue to hold close links to other LMU departments, such as the Departments of Economics, Mathematics, Physics, Sociology and Statistics. We also continue to participate in the Graduate School Systemic NeuroSciences (GSN) and the Munich Center for NeuroSciences (MCN). Again, all this was done to underline our mission to do cutting-edge research which productively combines formal and empirical methods to problems and questions of philosophical interest.

In this report, we present the work done in 2017 in more detail.

(I) We presented our center to the academic public at various occasions:

We gave various lectures and interviews. They are listed with each MCMP member below in point (IV).

(II) We were using different media in order to reach out to the public:

1. The MCMP website

With the help of the whole media team, especially Cornelia Kroiss, Michael Bräustetter and Roland Poellinger, we continually kept the website up-to-date. By the high-click count, we can tell that our website really is the go-to resource for everything MCMP.

Among the most popular pages is our front page, of course, which shows upcoming events, recent news and since this year also newly published videos.

2. MCMP on iTunes U

The MCMP has an assortment of twelve video channels on iTunes U, one of them our archive with 250 recordings, the first ones from 2011.

Since 2016 we provide access to more than 650 video recordings on virtually any kind of philosophical problem.

3. MCMP @ Facebook

The MCMP regularly posts news and events on Facebook. Currently we have more than 3.049 people following our page, where we are sharing announcements, events, and new new videos about the MCMP.

4. M-Phi Blog

The MCMP maintains a blog on current topics in mathematical philosophy.

5. What's Hot in Mathematical Philosophy

Members of the MCMP are in charge of the "What's Hot in Mathematical Philosophy?" series, which appears regularly in the online gazette *The Reasoner.*

6. Others About the MCMP

Deutschlandradio broadcasted a radio show on mathematical philosophy (in German) with Stephan Hartmann. You can listen to it online on the website of Deutschlandradio.

7. Publication Management

In collaboration with LMU's library and the central internet department, we introduced our very own publication management system and a novel publication search function since 2014. Up to now we managed to transfer 403 MCMP publications into the new system with great care to consolidate all research output in a unified repository. Our papers are now accessible through: LMU's Open Access server; Our personal online profile pages; Our own publication search function on our homepage; and through Google Scholar as well as on BASE (Bielefeld Academic Search Engine).

(III) We organized a great variety of academic events including speakers from all over the world and we had a great number of excellent visitors:

a. Talks and Colloquia

1. Colloquium in Logic, Philosophy of Science and Philosophy

The Colloquium in Logic, Philosophy of Science and Philosophy is held every week on Wednesday during the term in Ludwigstraße 31, Ground Floor, Room E21. Sometimes additional sessions are organized. The speakers are invited to give a talk and are often staying for some days at our Centre. This is the list of the Wednesday Speakers/Visitors January until December 2017:

18.01.2017	Bennett Holman (Yonsei)
24.01.2017	Samuli Pöyhönen (Helsinki)
25.01.2017	Philippe Mongin (CNRS)
08.02.2017	Olaf Müller (Humboldt)
05.04.2017	Mark Colyvan (Sydney/ MCMP)
24.04.2017	Roman Frigg (LSE)
26.04.2017	Dunja Seselja (Ruhr-Universität Bochum)
02.05.2017	Vlasta Sikimic (University of Belgrade)
03.05.2017	Peter MacLaughlin (Heidelberg)
03.05.2017	Markus Müller and Michael Cuffaro (Western)
10.05.2017	Andreas Hüttemann (Köln)
10.05.2017	Molly Kao (Montreal)
12.05.2017	Simon Scheller (Bamberg)
15.05.2017	Tom Sterkenburg (Groningen)
17.05.2017	Markus Werning (Ruhr-Universität Bochum)
17.05.2017	Ed Zalta (Stanford)
24.05.2017	Michael Strevens (NYU)
30.05.2017	Erik Nyberg (CMU)
31.05.2017	@CAS Christian List (LSE)
07.06.2017	Lydia Patton (Virginia Tech)
14.06.2017	Huw Price (Cambridge)
14.06.2017	Bryan Roberts (LSE)
26.06.2017	Jean Baccelli (Paris)
28.06.2017	Claus Lämmerzahl (Oldenburg)
28.06.2017	Lisa Herzog (TUM)
03.07.2017	Otavio Bueno (Buenos Aires)

05.07.2017 Hitoshi Omori (Kyoto)

05.07.2017 Andreas Kapsner (MCMP)

12.07.2017 David Lagnado (UCL)

19.07.2017 Daniel Steel (UBC)

20.07.2017 Kevin Baum (Saarland)

10.07.2017 Daniel Waxman (Oxford)

26.07.2017 Barbara Osimani (MCMP)

26.07.2017 Sam Fletcher (Minnesota/ MCMP)

28.09.2017 Joachim Horvath and Alex Wiegmann (Köln)

18.10.2017 Rush Stewart (MCMP)

25.10.2017 Elena Castellani (Florence) and Tarja Knuutila (South Carolina/ Helsinki)

06.11.2017 Dan Hausman (Wisconsin)

08.11.2017 Hannah Rubin (Groningen)

22.11.2017 Michael Hicks (Oxford)

29.11.2017 Fahad Rashed Almutairi (College of Education Kuwait)

29.11.2017 Wolfgang Spohn (Konstanz)

06.12.2017 Silvia Jonas (MCMP)

13.12.2017 Hans Briegel (Innsbruck)

13.12.2017 Thomas Müller (Konstanz)

2. Colloquium in Mathematical Philosophy

The Colloquium in Mathematical Philosophy is held every week on Thursday during the term in Ludwigstraße 31, Ground Floor, Room E21. Sometimes additional sessions are organized. The speakers are invited to give a talk and are often staying for some days at our Centre. This is the list of the Thursday Speakers/Visitors January until December 2017:

19.01.2017 Benedict Eastaugh (Bristol)

26.01.2017 Dietmar Zäfferer (MCMP)

02.02.2017 Simon Huttegger (Irvine)

09.02.2017 Dominik Klein (Bayreuth)

16.02.2017 Luca Tranchini (Tübingen)

23.02.2017 Akiyoshi-san (Waseda University)

23.02.2017 Margot Strominger (Salzburg/ HU Berlin)

27.04.2017 Bruno Da Re (Buenos Aires)

04.05.2017 Pawel Palowski (University of Ghent)

09.05.2017 Klaus Truemper (University Texas at Dallas)

11.05.2017	Sabine Hossenfelder (Frankfurt)
11.05.2017	Johannes Korbmacher (Utrecht)
18.05.2017	Monika Gruber (Wien)
22.05.2017	Michael Zenz (Arizona)
01.06.2017	Vera Flocke (NYU)
08.06.2017	Alexander Jones (Bristol)
20.06.2017	R. Jay Wallace (UC Berkeley)
06.07.2017	Jody Azzouni (Tufts University)
06.07.2017	Berta Grimau (Glasgow)
13.07.2017	Rush Stewart (Columbia)
13.07.2017	Bahram Assadian (Bristol)
19.10.2017	Michele Luchetti (CEU)
19.10.2017	Sabine Rommevaux-Tani (Paris)
26.10.2017	Chen Bo (Peking)
26.10.2017	Katharina Felka (Zürich)
09.11.2017	Bob Hale (Sheffield)
16.11.2017	Stefan Rinner (MCMP)
23.11.2017	Yang Liu (Cambridge)
23.11.2017	Edoardo Rivello (Turin)
30.11.2017	Jamie Tappenden (Michigan)
14.12.2017	Ivano Ciardelli (MCMP)
21.12.2017	Thomas Schindler (Cambridge)

3. Work in Progress

The MCMP is also scheduling an intern Work in Progress session, offering MCMP members and Visiting Fellows to talk about their current work and to get feedback on early stages from their colleagues. This is a list of the Work in Progress Presentations that were given from January until December 2017:

19.01.2017	Pauline van Wierst (Pisa)
02.02.2017	Johannes Keller (MCMP)
09.02.2017	Barbara Osimani (LMU)
27.04.2017	Cristian Lopez (Buenos Aires)
11.05.2017	Maria Jose Ferreira Ruiz (Buenos Aires)
18.05.2017	Kristina Liefke (MCMP)
18.05.2017	Mark Bowker (MCMP)
29.05.2017	Casey McCoy (Edinburgh)

08.06.2017	Harry Waterstone (MCMP)
19.06.2017	Cameron Beebe (MCMP)
06.07.2017	Michal Sikorski (Tilburg)
20.07.2017	Reuben Stern (MCMP)
26.10.2017	Peter Collins (MCMP)
09.11.2017	Katie Robertson (Cambridge)
16.11.2017	Tom Sterkenburg (MCMP)
23.11.2017	Alma Barner (ANU)
30.11.2017	Pascal Ströing (MCMP)
07.12.2017	Bengt Autzen (MCMP)
14.12.2017	Mario Günther (MCMP)

b. Workshops and Conferences

From the total of MCMP events in 2017 the Chair of Philosophy of Science hosted an astonishing number of twenty workshops and conferences throughout the year, all supported by Sabine Beutlhauser and her assistants Matthias Koch, Stefan Rohrhirsch and Fabian Beigang:

1. Causal Horizons: First Annual Joint Bristol/MCMP Workshop on the Foundations of Physics

January 11 2017, Bristol University, UK

Organizer: Erik Curiel, Karim Thébault

Quantum Foundation and the Problem of Time 2 - Causal Horizons in Physics was the second workshop in the IAS Research Workshop series, Quantum Foundation and the Problem of Time. The workshop was jointly organized with the Philosophy Department at the University of Bristol and was held at Cotham House.

The idea of a causal horizon - a boundary for causal influence and processes - plays a fundamental role not only in contemporary spacetime theory, but in recent years has ramified into foundational work in other areas of theoretical physics from solid-state and fluid dynamics to Bose-Einstein condensates and laser optics. In particular, causal horizons ground much contemporary work in the investigation of the relationship between gravity and thermodynamics, and Unruh's analogue models of black holes, including the recent experimental detection of analogue Hawking radiation. This workshop brought together physicists and philosophers to explore and discuss many of these issues.

Invited Speakers: Eli Cohen (Bristol); Erik Curiel (MCMP); Ralf Schützhold (Duisburg-Essen); Karim Thébault (Bristol); Bill Unruh (UBC); Silke Weinfurtner (Nottingham)

2. Inferentialism, Bayesianism, and Scientific Explanation

January 25-26 2017, MCMP, LMU

Organizer: Lorenzo Casini (Geneva/ MCMP), Stephan Hartmann, Reuben Stern, Marcel Weber (Geneva)

What makes a given explanation successful? Many philosophers of science have tried to answer this question, but there is no consensus

answer. In this workshop, we assessed the prospects of taking a novel approach to answering this question. Specifically, we discussed whether and how an inferentialist account of explanation can be combined with Bayesian resources to deliver an adequate account of scientific explanation. This involved assessing not only whether the inferentialist can capture aspects of explanation that are often thought to resist Bayesian treatment (e.g., Inference to the Best Explanation and the asymmetry of explanation), but also whether inferentialism avoids problems that are thought to plague ontic accounts of explanation (e.g., an untenable insensitivity to contextual and pragmatic factors). Since it may not be entirely clear what the commitments of the inferentialist are in the context of scientific explanation, we likewise hoped to consider what exactly it means to be an inferentialist about explanation.

Invited Speakers: Lorenzo Casini (Geneva), Igor Douven (CNRS). Ben Eva (MCMP), Julian Reiss (LSE), Alexander Reutlinger (MCMP), Jan Sprenger (Tilburg), Reuben Stern (MCMP), Jon Williamson (Kent)

3. Drug Safety, Probabilistic Causal Assessment, and Evidence Synthesis

January 27-28, 2017, MCMP, LMU

Organizer: Bennett Holman (Yonsei), Jürgen Landes (MCMP), Barbara Osimani (MCMP), Roland Poellinger (MCMP), David Teira (UNED)

The latest regulatory amendments concerning pharmacovigilance practice made by the European Parliament and the European Council (Directive 2010/84/EU; Regulation (EU) No 1235/2010) put a special emphasis on joint efforts to develop an integrative information-based approach to pharmaceutical risk assessment. The related guidelines encourage the amalgamation of information from different sources (e.g. spontaneous case reports, literature, data-mining, pharmacoepidemiological studies, post-marketing trials, drug utilization studies, non-clinical studies, late-breaking information). Yet, the methodological bases for implementing such a policy are shaky in that causal assessment of adverse drug reactions still relies mainly on the (statistical) methods developed to test drug efficacy.

Philosophers have developed a variety of tools to address methodological and epistemological issues that arise in causal assessment in medicine. This research program interacts with the work of health professionals, methodologists, statisticians and epidemiologists. Moreover, social epistemology and decision-theoretic tools are increasingly acknowledged as useful instruments to model research dynamics, knowledge flux and evaluate funding policies. Since medical research and clinical practice are pervaded by all sorts of conflicts of interest, there is room for implementing these approaches to understand the way medical knowledge works in our social world.

This workshop aimed to provide a platform allowing scholars and decision makers to focus on causal assessment for the purposes of drug safety. In particular, the following topics, among others, were explored and investigated: limits and potential of standard methods for evidence synthesis (meta-analysis, systematic review), mixed methods, machine learning and spontaneous reporting, safety pharmacology, systems pharmacology, evidence based medicine versus pluralistic approaches to evidence evaluation, and social epistemology in pharmacology. In addition, the workshop intended to foster novel approaches to risk management and decision making.

Invited Speakers: Rani Lill Anjum (Norwegian University of Life Sciences), Jeff Aronson (Oxford University), Norbert Benda (Bundesinstitut für Arzneimittel und Medizinprodukte), Justin Bruner (Australian National University), Maria Luisa Casini (AIFA, Italian Medicines Agency), Ralph Edwards (Uppsala Monitoring Center, WHO), Bennett Holman (Yonsei University), Brigitte Keller-Stanislawski (Paul Ehrlich Institut and PRAC), Mike Kelly (The National Institute for Health and Care Excellence/Cambridge University), Fritz König (Center for Medical Statistics, Informatics and Intelligent Systems, Medical University of Vienna), Jürgen Landes (MCMP/LMU Munich), Adam La Caze (University of Queensland), Ulrich Mansmann (IBE/LMU Munich), Pasquale Marchione (AIFA, Italian Medicines Agency), Stephan Mumford (University of Nottingham), Barbara Osimani (MCMP/LMU Munich), Roland Poellinger (MCMP/LMU Munich), Martin Posch (Center for Medical Statistics, Informatics and Intelligent Systems, Medical University of Vienna), Elena Rocca (Norwegian University of Life Sciences), Felipe Romero (University of Tilburg), Stephen Senn (CCMS, Luxembourg Institute of Health), Beth Shaw (The National Institute for Health and Care Excellence), Jan Sprenger (University of Tilburg), Jacob Stegenga (Cambridge University), David Teira (UNED Madrid), Jon Williamson (University of Kent)

4. Learning Conditionals

February 2-3 2017, CAS, LMU

Organizer: Karolina Krzyżanowska, Stephan Hartmann

Indicative conditionals, that is sentences of the form "If A, B" play an important role in our everyday and scientific reasoning as well as in argumentation, decision-making, and planning. It therefore should not come as a surprise that a lot of what we learn is conditional in form. What might come as a surprise, however, is that it is not entirely clear what learning a piece of conditional information amounts to. How do people adjust their beliefs upon learning a conditional? And how should a rational agent accommodate a new piece of conditional information? Finally, what are the desiderata that a descriptively correct theory of learning from conditionals should satisfy? Some attempts at answering these and related questions have been made, both within the tradition of qualitative belief revision and in Bayesian epistemology. It remains to be seen, however, whether any of the available models of learning fits all our intuitions and if they make correct, empirical predictions. This interdisciplinary workshop brought together philosophers, logicians, and psychologists interested in reasoning and argumentation, allowing them to share their unique perspectives and to discuss both descriptive and normative answers to these questions.

Invited Speakers: Peter Collins (Birkbeck), Benjamin Eva (LMU), Estefania Gazzo (Gießen), Mario Günther (LMU), Ulrike Hahn (Birkbeck und LMU), Stephan Hartmann (LMU), Gabriele Kern-Isberner (Dortmund/CAS Visiting Fellow), Karolina Krzyżanowska (LMU), Mike Oaksford (Birkbeck), David Over (Durham/ CAS Visiting Fellow), Henrik Singmann (Zürich)

5. Explanatory Reasoning in the Sciences (The Second Jerusalem-MCMP Workshop in the Philosophy of Science)

February 23-24 2017, LMU, MCMP

Organizer: Stephan Hartmann, Alexander Reutlinger, Orly Shenker (Edelstein Center)

"How does explanatory reasoning in science work?" and "what is a scientific explanation?" are central questions in the philosophy of science. This workshop explored aspects of these central questions with respect to explanatory reasoning in physics and cognitive science. In particular, the contributions to this workshop addressed the following questions among others: Are there non-mechanistic explanatory strategies? Are there any computational explanations? Is there non-causal explanatory reasoning? What role do 'abstraction' and 'scale-invariance' play in scientific explanations? Is there a place for (different kinds of) IBE or best-explanation arguments in the metaphysics of physics? Is it possible to develop an epistemic theory of causation underpinning causal explanatory reasoning? What role does the phenomena/data distinction play in explanatory reasoning?

Invited Speakers: Lotem Elber (Jerusalem), Nir Fresco (Edelstein Center), H´Guy Hetzroni (Jerusalem), Patricia Palacios (MCMP), Dan Baras (Jerusalem), Alexander Reutlinger (MCMP), Reuben Stern (MCMP), Pascal Ströing (MCMP)

6. MUST 10: Causation and Complexity

March 1-3 2017, University of Sydney, Australia

Organizer: Mikhail Prokopenko (CCS), Paul Griffiths (SCFS), Mark Colyvan (SCFS), Stephan Hartmann, Jan Sprenger (Tilburg)

Causation and Complexity was the tenth MuST conference, an international collaborative conference series with a distinctive focus on philosophical issues in the sciences that can be addressed using exact reasoning and which have some potential policy relevance. All MuST conferences bring together philosophers and scientists to explore these topics

Invited speaker: Stuart Kauffman (Pennsylvania), Anne-Marie Grisogono (Flinders Centre Science 21), Kevin Korb (Monash University)

7. Progic 2017: The 8th Workshop on Combining Probability and Logic

March 29-31 2017, LMU, MCMP

Organizer: Gregory Wheeler

Progic 2017 focused on severe uncertainty. Topics included but were not restricted to: ambiguity aversion, argument strength, belief revision, causal modeling, conditional judgments, conditionalization, decision making under severe uncertainty, descriptive modeling of severe uncertainty, desirability (sets of desirable gambles), group decision making & pooling, independence concepts, elicitation and scoring, formal epistemology & severe uncertainty, lexicographic probabilities, probability logic, machine learning and severe uncertainty, Markov series & severe uncertainty

Inivited Richard Bradley (LSE), Fabio Cozman (Sao Paulo), Gert DeCooman (Ghent), Susanna Rinard (Harvard)

8. Exploring Scientific Method: Evidence, Explanation, and Unification in Science

May 8-9 2017, LMU, MCMP

Organizer: Lorenzo Casini (Geneva), Michael Cuffaro (Western), Molly Kao (Montreal), Reuben Stern

Philosophical investigation into scientific method is a well-established area within the philosophy of science. The aim of this workshop was

to advance our understanding of three central topics within this investigation: the role that evidence plays in science; the structure of scientific explanations; and the role of unification in science. To this end, the following questions were addressed. Concerning evidence: In what sense is it better to gather evidence from various sources? What does it mean for evidence to be reliable? Can biased research furnish good evidence? As regards explanation: How should we characterise causal explanation? Is causal explanation possible in quantum mechanics? How are various different forms of explanation in science related? Can certain of them be fruitfully thought of as species of a single genus? Finally, unification: What is the best way to characterise the inferential structure of certain types of unifying explanation? How do unifying hypotheses guide theory construction?

Invited Speakers: Lorenzo Casini (Geneva), Radin Dardashti (MCMP), Michael Cuffaro (Western), Ben Eva (MCM), Reuben Stern (MCMP), Laura Felline (Rome), Branden Fitelson (Northeastern), Andreas Hüttemann (Köln), Molly Kao (Montreal), Jürgen Landes (MCMP), Barbara Osimani (MCMP), Alexander Reutlinger (MCMP).

9. Yet Another Great Workshop on Idealization, Causation, and Explanation

May 27 2017, LMU, MCMP

Organizer: Patricia Palacios, Alexander Reutlinger

Invited Speakers: Ben Eva (MCMP), Reuben Stern (MCMP), Casey McCoy (Edinburgh), Patricia Palacios (MCMP), Roland Poellinger (MCMP), Michael Strevens (NYU), Pauline van Wierst (Pisa)

10. Compact Course: Judgement Aggregation: An Introductionary Afternoon

May 29 2017, MCMP, LMU

The aim of this compact course was to introduce the theory of judgment aggregation. Judgment-aggregation theory addresses the question of how the judgments of several individuals (experts, committee members, voters, but also theories or criteria) can be aggregated into overall collective judgments. The interest in this question was originally prompted by the observation that majority voting does not always secure consistent collective judgments, which raises the question of whether other aggregation rules perform better.

In this course, Christian List began by explaining the paradoxes that first motivated the field. He then introduced the formal model of judgment aggregation, which combines ideas from social choice theory with ideas from logic. Using this model, he explained some of the central impossibility results that have been proved in the area, most notably the judgment-aggregation variant of Arrow's famous impossibility theorem. These were related to classic results in social choice theory, and possible escape routes from them were explored. This provided the students with a taxonomy of the logical space of possible judgment-aggregation rules.

11. Reasoning and Argumentation in Science

May 31- June 2 2017, MCMP, LMU

Progress in science is not only a matter of new models and theories, but also of new ways of reasoning and arguing for specific conclusions. In this conference, we focused on these epistemological features of science and consider the following questions: Which new

reasoning and argumentation schemes do contemporary scientists use? How are these schemes justified, and how can they be assessed? Is it possible to come up with a unified normative theory of reasoning and argumentation in science? The conference focuses on reasoning and argumentation in the sciences in general, but there will also be a special focus on reasoning in specific natural and social sciences.

Topics of the conference included, but were not limited to: The general classification and analysis of patterns of reasoning and argumentation used in contemporary science. The philosophical and formal investigation of specific instances of the application of non-standard forms of reasoning and argumentation in the natural and social sciences. The application of logical and probabilistic methods to the study of scientific reasoning and argumentation.

Invited Speakers: Catarina Dutilh Novaes (Groningen) • Christian List (LSE) • Wayne Myrvold (Western University)

12. The Philosophy of Howard Stein, And Its Contemporary Interest

June 9-11 2017, University of Chicago, USA

Organizers: Erik Curiel, Kevin Favey (Chicago), Tom Pashby (Chicago), Karim Thébault (Bristol), James Weatherall (UCI)

It is scarcely an exaggeration to say that the publication of Howard Stein's paper "Newtonian Space Time" in 1967 inaugurated the modern study of the foundations of physics. Thereafter, Stein's work continued to set the standard in the philosophical community and beyond for the study of theories of spacetime structure (Newtonian and relativistic), the conceptual structure of quantum mechanics, the methodology of science in general and the character of scientific knowledge, and the history of physics and mathematics. This three-day conference celebrated the 50th anniversary of Stein's landmark paper by providing an opportunity to reflect on Stein's lasting influence for those working on a wide range of topics of vital interest to historians and philosophers of science. While speakers included Stein's former colleagues, past students and friends, the focus was on his continuing influence on contemporary work, and we aimed to demonstrate the relevance of Stein's work for the next fifty years of our discipline.

Invited Speakers: Oliver Pooley (Oxford), Karim Thébault (Bristol), Chris Smeenk (Western), John Manchak (UC Irvine), Tom Pashby (Chicago), Wayne Myrvold (Western), P. Kyle Stanford (Stanford), Kirsten Walsh (Nottingham), Simon Saunders (Oxford), George E. Smith (Tufts University), Robert DiSalle (Western Ontario), Michael Friedman (Stanford), Wiliam Wimsatt (Chicago), William Tait (Chicago), Eleanor Knox (King's College London), Zvi Biener (Cincinnati), André Carus (MCMP)

13. With and without Measure: Symmetry and Symmetry Breaking

June 20 2017, MCMP, LMU

Organizers: Giovanni Valente (Pittsburgh/ MCMP), Erik Curiel, Neil Dewar, Patricia Palacios

Symmetries are a profound and fascinating aspect of the structure of physical theories—both when they obtain, and when they cease to do so. This one-day workshop brought together researchers with interests in symmetry and symmetry-breaking, to explore the multifarious consequences of these phenomena for the foundations of physics.

Invited Speakers: Sam Fletcher (Minnesota/ MCMP), Stephan Hartmann, Bryan Roberts (LSE), Sarita Rosenstock (UC Irvine), Jos Uffink (Minnesota), Johanna Wolff (King's College/ MCMP), Lena Zuchowski (Salzburg)

14. Causation, Explanation, Conditionals

June 21-23 2017, Evangelische Akademie Tutzing,MCMP

Organizer: Mario Günther

The analysis of causation and explanation has served as a major motivation for investigating conditionals, developing conditional logics, Bayesian networks, ranking theory, Ramsey Tests, and possible worlds semantics. This analysis, consequently, has evolved into a very fruitful and proliferating research program employing various logical and probabilistic approaches. The overarching objective of this conference was to bring together people working on and with conditional analyses of causation and explanation. More specifically, we aimed to address the following topics: Explanatory conditionals, semantic foundations and conditional logics, Conditional, logical analyses of causation and explanation, Conditional probabilities in accounts of causation and explanation, Resolving problems of overdetermination, preemption, etc., Cognition of conditionals, causal, and explanatory relations, Knowledge representation of causal and explanatory relations, The application of causal analyses and/or frameworks in Neuroscience, Expressivistic and computational limitations in the respective framework.

The conference aimed to address the topics (1)–(8) listed above in order (i) to obtain a representative overview of the state of the art, (ii) to give junior and senior researchers the opportunity to present and to discuss their work in greater detail, and (iii) to come up with fresh ideas and facilitate future collaborations.

Invited Speakers: Stefan Glasauer (LMU), Joe Halpern (Cornell), Stephan Hartmann (MCM), Franz Huber (Toronto), Karolina Krzyzanowska (MCM), William Penny (UCL), Hans Rott (Regensburg), Katrin Schulz (Amsterdam), Gerhard Schurz (Düsseldorf), Wolfgang Spohn (Konstanz), Michael Wibral (Frankfurt)

15. Recent Work in Formal Epistemology

June 28 2017, MCMP, LMU

Organizers: Lee Elkin, Stephan Hartmann

As the area of formal epistemology continues to grow, this half-day workshop brought together researchers in the field to present work on some recent trends. The workshop covered and explored a diverse set of issues including concept learning, representations of ignorance, opinion aggregation, and more.

Invited Speakers: Peter Brössel (Ruhr-Universität Bochum), Ben Eva (MCMP), Lee Elkin (MCMP), Richard Pettigrew (Bristol)

16. Biases and Values in Science

July 14 2017, MCMP, LMU

Organizer: Alexander Reutlinger

This workshop was a platform for discussing recent work on the interconnection between (a) different kinds of biases and (b) moral and political values in science and philosophy.

Invited Speakers: Andreas Kapsner (MCMP), Maria Kronfeldner (CEU), Franziska Reinhard (LMU), Alexander Reutlinger (MCMP), Shanna Slank (Wisconsin-Madison), Daniel Steel (British Columbia)

17. Decision Theory and the Future of Artificial Intelligence

July 28-31 2017, Cambridge, UK

Organizers: Stephan Hartmann, Yang Liu (Cambridge), Huw Price (Cambridge)

There is increasing interest in the challenges of ensuring that the long-term development of artificial intelligence (AI) is safe and beneficial. Moreover, despite different perspectives, there is much common ground between mathematical and philosophical decision theory, on the one hand, and AI, on the other. The aim of this workshop – intended to be the first in a regular series organized jointly by MCMP at LMU and CFI and CSER at Cambridge – was to bring the expertise of decision theory to bear on the challenges of the beneficial development of AI, by fostering links and joint research at the nexus between decision theory and AI. The inaugural workshop aimed at community building and road-mapping, and identifying useful research programs at the intersection of these two fields.

Invited Speakers: R.A. Briggs (Stanford), David Danks (Carnegie Mellon), Frederick Eberhardt (California Institute of Technology), Ulrike Hahn (Birkbeck), Joe Halpern (Cornell), Thomas Icard (Stanfor), Ramana Kumar (Data 61, CSIRO/UNSW), Pedro Ortega (Google DeepMind), Reuben Stern (MCMP), Jiji Zhang (Lignan)

18. Summer School on Mathematical Philosophy for Female Students

July 15-21 2017, MCMP, LMU

Organizer: Marianna Antonutti, Lavinia Picollo, Sam Fletcher, Gil Sagi

The MCMP organized its fourth Summer School on Mathematical Philosophy for Female Students from July 30 to August 5, 2017 in Munich, Germany. The summer school is open to excellent female students who want to specialize in mathematical philosophy.

Since women are significantly underrepresented in philosophy generally and in formal philosophy in particular, all summer schools aimed at encouraging women to engage with mathematical methods and apply them to philosophical problems. This year the focus of the summer school was to provide an infrastructure for developing expertise in formal approaches used in (1) philosophy of language, (2) philosophy of logic, and (3) philosophy of mathematics. The summer school offered the opportunity for study in an informal setting, lively debate, and for the development of a network with students and professors interested in the application of formal methods in philosophy of science. Finally, being located at the MCMP, the summer school also provided a stimulating and interdisciplinary environment for meeting like-minded philosophers.

Invited Speakers: Roy Cook (Minnesota), Stephan Hartmann (MCMP), Juliette Kennedy (Helsinki), Hannes Leitgeb (MCMP), Katrin Schulz (Amsterdam), Alessandra Tanesini (Cardiff)

19. ECAP9

August 21-26 2017, MCMP, LMU

Organizer: Stephan Hartmann, Sabine Beutlhauser, Michael Bräustetter, Fabian Beigang, Johanna Hehn, Maria Csauscher, Karsten Thiel

The European Society for Analytic Philosophy (ESAP) organizes a major congress every three years. The ninth European Congress of Analytic Philosophy (ECAP 9) took place at LMU Munich, Germany, from August 21 to 26, 2017. The congress brought together more than 700 analytic philosophers from Europe and all over the world to discuss their work and to exchange ideas. There were also three plenary speakers and nine panel speakers as well as several invited symposia representing the diverse field of analytic philosophy organized in the following sections: History of Philosophy, History of Analytic Philosophy, Epistemology, Philosophy of Science, Logic and Philosophy of Mathematics, Philosophy of Language, Philosophy of Mind and Action, Metaphysics, Philosophical Methodology and Meta-Philosophy, Ethics, Social and Political Philosophy, Philosophy of Law, Aesthetics, Philosophy of Religion

Invited Speakers: Kwame Anthony Appiah (NYU), Pierre Jacob (CNRS), Rae Langton (Cambridge), Peter Adamson (LMU), Franz Berto (Amsterdam), Paul Egre (Paris), Anna Sofia Maurin (Gothenburg), Serena Olsaretti (ICREA-Universitat Pompeu Fabra), Sonia Roca Royes (Stirling), Elliott Sober (Madison), Helen Steward (Leeds)

20. The Second Law

September 1-2 2017, MCMP, LMU

Organizer: Erik Curiel

The attempt to understand the Second Law of thermodynamics occupies a central role in the foundations of physics: not only is it of great importance in and of itself, but it also ramifies into a host of other problems of fundamental physical and philosophical import. These include, to name only a few, the direction of the arrow of time, the nature of probability and its role in physical theory, the relationship between classical mechanics and quantum mechanics, the nature of spacetime, the concepts of predictability and determinism, and even the possibility of memory and agency. Despite this, there has been no major international conference since the 1950s that has sought to address all foundational issues associated with the Second Law, and to examine how they bear upon one another. The time was therefore ripe for such a conference, bringing together leading figures and emerging stars from both physics and philosophy, with expertise on the extraordinary range of issues spanned by the Second Law. It also served as an opportunity to consolidate and reflect upon the state of the art in research on the Second Law, and thereby provided a comprehensive overview of the problems and issues it raises.

By bringing together top researchers from diverse fields, we wanted to create an atmosphere in which major advances in understanding can be made by the cross-pollination that discussion across traditional disciplinary boundaries can create. We aimed to engender collaboration and interaction among philosophers and scientists so that insights from different disciplines may be shared and inspire

workers in all relevant fields to find new approaches to both discipline specific and interdisciplinary problems. Specific questions we hoped the conference could address included (but were not limited to): What is the nature of the Second Law as a physical principle? What connection, if any, does the Second Law have to the idea of the arrow (or arrows) of time? Can the Second Law be derived from statistical mechanics? What is the nature of entropy as a physical quantity? How does the Second Law bear on the possibility of prediction and retrodiction, and on approaches to a proper understanding of causality, modality, and probability? How does the Second Law bear on the ideas of memory and agency? What can we learn from the historical treatment of the Second Law? What role, if any, can the Second Law have in quantum theory? Does the proper analysis of the Second Law require quantum mechanics? Given the centrality of black-hole thermodynamics in contemporary theoretical physics, how ought we to understand the claim that black holes are thermodynamical objects, and what may that tell us about the nature of spacetime?

Invited Speakers: Alison Fernandes (Pittsburgh), Mathias Frisch (Hannover), Giovanni Valente (MCMP), David Wallace (Oxford), Aron Wall (Stanford), Charlotte Werndl (Salzburg)

c. Additional Activities

1. Reading Group on Philosophy of Physics

This reading group focused on the foundations of modern physics and addressed conceptual, formal, and philosophical problems. In the summer term 2017, we were reading Laura Ruetsche's book Interpreting Quantum Theories (co-recipient of the 2013 Lakatos Prize). The reading group meet on Tuesdays and was organized by Neil Dewar

2. Making and Breaking Theories: Applying Physical Models

On Saturday June 3rd, there was a one-day reading group and discussion workshop on the application of physical models, where we discussed one paper by each of Lydia Patton (Virginia Tech), Erik Curiel (MCMP), and Patricia Palacios (MCMP), as well as received a talk by Charlotte Werndl (Salzburg). At the workshop, each speaker introduced their paper in 15-20 minutes, followed by 40-45 minutes of discussion. It was also organized by Neil Dewar.

(IIX) Awards

Several MCMP members or MCMP related researchers have won awards or research programs in 2017. This is the list:

Hannes Leitgeb and **Stephan Hartmann** became members of Leopoldina, the "Deutsche Akademie der Naturforscher Leopoldina". As the German National Academy of Sciences it brings together outstanding scientists from Germany, Austria, Switzerland and other countries, making the election one of the most prestigious academic honors.

Prof. em. **Carlos Ulises Moulines** was awarded an honorary doctorate from the University of Santiago de Compostela.

Alexander Reutlinger received the teaching award (Preis für gute Lehre) for the academic year 2016/17 elected by the philosophy students at LMU.

Kristina Liefke has been selected by the Prinzessin Therese von Bayern Foundation for their Therese von Bayern Award, which supports women in science. The prize is awarded every two years to women with prestigious scientific achievements and an academic career that can be considered a role model for young female researchers.

Neil Dewar has received a grant from the German Research Foundation (DFG) to set up a Scientific Network, researching the application of category theory to philosophy of science. Besides him, the network includes Thomas Barrett (NYU), Erik Curiel (MCMP), Benjamin Eva (Konstanz/MCMP), Stephan Hartmann (MCMP), Laurenz Hudetz (Salzburg), Patricia Palacios (MCMP/Salzburg), Joshua Rosaler (Aachen), and Sarita Rosenstock (UC Irvine).

Omid Charrakh will be receiving the 2017 Hanneke Janssen Memorial Prize for this Master's thesis entitled "On the Reality of the Wave Function." The international Janssen prize, which is sponsored by Radboud University in Nijmegen, is awarded annually to the best thesis or paper, submitted in order to obtain a master's degree, on the subject of History and Philosophy of Modern Physics.

(IV) We hosted LMU Faculty, Doctoral Fellows and Post-Doctoral Fellows:

Here is the list of LMU faculty, doctoral and postdoctoral fellows that were members of the MCMP during the period from January to December 2017:

a) Dr. Bengt Autzen

b) Dr. Jean Baccelli

c) Dr. Mark Bowker

d) Omid Charrakh

e) Dr. Peter Collins

f) Dr. Curiel Erik

g) Dr. Neil Dewar

h) Dr. Benjamin Eva

i) Dr. Samuel Fletcher

j) Prof. Dr. Ulrike Hahn

k) Prof. Dr. Stephan Hartmann

l) Dr. Catherine Herfeld

m) Dr. Karolina Krzyzanowska

n) Dr. Jürgen Landes

o) Josè Leyva

p) Dr. Kristina Liefke

q) Christoph Merdes

r) Dr. Barbara Osimani

s) Patricia Palacios

t) Dr. Roland Pöllinger

u) Dr. Alexander Reutlinger

v) Dr. Simon Scheller

w) Dr. Tom Sterkenburg

x) Dr. Reuben Stern

y) Pascal Ströing

z) Dr. Giovanni Valente

ä) Dr. Dr. Momme von Sydow

ö) Dr. Gregory Wheeler

a) Dr. Bengt Autzen

1. Type of Affiliation with the MCMP

Bengt Autzen is an MCMP Postdoctoral Fellow.

2. Research Projects

Bengt Autzen has been working on the Philosophy of Probability, the Philosophy of Biology and the Philosophy of Economics.

3. Academic Output

Publications:

(201x): Musing on Means: Fitness, Expectation and the Principles of Natural Selection. *British Journal for the Philosophy of Science*, accepted.

(2017): Error Management, Reliability and Cognitive Evolution. *Biology and Philosophy*, https://doi.org/10.1007/s10539-017-9583-1.

(2017): Bayesian Convergence and the Fair-Balance Paradox. *Erkenntnis*, https://doi.org/10.1007/s10670-017-9888-0.

In preparation:

(201x): Bayesian Ockham's Razor and Nested Models, under review *Economics and Philosophy*.

(201x): The Evolutionary Explanation of What? A Closer Look at Adaptationist Explanations of Risk Preferences, under review *Erasmus Journal for Philosophy and Economics*.

(201x): Survival, Reproduction and Functional Efficiency.

(201x): The Two Faces of Risk.

Presentations:

1. Bayesian Ockham's Razor and Nested Models: Copenhagen, October 2017.

2. The Evolutionary Explanation of What? A Closer Look at Adaptationist Explanations of Risk Preferences: European Philosophy of Science Association Biennial Meeting, Exeter, September 2017.

b) Dr. Jean Baccelli

1. Type of Affiliation with the MCMP

Jean Baccelli is a Postdoctoral Research Fellow at the MCMP.

2. Research Projects

Jean Baccelli has been working in decision theory, the philosophy of economics, and the philosophy of measurement.

3. Academic Output

Publications:

(2017): Do Bets Reveal Beliefs?. *Synthese* 194(9): 61-82

In preparation:

(201x): Risk Attitudes in Axiomatic Decision Theory. To appear in *Theory and Decision.* (Journal Version)

(201x): Expected Utility in 3D. To appear in *Festschrift for Teddy Seidenfeld*, Cozman and Wheeler (eds), Springer.

(201x): Moral Hazard, the Savage Framework, and State-Dependent Utility.

(201x): Act-State Dependence, Moral Hazard, and State-Dependent Utility.

(201x): Beyond the Metrological Viewpoint.

(201x): Risk Aversion over General Domains.

Presentations:

1. Moral Hazard, the Savage Framework, and State-Dependent Utility: Department of Philosophy, Universität Bayreuth, Germany, December 2017.

XIIIth Conference of the International Network for Economic Method, San Sebastian, Spain, August 2017.

9th European Congress of Analytic Philosophy, Ludwig-Maximilians Universität München, Germany, August 2017.

2. Measurement Theory Beyond Metrology: Conference of the European Philosophy of Science Association, University of Exeter, Great Britain, September 2017.

Annual Conference of the British Society for the Philosophy of Science, University of Edinburgh, Great Britain, July 2017.

6. Purely Subjective Expected Utility with Moral Hazard: Department of Statistics, Ludwig-Maximilians Universität München, Germany, June 2017.

Department of Economics, Université Cergy-Pontoise, France, May 2017.

7. On Measuring Beliefs by Observing Choices: Department of Economics, Universita degli Studi dell'Insubria, Italy, June 2017.

Department of Philosophy, Columbia University, USA, January 2017.

8. On Decision-Making with Moral Hazard: Department of Philosophy, Universita degli Studi du Milano, Italy, June 2017.

c) Dr. Mark Bowker

1. Type of Affiliation with the MCMP

Mark Bowker was a Postdoctoral Research Fellow from August 2016-November 2017.

2. Research Projects

Mark Bowker has been working on Philosophy of Language and Philosophical Linguistics.

3. Academic Output

Publications:

(2017): Rich Situated Attitudes. In S. Kurahashi, et. al. New Frontiers in Artificial Intelligence, JSAI-isAI 2016, *Lecture Notes in Computer Science* Vol. 10247, Springer, pp. 45-61, together with Kristina Liefke.

In preparation:

(201x): Underdetermination, Domain Restriction, and Theory Choice. To appear in *Mind & Language*.

(201x): Saying a Bundle: Meaning, Intention, and Underdetermination. To appear in *Synthese*.

Presentations:

1. Semantic Restrictivism: Fourth Philosophy of Language and Mind Conference (PLM4), Ruhr-Universität Bochum.

2. Reviving Semantic Descriptivism: Ninth European Congress of Analytic Philosophy (ECAP 9), Ludwig-Maximilians-Universität, Munich.

3. Denying Semantic Content: Situations, Information, and Semantic Content, Munich Center for Mathematical Philosophy, Ludwig-Maximilians-Universität, Munich.

4. Rich Situated Propositions: The `Right' Objects for the Content of Propositional Attitudes: Logic and Engineering of Natural Language Semantics (LENLS13), 8th JSAI International Symposium on AI, Keio University, Tokyo.

5. Language Without Content: Work-In-Progress Seminar, Munich Center for Mathematical Philosophy, MCMP, Ludwig-Maximilians-Universität, Munich.

6. Towards a Rich Situated Account of Semantic Underdetermination: Colloquium in Philosophy, Logic, and Philosophy of Science, Munich Center for Mathematical Philosophy, Ludwig-Maximilians-Universität, Munich.

d) Omid Charrakh

1. Type of Affiliation with the MCMP

Omid Charrakh is a doctoral fellow at the MCMP, working under the supervision of Prof. Dr. Stephan Hartmann.

2. Research Projects

Omid Charrakh has been working in Philosophy of Physics and Foundations of Quantum Mechanics.

3. Academic Output

Publications:

(201x): On the Reality of the Wavefunction. To appear in *Studies in History and Philosophy of Science*.

Poster:

On the Reality of the Wavefunction. Solstice of Foundations, ETH Zurich–June 2017.

Presentations:

1. On the Reality of the Wavefunction: Radboud University, Nijmegen–December 2017.

2. Space, Time, and Matter: Summer School in Philosophy of Physics, Black Forest–July 2017.

3. On the Reality of the Quantum State: QCQMB, Prague–June 2017.

Awards:

The 2017 Hanneke Janssen Memorial Prize, Radboud University, Nijmegen–December 2017: An International award for the best Master's thesis in the field of History and Philosophy of Physics.

e) Dr. Peter Collins

1. Type of Affiliation with the MCMP

Peter Collins is a postdoctoral research fellow at the MCMP.

2. Research Projects

Peter has been working on research projects in psychology which overlap with the philosophical interests of the MCMP: on conditionals, evidential language, framing effects, and belief change from sources of partial reliability.

3. Academic Output

Publications:

(In Press): The Bidirectional Relationship between Source Characteristics and Message Content. *Frontiers in Psychology* 9, 18. First author, with Ulrike Hahn, Ylva von Gerber, and Erik J. Olsson.

(2017): Fallacies of Argumentation. In: L.J. Ball & V.A. Thompson (Eds.). *The Routledge International Handbook of Thinking and Reasoning* (pp. 89-108). London: Routledge. First author, with Ulrike Hahn.

(2017): The Puzzle of Conditionals with True Clauses: Against the Gricean Account. *Proceedings of the 39th Annual Conference of the Cognitive Science Society*, London, 2017. Second author, with Karolina Krzyżanowska and Ulrike Hahn.

(2017) Between a conditional's antecedent and its consequent: coherence vs, probabilistic relevance. *Cognition*, 164, 199-205. Second author, with Karolina Krzyżanowska and Ulrike Hahn

In preparation:

(201x): Testimony and conditionals. With Karolina Krzyżanowska, Stephan Hartmann, Gregory Wheeler, and Ulrike Hahn.

(201x): If you do you will, and if you don't you won't: Framing and utility conditionals. With Ulrike Hahn.

(201x): Definitely maybe: hedging with probability language doesn't protect your reputation. With Ulrike Hahn.

Presentations:

1. Framing and utility conditionals: Centre for Advanced Study, LMU, Munich, February 2017

2. Conditionals, testimony, and the relevance effect : Munich Center for Mathematical Philosophy, Munich, October 2017.

f) Dr. Erik Curiel

1. Type of Affiliation with the MCMP

Erik Curiel is assistant professor at the MCMP.

2. Research Projects

Erik Curiel has been working in general philosophy of science, in philosophy of physics, and in theoretical physics.

3. Academic Output

Publications:

(2017): Singularities, Black Holes, and Thermodynamics in Relativistic Spacetimes. *Stanford Encyclopedia of Philosophy* (On-Line), https://plato.stanford.edu/entries/spacetime-singularities/.

In preparation:

(201x): The Problem of Approximate Symmetries in General Relativity. To appear in *Synthese*.

(201x): What Is a Black Hole?. To appear in special joint issue of *Nature Physics and Nature Astronomy*.

(201x): Space. To appear in *Internet Encyclopedia of Philosophy* (On-Line), http://www.iep.utm.edu/.

(201x): Measurement and Coordination: What We Get Wrong about What Reichenbach Got Right. Together with Flavia Padovani, to appear in *Neo-Kantian Perspectives on the Exact Sciences*, eds. F. Biagioli and M. Giovanelli, Routledge.

(201x) A Simple Proof of the Uniqueness of the Einstein Field Equation in All Dimensions.

(201x) Classical Black Holes Are Hot.

(201x) Measure, Topology and Probabilistic Reasoning in Cosmology.

(201x) Kinematics, Dynamics, and the Structure of Physical Theory.

Presentations:

1. Two Paths to the Einstein Field Equation from Horizon Thermodynamics: First Annual Bristol-MCMP Workshop on Foundations of Physics, Bristol, UK, January.

2. Continuum Spacetime as the Limit of Discrete Structure: Institut des Hautes Études Scientifiques, Conference "Quantum Gravity: Physics and Philosophy", Paris, France, October.

3. The Problem of Approximate Symmetries in General Relativity: Leibniz Universität, Institut für PhilosophieConference "Symmetries in Physics", Hannover, Germany, July.

5. Classical Black Holes Are Hot: Annual Black Hole Initiative Conference, Harvard University, Cambridge, MA USA, May.

Max Planck Institute for Radio Astronomy, Deustsche Physikalische Gesellschaft Conference "Do Black Holes Exist? Physics and Philosophy of Black Holes", Bad Honnef, Germany, March.

6. Semantics of Theories: Epistemology, Yes; Ontology, No: European Philosophy of Science Association, Biennial Conference, Exeter, UK, September.

7. Why Rigid Designation Cannot Stand on Scientific Ground: Philosophical Society of South Africa, Annual Conference, Grahamstown, South Africa, January.

8. Schematizing the Observer and the Epistemic Content of Theories: Conference "The Philosophy of Howard Stein", University of Chicago, Chicago, USA, June.

Munich Center for Mathematical Philosophy Conference "Making and Breaking Theories: Applying Physical Models", Munich, Germany, June.

9. How Can Physics Bear on Ontology?: 5th Bi-Annual South African Philosophy of Science and Logic Conference, Keynote Speaker, Rhodes University, Grahamstown, South Africa, January.

10. Measure, Topology and Probabilistic Reasoning in Cosmology: University of Oxford, Department of Physics Workshop "Fine-Tuning in Cosmology", Oxford, UK, October.

11. A Weyl-Type Theorem in Geometrized Newtonian Gravity, and How It May Bear on Shape Dynamics: Perimeter Institute of Theoretical Physics Conference "Shape Dynamics Workshop", Waterloo, ON, Canada, May.

12. 48 Years of Cosmic Censorship, and Still We Do Not Know What It Is: Deutsche Physikalische Gesellschaft Annual Conference, Plenary Speaker, Bremen, Germany, March.

13. What Is the Einstein Field Equation, and Why Does It Matter for Quantum Gravity?: Center for Astrophysics, Institute for Theory and Computation Colloquium, Harvard University, Cambridge, MA, USA, March.

4. Visiting Fellowships:

1. February-May, Research Fellow, Black Hole Initiative, Harvard University

2. March, Erasmus Fellow, Department of Letters and Philosophy, University of Florence

g) Dr. Neil Dewar

1. Type of Affiliation with the MCMP

Neil Dewar is Assistant Professor of Philosophy of Physics at the MCMP.

2. Research Projects

Neil Dewar has been working in Philosophy of Science, Philosophy of Physics, and Metaphysics.

3. Academic Output

In preparation:

(201x): Maxwell Gravitation. Forthcoming in *Philosophy of Science*.

(201x): Ramsey Equivalence. Forthcoming in *Erkenntnis*.

(201x): On Translating Between Logics. Forthcoming in *Analysis*.

(201x): On Gravitational Energy in Newtonian Theories. Together with James Owen Weatherall, conditionally accepted at Foundations of Physics.

(201x): La Bohume. Undergoing revisions at *Synthese*.

(201x): General-Relativistic Covariance. Submitted to *Foundations of Physics*.

(201x): Algebraic Structuralism.

(201x). A Categorical Perspective on Symmetry and Equivalence. Together with Benjamin Eva.

Presentations:

1. "Towards a Metaphysics of Categorical Equivalence": The Structure and Interpretation of Theories. Erasmus University Rotterdam, the Netherlands, January 2017.

2. "Interpretation and equivalence; or, equivalence and interpretation": Southern California Philosophy of Physics Reading Group. Department of Logic and Philosophy of Science, University of California Irvine, USA, February 2017.

3. "Ramsey Equivalence": Second Salzburg-Irvine-Munich Workshop on Scientific Philosophy. Department of Logic and Philosophy of Science, University of California Irvine, USA, February 2017.

4. "On Newtonian, Leibnizian, and Huygensian (but not Galilean) Space": Philosophy of Physics Graduate Lunch Seminar. Faculty of Philosophy, University of Oxford, UK, March 2017.

5. "A Categorical Approach to Symmetries": British Society for the Philosophy of Science Annual Meeting. University of Edinburgh, UK. July 2017.

6. "On the Equivalence Between Haecceitism and Counterpart Theory": European Congress in Analytic Philosophy. Munich Center for Mathematical Philosophy, LMU Munich, Germany, August 2017.

7. "Little Local Difficulties. Part of a Symposium on Interpreting Physical Theories": at the European Philosophy of Science Association Annual Conference. University of Exeter, UK, September 2017.

8. "External Symmetries, the Dynamical Approach to Spacetime, and General Covariance": Thinking About Space and Time. University of Bern, Switzerland, September 2017.

9. "Algebraic Structuralism": Society for the Metaphysics of Science Annual Conference. Fordham University, New York, USA, October 2017.

10. "Noether's Theorems from the Perspective of General Covariance": Spacetime: Fundamental or Emergent? University of Bonn, Germany, October 2017.

11. "Supervenience and Definition. New Perspectives on Inter-Theoretic Reduction": University of Salzburg, Austria, November 2017.

Further Activities:

Grants:

DFG "Scientific Networks" Grant, to establish a network researching Category Theory in Philosophy of Science: €36,106

LMUExcellent Travel Grant to attend Society for the Metaphysics of Science Annual Conference: €1023.00h)

h) Dr. Benjamin Eva

1. Type of Affiliation with the MCMP

Benjamin Eva was a postdoctoral research fellow at the MCMP and the LMU Centre for Advanced Studies from September 2016 until October 2017. He is now an Alexander Von-Humboldt research fellow at the University of Konstanz, but he is now an external member of

the MCMP and maintains research collaborations with several members of the department.

2. Research Projects

Benjamin Eva has been working in General Philosophy of Science, Bayesian Epistemology, Philosophy of Physics, Philosophy of Causation and Logic.

3. Academic Output

Publications:

(2018): Causal Explanatory Power. *The British Journal for the Philosophy of Science*, together with Reuben Stern. https://academic.oup.com/bjps/advance-article-abstract/doi/10.1093/bjps/axy012/4831125?redirectedFrom=fulltext

(2018): When No Reason For is a Reason Against. *Analysis*, together with Stephan Hartmann. https://academic.oup.com/analysis/advance-article-abstract/doi/10.1093/analys/anx160/4830908?redirectedFrom=fulltext

(2018): Reasoning in Physics. *Synthese*. Special issue ed. with Stephan Hartmann.

(2017): Anthropic Skepticism and A-Symmetric Confirmation. *Synthese*, https://link.springer.com/article/10.1007/s11229-017-1486-9

(2017): Review of Jeffrey Bub's `Bananaworld: Quantum Mechanics for Primates'. *Metascience*, https://link.springer.com/article/10.1007/s11016-017-0183-0

Selected Presentations:

1.'Causal Explanatory Power', European Society for the Philosophy of Science Biannual Conference, University of Exeter, 09/2017

2. 'Causal Explanatory Power', European Congress for Analytic Philosophy, Munich Center for Mathematical Philosophy, 08/2017

3. 'Symmetry: A Categorical Taxonomy', British Society for the Philosophy of Science Biannual Conference, University of Edinburgh, 07/2017

4. 'Bayesian Argumentation and the Value of Logical Validity', Poznan Reasoning Week, 07/2017

5. 'Multi-Level Explanatory Power', Recent Work in Formal Epistemology, Munich Center for Mathematical Philosophy, 06/2017

6. Bayesian Argumentation and the Value of Logical Validity: Reasoning and Argumentation in Science, Center for Advanced Studies, LMU Munich, 05/2017.

7. 'Multi-Level Explanatory Power', Reasoning and Argumentation in Science, LMU Center for Advances Studies, 05/2017.

8. 'Qualitative Principles of Indifference', Formal Representations of Ignorance, Pittsburgh Center for the Philosophy of Science, 03/2017

9. 'Q-Worlds: A Guided Tour', Workshop on Foundations of Quantum Mechanics, Graduate School of Information Science, University of Nagoya, 03/2017.

i) Dr. Samuel C. Fletcher

1. Type of Affiliation with the MCMP

Samuel C. Fletcher was a Marie Curie Fellow under the Chair of Philosophy of Science at the MCMP.

2. Research Projects

Samuel C. Fletcher has been working in General Philosophy of Science, Philosophy of Physics and Philosophy of Statistics.

3. Academic Output

Publications:

(2017): On Noncontextual, Non-Kolmogorovian Hidden Variable Theories. *Foundations of Physics* 47.2: 294–315. (2015), together with Benjamin H. Feintzeig.

(2017): Indeterminism, Gravitation, and Spacetime Theory. In Gábor Hofer-Szabó and Leszek Wronski, eds. *Making It Formally Explicit: Probability, Causality and Indeterminism*. Springer, pp. 179–191.

(2017): Against the Topologists: Essay Review of New Foundations for Physical Geometry. *Philosophy of Science* 84.3: 595–603.

(2017): Foreword to Andrew Lucia, *A Catalog of Difference*. UMinn Papers on Architecture 2. Minneapolis: University of Minnesota School of Architecture.

(201x): Infinite Idealizations in Science. Edited with Patricia Palacios, Laura Ruetsche, and Elay Shech, *Synthese* special issue.

(201x): Minimal Approximations and Norton's Dome. *Synthese.*

(201x): Evidence Amalgamation in the Sciences. Edited with Jürgen Landes and Roland Poellinger, *Synthese* special issue.

(2018): Physical Perspectives on Computation, Computational Perspectives on Physics. Edited with Michael E. Cuffaro, Cambridge University Press.

(2018): Introduction. Together with Micheal E. Cuffaro in Michael E. Cuffaro and Samuel C. Fletcher, eds. *Physical Perspectives on Computation, Computational Perspectives on Physics*. Cambridge University Press.

(2018): Would Two Dimensions be World Enough for Spacetime?. Together with J. B. Manchak, Mike D. Schneider, and James Owen Weatherall. *Studies in History and Philosophy of Modern Physics*.

Presentations:

1. Research Colloquium in Philosophy, Chairs of Philosophy and History and Philosophy of the Mathematical Sciences, ETH Zürich, December 2017, invited.

2. New Perspectives on Inter-theory Reduction: Department of Philosophy, University of Salzburg, November 2017, invited.

3. Work in Progress Seminar, Department of Philosophy, University of Salzburg, November 2017, invited.

4. Oxford Philosophy of Physics Research Seminar, Oxford University, November 2017, invited.

5. Department of Philosophy, University of Bristol, October 2017, invited.

6. CamPoS Group, University of Cambridge, October 2017, invited.

7. Munich Center for Mathematical Philosophy, LMU Munich, July 2017.

8. Symmetries and Asymmetries in Physics: Leibniz University Hannover, Jul 2017, invited.

9. With and Without Measure: Symmetry and Symmetry Breaking: MCMP, LMU Munich, June 2017.

10. Space and Time after Quantum Gravity Speaker Series, Department of Philosophy, University of Geneva, May 2017, invited.

11. The Structure of Scientific Revolutions: Durham University, October 2017.

12. Thinking about Space and Time: 100 Years of Applying and Interpreting General Relativity: University of Bern, September 2018.

13. European Philosophy of Science Association Biennial Conference: University of Exeter, September 2017.

14. Logic, Relativity, and Beyond: 3rd International Conference: Rényi Institute, Budapest, August 2017.

15. Ninth European Congress of Analytic Philosophy: LMU Munich, August 2017.

16. British Society for the Philosophy of Science Annual Meeting: University of Edinburgh, July 2017.

17. Direct Empirical Status and the Ontology of Symmetries in Physics: Université Catholique de Louvain, July 2017.

18. Triennial International Conference of the Italian Society for Logic and Philosophy of Science: University of Bologna, June 2017.

19. Quantum Contextuality in Quantum Mechanics and Beyond: Prague, Czech Republic, June 2017.

j) Prof. Dr. Ulrike Hahn

1. Type of Affiliation with the MCMP

Collaboration via on Humboldt Foundation Anneliese Maier Research Award.

2. Research Projects

Human rationality from both a normative and a descriptive perspective: in particular, argumentation, judgment and decision making.

3. Academic Output

Publications:

(2017): A re-examination of "bias" in human randomness perception. *Journal of Experimental Psychology: Human Perception and Performance*. Together with P.A. warren, U. Gostoli, G.D. Farmer, and W. El-Deredy.

(2017): Between a conditional's antecedent and its consequent: discourse coherence vs. probabilistic relevance. *Cognition* 164, 199-205. Together with K. Krzyzanowska and P. Collins.

(2017): Ignore Similarity If You Can: A Computational Exploration of Exemplar Similarity Effects on Rule Application. *Frontiers in Cognitive Science*. Together with D. Brumby.

(2017): Scholarly Integrity. *Angewandte Chemie*. Together with J. Francisco and H. Schwar. Doi: http://doi.org/10.1002/ange.201700613

(2017): Unrealistic comparative optimism: An unsuccessful search for evidence of a genuinely motivational bias. *PLOS ONE*, 12 (3), e0173136. Together with A.J.L Harris, L. de Moliere and M. Soh.

(2017): Who "believes" in the Gambler's Fallacy and why?. *Journal of Experimental Psychology: General*, 146(1), 63-76. Together with G.D. Farmer and P.A. Warren.

(2017): Value instantiations: The missing link between values and behavior?. In Sonia Roccas and Lilach Sagiv (eds.), *Values and behaviour: taking a cross-cultural perspective*, Springer. Together with P.H.P Hanel, K.C. Vione and G.R. Maio.

(2017): Causal Argument. In: M. Waldmann (ed.) *The Oxford Handbook of Causal Cognition*. Together with R. Blum and F. Zenker.

(2017): Fallacies of argumentation. In. Thompson, V. and Ball, L. (eds.) *International Handbook of Thinking and Reasoning*. Psychology Press. Together with P.J. Collins.

(2017): Arguments and their sources. In Paglieri, F. (ed.) The psychology of argument: cognitive approaches to argumentation and persuasion. *Studies in Logic and Argumentation*, College Publications, London. Together with P.J. Collins.

(2017): Rank aggregation and belief revision dynamics. Cognitive Science Society. *Proceedings of the 39th Annual Meeting of the Cognitive Science Society*. Pp 3454-3459. Together with I. Volzhanin, D. Zhang and S. Hartmann.

(2017): The Puzzle of Conditionals with True Clauses: Against the Gricean Account. *Proceedings of the 39th Annual Meeting of the Cognitive Science Society*. Pp. 3476-3481. Together with K. Krzyzanowska and P.J. Collins.

(2017): Conditionals, Individual Variation, and the Scorekeeping Task. *Proceedings of the 39th Annual Meeting of the Cognitive Science Society*. Pp. 1084-1089. Together with N. Skovgaard-Olsen, D. Kellen and K.C. Klauer.

(2017): Overcoming the Tragedy of Personnel Evaluation?. *Proceedings of the 39th Annual Meeting of the Cognitive Science Society*. Pp. 3460-3465. Together with M. von Sydow and N. Braus.

Selected Presentations:

1. Testimony, information networks, truth and value: Max Planck Institute for Adaptive Rationality, Berlin, December 2017.

2. Rationality, reasoning and argumentation: Workshop on Climate Change & Health, Leopoldina German Academy of Science, PIK Potsdam, December 2017.

3. Information networks, truth and value: University of Manchester, November 2017.

Cambridge University, Department of Psychology, Zangwill Seminar, November 2017.

Department of Economics and Business, Univ. Pompeu Fabra, Barcelona, April 2017.

Department of Psychology, City University, London, March 2017.

4. Can we get rational argument back into public debate?: Conference Arrogance and Polarisation inPublic Debate, University of Cardiff, November 2017, invited.

5. The perception-cognition gap: Rationality in Perception and Cognition, University of Uppsala, Sweden, October 2017, invited.

6. Pessimism about unrealistic optimism: SweCog 2017, University of Uppsala, October 2017, Keynote.

7. The role of Decision Theory in AI: Workshops AI & Decisions, Cambridge University, July 2017, Keynote.

8. Rationality and the role of limited experience: 39th Annual Meeting of the Cognitive Science Society, London, July 2017, Keynote.

9. Why we need NEATs: 39th Annual Meeting of the Cognitive Science Society, London, July 2017, invited Symposium.

10. Norms for real world argumentation: European Conference on Argumentation, June 2017, Keynote.

Faculty of Humanities, Lund University, Sweden, June 2017.

11. Bayesian Reasoning for Non-Statistical Contexts: Workshop on Ampliative Reasoning in the Sciences- Logic, Reasoning and Rationality, May 2017, Keynote.

12. Don't you get it? Understanding responses to climate communication: Arts and Science Festival Event: Saving Land and Water: Shaping Perceptions of Climate Change, University of Birmingham, March 2017.

13. A failure to consider learning has hampered understanding of the conditional: Workshop Learning Conditionals, MCMP/ CAS LMU Munich, February 2017.

Honours and Awards

June 2017, Honorary Doctorate Lund University

k) Prof. Dr. Stephan Hartmann

1. Type of Affiliation with the MCMP

Stephan Hartmann is head of the Chair of Philosophy of Science and Co-Director of the MCMP. Currently he is also a Senior Researcher in Residence at the Center for Advanced Studies (CAS) at LMU.

2. Research Projects

Stephan Hartmann has been working in General Philosophy of Science, Bayesian Epistemology, Philosophy of Physics and Social and Political Philosophy.

3. Academic Output

Publications:

(2017): Bayesian Cognitive Science, Unification and Explanation. *The British Journal for the Philosophy of Science 68(2): 451-484*, together with Matteo Colombo.

In preparation:

(201x): Bayesian Philosophy of Science. Together with Jan Sprenger. To appear with Oxford University Press.

(201x): Bayesian Argumentation and the Value of Logical Validity. Together with Benjamin Eva. To appear in *Psychological Review.*

(201x): Understanding (with) Toy Models. Together with Alexander Reutlinger and Dominik Hangleiter. To appear in *The British Journal for the Philosophy of Science.*

(201x): The No Miracles Argument without the Base Rate Fallacy. Together with Richard Dawid. To appear in *Synthese.*

(201x): When No Reason For Is a Reason Against. Together with Benjamin Eva. To appear in *Analysis.*

(201x): Hawking Radiation and Analogue Experiments: A Bayesian Anlaysis. Together with Radin Dardashti, Karim Thébault and Eric Winsberg. Under review.

(201x): Being Realist about Bayes, and the Predictive Processing Theory of Mind. Together with Matteo Colombo and Lee Elkin. Under review.

(201x): Confirmation by Explanation: A Bayesian Justification of IBE. Together with Marko Tesic and Benjamin Eva. Under review.

(201x): Anchoring in Deliberations. Together with Soroush Rafiee Rad. Under Review.

(201x): Prospect Theory and the Wisdom of the Inner Crowd. Under review.

(201x): Montague Reduction, Confirmation, and the Syntax Semantics Relation. Together with Kristina Liefke. Under review.

(201x): Reasoning in Physics. *Synthese*. Special issue ed. With Benjamin Eva.

(201x): Decision Theory and the Future of Artificial Intelligence. *Synthese*, special issue ed. With Reuben Stern, Huw Price and Yang Liu.

Presentations:

1. My Experiences as an Academic Philosopher of Science: Department of Philosophy, Fudan University, Shanghai, China, November 2017.

2. Bayesian Argumentation: Department of Philosophy, Stockholm University, Sweden, October 2017.

Causation, Explanation, Conditionals, LMU Munich, June 2017.

3. Bayesian Argumentation and the Challenge of Intractability: *Epistemic Rationality: Conceptions and Challenges*, Barcelona, Spain, September 2017.

4. Symmetries and Asymmetries in Open Quantum Systems: *Symmetries and Asymmetries in Physics*, University of Hannover, Germany, July 2017.

With and without Measure: Symmetry and Symmetry Breaking, LMU Munich, June 2017.

5. Confirmation via Analogue Simulation: A Bayesian Analysis: Düsseldorf Center for Logic and Philosophy of Science (DCLPS), University of Düsseldorf, Germany, July 2017.

Simulation and Thought Experiment, University of Geneva, Switzerland, June 2017.

6. Bayesian Argumentation and the Value of Logical Validity: *Reasoning and Argumentation in Science*, Center for Advanced Studies, LMU Munich, May 2017.

Learning Conditionals, Center for Advanced Studies, LMU Munich, February 2017.

Faculty of Philosophy, University of Groningen, The Netherlands, January 2017.

7. Modelle und Simulationen in der Wissenschaft: Ringvorlesung *Wissenschaftsflexion: Theorie Ethik Praxis*, Zentralinstitut für Wissenschaftsreflexion und Schlüsselqualifikationen, Erlangen, Germany, May 2017.

8. Wie gut sind konsensuelle Entscheidungen in diversen Gruppen?: *Forschungskolloquium Analytische Soziologie*, LMU Munich, Germany, May 2017.

9. Dump Holes and Bayesian Confirmation: *641th WE-Hareaus-Seminar Do Black Holes Exist? – The Physics and Philosophy of Black Holes*, Physikzentrum Bad Honnef, Germany, April 2017.

10. Understanding (With) Toy Models: *Models in Science*, Lingnan University, Hong Kong, China, March 2017.

11. Assessing Scientific Theories: Philosophy Department, Lingnan University, Hong Kong, China, March 2017.

I) Dr. Catherine Herfeld

1. Type of Affiliation with the MCMP

Catherine Herfeld was first postdoctoral research fellow (2013-16) and then assistant professor at the MCMP (October 2016- March 2017, covering for Stephan Hartmann).

2. Research Projects

In 2017, Catherine is working on several projects. Between January and March 2017, she has worked on two books, both are under contract with Cambridge University Press and several paper projects. She submitted 3 abstracts for conferences, which were accepted. She submitted 2 new papers and resubmitted 2 papers that were asked to be revised. She furthermore got requests to revise and resubmit 3 articles. She was invited to join the program committee for 2 conferences. She was invited two write 3 book reviews and was working on multiple papers that are planned for submission in 2018.

Together with her colleague Milena Ivanova, Catherine has organized a workshop on First Principles in Science: Their Epistemic Status and Justification. They have submitted a proposal for editing a Special Issue of the papers presented at the workshop for the journal Synthese, which was accepted. Together with her colleague Chiara Lisciandra (University of Groningen), Catherine was editing a Special Issue on Knowledge Transfer and Its Contexts for the journal Studies in History and Philosophy of Science: Part A.

Catherine taught 4 courses in 2016/17, two on philosophy of the social sciences (at LMU Munich and at University of Vienna), and two on central topics in philosophy of science (at LMU Munich and at University of Vienna).

3. Academic Output (as of March 2017)

(201x): Conversations on Rational Choice Theory. Cambridge University Press.

(201x): The Many Faces of Rational Choice Theory. Cambridge University Press.

(201x): Measuring Marginal Utility of a Typical Individual: Ragnar Frisch and the First Attempt to Axiomatize Consumer Choice Theory. *European Journal of the History of Economic Thought.*

(201x): Network Analysis in the History of Economics. Together with François Claveau.

(201x): History of Political Economy. Accepted for publication in 2018.

(2018): The Diffusion of Scientific Innovations: A Role Typology. Together with Malte Doehne, *Studies in History and Philosophy of Science: Part A.*

(2018): From Theories of Human Behavior to Rules of Rational Choice: Tracing a Normative Turn at the Cowles Commission, 1943-1954. *History of Political Economy*.

(201x): Exchanging Tools: Early Encounters Between Mathematical Economists and the Behavioral Sciences Movement, 1950-56. *Journal of the History of the Behavioral Sciences*.

(2018): Explaining Patterns, Not Details: Reevaluating Rational Choice Models in Light of Their Explananda. *Journal of Economic Methodology*.

(2018): Between Normative Choice Rules, Mathematical Formalisms, and the Behavioral Sciences: The Emergence of Rational Choice Theories in the late 1940s and early 1950s. *European Journal for the History of Economic Thought,* 24 (6), 1277-1317.

(201x): Realism in Economics – But Which One?. Together with Thomas Sturm.

(201x): New Methodologies in the History of Economics. *History of Economic Ideas*, together with Cléo Chassonery-Zaïgouche and Erich Pinzón Fuchs.

(201x): An Argument for Local Critique in Philosophy of the Social Sciences: The Case of Rational Choice Theory.

(201x): Between Individual Calculation and Market Demand: The Ambiguous Status of W. S. Jevons' Account of Human Behavior.

(201x): Let's Formalize Behavior: The Early Adoption of Game Theory among Mathematical Economists, 1944-1970. Together with Malte Doehne.

(201x): The Economist's Persisting Commitment to Methodological Rationalism. Now submitted to *European Journal for the History of Economic Thought*.

(201x): An Empirical Investigation of Current Hypotheses about Explaining the Gender Gap in Philosophy. Together with Elizabeth Rosas – LMU psychology.

(201x): Crossing Domains: The Role of the Translator in the Spread of Scientific Innovations.

(201x): The Rationality Principle in Economics: Its Recent History and Justifications.

(201x): How Useful are Female-only Events in the Teaching of Women Philosophy Students?.

(201x): Conflicts of Interest in Science: Their Implications for Epistemic Peerhood and the Significance of Dissent. Together with Lee Elkin and Stephan Hartmann.

m) Dr. Karolina Krzyżanowska

1. Type of Affiliation with the MCMP

Karolina Krzyżanowska is a postdoctoral research fellow

2. Research Projects

Karolina Krzyżanowska has been working on semantics and pragmatics of indicative conditionals, and their role in reasoning and decision making.

3. Academic Output

Publications:

(2017): Between a conditional's antecedent and its consequent: discourse coherence vs. probabilistic relevance. *Cognition* 164: 199–205,together with Peter J. Collins and Ulrike Hahn, doi: 10.1016/j.cognition.2017.03.009.

(2017): The Puzzle of Conditionals with True Clauses: Against the Gricean Account. Together with Peter J. Collins and Ulrike Hahn, In: G. Gunzelmann, A. Howes, T. Tenbrink, & E. J. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society* (pp. 2476–2481). Austin, TX: Cognitive Science Society.

(2018): Deliberationally Useless Conditionals. Forthcoming in *Episteme*.

(2018): The Semantics–Pragmatics Interface: An Empirical Investigation. Together with Igor Douven, Forthcoming in: Alessandro Capone (Ed.), *Further Advances in Pragmatics and Philosophy*, Vol. 2, Springer, 2018.

(2018): Missing-link Conditionals: Pragmatically Infelicitous or Semantically Defective?. Together with Igor Douven, Forthcoming in *Intercultural Pragmatics*.

(201x): Learning probabilistic relevance from indicative conditionals. Submitted to the 40th Annual Conference of the Cognitive Science Society (CogSci 2018), together with Peter J. Collins and Ulrike Hahn.

(201x): Cancellation, Negation, and Rejection. Together with Niels Skovgaard Olsen, Peter J. Collins, Ulrike Hahn and Karl Christoph Klauer, submitted to the *Journal of Memory and Language*.

(201x): Conditionals and Testimony. Together with Peter J. Collins, Stephan Hartmann, Gregory Wheeler and Ulrike Hahn, to be submitted to *Psychological Review*.

Presentations:

1. "What is amiss about missing-link conditionals?": at the Kick-off Work-shop of the XPrag-Project SPOCC "The Semantics and Pragmatics of Conditional Connectives: Cross-linguistic and Experimental Perspectives" led by Dr. Mingya Liu. Institute of Cognitive Science, Osnabrück, Germany, October 2017, invited.

Linguistics Seminar. Department of Philosophy, Linguistics, Theory of Science, University of Gothenburg, Sweden, October 2017, invited.

2. "Pragmatics of Missing-Link Conditionals": at the the 9th European Congress of Analytic Philosophy (ECAP9). Munich, Germany, August 2017.

The Annual Meeting of the Priority Program New Frameworks of Rationality (SPP1516). Etelsen, Germany, March 2017.

4. Poster: "The Puzzle of Conditionals with True Clauses: Against the Gricean Account" (with Peter J. Collins and Ulrike Hahn): at the 39th Annual Meeting of the Cognitve Science Society (CogSci 2017). London, United Kingdom, July 2017.

5. "Where Philosophy of Language and Psychology of Reasoning Meet: The Case of Indicative Conditionals,": a lecture at the MCMP Fellows' session of the Fourth Summer School on Mathematical Philosophy for Female Students. Munich, Germany, July 2017.

6. "How to phrase a conditional with true antecedent and true consequent?: at the 10th London Reasoning Workshop. Birkbeck, University of London, United Kingdom, July 2017.

7. "Odd Conditionals and the Limits of Pragmatic Explanations": at the Causation, Explanation, Conditionals Conference. Tutzing/Munich, Germany, June 2017, invited.

Fifth International Conference on Philosophy of Language and Linguistics (PhiLang 2017). University of Łódz, Poland, May 2017.

9. "Between Antecedents and Consequents: Discourse Coherence vs. Probabilistic Relevance": at the (In)Coherence of discourse 4. Nancy, France, March 2017.

10. "The variety of inferences: indicative conditionals and contexts of deliberation": at the Asymmetry in Causal Inference and Conditional Reasoning. Amsterdam, The Netherlands, March 2017, invited.

11. "What Do We Learn When We Learn a Conditional?" Learning Conditionals Workshop. Center for Advanced Studies, LMU Munich, Germany, February 2017.

12. "The puzzle of missing-link conditionals," at the TiLPS Colloquium, The Tilburg Center for Logic, Ethics, and Philosophy of Science, Tilburg University, The Netherlands, January 2017, invited.

n) Dr. Jürgen Landes

1. Type of Affiliation with the MCMP

Jürgen Landes is a Postdoc with PhilPharm Project led by Dr. Barbara Osimani. He joined the MCMP on 01.10.2015.

2. Research Projects

Jürgen Landes has been working in General Philosophy of Science, Bayesian Epistemology and Philosophy of Medicine.

3. Academic Output

(2017): The Principal Principle implies the Principle of Indifference. *British Journal for the Philosophy of Science,* 68: 123-131, together with James Hawthorne, Christian Wallmann and Jon Williamson.

(2017): Invariant Equivocation. *Erkenntnis*, 82:141-167, together with George Masterton.

(201x): An Evidence Hierarchical Decision Aid for Ranking in Evidence Based Medicine. In: Osimani, Barbara and La Caze, Adam (edt.): Uncertainty in Pharmacology: Epistemology, Methods and Decisions, Boston Studies in Philosophy of Science, Springer.

(201x): Variety of Evidence. *Erkenntnis*.

(201x): Formal Epistemology meets Mechanism Design. *Disputatio.*

(201x): Varied Evidence and the Elimination of Hypotheses. *Philosophy of Science*.

(201x): Varieties of Error and Varieties of Evidence. *Philosophy of Science*, together with Barbara Osimani

(201x): The Principal principle, admissibility, and normal formal standards of what is reasonable. *British Journal for the Philosophy of Science*, together with Christian Wallmann and Jon Williamson.

(201x): Synthese Special Issue: Reliability. Together with Stefano Bonzio and Barbara Osimani.

(201x): Evidence Amalgamation in the Sciences: An Introduction. *Synthese*, together with Samuel C. Fletcher and Roland Poellinger.

(201x): Less is More: On the Value of Agents' Testimony. *Synthese*, together with Barbara Osimani.

(201x): E-Synthesis: a Bayesian Framework for Causal Assessment from Heterogenous Evidence. *BMC Medical Research Methodology*, together with Barbara Osimani and Roland Poellinger.

(201x): Objective Bayesian nets from consistent datasets: Theory and Matlab Implementation. *Journal of Artificial Intelligence Research*, together with Jon Williamson.

Presentations:

1. Issues in Medical Epistemology.

2. Salzburg Conference for Young Analytic Philosophy.

3. European Philosophy of Science Association: EPSA17.

4. European Congress for Analytic Philosophy: ECAP9.

5. British Society for the Philosophy of Science.

6. Mechanisms in medicine.

7. Exploring Scientific Method: Evidence, Explanation, and Unification in Science.

8. Nordic network for Philosophy o Science.

9. Drug Safety, Probabilistic Causal Assessment, and Evidence Synthesis.

Further activities:

He has visited the German, French and Austrian drug licensing agencies and taken part in discussions concerning the development of applications of drug licensing decision procedure. A trip to the Uppsala Monitoring Center of the World Health Organization is currently being prepared.

He also did the following reviews for the Zentralblatt Math: •Jeff B. Paris and Alena Vencovská. Pure Inductive Logic. Cambridge University Press, 2015. Zbl 06417755.•Joseph Y. Halpern. Actual Causality. MIT Press, 2016. Zbl 1276.68147.•Zoran Ognjanović, Miodrag Rašković and Zoran Marković. Probability Logics. Springer, 2016. Zbl 06653185.•Jon Williamson. Lectures on Inductive Logic. Oxford University Press, 2017. Zbl 06638226.•Dirk Draheim. Generalized Jeffrey Conditionalization. Springer, 2017. Zbl.

o) Josè Leyva

1. Type of Affiliation with the MCMP

José Leyva has been an MCMP Doctoral Fellow on his own funds since October 2014.

2. Research Projects

José has been working on topics related to the emergence and dynamics of social norms, on which he intends to write his doctoral dissertation.

3. Academic Output

Organization of the Graduate Student Meeting at ECAP9.

p) Dr. Kristina Liefke

1. Type of Affiliation with the MCMP

Kristina Liefke is a postdoctoral fellow at the Chair of Philosophy of Science, and PI in the DFG-sponsored project Unity and Unification in Intensional Semantics.

2. Research Projects

Kristina Liefke has been working in Formal Semantics, the Philosophy of Language, Philosophy of Linguistics, and Philosophical Logic.

3. Academic Output

Publications:

(2017): Rich Situated Semantics. In: S. Kurahashi et al., New Frontiers in Artificial Intelligence. *Lecture Notes in Artificial Intelligence*, vol. 10247. Berlin and Heidelberg: Springer, together with Mark Bowker.

(2017): Relating Intensional Semantic Theories: established methods and surprising results. In: K. Sano et al. *Proceedings of Logic and Engineering of Natural Language Semantics* (LENLS) 14, Tokyo.

In preparation:

(201x) A Compositional Pluralist Semantics for Extensional and Attitude Verbs. To appear in a volume in the series *Language,*

Cognition, and Mind (ed. S. Löbner et al.). Berlin and Heidelberg: Springer.

(201x): Evidence for Single-Type Semantics – an alternative to e/t-based dual-type semantics. Together with Markus Werning. Accepted with major revisions at *Journal of Semantics*.

(201x): Montague Reduction, Confirmation, and the Syntax-Semantics Relation. Together with Stephan Hartmann. Accepted with major revisions at *Journal of Logic, Language, and Information*.

(201x): A Vivid Solution to Prior's Substitution Problem.

Presentations:

1. A Perspectival Semantics for de dicto-Attitude Reports: Semantics Research Group, National Institute of Informatics (NII) and Keio University, Tokyo, Japan (November).

2. Relating Intensional Semantic Theories: established methods and surprising results: Logic and Engineering of Natural Language Semantics (LENLS) 14, University of Tsukuba, Tokyo, Japan (November).

3. Towards a Unified Semantics for Extensional and Cognitive Verbs: Fourth Philosophy of Language and Mind Conference (PLM 4), Ruhr University Bochum, Bochum, Germany (September).

4. Single-Type Semantics: foundations and applications: Interdisziplinäres Logik-Kolloquium, University of Konstanz, Konstanz, Germany (April).

5. Relating Theories of Formal Semantics: Centre for Linguistic Theory and Studies in Probability (CLASP), University of Gothenburg, Gothenburg, Sweden (February).

q) Christoph Merdes

1. Type of Affiliation with the MCMP

Christoph Merdes is a doctoral student and scientific employee (Wissenschaftlicher Mitarbeiter) at the MCMP.

2. Research Projects

Christoph Merdes is working in Social Epistemology, in particular the dynamics of learning source reliability, social philosophy, in particular on the evolution of unpopular social norms, and agent-based modeling and simulation, both as a philosophical method and an object for the philosophy of science.

3. Academic Output

Publications:

(2017): Growing Unpopular Norms. *Journal of Artificial Societies and Social Simulation* 20.3.

(201x): Strategy and the Pursuit of Truth.

(201x): How Good is Your Evidence and How would You Know?. Together with Ulrike Hahn and Momme von Sydow.

Presentations:

1.Growing Unpopular Norms: Kolloquium des Max-Planck-Instituts für Bildungsforschung Berlin, Deutschland, April 2017.

2. The Function of Toy Models: Doktorandenkolloquium des Lehrstuhls für Methoden der empirischen Sozialforschungen Erlangen, June 2017.

3. Strategic Disagreement: Opinion Dynamics and Collective Decision Bremen, Deutschland, July 2017.

4. Strategic Behavior in Opinion Dynamics: Formal Models of Scientific Inquiry, Bochum, Deutschland, July 2017.

5. Attributing Collective Goals: Jahrestreffen des DFG-Schwerpunkt-Programms „New Frameworks of Rationality" in Etelsen, Deutschland, February 2018.

r) Prof. Dr. Barbara Osimani

1. Type of Affiliation with the MCMP

Barbara Osimani is a Visiting Professor at MCMP, PI ERC Starting Grant LMU Munich/ University of Ancona.

2. Research Projects

Causal inference in pharmacology, Bayesian epistemology, Evidence synthesis, Philosophy of Statistics.

3. Academic Output

Publications:

(2018): Varieties of Error and Varieties of Evidence in Scientific Inference. *Philosophy of Science*, together with Jürgen Landes.

(2018): Social Games and Epistemic Losses: Reliability and higher order evidence in medicine and Pharmacology. In: Osimani B., La Caze A. (eds.) *Uncertainty in Pharmacology: Epistemology, Methods and Decisions*. Springer: Boston Series in Philosophy of Science.

(2018):Uncertainty in Pharmacology: Epistemology, Methods and Decisions Springer Series "*Boston Studies in Philosophy of Science*", editorial together with Adam La Caze.

(2018): Real and Virtual Clinical Trials: A Formal Analysis. *TOPOI*, together with B. Bertolaso, M Frontoni and Roland Poellinger.

(2018): What's Hot in Mathematical Philosophy: Formal Epistemology of Medicine. *The Reasoner*, vol. 12 (2): 15-16.

(2018): De pulchritudine non est disputandum? A cross-cultural investigation of the alleged intersubjective validity of aesthetic judgment.Forthcoming in *Mind & Language*, F. Cova, C. Olivola, E. Machery, S. Stich Osimani B. et al .

(2017): The Gettier Intuition from South America to Asia. J. Indian Counc. *Philos. Res.* 34: 517, Machery, E., Stich, S., Rose, D. Osimani B. et al. https://doi.org/10.1007/s40961-017-0113-y

(2017): Nothing at Stake in Knowledge. *Noûs*, together with David Rose, Edouard Machery, Stephen Stich, Mario Alai, Adriano Angelucci, Renatas Berniūnas, Emma E. Buchtel, Amita Chatterjee, Hyundeuk Cheon, In-Rae Cho, Daniel Cohnitz, Florian Cova, Vilius Dranseika, Ángeles Eraña Lagos, Laleh Ghadakpour, Maurice Grinberg, Ivar Hannikainen, Takaaki Hashimoto, Amir Horowitz, Evgeniya Hristova, Yasmina Jraissati, Veselina Kadreva, Kaori Karasawa, Hackjin Kim, Yeonjeong Kim, Minwoo Lee, Carlos Mauro, Masaharu Mizumoto, Sebastiano Moruzzi, Christopher Y. Olivola, Jorge Ornelas, Barbara Osimani, Carlos Romero, Alejandro Rosas Lopez, Massimo Sangoi, Andrea Sereni, Sarah Songhorian, Paulo

Sousa, Noel Struchiner, Vera Tripodi, Naoki Usui, Alejandro Vázquez del Mercado, Giorgio Volpe, Hrag Abraham Vosgerichian, Xueyi Zhang and Jing Zhu. doi:10.1111/nous.12211

(2017): Behavioral Circumscription and the Folk Psychology of Belief: A Study in Ethno-Mentalizing. *Thought: A Journal of Philosophy*, 6: 193–203, together with David Rose, Edouard Machery, Stephen Stich, Mario Alai, Adriano Angelucci, Renatas Berniūnas, Emma E. Buchtel, Amita Chatterjee, Hyundeuk Cheon, In-Rae Cho, Daniel Cohnitz, Florian Cova, Vilius Dranseika, Ángeles Eraña Lagos, Laleh Ghadakpour, Maurice Grinberg, Ivar Hannikainen, Takaaki Hashimoto, Amir Horowitz, Evgeniya Hristova, Yasmina Jraissati, Veselina Kadreva, Kaori Karasawa, Hackjin Kim, Yeonjeong Kim, Minwoo Lee, Carlos Mauro, Masaharu Mizumoto, Sebastiano Moruzzi, Christopher Y. Olivola, Jorge Ornelas, Barbara Osimani, Carlos Romero, Alejandro Rosas Lopez, Massimo Sangoi, Andrea Sereni, Sarah Songhorian, Paulo Sousa, Noel Struchiner, Vera Tripodi, Naoki Usui, Alejandro Vázquez del Mercado, Giorgio Volpe, Hrag Abraham Vosgerichian, Xueyi Zhang and Jing Zhu. doi:10.1002/tht3.248

(2017): Epistemology of Causal Inference in Pharmacology: Towards a Framework for the Assessment of Harms. Forthcoming in *European Journal for Philosophy of Science*, together with Jürgen Landes and Roland Poellinger.

In preparation

(201x): Dimensions of Evidence in Causal Inference. In: . In Special Issue on "Philosophy of Evidence", *Synthese*; edited by Trent Dougherty, Maria Lasonen-Aarnio, Clayton Littlejohn.

(201x): Coherence, Consistency, and Reliability. In Special Issue on "Reliability", *Synthese*; edited by Stefano Bonzio, Jürgen Landes and Barbara Osimani.

(201x): Causal Inference from Computer Simulation.

(201x): The Meaning of Meta-Analyses.

Presentations:

1. Evidence about Evidence: East Biennial Conference of the European Network for Philosophy of Science (EENPS), Bratislava, June 2018. Keynote speech.

2. Nature and Noise in medical Epistemology: Issues in Medical Epistemology, December 2017, University of Cologne, Germany. Keynote speech.

MCMP/LMU July 2017.

3. Bias, Radom Error, and the Variety of Evidence Thesis: Perspectives on Scientific Error, TilPS, Tilburg University, June 2017. Keynote speech.

Reasoning Club Conference, Center for Logic, Language, and Cognition, University of Turin, May 2017.

4. Standards for drug safety assessment; epistemology and practice: AGES, Austrian Agency for, Vienna, August 2017. Austrian Medicines & Medical Devices Agency.

5. Drug Safety, Methodological Standards, and the Justification of Probabilistic Causal Inference through Varied Evidence: Bundesamt für Arzneimittel und Medizinprodukte, Bonn, July 2017.

6. Evidence Synthesis and heterogeneous Data: Agence Nationale de Sécurité du Médicament et des Produits de Santé, Paris, June 2017.

7. Exact Replication or Varied Evidence: Reliability, Robustness, and the Reproducibility Problem: Summer School on Mathematical Philosophy for Female Students, Munich, August 2017.

8. Reliability and Replication: Statistics meets Formal Epistemology: University of Sydney, Centre for Time, March 2017.

Exploring Scientific Method: Evidence, Explanation, and Unification in Science, Munich, May 2017.

Formal Models of Scientific Inquiry, Bochum, July 2017.

9. A Multilayer Approach to Modeling Probabilistic Causal Inference through Evidence Synthesis: MCMP WIP talk, February 2017.

Drug Safety, Probabilistic Causal Assessment, and Evidence Synthesis, MCMP Munich, January 2017.

10. Chance, Noise, and Bias in Causal Inference from medical Evidence: Causality and Explanatory Reasoning, VIU, Venice, November 2017.

11. Exact replication or varied evidence? Reliability, robustness and the reproducibility problem: EPSA, Exeter, UK, September 2017.

BSPS Annual Conference, Edinburgh, July 2017, together with Jürgen Landes.

MuST 10, Causation and Complexity, Sydney March 2017.

12. A formal approach to evidence synthesis: Joint Conference on Biometrics & Biopharmaceutical Statistics, Vienna, August 2017, together with Roland Poellinger.

13. Philosophy of Pharmacology: Theoretical Foundations, Methodological Evolution, and Public Health Policy: European Congress of Analytic Philosophy (ECAP 9), Munich, August 2017, together with Jürgen Landes and Roland Poellinger.

14. Causal inference from computer simulations: Mechanisms in Medicine, July, University of Kent, Canterbury, UK, together with Roland Poellinger.

15. The Variety of Evidence Thesis and the reproducibility problem: statistics meets formal epistemology: Annual Conference of the Italian Society for Logic and Philosophy of Science, Bologna, June 2017.

16. Probabilistic Causal Inference through Evidence Synthesis: TaCitS, Time and Causality in the Sciences, Hoboken, NJ, June 2017, together with Jürgen Landes and Roland Poellinger.

17. Probabilistic Causal Inference through Evidence Amalgamation: Annual Conference of the Nordic Network for Philosophy of Science (NNPS), Copenhagen, April 2017, together with Jürgen Landes and Roland Poellinger.

18. Exact Replication or Varied Evidence?: Annual Conference of the Nordic Network for Philosophy of Science (NNPS), Copenhagen, April 2017.

s) Patricia Palacios

1. Type of Affiliation with the MCMP

Patricia Palacios has been an MCMP Doctoral Fellow since November 2014.

2. Research Projects

Patricia Palacios has been working on topics concerning general philosophy of science and philosophy of physics. Her current projects include: the analysis of philosophical problems raised by phase transitions, investigating the role of idealizations in physics, analyzing the explanatory role of econophysics and sociophysics models.

3. Academic Output

Publications:

(2017): Book review of "Chance and Temporal Asymmetry", by Alastair Wilson. *International Studies in the Philosophy of Science*.

(2018): Stock Market Crashes as Critical Phenomena?: Explanation, Idealization and Universality in Econophysics. Together with J. Jhun and J. Weatherall, *Synthese*, forthcoming.

(2018) Infinite Idealizations in Science. Co-editor with S. Fletcher, E. Shech and L. Ruetsche, special issue, *Synthese*, forthcoming.

(201x): Phase Transitions: A Challenge for Reductionism?.

(201x): Had We But World Enough and Time… But We Don't! Justifying the Thermodynamic and Infinite-time Limits in Statistical Mechanics.

(201x): On the Universality of the Hawking Radiation. Together with K. Thébault and S. Gryb.

(201x): The Ehrenfests' on statistical mechanics II: Phase transitions. Invited for inclusion in the volume Tatjana Afanassjewa and her Legacy: Philosophical Developments to the Work of a Great Mathematical Physicist.

(201x): What Makes Scale Invariant Models Explanatory?. Together with J. Jhun.

(291x): Redefining equilibrium for Long-range Interacting Systems. Together with Lapo Casetti.

Presentations:

1. Do Scale Invariant Models Explain?: Workshop: How stable are democracies? Complex systems perspectives on modern society, Bristol, UK, January 12-13, 2018.

2. Phase Transitions: A Challenge for Reductionism?: WIP seminar, University of Salzburg, Austria, November 6, 2017.

Workshop The infinite limit and phase transitions, Louvain-la-Neuve, Belgium, June 23, 2017.

Philosophy Colloquium University of Queensland, Brisbane, Australia, March 17, 2017.

3. Market Crashes as Critical Phenomena? Explanation, Idealization, and Universality in Econophysics: (paper with Jennifer Jhun and James Weatherall), Philosophy of Physics Seminar, University of Bristol, UK, October 18, 2017.

Invited Talk at the University of Florence, Italy, October 10, 2017.

Invited talk at the University of St. Thomas, Minneapolis, USA, April 13, 2017.

4. Philosophical Problems Raised by Phase Transitions: Seminario Permanente de Filosofía de las Ciencias, University of Chile, Santiago, Chile, August 16, 2017

Summer School in Mathematical Philosophy for Female Students, Munich, Germany, July 31, 2017.

5. Symmetry-Breaking Phase Transition: A challenge for Reductionism?: Invited talk at the Symmetry and Asymmetry in Physics Workshop, Hanover, Germany, July 2017.

6. Had We But World Enough, and Time: Justifying the Thermodynamic and Infinite-Time Limits in Statistical Mechanics: Workshop: Tatjana Afanassjewa and her legacy: new perspectives on irreversibility, Salzburg, Austria, June 17, 2017.

Workshop: Explanation, Idealization and Causation, Munich, Germany, May 27, 2017.

Further Activities:

Conference main Organizer, Workshop "Explanation, Multiscale Models and Multiple Realizability", Valparaiso, Chile, March 5-8 2018

Conference co-Organizer, Workshop "With and without measure: symmetry and symmetry breaking", Munich, Germany, June, 2017.

Conference Organizing Committee, "Explanation, Idealization and Causation" Workshop, Munich, Germany, May 27, 2017.

t) Dr. Roland Poellinger

1. Type of Affiliation with the MCMP

Roland Poellinger is a postdoctoral researcher with Dr. Barbara Osimani's ERC project "Philosophy of Pharmacology" (since 1 October, 2015).

2. Research Projects

Roland Poellinger has been working in General Philosophy of Science and Formal Epistemology with a special focus on formal theories of causation and their application.

3. Academic Output

Collected work:

Roland Poellinger teamed up with Dr. Samuel C. Fletcher and Dr. Jürgen Landes to jointly guest-edit a special issue on Evidence Amalgamation in the Sciences with the Journal *Synthese*, see https://philpharmblog.wordpress.com/2016/08/03/cfp-si-on-evidence-amalgamation/. The first contributions are published, and the reviewing process is almost completed.

Publications:

(2017): Epistemology of Causal Inference in Pharmacology: Towards a Framework for the Assessment of Harms. *European Journal for Philosophy of Science* (EJPS), together with Jürgen Landes, Barbara Osimani, and Roland Poellinger; preprint URN: http://philsci-

archive.pitt.edu/12294; DOI: 10.1007/s13194-017-0169-1. (50 pages).

(2017): PoeAnalogy-Based Inference Patterns in Pharmacological Research. Forthcoming in: Osimani, Barbara & Adam La Caze (eds.): *Uncertainty in Pharmacology: Epistemology, Methods, and Decisions*. Boston Studies in Philosophy of Science. Springer, 2017 (33 pages).

In preparation:

(201x): On the Ramifications of Theory Choice in Causal Assessment. Indicators of Causation and Their Conceptual Relationships. 18 pages – under review.

(201x): A Protocol for Model Validation and Causal Inference from Computer Simulation. 40 pages – under review, together with Barbara Osimani.

(201x): Real and Virtual Clinical Trials: a Formal Analysis. 18 pages – under review, together with Barbara Osimani, and Marta Bertolaso.

(201x): Bayesian Confirmation by Analogy. 20 pages – under review, together with Cameron Beebe.

(201x): Evidence Amalgamation in the Sciences. In preparation for *Synthese*, together with Jürgen Landes, and Samuel C. Fletcher.

(201x): Making Sense of Attenuated Mechanism Function Toward Explaining the Effects of Pharmacological Intervention. In preparation, together with Alexander Mebius.

Presentations:

1. Learning from Relevant Evidence: Similarity and Analogy in Pharmacology: 10th Munich–Sydney–Tilburg Conference in Philosophy of Science on Causation and Complexity, MuST 2017, Sydney Centre for the Foundations of Science (SCFS), University of Sydney, March 2017.

2. Probabilistic Causal Inference through Evidence Amalgamation: (w/ Jürgen Landes and Barbara Osimani), annual meeting of the Nordic Network for Philosophy of Science, NNPS 2017, University of Copenhagen, April 2017.

3. Confirmation, Disconfirmation, and Discovery of Mechanistic Hypotheses – commentary on Vlasta Sikimic: Discovering Disease-Causing Mechanisms. An Argumentation Perspective: Annual meeting of the Nordic Network for Philosophy of Science, NNPS 2017, University of Copenhagen, April 2017.

4. Relevance, Similarity, and Analogy: Knowledge Transfer in Pharmacological Research: international conference on Reasoning and Argumentation in Science, Center for Advanced Studies (CAS), LMU Munich, May 2017.

5. Probabilistic Causal Inference through Evidence Synthesis: (w/ Jürgen Landes and Barbara Osimani), 12th Causality in the Sciences conference on Time and Causality in the Sciences (TaCitS 2017), Computer Science Dept., Stevens Institute of Technology, Hoboken, New Jersey, June 2017.

6. Towards Robust Causal Claims in Pharmacological Risk Assessment: SILFS 2017 – Triennial International Conference of the

Italian Society for Logic and Philosophy of Sciences, University of Bologna, June 2017.

7. Probabilistic Causal Inference from Heterogeneous Evidence: (w/ Jürgen Landes and Barbara Osimani), conference on Mechanisms in Medicine, Centre for Reasoning, University of Kent, Canterbury (UK), July 2017.

8. Relevance, Similarity, and Analogy in Pharmacology – a Bayesian Reconstruction: conference on Formal Models of Scientific Inquiry (FMSI), Institute of Philosophy II, Ruhr-University Bochum (RUB), July 2017.

9. Tracing Analogical Arguments in Pharmacology: 9th European Congress of Analytic Philosophy (ECAP9), LMU Munich, August 2017.

10. Confirmation by Analogy in Pharmacology: annual conference of the European Philosophy of Science Association (EPSA17), University of Exeter, UK, September 2017.

11. Shaping Causal Claims in Pharmacology: The Interplay between Population Characteristics and Causal Structure: workshop on Drug Safety, Probabilistic Causal Assessment, and Evidence Synthesis, LMU Munich, January 2017.

12. Causal Similarity, Evidential Relevance, and Analogical Inference: workshop on Causality in Psychological Modeling, University of Groningen, Department of Theoretical Philosophy, May 2017, invited.

13. Analogy, Extrapolation, and Causal Similarity: workshop on Idealization, Causation, and Explanation, LMU Munich, May 2017.

14. Modeling Cause and Effect – Philosophical and Computational Aspects: opening lecture at the workshop on Causation, Explanation, Conditionals organized by the Graduate School of Systemic Neurosciences (GSN) and the Bernstein Center for Computational Neuroscience (BCCN), Evangelische Akademie Tutzing, June 2017, invited.

15. Reproducibility, Reliability, and Relevance: a Bayesian Framework for Evidence Synthesis in Pharmacology: (with Barbara Osimani), symposium on Evidence Synthesis: Statistics meets Formal Epistemology at the CEN–ISBS Joint Conference on Biometrics & Biopharmaceutical Statistics 2017, Medical University of Vienna, August 2017, invited.

Further Activities:

Starting in October 2015, Roland Poellinger co-organized the cross-faculty program Formal(isiert)es Denken und empirisches Argumentieren, (w/ Prof. Dr. Thomas Augustin, statistics department), co-funded by Lehre@LMU; in this lecture series, Roland Poellinger gave the lecture Zusammenhänge präzisieren im Modell (on the syntax and semantics of formal models). The series had two further editions in 2017 (April and October).

Roland Poellinger was invited to the workshop on Causation, Explanation, Conditionals organized by the Graduate School of Systemic Neurosciences (GSN) and the Bernstein Center for Computational Neuroscience (BCCN), Evangelische Akademie Tutzing, June 2017. He gave the opening lecture on "Modeling Cause and Effect – Philosophical and Computational Aspects".

Roland Poellinger is an associate member of the Graduate School for Philosophy at the University of Pécs, Hungary.

u) Dr. phil. habil. Alexander Reutlinger

1. Type of Affiliation with the MCMP

Alexander Reutlinger is Assistant Professor at the Chair of Philosophy of Science.

2. Research Projects

His research was focused on the following areas in philosophy of science: (i) non-causal explanations, (ii) the relation between emergence, explanation and idealization, and (iii) biased research in science.

3. Academic Output:

Publications:

(2017): Rethinking Scientific Explanation. Explanation Beyond Causation, Habilitation, LMU Munich, Venia: Philosophy.

(2017): Understanding (With) Toy Models. *The British Journal for the Philosophy of Science*, Online First, together with Dominik Hangleiter und Stephan Hartmann.

(2017): Modeling Inequality. *The British Journal for the Philosophy of Science*, Online First, together with Karim Thébault and Seamus Bradley.

(2017): Are Causal Facts Really Explanatorily Emergent? Ladyman and Ross on Higher-level Causal Facts and Renormalization Group Explanation. *Synthese* 194: 2291-2305.

(2017): Do Renormalization Group Explanations Conform to the Commonality Strategy?. *Journal for General Philosophy of Science* 48: 143-150.

(201x) Explanation Beyond Causation. Philosophical Perspectives on Non-Causal Explanations. Oxford: Oxford University Press, together with Juha Saatsi.

(201x): Taking Reductionism to the Limit. How to Rebut the Anti-Reductionist Argument from Infinite Limits. *Philosophy of Science*, together with Juha Saatsi.

(201x): Extending the Counterfactual Theory of Explanation. A Monist Account of Causal and Non-Causal Explanations. In: *Explanation Beyond Causation*, Oxford: Oxford University Press, eds. with Juha Saatsi.

(201x): Entering a New Decade: Is There Explanation Beyond Causation?. In: *Explanation Beyond Causation*, Oxford: Oxford University Press, eds. with Juha Saatsi.

(201x): Explanation Beyond Causation? New Directions in the Philosophy of Scientific Explanation. *Philosophy Compass*, Online First.

(201x): Kausalität, In: *Metzler Handbuch Metaphysik*, M. Schrenk (Hg.), Metzler Verlag, 306-311.

(201x): Alternative Fakten?. *Cogito*.

(201x): Was sollen Philosoph/innen tun?. Kommentar zur Podiumsdiskussion 'Bedrohtes Denken' (DGPhil Kongress 2017)", *Zeitschrift für philosophische Forschung*, together with Maria Kronfelnder.

(201x): Review of Marc Lange's Because Without Cause. *Notre Dame Philosophical Reviews*.

Presentations:

1. Understanding and Non-Causal Explanation: May 2018, University of Gent, keynote lecture.

2. The Counterfactual Theory of Scientific Explanation: September 2017, DKPhil 2017, HU Berlin.

3. What is Epistemically Wrong With Biased Research?: August 2017, ECAP9, LMU Munich.

4. Non-Causal Explanations: July 2017, Research Seminar, University of Cologne.

5. The CTE as an Epistemic Account of Explanation: January 2017, Workshop Inferentialism, Bayesianism, and Scientific Explanation, Munich Center for Mathematical Philosophy, LMU Munich.

Conference Organization:

1. Member of the Program Committee of the BSPS Meeting (July 2018), University of Oxford.

2. Member of the Program Committee of the MuST Conference (June 2018), University of Turin.

3. Organizer of the workshop "Objectivity – New Perspectives on Objective Inquiry", (May 2018), Munich Center for Mathematical Philosophy (MCMP).

4. Organizer of the Jerusalem-Munich Workshop "Explanation and Reduction in the Sciences" (February 2018), The Hebrew University of Jerusalem (Edelstein Center for History and Philosophy of Science, Technology and Medicine); co-organizers: Stephan Hartmann and Orly Shenker.

5. Organizer of the workshop "Biases and Values in Science", (July 2017), Munich Center for Mathematical Philosophy (MCMP).

6. Organizer of the Workshop "Idealization, Causation, Explanation" (May 2017), Munich Center for Mathematical Philosophy (MCMP), co-organizer: Patricia Palacios.

7. Organizer of the Jerusalem-Munich Workshop "Explanation in Science and Mathematics" (February 2017), Munich Center for Mathematical Philosophy (MCMP); co-organizers: Stephan Hartmann and Orly Shenker.

Awards and Honors:

Alexander Reutlinger received the teaching award (Preis für gute Lehre) for the academic year 2016/17, awarded by the philosophy students of LMU Munich.

v) Dr. Simon Scheller

1. Type of Affiliation with the MCMP

Simon Scheller was a Doctoral Researcher in October and November 2017 and is now a Postdoctoral researcher at the MCMP since December 2017 until September 2018.

2. Research Projects

Simon Scheller has been working in Political Philosophy, Democratic Theory, Computational Philosophy, Social Epistemology and Game Theory.

3. Academic Output

Publications:

(2018): *Democratic Decision Making – A Theoretical Analysis.* Bamberg: Bamberg University Press

(2018) When do groups get it right? On the Epistemic Performance of Voting and Deliberation. *Historical Social Research,* 43. (forthcoming)

(2017) Mitigating the Problem of Manipulation in the 'Adjusted Winner' Procedure. *Jahrbuch für Handlungs- und Entscheidungstheorie*, Bd. 10

In preparation:

(201x): Rationality in Context. On Inequality and the Epistemic Problems of Maximizing Expected Utility. Together with Johannes Marx and Dominik Klein, under review.

(201x). Fear Appeals as a Political Strategy – A theoretical Exploration. Under review.

(201x): Political Epistemology: How can Democratic Communities Safeguard against Strategic Manipulation?.

(201x): Trust in Heterogeneous Population – An Agent Based Computer Simulation.

(201x): Symmetric Bargaining among Utility-maximizers leads to Inequality. An Argument against non-interventionism. Together with Johannes Marx and Dominik Klein.

(201x): Diversity and Discrimination in Scientific Communities. Together with Bengt Autzen.

Presentations:

1. Trust in Heterogeneous Populations – An Agent Based Computer Simulation. At: "Social Trust" – The Bowling Green Workshop in Applied Ethics and Public Policy, Bowling Green, Ohio, US, April 2018.

2. Political Epistemology – How Can Democratic Communities Safeguard against Strategic Manipulation? At: Work in Progress-talks, Munich Center for Mathematical Philosophy, Munich, Germany, January 2018.

3. Democratic Decision Making – A Theoretical Analysis. Dissertation Defense, University of Bamberg, Germany, December 2017.

4. Political Epistemology: Manipulating Opinions by Manipulating Facts. At: Communication, Reasoning and Social Epistemology

Conference, Berlin School of Mind and Brain, Berlin, Germany, July 2017.

w) Dr. Tom F. Sterkenburg

1. Type of Affiliation with the MCMP

Tom Sterkenburg is a Postdoctoral Fellow with the Chair of Philosophy of Science.

2. Research Projects

Tom Sterkenburg works on the philosophical foundations of machine learning.

3. Academic Output

Publications:

(2017): A Generalized Characterization of Algorithmic Probability. *Theory of Computing Systems* 61(4): 1337-1352, Journal Version.

(2017): The CWI World Cup Competition: Eliciting Sets of Acceptable Gambles. *Proceedings of Machine Learning Research* 62:277-288, together with Erik Quaeghebeur, Chris Wesseling, Emma Beauxis-Aussalet, and Teresa Piovesan, Journal Version.

In preparation:

(201x): Putnam's Diagonal Argument and the Impossibility of a Universal Learning Machine, To appear in *Erkenntnis.*

(20xx): The Meta-Inductive Justification of Induction.

(20xx): The Meta-Inductive Justification of Induction: The Pool of Strategies.

(20xx): On the Truth-Convergence of Open-Minded Bayesianism.

(20xx): Predictive Complexity.

Presentations:

1. On the Truth-Convergence of Open-Minded Bayesianism: Work in Progress Seminar, MCMP, LMU Munich, Germany (November 2017).

2. The Impossibility of Universal Prediction: Düsseldorf Center for Logic and Philosophy of Science Research Seminar, HH University Düsseldorf, Germany (October 2017).

3. The Meta-Inductive Justification of Induction: Research Seminar in Epistemology and Philosophy of Science, Tilburg Center for Logic, Ethics, and Philosophy of Science, University of Tilburg, The Netherlands (September 2017).

4. Putnam's Diagonal Argument and the Impossibility of a Universal Learning Machine: 9th European Congress of Analytic Philosophy, LMU Munich, Germany (August 2017).

5. Universal Prediction and the Indispensability of Theory: Show and Tell, Center for Formal Epistemology, Carnegie Mellon University, Pittsburgh, USA (May 2017).

x) Dr. Reuben Stern

1. Type of Affiliation with the MCMP

Reuben Stern is a postdoctoral fellow at the MCMP.

2. Research Projects

Reuben Stern has been working in General Philosophy of Science, Bayesian Epistemology, Philosophy of Mind, and Decision Theory.

3. Academic Output

Publications:

(201x): Decision and Intervention. *Erkenntnis*.

(f201x): Causal Explanatory Power. *The British Journal for the Philosophy of Science*, together with Benjamin Eva.

(201x): Diagnosing Newcomb's Problem with Causal Graphs. In: A. Ahmed (ed.) *Newcomb's Problem*, Classic Philosophical Arguments, Cambridge University Press.

(201x): The Many Ways to Achieve Diachronic Unity. In: J. Bermudez (ed.) *Self Control and Rationality: Interdisciplinary Essays*, Cambridge University Press, together with Kenny Easwaran.

(201x): The Frugal Inference of Causal Relations. *The British Journal for the Philosophy of Science*, together with Malcolm Forster, Garvesh Raskutti, and Naftali Weinberger.

(201x): In Defence of Interventionist Solutions to Exclusion. *Studies in History and Philosophy of Science*, together with Tom Polger and Lawrence Shapiro.

(2017): A Causal Understanding of When and When Not to Jeffrey Conditionalize. *Philosophers' Imprint*, 17: 1-21, together with Ben Schwan.

(2017): Interventionist Decision Theory. *Synthese*, 194: 4133-4153.

In preparation:

(210x): Why Think That Causes Must Temporally Precede Their Effects.

(201x): Reifying Modus Ponens. Together with Stephan Hartmann.

(201x): Antireductionist Interventionism. Together with Benjamin Eva.

(201x): The Similarity of Causal Structure. Together with Benjamin Eva and Stephan Hartmann.

(201x): Diachronic and Interpersonal Coherence. Together with Kenny Easwaran.

(201x): Two Dimensions of Collective Agency. Together with Kenny Easwaran

Selected Presentations:

1. "Causation, Explanation, and Context," January 2017, Workshop on Inferentialism, Bayesianism, and Scientific Explanation, Munich Center for Mathematical Philosophy.

2. "The Many Ways to Achieve Diachronic Unity," May 2017, Workshop on Self-Control, Rationality, and Decision Theory, Texas A&M University (with Kenny Easwaran).

3. “When Rigidity Fails,” June 2017, Birkbeck/UCL Psychology Colloquium, University College London.

4. “Why Think That Causes Must Precede Their Effects,” July 2017, Workshop on Decision Theory and the Future of Artificial Intelligence, Cambridge University.

5. “Causal Explanatory Power,” September 2017, European Society for the Philosophy of Science Biannual Conference, University of Exeter (with Benjamin Eva).

6. “Antireductionist Interventionism,” November 2017, Düsseldorf Center for Logic and Philosophy of Science Colloquium, University of Düsseldorf.

7. “Reifying Modus Ponens,” December 2017, Kent Formal Epistemology Conference, University of Kent.

y) Pascal Ströing

1. Type of Affiliation with the MCMP

Pascal Ströing is doctoral student under supervision of Stephan Hartmann. He holds a dissertation scholarship from the Studienstiftung des deutschen Volkes.

2. Research Projects

His dissertation project focusses on questions from General Philosophy of Science with argumentations that are based on exemplary investigations from different scientific fields and mathematical explications.

3. Academic Output

Publications:

(201x): Data, Evidence and Explanatory Power. *Philosophy of Science* (forthcoming).

(2018): Phenomena and Patterns in Science. Dissertation Thesis.

Presentations:

1. Warum ist Wissenschaftsphilosophie relevant (für die Wissenschaften)?: Doktorandenforum der Studienstiftung des deutschen Volkes, Bad Homburg, Germany.

2. Phenomena, Evidences and Scientific Explanation: The Second Jerusalem-MCMP Workshop in the Philosophy of Science, MCMP, Munich, Germany.

4. False reasoning and dogmas at the search for contact with non-human intelligent life: Work-In-Progress talk, MCMP, Munich, Germany.

z) Prof. Giovanni Valente

1. Type of Affiliation with the MCMP

Giovanni Valente is currently an Associate Professor at the Politecnico di Milano. He was the recipient of a Humboldt Fellowship for Experienced Researchers until July 31, 2017.

2. Research Projects

Giovanni Valente has been working in General Philosophy of Science and Philosophy of Physics and Mathematics.

3. Academic Output

Publications:

(2017): On the Paradox of Reversible Processes in Thermodynamics. forthcoming in *Synthese*. https://doi.org/10.1007/s11229-017-1560-3. ISNN: 0039-7857

Presentations:

1. "Causality and Particle Phenomenology": LARSIM, Saclay, France, May 2017

2. "On the Paradox of Reversible Processes in Thermodynamics": Workshop on "Tatjana Afanassjewa and her legacy: New perspectives on irreversibility", Salzburg, Austria, June 2017.

Conference on "The Second Law", Munich, Germany, September 2017.

3. "Equivalence and Inequivalence in Quantum Symmetry Breaking": Conference on "Symmetries and Asymmetries in Physics", Hannover, Germany, July 2017

Further Activities:

Organization of Workshops

1. Workshop: "Tatjana Afanassjewa and Her Legacy: New Perspectives on Irreversibility", Co-organizer (with Charlotte Werndl and Lena Zuchowski), Salzburg, Austria, June 2017

2. Workshop: "With and Without Measure: Symmetry and Symmetry Breaking", Co-organizer (with Erik Curiel, Neil Dewar and Patricia Palacios), Munich, Germany, June 2017

ä) Dr. Dr. Momme von Sydow

1. Type of Affiliation with the MCMP

Momme von Sydow is a Senior Research Scholar at the MCMP, associated with a project of Prof. Dr. Ulrike Hahn's Anneliese Maier-Research Award.

2. Research Projects

Momme von Sydow has been working on Contingency Assessment and Issues of Bayesian Epistemology, particularly in Bayesian Social Epistemology.

3. Academic Output

Publications:

(2017): Betting on Transitivity in an Economic Setting. *Cognitive Processing*, 18, 505-518, together with Dennis Hebbelmann. doi: 10.1007/s10339-017-0821-x.

(2017): Overcoming the Tragedy of Personnel Selection?. *Proceedings of the Thirty-Ninth Annual Conference of the Cognitive Science Society* (pp. 3460-3465), together with Niels Braus and Ulrike Hahn. Austin, TX: Cognitive Science Society. (https://mindmodeling.org/cogsci2017/papers/0652/ index.html)

(2017): Altruist vs. Egoist Detection and Individual vs. Group Selection in Personnel Management. *Proceedings of the Thirty-*

Ninth Annual Conference of the Cognitive Science Society (3466-3471). Austin, TX: Cognitive Science Society, together with Niels Braus. (https://mindmodeling.org/cogsci2017/papers/0653/index.html)

(2017). Rational Explanations of the Conjunction Fallacies – A Polycausal Proposal. *Proceedings of the Thirty-Ninth Annual Conference of the Cognitive Science Society* (pp. 3472-3477). Austin, TX: Cognitive Science Society. (https://mindmodeling.org/cogsci2017/papers/0654/ index.html)

In preparation:

(201x): How Good is Your Evidence and How Would You Know?. Together with Ulrike Hahn and Christoph Merdes, invited submission *TopiCS*, resubmitted.

(201x): Comments to "Computational Approaches to Social Cognition". Edited by Samuel Gershman and Fiery Cushman, together with Klaus Fiedler, invited *TopiCS*.

(201x): Knowledge Through Social Networks: The Good, the Bad, and the Ugly. Together with Ulrike Hahn and Christoph Merdes.

(201x): How Communication Can Make Voters Choose Less Well. Together with Ulrike Hahn and Christoph Merdes.

(201x): Thinking Locally or Globally. Trying to Overcome the Tragedy of Personnel Evaluation. Together with Niels Braus and Ulrike Hahn.

(201x): On the Ignorance of Group-Level Effects – The Tragedy of Personnel Selection. *Journal of Experimental Psychology*, together with Niels Braun and Ulrike Hahn.

Presentations:

1. Charles Darwin's 'Survival of the Fittest' - Tautology or Testable Theory?:XXIV. Kongress der Deutschen Gesellschaft für Philosophie zum Thema Norm und Natur (Organisator: Prof. Perler). Humboldt-Universität zu Berlin, September 2017

2. On the Ignorance of the Group-Level Effects - The Tragic of Personnel Evaluation: Fachgruppentagung. 10. Tagung der Fachgruppe Arbeits-, Organisations- und Wirtschaftspsychologie der Deutschen Gesellschaft für Psychologie. September 2017, together with Braus, Niels, & Hahn, Ulrike.

3. Bayesian Logic as Generalized Occam's Razor: Explaining the Conjunction Fallacy: Ninth European Congress of Analytic Philosophy (ECAP9), Munich, August 2017.

4. 'Survival of the Fittest' - Metaphysical Tautology or False Theory?: Ninth European Congress of Analytic Philosophy (ECAP9), Munich, August 2017.

5. Rational Explanations of the Conjunction Fallacies – A Polycausal Proposal: Thirty-Ninth Annual Conference of the Cognitive Science Society (CogSci 39), London, July 2017 (poster).

6. Altruist vs. Egoist Detection and Individual vs. Group Selection in Personnel Management: Thirty-Ninth Annual Conference of the Cognitive Science Society (CogSci 39), London, July 2017 (poster). Together with Braus, Niels.

7. Overcoming the Tragedy of Personnel Selection?:Thirty-Ninth Annual Conference of the Cognitive Science Society (CogSci 39), London, July 2017 (poster), together with Braus, Niels, & Hahn, Ulrike.

Studies On Number-Based Altruist and Egoist Detection. Tagung experimentell arbeitender Psychologen (TeaP) (Fachgruppentagung allg. Psychologie der DGPs), Dresden, March 2017.

8. Bayesian Logic as Intensional Logic and Generalised Bayesian Occam's Razor: Symposion 6 'Bayesian Logic'. The 10th London Reasoning Workshop (organizers: M. Oaksford, V. Thompson, N. Adams, Birkbeck College, University of London July 2017.

9. Conjunction Fallacies – a Polycausal Proposal: Tagung experimentell arbeitender Psychologen (TeaP) (Fachgruppentagung allg. Psychologie der DGPs), Dresden, March, 2017.

ö) Dr. Gregory Wheeler

1. Type of Affiliation with the MCMP

Gregory Wheeler was an Assistant Professor at the Chair of Philosophy of Science until he left the MCMP to become Professor of Philosophy and Computer Science as well as Head of Philosophy & Law Department at the Frankfurt School of Finance & Management.

2. Research Projects

Gregory Wheeler works on foundations of probability, formal epistemology, bounded rationality, philosophy of science, and agent based modelling.

3. Academic Output

Publications:

(201x): Resolving Peer Disagreements Through Imprecise Probabilities. *Nous*, together with Lee Elkin.

(201x): Machine Epistemology and Big Data. In: Lee McIntyre and Alex Rosenberg (Eds.) *The Routledge Companion to Philosophy of Social Science*, in press.

Further Activities:

Gregory Wheeler is a member of the editorial boards of *Synthese* and *Minds and Machines*.

Gregory Wheeler serves as At-Large Member of the *Society for Imprecise Probability: Theory and Applications* (SIPTA) Executive Committee.

He was a member of the Program Committee for *PROGIC 2017*, MCMP, LMU Munich.

He was co-coordinator of the MA program in Logic and Philosophy of Science.

He was a member of the LMU Graduate School for Neuroscience PhD selection committee.

(V) We also hosted several visitors and visiting fellowships:

The MCMP is regularly hosting visitors: this includes our recurring Visiting Professors, scholars who are spending their sabbaticals at the Center, and visiting postdocs and students. In addition we introduced a visiting fellowship scheme by application for postdocs and faculty (senior), advanced PhD students (junior) or a group of two to four researchers which may also include scientists (research group) to come and visit the MCMP on our funding for a month during the academic year. This is the list of visitors at the MCMP and invited by the chair of philosophy if science during the period from January to December 2017:

Bennett Holman (Yonsei University)	01.01.2017-15.02.2017
Shanna Slank (University of Wisconsin-Madison)	01.01.2017-30.09.2017
Aidan Meyer-Golden (Northeastern University)	19.01.2017-30.06.2017
Arthur Schwaninger (University of Cambridge)	24.02.2017-31.05.2017
Maria Jose Ferreira Ruiz (University of Buenos Aires)	10.04.2017-09.06.2017
Cristian Lopez (University of Buenos Aires)	10.04.2017-09.06.2017
Michael Cuffaro (University of Western Ontario)	25.04.2017 - 25.05.2017
Alma Barner (Australian National University)	01.05.2017-31.07.2017
Molly Kao (Université de Montréal)	04.05.2017-25.05.2017
Michael Strevens (New York University)	21.05.2017-01.06.2017
Casey McCoy (UC San Diego)	22.05.2017-16.06.2017
Laura Valentini (London School of Economics)	28.05.2017-05.06.2017
Lydia Patton (Virginia Tech)	29.05.2017-11.06.2017
Richard David-Rus (Institute of Anthropology F. Rainer)	01.06.2017-31.08.2017
Matias Osta Velez (University of Paris I Sorbonne)	05.06.2017-30.06.2017
Bryan Roberts (London School of Economics)	14.06.2017-28.06.2017
George Ellis (University of Cape Town)	23.06.2017-02.07.2017
Daniel Steel (University of British Columbia)	09.07.2017-22.07.2017
Natalia Zenkova (Tambov State University)	15.09.2017-15.12.2017

Fahad Rashed Almutairi (College of Education, Kuwait)	30.09.2017-31.08.2018
Michele Luchetti (Central European University)	01.10.2017-31.08.2018
Elena Castellani (University of Florence)	16.10.2017-30.10.2017
Tarja Knuutila (University of South Carolina)	16.10.2017-30.10.2017
Katie Robertson (University of Cambridge)	16.10.2017-16.12.2017
Edoardo Rivello (University of Cambridge)	16.10.2017-31.01.2018
Shakthi Shrima (Princeton University)	16.10.2017-16.02.2018
Johannes Findl (Universitat de Barcelona)	08.12.2017-28.02.2018

a) Fahad Rashed Almutairi visited the MCMP on his own funds. During that period, he has been working on two papers, one on Chomsky's latest linguistic theory, and the other on the extent to which linguistic theory can be falsifiable: “Minimalism: Keeping the program honest” and “Linguistic Theory and the Problem of Unfalsifiability”, on which he also gave an MCMO Colloquia Talk. Furthermore he has attended several talks and seminars at MCMP during the period indicated. He has also attended a workshop at Salzburg University, titled "Global Perspectives on Reasoning and Scientific Method." (30 November-1 December 2017).

b) Alma Barner visited the MCMP on her own funds. Her research is situated at the intersection between philosophy of mind, philosophy of language and traditional epistemology. She found a very stimulating environment at the MCMP and joined the various activities offered there during her stay.

c) Elena Castellani and Tarja Knuutila visited the MCMP in a research group fellowship in October 2017. Their research work, during their stay, has regarded the apparent contrast between two main approaches to scientific representation, the pragmatic and structuralist accounts, and the possibility of arguing for a hybrid pragmatic-structural account. As results they gave a joint MCMP colloquia talk on "Scientific Representation: Strategies of Compartmentalization in Negotiating the Structuralism-Pragmatism Divide. Furthermore, a joint paper entitled "Pragmatic and Structuralist Accounts of Representation: A Case for Reconciliation?"is going to be submitted for presentation at the PSA 2018 meeting in Seattle, Washington.

d) Michael Cuffaro visited the MCMP twice in 2017. During that time his funding was provided by the MCMP, the University of Western Ontario, and the Foundational Questions Institute (FQXi). He used his stay to work on his individual and collaborative research projects, to begin new collaborative research projects with colleagues, to give presentations on his research both in Munich and in nearby locations, and to participate in workshops that he did not present at as well. More specifically, he engaged in collaborative research with the following colleagues: Samuel Fletcher (University of Minnesota), Markus Müller (IQOQI, Vienna), Laura Felline (University of Rome), Molly Kao (University of Montreal), Stephan Hartmann (MCMP), and Michel Janssen (University of Minnesota). He devoted time to his

individual projects: "Information Causality, the Tsirelson Bound, and the 'Being-Thus' of Things", "Universality, Invariance, and the Foundations of Computational Complexity in the light of the Quantum Computer", and to "Causality and Complementarity in Kant, Hermann, and Bohr". Details on his concrete research outputs are as follows: the paper "Physical Perspectives on Computation, Computational Perspectives on Physics", Cambridge University Press, 2018 together with Samuel C. Fletcher; the paper "Universality, Invariance, and the Foundations of Computational Complexity in the light of the Quantum Computer.", forthcoming in Technology and Mathematics: Philosophical and Historical Investigations (Springer-Verlag), Sven Ove Hansson (ed.); the paper "Information Causality, the Tsirelson Bound, and the 'Being-Thus' of Things.", forthcoming in Studies in History and Philosophy of Modern Physics; the paper "Causality and Complementarity in Kant, Hermann, and Bohr.", under review by Synthese. He also gave and will give an impressive number of talks on these topics: "Objective Reality as an Emergent Phenomenon", University of Montreal Workshop on Theory Development, Montreal, Quebec, May 2018 together with Markus Müller; "Employing Agent-Based Computer Simulations in Developing Theories of Distributive Justice," Models and Simulations 8 Conference, South Carolina, March, 2018 with Molly Kao; "The Open Systems View as Fundamental," British Society for the Philosophy of Science (BSPS) Annual Conference, July 2018 with Stephan Hartmann; "The Open Systems View as Fundamental," Philosophy of Science Association (PSA) Biennial Meeting, November, 2018 with Stephan Hartmann; "The Foundations of Computational Complexity in the Light of Quantum Computing," University of Western Ontario Applied Mathematics Colloquium, London, Ontario, October 2017; "Information Causality, the Tsirelson Bound, and the 'Being-Thus' of Things," New Directions in the Foundations of Physics Workshop, June 2018, Viterbo, Italy; "Information Causality, the Tsirelson Bound, and the 'Being-Thus' of Things," Physics Interest Group, University of Minnesota, November 2017; "Information Causality, the Tsirelson Bound, and the 'Being-Thus' of Things," Workshop in Memory of William Demopoulos, University of Western Ontario, September 2017; "Information Causality, the Tsirelson Bound, and the 'Being-Thus' of Things," University of Geneva, Geneva, Switzerland, September 2017; "Information Causality, the Tsirelson Bound, and the 'Being-Thus' of Things," 9th European Congress of Analytic Philosophy, Munich, Germany, August 2017; "Information Causality, the Tsirelson Bound, and the 'Being-Thus' of Things," Triennial International Conference of the Italian Society for Logic and Philosophy of Science, Bologna, Italy, June 2017; "Causality and Complementarity in Kant, Hermann, and Bohr," University of Hannover, May 2017;"On Algorithmic How-Possibly Explanation," Munich Center for Mathematical Philosophy, Workshop: Exploring Scientific Method: Evidence, Explanation, and Unification in Science, May 2017; "A New Constructional System", University of Bristol, May 2017 with Markus Müller; "A New Constructional System", Munich Center for Mathematical Philosophy, May 2017 with Markus Müller. Furthermore he engaged in the following further activities made possible by his time spent at the MCMP: Panel discussant (with Stefano Osnaghi, Chris Timpson, and Rüdiger Schack) on "Participatory Realism: How Far Goes Too Far?", Workshop on Participatory Realism, Stellenbosch Institute for Advanced Study (STIAS), Stellenbosch, South Africa, June 2017; Co-organiser of the workshop: “Algorithmic Information, Induction and Observers in Physics,” to be held at the Perimeter Institute for Theoretical Physics, Waterloo, Ontario, April 9-13, 2018. Funded by the Perimeter Institute and the Foundational Questions Institute; Co-organizer of the “9th International Workshop on Physics and Computation” (A Satellite

Workshop of the 2018 Conference for Unconventional Computing and Natural Computing) to be held in Fontainebleau, France, June 25-29, 2018; Co-organizer of the symposium "The Philosophy of Open Quantum Systems", British Society for Philosophy of Science (BSPS) meeting, Oxford, UK, July 2018; Philosophy of Science Association (PSA) meeting, Seattle, WA, November 2018; Co-organizer of the "Workshop in Memory of William Demopoulos," held at the University of Western Ontario in September, 2017, funded by Research Western; he visited the University of Minnesota in November 2017 to engage in collaborative research with Michel Janssen, and also to give a presentation of his individual work (see above); Organizer of a reading group on the philosophy of Ernst Cassirer, 2017-18 academic year, University of Western Ontario; Co-organizer of the Rotman Institute of Philosophy's philosophy of physics reading group, 2017-18 academic year.

e) Richard David-Rus stayed at the MCMP on his own funds, a DAAD Fellowship and on an EPSA Fellowship for Eastern European Researchers. His research was concerned mainly with the issue of scientific understanding in particular with the investigation of the non-explanatory forms as provided through some computational models as ABM models. As a result he published the following papers: "On Understanding Through Agent-based Models, *Balkan Journal of Philosophy* 9(1): 53-62; "Înţelegere fără explicaţie cazul modelelor ABM", vol al *3lea Studii De Epistemologie si de Teoria Valorilor*, coord. M. Draghici si G. Nagat, Ed. Academiei, Bucuresti. Together with L. Bielik he edited a special issue on The Inaugural Conference of the East European Network for Philosophy of Science (EENPS). As a result he gave presentations on the topic at the workshop "Scientific modeling and explanation. Philosophical & scientific insights from cognitive science and beyond" in Bucharest as well as at the workshop "Explaining & understanding through agent-based models" in Bratislava. His visit in Munich was also used to participate at ECAP9 in Munich, and EPSA17 in Exeter.

f) George Ellis visited the MCMP on a Visiting Fellowship for Senior Researcher. During his time at the MCMP he used the environment at the Center to discuss issues to do with top-down causation and the nature of causation in physics and biology with Prof. Hartmann, post docs, and students. He has also discussed the limits of testing of theories, particularly in physics and cosmology. As a result the following papers can be claimed: The Difference between Physics and Biology: The Key Role of Biomolecules, together with Jonathan Kopel, which was presented at University of Cape Town and Imperial College, London; Top-down effects in the brain, requested and under review with Physics of Life. Furthermore George is at the final stages of developing a paper on top down causation and evolution, again developing these ideas further in a different field. Furthermore he was invited to a workshop on top-down causation to be given to the group of Markus Gabriel at Bonn in 2018, as the start of a collaboration funded by his institute. He will also talk on it to the group of Barbara Droessel at Darmstadt on to down causation and quantum theory in 2018, developing this project with her, funded by her institute. With others, George is developing a proposal for an Institute of Integrated Studies that will develop from these ideas. It will probably be situated jointly at the Said School of Business Studies, Oxford University, Oxford, and the Beyond Centre, Arizona State University, Phoenix. This is proposal is under development, with several possible sources of funding.

g) Maria Jose Ferreira Ruiz visited the MCMP between April 10th and June 10th 2017 on personal funds. At the time of her stay she did

research on the conceptual links between information and causation in the context of molecular biology. Specifically, examining the extent to which the talk of information in biology has actually been a way to talk about causation, and the many conceptual conflations involved. While at the MCMP she gave a talk at the WIP seminar (MCMP) and also at Biological Interest Group (Geneva). She also wrote a paper based on that talk that is now under review. Maria also wrote a more general paper on information in biology in Spanish that is also under review. During her stay, she visited the University of Geneva, where she was offered a 1-semester assistant position.

h) Johannes Findl visited the MCMP on personal funds. At the Center, he was working on the relationship between scientific explanation and understanding: How do scientific explanations provide understanding? He gave argument to the effect that this claim makes sense only if the communicative and pragmatic role of scientific explanations is properly acknowledged, a task which calls for a close analysis of the actual scientific practice of giving and receiving explanations, the latter of which, or so he argued, depends on our ability to understand what is explained to us. He tried to show that understanding is an ability which concerns a subject's grasping of certain elements in a complex body of information related to the content of an explanation. He analyzed existing theories of scientific explanations and explored the conclusions a) whether one of them adequately applies to many different phenomena across many different sciences or b) whether we better be pluralists about scientific explanations. Second, he argued against a specific conception of scientific explanations as ontic entities and contrast it with a communicative, pragmatic conception. Third, he described philosophical accounts that relate explanation with lawhood and showed their shortcomings when compared to the reality of practicing scientists. He argued for a non-trivial pragmatic account a lawhood which applies to different sciences and is compatible with the actual scientific practice. Fourth, he painted a broader picture in which scientific explanations are context-dependent answers to specific questions driven by our epistemic interests. Fifth, he outlined a theory of understanding and discuss its relation to knowledge. Finally, he explored how to conceive of the relationship between explanation and understanding and a forteriori ground its importance for giving a plausible picture of human science on earth. He also attended several talks while at the MCMP, e.g. Wolfgang Spohn, Jamie Tappenden, Mario Günther and Adrian Curry.

i) Bennett Hollman visited the MCMP from January 1st – February 28th on a Senior Researcher Visiting Fellowship. While at the MCMP he finished work on a paper on the effect of diversity and democracy and began a paper on meta-analysis of medical research. Both papers paper can also be claimed as a result of his work: 1. Holman, Berger, Singer, Grim, & Bramson: Diversity and Democracy: Agent-based Modeling in Political Philosophy, Historical Social Research. He presented said topic at the following conferences: Topics in Scientific Philosophy Workshop, UC Irvine (invited), Formal Epistemology Workshop, University of Washington, Seattle, Colloquia Talk, Munich Center for Mathematical Philosophy (invited); 2. In Defense of Meta-analysis, Synthese, which was presented at the conference Issues in Medical Epistemology, University of Cologne (invited keynote). While in Munich, he was also invited to Cambridge University: Philosophy of Medicine Reading Group and Durham University: Center for Humanities Engaging Science and Society Seminar Series. He also applied and was successful in receiving a visiting research fellowship at Oxford Center for Evidence-based Medicine, University of Oxford.

j) Molly Kao visited the MCMP on private research funds from her home university, the Department of Philosophy at University of Montreal. During her time at the MCMP she worked on three main projects: The first was a project on the idea of "old evidence", which is a problem in the formal framework of Bayesian epistemology for how it represents the importance of facts that were already known before the time that a scientific theory is developed. Based on a paper by Stephan Hartmann and Branden Fitelson (who was also visiting the MCMP at the time that Molly was there), she looked at a possible solution to this mathematical problem and showed how it could have worked in an actual historical case of the development of quantum physics. Her second project was on the topic of "unification" in science and the heuristic role it plays in the development of scientific theories. She argued that it is good to consider the idea that a new theory might unify multiple areas (by accounting for phenomena that were previously unrelated) not just because a unifying theory is more likely to be true, but because there is value in failed attempts of unification since this helps delimit the range of applicability of a new theory. Her last project had to do with the distinction between the context of discovery of a scientific theory and the context of its justification. An older view in philosophy of science is that the two ways of thinking about a theory were strictly separate and that the way we discover (or develop) a theory has nothing to do with how we justify it, whereas more recent work holds that the two contexts are inextricable. She worked on an argument according to which we can maintain the distinction by being more precise about what is being discovered or justified within a theory, and that it is important for our understanding of a theory's structure to do so. I gave three talks during this time, corresponding to the three research projects she worked on. The first two talks have since been published as journal articles, one in Philosophy of Science (published January 2018) and one in Synthese (online first in 2017). The third project, on discovery and justification, became a talk that she has given in several venues such as the annual meeting of the Canadian Society for History and Philosophy of Science in June 2017, as well as various invited talks in Montreal (September and October 2017) and that she is currently preparing for publication. While at the Center she co-organized an MCMP workshop that took place during her visit, 8-9 May on the topic of "Exploring Scientific Method: Evidence, Explanation and Unification in Science". This contributed directly to her publication of this article in Synthese since she was able to discuss the material with one of the guest editors of that issue, Juergen Landes. She also visited Leibniz Universität Hannover during her visit to participate in a workshop called "Explanatory Strategies in Physics" on May 11.

k) Cristian Lopez stayed at MCMP from April 10th to June 9th 2017 as an MCMP visiting fellow as well as on personal funding. During his stay at MCMP he has developed further his PhD thesis. In general, his research topic focused on the problem of the arrow of time in quantum theories. Particularly, whether fundamental dynamical equations are time-reversal invariant or not. He had the chance to discuss his research with many MCMP members and also to look into different aspects of his topic, as how the notion of time reversal can be defined, if there is a single, all-embracing way to represent time reversal in the literature or if there are instead many of them. In that period he has published a book as editor in Cambridge University Press, he has submitted two papers to international journals (one accepted, other under review), and he has written three papers on his topic (to be submitted shortly), and he has given one talk at WIP Seminar. During his visit, he participated in a reading group of philosophy of physics (organized by MCMP's members) and he attend

a course about philosophical problems in quantum mechanics (given by MCMP's members).

l) Michele Luchetti stayed at the MCMP from October first until December 31st 2017 as a visiting PhD student from Central European University, Budapest. The visit will continue in 2018. His source of funding was a DAAD (one-year) grant. In this period he worked at concrete case studies from the history of science, which provide material for his research in the epistemology of science. Firstly, he analyzed the role of the Hardy-Weinberg principle in the history and current workings of population genetics from the point of view of its epistemic justification. He argued that its function of equilibrium principle is justified by its counterfactual character, and that it 'constitutes' the frequency changes of genetic populations which, therefore, are not merely ready-made features of reality. Secondly, he focused on the history of Ohm's discovery of the law relating current electricity and resistance. He contextualized this discovery by relating it to previous scientific results and by closely analyzing Ohm's own experimental and theoretical practices. He argued that his discovery relied on his achievement of a new coordination between the measurement procedures he deployed and the conceptual apparatus developed during his scientific work. By disentangling the process of coordination, he claimed that a measurement outcome, a quantity term, and an empirical law can all thought of as being 'constituted' along this process. During this period he completed a paper and submitted it to an international peer-reviewed journal. The paper is under review. He also started drafting a new chapter of his dissertation, and gave a talk in the MCMP work-in-progress series. Furthermore Michele organized a reading group in general philosophy of science open to students and faculty of the MCMP community. The reading group was held bi-weekly for the whole semester.

m) Casey McCoy visited the MCMP on a Group Research Fellowship on MCMP funds. While a visitor at the MCMP she studied foundational issues in physics which are connected in quantum gravity research. These issues center around the role of quantization in quantum theory and the role of entropy and other thermodynamic notions in areas of physics remote from their original application. While at the MCMP she gave two talks: "Understanding the Progress of Science", Workshop on Idealization, Causation, and Explanation, 27 May 2017; "On a Quantum-Gravity-Concerning Heuristic Viewpoint", Work in Progress Seminar, 29 May 2017. While a visitor at the MCMP she attended the Reasoning and Argumentation in Science conference at the CAS (31.05.2017 – 02.06.2017) and immediately after her visit a workshop in Salzburg: Tatjana Afanassjewa and her Legacy: New Perspectives on Irreversibility (17.06.2017 – 18.06.2017).

n) Aidan Meyer-Golden visited the MCMP on funds from his home university, Northeastern University. During his time at the Center he began an ongoing research essay in an attempt to understand Martin Heidegger's form of phenomenology in its relationship to mathematics. As of yet this project is still underway and has not been presented in any form.

o) Matias Osta Velez stayed at the MCMP from May 30th until June 30th 2017. His stay was funded by the doctoral school of the University of Paris 1, Sorbonne. During his stay, he carried out research on reasoning and explanation in science, the main subject of his thesis. In particular, he studied modular approaches to scientific reasoning and their impact on explanations. Thanks to his visit, he is

now starting a joint-PHD between his home university in Paris (Paris 1 Sorbonne) and the LMU, hosted by the MCMP and directed by Professor Hartmann. This was the main result of his stay, and we are convinced that it's going to make a big difference in the quality of Matias' PhD thesis. Besides, all meetings during his stay were highly productive, having an important impact on his research. While at the MCMP Matias attended the conference "Reasoning and Argumentation in Science" at the CAS and various presentations of members and visitors of the MCMP. He also had meetings with Stephan Hartmann and other members of the MCMP concerning his research and he had the opportunity to meet graduate students from the center working in similar areas of research.

p) Lydia Patton visited the MCMP May 29.-June 11th 2017 on a visiting fellowship. During that period she worked on a talk, that is now a paper in preparation for the Workshop "Mathematical and Physical Modelling", which she helped to organize together with Patricia Palacios and Erik Curiel. While at the MCMP she took part in the conference "Reasoning and Argumentation" May 31.- June 2. 2017. Furthermore she presented the talk "Heuristic Modelling" at an MCMP colloquia, met with a reading group on Laura Ruetsche's *Interpreting Quantum Theories* and together with a colleague applied for an NEH Translation Grant; the grant was unsuccessful, but they have been encouraged to re-apply in 2018.

q) Edoardo Rivello stayed at the MCMP from October 16. – December 22. 2017 on his own funds. He worked primarily on presenting and refining a project proposal on Semantic foundations of local reasoning about circularity and truth. He focused on the problem of giving an account of our use of the word "true" in linguistic contexts admitting some form of self- or cross-reference. He has investigated the idea of representing such uses as the activity of solving linguistic puzzles and he has explored different possible ways of associating to each puzzle its correct set of solutions. The main innovative aspects of his approach to self-referential truth are (a) the emphasis on the determinacy (= existence of a unique solution) of some puzzles rather than their mere consistency (= existence of at least one solution); (b) the emphasis on the local determinability of the solution; and (c) the merge of axiomatic and semantic methods in modelling the semantic conditions for the existence of solutions. From this research he has one paper under review called "Formal features as a meta-norm for partial truth"; and two papers in preparation called "Determinacy as a meta-norm for partial truth" and "Convention T for self-referential truth: Intrinsicity and determinacy". Furthermore he gave the talk "Puzzles and truth" at an MCMP colloquium and participated in several others during his stay.

r) Bryan Roberts visited the MCMP on MCMP funds. During this time, he was involved in research on the nature of time in quantum theory, and on how we might expand our description of observables in quantum theory. Further activities included delivering a lecture on 14 June, participating in a workshop on 20 June, and meeting daily with various visitors and staff at the MCMP, especially Erik Curiel and Sam Fletcher. This visit considerably improved his research, and led to a publication which has just come out in Studies in History and Philosophy of Modern Physics, now available early online here: https://doi.org/10.1016/j.shpsb.2018.02.002 --- and as a preprint here: http://philsci-archive.pitt.edu/14449/.

s) Katie Robertson visited the MCMP twice in 2017. Her first stay was funded by Erik Curiel's DFG grant and during this time she worked on a paper together with Carina Prunkl, which will soon be submitted

as well as visiting the Second Law Conference. Her second stay was funded by her home institution, Pembroke College, Cambridge University. During her time at the MCMP she wrote one chapter of her PhD thesis on how functionalism from the philosophy of mind can help with issues of reduction in thermal physics. She gave a work in progress talk and also attended and gave a presentation at a workshop in Salzburg on reduction. Furthermore she submitted an AvH postdoc grant proposal and had two job interviews. Her stay was further used to start a project with Patricia Palacios; they are writing a book chapter on Tatiana Ehrenfest's legacy in the philosophy of science.

t) Arthur Schwaninger visited the MCMP on funds by the Swiss National Fonds (SNF). During his time at the Center he investigated the moral concerns we face when building a machine ethical system. More specifically, when a self-driving car is about to get involved in an accident, it might be confronted with a moral dilemma such as the "trolley problem" and car developers are required to determine the moral basis on which the car is ought to behave. By incorporating machine learning algorithms, he suggested that a descriptive ethical system is the choice of preference. The research opened the discussion about the kind of training data one should apply in the process of developing such an ethical system. Contrary to existing software packages, he argued that the training data should not be based on the evaluation of questionnaires but rather on the measurements of people's emotional states. As a result he published the following conference paper: Training the Moral Behaviour of Self-driving Cars. IACAP 2017. The Annual Meeting of the International Association for Computing and Philosophy, Stanford University, June 26-28, 2017. While at the MCMP he attended The Second Jerusalem-MCMP Workshop in the Philosophy of Science: Explanatory Reasoning in the Sciences at LMU Munich.

u) Shakthi Shrima visited the MCMP on personal funds as well as funds by Princeton's German department. Currently she is working on a) a semantics for counterfactuals that better accounts for the notion of distance to a possible world, b) justifying Aristotle's 'principle of possibility' using his modal syllogistic and remarks in the Prior Analytics, c) a formalization of the notion of generality in Euclidean proofs. Papers regarding a)-c) are in early to middle stages of preparation. She has been helping with MaPhS (the Mathematical Philosophy student society organized primarily by masters students) and participating in a category theory reading group started through MaPhS. She is also currently beginning involvement with the MAP chapter at the MCMP. She has attended the Theory Choice workshop, the Semantic Conception of Logic workshop, and the Ourobouros 2018 conference in Bonn.

v) Shanna Slank is a regular visiting PhD student at the MCMP. She has been working in practical philosophy, feminist philosophy, and metaethics. Related to her work, the following papers are currently in preparation: Rethinking the Imposter Phenomenon, Transformative Choice and the Value of Lived Experience. She also gave the following presentations on her work: "How we know the value of what we haven't experienced" at ECAP9, LMU Munich, at the annual Workshop in practical Philosophy, Universität des Saarlandes, and at the APA Pre-conference "Themes in Transformative Experience"; "Does Philosophy Exclude on The Basis of Class More Than Other Academic Disciplines?" at the Workshop on Inclusion and Exclusion in Philosophy, Leibniz Universität Hannover; "Rethinking the Imposter Phenomenon" at the Workshop Biases and Values in Science, LMU Munich and at the Pacific APA Meeting in Seattle, Washington.

w) Daniel Steel visited the MCMP on MCMP funds as well as his own money. During that time, he worked on issues relating to values, bias, and science. The following three papers related to the work he pursued during his visit are now in press: "Wishful Thinking and Values in Science." Philosophy of Science; "If the Facts were not Untruths, their Implications were: Sponsorship Bias and Misleading Claims." Kennedy Institute of Ethics Journal; "The Precautionary Principle in Medical Research and Policy: The Case of Sponsorship Bias." In The Routledge Handbook of Applied Epistemology, ed. David Coady and James Chase. London: Routledge. A fourth, "Adjusting Inferential Thresholds to Reflect Non-Epistemic Values," is currently under review and hopefully will join the "in press" list soon. While at the Center he gave to presentations: "Adjusting Inferential Thresholds to Reflect Non-Epistemic Values." Presented at the Ludwig-Maximilians-Universität Center for Mathematical Philosophy, July 19, 2017, together with Kim Kaivanto; "Wishful Thinking and Values in Science." Presented at the Ludwig-Maximilians-Universität Center for Mathematical Philosophy, July 14, 2017. The second of these was part of a workshop on bias organized by Alexander Reutlinger. In addition, he participated in two classes in Alexander Reutlinger's philosophy of science seminar. Both were on the topic of sponsorship bias, and papers 2 and 3 listed above served as readings for these two classes. Finally, he met informally with a number of people from the MCMP, including but not limited to Alexander Reutlinger, Barbara Osimani and some members of her research team, and Stephan Hartman.

x) Michael Strevens visited the MCMP from May – June 2017 on MCMP funding as well as personal funds. Since this was a relatively short visit (10 days total), he was focused on events and people at LMU (see below) rather than research. These events and meetings touched on a very wide range of topics: the social organization of science, idealization, Bayesian approaches to the philosophy of science, the role of history in the philosophy of science. Apart from these discussions he did a few days work on a trade book he is writing on the nature of science, but that was not really the purpose of the visit. While at the MCMP he gave a talk at the MCMP, a talk at "Yet Another Great Workshop on Idealization, Causation, and Explanation", attended the argumentation conference, and talked to various faculty, students and visitors (Alex Reutlinger, Stephan Hartmann, Erik Curiel, Patricia Palacios, Lydia Patton, and various workshop attendees).

y) Laura Valentini visited the MCMP on MCMP funds. In this period, she worked on a paper concerning the responsibilities of democratic audiences -- i.e., what duties/responsibilities members of a democratic public have when they are on the receiving end of political communication. This research has given rise to a paper -- currently a working paper -- which so far has been presented twice. The paper is close to being submitted for peer-review. While at the MCMP she also attended the Reasoning and Argumentation in Science Conference.

z) Natalia Zenkova visited the MCMP for several months in 2017 on DAAD funding as well as on a joint DAAD program with the Ministry of Education and Science of the Russian Federation. She worked on her scientific project "Generalization and formalization of medical empirical data using mathematical simulation methods": Mathematical modelling and mathematical methods of processing and generalization of the experimental results become one of the most progressing scientific directions in many fields of science. Medicine is one of the fields, where experiments are not possible and not ethical. Therefore, it would be desirable to have a medical expert

systems, capable of giving recommendations concerning the best treatment conditions based on the diagnostic results. The project aimed to generalization of medical empirical data using ANN-models. Artificial neural networks (ANN) – the mathematical tool for the generalization and approximation of the empirical data and computer models development. The purpose is to develop ANN-models of the real medical objects, generalization of the simulation results. Mathematical statement of the tasks and ANN-models development on the basis of medical empirical data: 1. ANN-model for prediction surgery operations results on the basis of empirical data; and 2. Simulation of the health status of patients on the basis of the results of the complete blood count test. As an outcome she aims at developing ANN-models of the real medical objects on the basis of empirical data as well as generalization and formalization of the simulation results. As DAAD Fellows she was invited to give the talk "Personal Experiences During DAAD-funded Research Stays" at the Welcome Meeting of LMU and TU Munich, November 2017. She also had an interview at the Tambov State University, Russia about her research project. The following publications can also be claimed as results: "Capabilities of computer and mathematic modelling for some ophthalmology tasks solutions", Tambov University Reports: Series: Natural and Technical Sciences, 2017, vol. 22, no. 6, pp. 1507-1512. DOI: 10.20310/1810-0198-2017-22-6- 1507-1512 (In Russian, Abstr. in Engl.); "Generalization and formalization of medical empirical data with the use of mathematic modelling methods and artificial intellect", Tambov University Reports: Series: Natural and Technical Sciences, 2017, vol. 22, no. 6, pp. 1377-1382, together with A.A. Arzamastsev. DOI: 10.20310/1810-0198-2017-22-6-1377-1382 (In Russian, Abstr. in Engl.); "Homogeneous artificial neural network with a variable activation function of the neuron", Tambov University Reports: Series: Natural and Technical Sciences, 2017, vol. 22, no. 1, pp. 39-44, together with A.A. Arzamastsev and M.A. Kislyakov. DOI: 10.20310/1810-0198-2017-22-1-39-44 (In Russian); "Methods of mathematical modelling for calculating IOL based on empirical data", Collected papers on the results of the International Scientific and Practical Conference "PROBLEMS, PROSPECTS AND DIRECTIONS OF INNOVATIVE DEVELOPMENT OF SCIENCE" (Omsk, Russia) / P.4 - Sterlitamak: AMI, 2017. - 256 p. (Pp. 86 - 89) (In Russian). During her stay at the MCMP she also attended a seminar for scholarship holders of the Lomonosov and Kant programs at the University of Bonn, the workshop "Theory-Choice in Logic" at the MCMP, LMU Munich and the "Munich Workshop on Physical Unclonable Functions" at the TUM.

(VI) Center for Advanced Studies (CAS)

In 2016 Stephan Hartmann received the senior researcher in residence fellowship "Scientific Reasoning and Argumentation", enabling him to form a research group with Benjamin Eva, Karolina Krzyżanowska, Marko Tešić, and Harry Waterstone to address the following questions concerning reasoning and argumentation in science during his stay at the CAS: Which new reasoning and argumentation schemes can we find in contemporary science? How can these reasoning and argumentation schemes be assessed and justified? Is it possible to come up with a unified normative theory of reasoning and argumentation in science? The project hosted two international workshops in 2017 as well as supported Eleonora Cresto, Sabine Hossenfelder, Gabriele Kern-Isberner, Christian List, David Over und Wlodek Rabinowicz as Visiting Fellows.

(VII) ERC Starting Grant Research Group

Since spring 2015 the MCMP is hosting the ERC Starting Grant research group of Barbara Osimani on Philosophy of Pharmacology: Safety, Statistical Standards, and Evidence amalgamation. The project is interdisciplinary and applies methods from the philosophy of science, in particular from the theory of causality and from the foundations of statistics, to pharmacology. The project has three objectives: To provide a foundational analysis on statistical/causal inference with a focus on the critical assessment of current practices in drug approval and pharmacosurveillance; To build a unified epistemic framework within which different kinds of evidence for pharmaceutical harm can be combined and used for decision: evidence amalgamation; To provide a theoretical framework for the development of new standards of drug evaluation. With Barbara Osimani as the project's primary coordinator Jürgen Landes and Roland Pöllinger are hosted by Stephan Hartmann and the MCMP.

For further information, visit the group's website: http://www.mcmp.philosophie.uni-muenchen.de/research/research_projects/phil_pharma/index.html