

Academic Report for 2019 (01.01.2019- 31.12.2019)

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January 30, 2020

2019 was the first year after the five-year period funded by the Alexander von Humboldt foundation. Thanks to the support of LMU Munich and various funding agencies, we could employ a number of excellent new MCMP members who enrich our academic life and who make sure that the MCMP keeps on flourishing. This way the MCMP, continues to be a world-leading place for mathematical philosophy and the philosophy of science and we are confident of the centre's output and relevance.

This report informs you about our academic activities in 2019. Besides our research and the resulting publications, we hosted several major conferences, workshops and a summer school. Besides, we intensified our collaborations with researchers from the University of Cambridge. Thanks to the strategic partnership between the University of Cambridge and LMU Munich, we received funding for two joint projects (on *Decision Theory and the Future of AI* and on *Category Theory in Philosophy of Science*) which we used for various research visits. We also continued to hold close links to other LMU departments, such as the Departments of Economics, Mathematics, Physics, Sociology and Statistics and the Center for Advanced Studies (CAS). We also kept on participating 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 that productively

combines formal and empirical methods to problems and questions of philosophical interest.

In this report, we present an overview of the activities in 2019.

(I) We continue to use different media in order to reach out to the public:

1. The MCMP website

After a relaunch and facelift, the MCMP website continues to be the place to go to when looking for information about the MCMP. We implemented a new calendar function for our talks and events and simplified our structure to the four most sought after fields of information: people, events, research and the "for students" section.

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 3.207 people following our page, where we are sharing announcements and events.

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. 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 more than 556 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). In the last year we intensified our focus on ERC funded projects, which have an open access obligation.

7. Printed Media

In her article "Uneinigkeit aushalten" for *Süddeutsche Zeitung* (in German), **Silvia Jonas** discusses the role mathematics has played in shaping human deliberation and draws an analogy between set-theoretic pluralism and contemporary political debates. It was published in the issue from Monday, January 7th 2019.

Alexander Reutlinger's article "Klimawandel? Welcher Klimawandel?" for *Süddeutsche Zeitung* (in German) discusses attacks on universities, strategic science skepticism, and sponsorship bias. It was published in the issue from Tuesday, January 22nd 2019.

In an article that has just appeared in the journal *Nature Astronomy*, **Erik Curiel** shows that physicists use different definitions of the concept, depending on their own particular fields of interest. For the LMU Press Release, please use the following link: https://www.en.uni-muenchen.de/news/newsarchiv/2019/curiel_blackhole.html

Alexander Reutlinger's article "Die Wissenschaft als magische Glaskugel" for *Frankfurter Allgemeine Zeitung* (in German) defends the March for Science against the common objection that it rests on a naive view of how science works. It appeared online May 9th 2019.

(II) 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 Mathematical Philosophy: Philosophy of Science

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 2019:

06.02.2019	Günther Sander (Vienna)
24.04.2019	Franz Dietrich (CNRS)
08.05.2019	Richard Bradley (LSE)
15.05.2019	Christian Feldbacher-Escamilla (Düsseldorf)

22.05.2019 Jacob Stegenga (Cambridge)
 29.05.2019 Katrin Auspurg/Josef Brüderle (LMU)
 12.06.2019 Alena Buyx (TUM)
 17.06.2019 Mike Titelbaum (Wisconsin)
 19.06.2019 Jason Alexander (LSE)
 24.06.2019 Michael Dascal (Maryland)
 26.06.2019 Hugh Woodin (Harvard)
 10.07.2019 Lina Jansson (Nottingham)
 10.07.2019 Edi Pavlovic (Helsinki)
 16.10.2019 Sander Beckers (MCMP)
 23.10.2019 Naftali Weinberger (MCMP)
 30.10.2019 Leah Henderson (Groningen)
 06.11.2019 Ana-Maria Cretu (Edinburgh)
 13.11.2019 Raphael Scholl (LMU)
 20.11.2019 Erik Curiel (MCMP)
 27.11.2019 John Dougherty (MCMP)
 04.12.2019 Borut Trpin (MCMP)
 11.12.2019 Michael Nielsen (ANU)
 18.12.2019 Eiko Fried (Leiden)

2. Colloquium in Mathematical Philosophy: Logic and Language

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 2019:

07.02.2019 Thomas Krödel (Hamburg)
 25.04.2019 Silvia Milano (Oxford)
 02.05.2019 Berta Grimau (Glasgow)
 02.05.2019 Gábor Hofer Szabó (Hungarian Academy of Sciences)
 09.05.2019 Jan Wolenski (Krakow)
 16.05.2019 Peter Verdée (Leuven)
 23.05.2019 Moritz Schulz (Hamburg)
 06.06.2019 Corine Besson (Sussex)
 13.06.2019 Matt Mandelkern (Oxford)
 18.06.2019 Greg Restall (Melbourne)
 27.06.2019 Stefan Rinner (MCMP)
 04.07.2019 Guillermo Badia (Queensland)
 11.07.2019 Hanoch Ben-Yami (CEU)
 18.07.2019 Mirna Dzamonja (University of East Anglia)
 17.10.2019 Eric Snyder (MCMP)
 24.10.2019 Moritz Cordes (Greifswald)
 31.10.2019 Alessandro Giordani (Milan)

07.11.2019 Alessandra Marra (MCMP)
 14.11.2019 Branden Fitelson (Northeastern)
 21.11.2019 Paul Egré (Paris)
 28.11.2019 Warren Goldfarb (Harvard) &
 Tom Ricketts (Pittsburgh)
 05.12.2019 Levin Hornischer (Amsterdam)
 12.12.2019 Vít Punčochář (Prague)
 16.12.2019 Steve Awodey (Carnegie Mellon)
 19.12.2019 Lorenzo Rossi (MCMP)

3. Work in Progress (WIP)

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 2019:

07.02.2019 Alastair Isaac (Edinburgh)
 02.05.2019 Jürgen Landes (MCMP)
 09.05.2019 Máté Szabo (Lorraine)
 16.05.2019 Pablo Cobreros (Navarra)
 06.06.2019 Todd Stambaugh (MCMP)
 13.06.2019 Bruno Jacinto (MCMP)
 27.06.2019 Eckehart Köhler (MCMP/Institute Vienna Circle)
 04.07.2019 Frank Oertel (CPNSS/LSE)
 11.07.2019 Stefan Rinner (MCMP)

18.07.2019 Christopher Menzel (Texas A&M University)
 25.07.2019 Michele Loi (Zürich)
 31.10.2019 Michal Godziszewski (MCMP)
 07.11.2019 Erik Nyberg (Melbourne)
 14.11.2019 Hannes Leitgeb (MCMP)
 21.11.2019 Martin Fischer (MCMP)
 05.12.2019 Neil Dewar (MCMP)
 12.12.2019 Henrique Gomes (Cambridge)

b. Workshops and Conferences

The MCMP hosted a total of 19 events in 2019, all supported by our event manager Sabine Beutlhauser and her team:

11.03.2019 - 12.03.2019 Philosophy at Work
 10.04.2019 - 12.04.2019 Biases in Science
 26.04.2019 - 27.04.2019 Foundations of Categorical Philosophy of Science
 04.05.2019 Workshop: Relativistic Locality
 26.05.2019 Munich-Nancy Workshop
 27.05.2019 1st SNS Pisa-MCMP-Meeting
 31.05.2019 - 02.06.2019 MCMP-Western Ontario Workshop on Computation in Scientific Theory and Practice
 11.06.2019 Workshop: Inclusivity in the Philosophy Classroom
 28.06.019 - 29.06.2019 Second Joint MCMP-Hannover Workshop: Philosophy of Science

01.07.2019 - 04.07.2019	12th MuST Conference & 3rd Workshop "Perspectives on Scientific Error": Statistical Reasoning and Scientific Error
06.07.2019 - 07.07.2019	Workshop: Abstract Objects and Circularity
13.07.2019	Mini-Workshop: Conditioning
22.07.2019 - 24.07.2019	All Things Reichenbach
28.07.2019 - 03.08.2019	Summer School on Mathematical Philosophy for Female Students
02.09.2019 - 03.09.2019	Second Irvine-London-Munich-PoliMi-Salzburg Conference in Philosophy and Foundations of Physics
05.09.2019 - 06.09.2019	Workshop: Categorical Approaches to Reduction and Limits
11.10.2019 - 12.10.2019	GAP-Doktorandenworkshop Mathematische Philosophie 2019
26.10.2019 - 27.10.2019	Journalismus-Workshop für Studierende

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 2019 the participants were reading Laura Ruetsche's book *Interpreting Quantum Theories*. It was organized by John Dougherty.

2. Reading Group on the Philosophy and Methodology of Economics (Rethinking Economics Munich)

The participants discussed topics of general interest from the philosophy and methodology of economics. In 2019 they focused on the relationship between economics and the climate crisis, with a focus on the methodological questions which arise in this field. It was organized by Patrick Kloesel.

3. Aristotle's Metaphysical Natural Philosophy

The reading group took place on Tuesdays, and was organized by Dr. Daniel A. Di Liscia.

4. Computation and Cybernetics

The group read Brian Cantwell Smith's new book *The Promise of Artificial Intelligence: Reckoning and Judgment*. It was organized by Joseph Dewhurst and Sofiia Rappe.

5. Inference and reasoning

The topics discussed were at the intersection of philosophy and psychology of reasoning. More specifically, the participants

discussed recent papers about inference in general, logic and reasoning, Bayesian reasoning, induction, analogy, and abduction. It was organized by Borut Trpin and Matías Osta Veléz.

(III) Awards

Erik Curiel was awarded the Black Hole Initiative Research Prize in July of this year. The prize of \$15.000 was given "for the outstanding contribution of [the] paper 'Numerical Evolution of Shocks in the Interior of Kerr Black Holes' ... with thoughtful investigation from the disciplines of both Philosophy and Physics." That paper, published in Physical Review D (2019, 99:084033), was the result of joint, collaborative work between Dr. Curiel, Dr. Paul Chesler, a theoretical physicist at Harvard University specializing in numerical relativity and holography, and Prof. Ramesh Narayan, a theoretical astrophysicist at Harvard University specializing in gravitational lensing and the dynamics of black hole accretion disks. The work culminated in the first fully non-linear calculation of the effects of perturbations on the interior structure of astrophysically realistic models of black holes. This problem is not only of interest from the point of view of theoretical physics but also philosophy, as it lies at the heart of the so-called Cosmic Censorship Hypothesis, which posits that General Relativity is a deterministic theory. The Black Hole Initiative is an inter-disciplinary center at Harvard University focused on the study of black holes using tools, ideas and methodologies from theoretical physics, theoretical astrophysics, observational astronomy, mathematics, and philosophy. Congratulations!

Daniele Oriti and **Stephan Hartmann** won a FQXi Large Grant in the recent competition Intelligence in the Physical World for their

project The Epistemic Nature of Physical Laws: From Intelligent Agents to Quantum Gravity and Cosmology. Congratulations!

Neil Dewar has received the 2019 Cushing Prize from the University of Notre Dame. This is the second time a member of the MCMP has won the Cushing Prize: the 2015 prize was awarded to Adam Caulton. Congratulations Neil!

(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 year 2019:

Chair and Head of the Munich Center for Mathematical Philosophy

Prof. Dr. Stephan Hartmann

Chair of Philosophy of Science

Prof. DDr. Hannes Leitgeb

Chair of Logic and Philosophy of Language

Faculty

Antonutti Marfori, Marianna

Bacelli, Jean

Beckers, Sander

Carus, André

Ciardelli, Ivano

Curiel, Erik

Dewar, Neil

Dewhurst, Joe

Di Liscia, Daniel A.

Dougherty, John

Eastaugh, Benedict

Fischer, Martin

Gratzl, Norbert

Hahn, Ulrike

Jonas, Silvia

Kapsner, Andreas

Landes, Jürgen

Link, Godehard

Marra, Alessandra

Merin, Arthur († 2019)

Osimani, Barbara

Rechenauer, Martin

Rédei, Miklós

Reutlinger, Alexander

Rinner, Stefan

Rossi, Lorenzo

Scheller, Simon

Šešelja, Dunja

Snyder, Eric

Sterkenburg, Tom

Stewart, Rush

Sznajder, Marta

Trpin, Borut

Weinberger, Naftali

Von Sydow, Momme

Doctoral Fellows

Abasnezhad, Ali

Beebe, Cameron

Cameron Beebe, M.A.

Borner, Jan

Bozdag, Ayse Sena

Charrakh, Omid

Cholodovskis, Ana

De Benedetto, Matteo

Dittrich, Jonathan

Freiesleben, Timo

Friedrich, Conrad

Hengst, Sebastian

Keller, Johannes Leonhard

Leyva Galano, José A.

Mathie, Alex

McGrath, Killian Francis

Kim Naumann

Osta Vélez, Matías

Pfister, Rolf

Stukelj, Gasper

Wang, Minkyung

Waterstone, Harry

(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. This is the list of visitors at the MCMP during the period from January to December 2019:

Aníbal Szapiro (Buenos Aires)	01.04.2018 - 30.06.2019
Miklós Rédei (LSE)	01.08.2018 - 31.07.2019
Cleber de Souza Corrêa (University of São Paulo)	01.10.2018 - 30.09.2019
Lukáš Hadwiger Zámečník (Palacky University in Olomouc)	15.10.2018 - 19.10.2018
Alistair Isaac (Edinburgh)	01.11.2018 - 31.07.2019
Fausto Barbero (Helsinki)	01.11.2018 - 15.02.2019
Seth Yalcin (UC Berkeley)	02.12.2018 - 07.12.2018
Roman Frigg (LSE)	13.12.2018 - 13.01.2019
Jo E. Wolff (King's College London)	01.01.2019 - 31.07.2019
Michal Hladky (University of Geneva)	01.01.2019 - 30.09.2019
Javier Belategui Lazcano (University of the Basque Country)	02.01.2019 - 31.03.2019
Pablo Cobreros Bordenave (Navarra)	01.02.2019 - 31.07.2019

Roman Frigg (LSE)	12.04.2019 - 12.05.2019
Hanoch Ben-Yami (Central European University)	23.04.2019 - 27.07.2019
Atoosa Kasirzadeh (University of Toronto)	25.04.2019 - 15.07.2019
Paolo Bussotti (University of Udine)	01.05.2019 - 31.07.2019
Máté Szabó (University of Lorraine)	03.05.2019 - 03.06.2019
Roberto Giuntini (Cagliari)	01.06.2019 - 15.07.2019
Conor Mayo-Wilson (University of Washington/MCMP)	22.06.2019 - 06.07.2019
Clark Glymour (Carnegie Mellon University)	22.07.2019 - 04.08.2019
Levin Hornischer (Amsterdam)	07.11.2019 - 10.01.2020
Agnieszka Lekka-Kowalik (John Paul II Catholic University of Lublin)	25.11.2019 - 29.11.2019
Marco Forgione (University of South Carolina)	01.12.2019 - 30.04.2020
Abílio A. Rodrigues Filho (Universidade Federal de Minas Gerais)	06.12.2019 - 29.02.2020
Vít Punčochář (Prag)	10.12.2019 - 14.12.2019
Gabriele Carcassi (University of Michigan)	16.12.2019 - 28.12.2019

(VI) We also hosted the following research projects:

			Landes, Jürgen	Foundations, Applications & Theory of Inductive Logic	DFG
Beckers, Sander	Humboldt Research Fellowship for Postdoctoral Researchers	AvH			
			Leitgeb, Hannes	Diaphora: Philosophical Problems, Resilience and Persistent Disagreement	EU
Cuffaro, Michael	Carl Friedrich von Siemens Research Fellowship for Experienced Researchers	AvH			
			Leitgeb, Hannes	Formalism, Formalization, Intuition and Understanding in Mathematics: From Informal Practice to Formal Systems and Back Again	DFG
Curiel, Erik	Gravity, the Quantum and Thermodynamics: The Crossroads of Contemporary Theoretical Physics and Philosophy of Physics	DFG			
			Osimani, Barbara	Philosophy of Pharmacology: Safety, Statistical standards and Evidence Amalgamation	EU
Dewar, Neil	Category Theory in Philosophy of Science	DFG			
Dewhurst, Joseph Edmund	Conference Funding: Alternative Approaches to Scientific Realism	DFG	Picollo, Lavinia	Reference patterns of paradox	DFG
			Rédei, Miklós	Research Award	AvH
Di Liscia, Daniel	Integration and Transformation in Late Medieval Natural Philosophy: Jacques Legrand's Aristotelian Compendium utriusque philosophie	DFG	Reutlinger, Alexander	Investment Fund	LMUexcellent
			Šešelja, Dunja	Simulations of Scientific Inquiry	DFG
Fischer, Martin	Logics: from tolerance to pluralism	DFG			
Hahn, Ulrike	Anneliese Maier Research Award	AvH	Trpin, Borut	Humboldt Research Fellowship for Postdoctoral Researchers	AvH
Landes, Jürgen	Evidence and Objective Bayesian Epistemology	DFG	Weinberger, Naftali	Humboldt Research Fellowship for Postdoctoral Researchers	AvH