



CIPSH Chair DMRCP
Diversity of Mathematical Research Cultures and Practices
 Chair holder: Prof. Dr. Benedikt Löwe

DMRCP Senior Fellows. C. Antos-Kuby (Konstanz), H. De Cruz (St Louis MO), K. François (Brussels), C. Greiffenhagen (Hong Kong), G. Heinzmann (Nancy), M. Inglis (Loughborough), C. Jami (Paris), B. Larvor (Hatfield), U. Martin (Edinburgh & Oxford), H. Mihaljević (Berlin), E. Müller-Hill (Rostock), R. Ramanujam (Chennai), D. Schlimm (Montréal QC), H. K. Sørensen (Copenhagen), B. Van Kerkhove (Brussels).

DMRCP Newsletter # 7

20 December 2024

New DMRCP members.

On 22 November 2024, Council elected two new DMRCP Fellows: Paul Ernest and Tim Thomas Broßmann from 1 December 2024 to 30 November 2026. Paul Ernest (University of Exeter) has published significant books on mathematics education and social constructivism. Tim Thomas Broßmann is a doctoral student at the *Universität Rostock*, jointly supervised by Carolin Antos-Kuby SF and Eva Müller-Hill SF.

News from the DMRCP Fellowship.

At the General Assembly of the Association for Logic, Language and Information (known as “FoLLI”) on 2 September 2024, Benedikt Löwe was elected as Vice President of FoLLI for a term of two years.

Deborah Kant F and Deniz Sarikaya F gave invited talks at the PhD Colloquium of the *Deutsche Vereinigung für Mathematische Logik und für Grundlagenforschung der exakten Wissenschaften* (DVMLG) in Vienna on 7 October 2024. An invitation to the PhD Colloquium is considered to be the award for one of the best doctoral dissertations in the fields of logic and foundations of the exact sciences in the preceding two years.

Ursula Martin SF has been awarded a Leverhulme Trust Emeritus fellowship from 2024 to 2026 entitled *Bringing artificial intelligence to mathematical practice*. She is working with an interdisciplinary team and asks whether AI will change the nature of mathematics.

Deniz Sarikaya F has started a postdoctoral position at the *Ethical Innovation Hub* at the *Universität zu Lübeck*.

Deniz Sarikaya F was elected as a Young Academy Fellow of the *Akademie der Wissenschaften in Hamburg*.

Eighth DMRCP Seminar Meeting.

On 28 November 2024 at 4pm (Hamburg time), we had our eighth seminar meeting with short presentations by Sorin Ioan Bangu F and Ursula Martin SF and fourteen participants.

Sorin Ioan Bangu F presented his forthcoming book “Philosophy of Mathematics after Wittgenstein” to be published with Cambridge University Press and two further research projects.

Ursula Martin SF presented the scope of her Leverhulme Trust Emeritus fellowship entitled *Bringing artificial intelligence to mathematical practice* and discussed the unwillingness of the community to acknowledge the entanglement of mathematics with human activities, society, and politics and the fact that AI will radically change many of these interfaces in the coming years.

Activities.

Tabea Rohr F will give a talk at the Mathematische Gesellschaft in Hamburg: “*Riemann, Lotze, Frege und Hilbert über nichteuklidische Geometrie, Riemanns Habilitationsvortrag von 1854*”. When and where: 20 December 2024 (today!), 5pm, Geomatikum, Bundesstrae 55, 20146 Hamburg, Hörsaal H4.

Andrew Arana F has published a book for the CUP Elements series. It is available for free download until 3 January at the following link: <https://doi.org/10.1017/9781009052719>.

As a consequence of the DMRCP seminars, Carolin Antos SF and Eva Müller-Hill SF have taken further steps towards linking the didactic discussion of mathematical explanation to the current very active philosophical debate on mathematical explanation, particularly in the philosophy of mathematical practice.

As part of this initiative, we are co-supervising a PhD thesis on mathematical explanation in the field of philosophy of mathematical practice. Another step is a proposal for a satellite to the upcoming annual conference of the Society for Analytic Philosophy, the GAP 2025 in Düsseldorf (<http://gap12.de/>), where we would like to offer a one-day workshop on 12 or 13 September 2025: “An interdisciplinary view on explanation in mathematics: philosophical and didactical perspectives”.

Abstract: The debate about explanation in mathematics has been prevalent in philosophy of mathematics in the last decades. However, there is still not much interaction between this discussion and findings about explanations from education studies in mathematics, despite the overlap in content that arises particularly from the perspective of a philosophy of mathematical practice. In this workshop we want to make a first step in bringing together accounts and results from philosophy and didactics to develop a more comprehensive view on explanation in mathematics.

Online Experiments for Mathematicians.

One strand of work that some DMRCP Fellows engage in involves running online empirical studies where the participants are research-active mathematicians. To facilitate this kind of work, we are starting an online participant panel for interested mathematicians who might want to take part in online behavioural experiments or surveys related to their practice. We have created a private mailing list, which interested colleagues can sign up to. The list information reads:

“A mailing list for research-active mathematicians who are interested in participating in online research studies concerning mathematical cognition and practice. Members

will receive no more than one message per month inviting them to participate in an online study. The list is a project by the Diversity of Mathematical Research Cultures and Practices Chair of the International Council for Philosophy and Humanistic Studies (<https://dmrcp.cipsh.international/>).

Once we have populated the list with a sizeable number of potential participants, we will invite expressions of interest for people who wish to advertise studies via this mechanism. In the meantime, please encourage your mathematician colleagues to sign up. You can do that by sharing this link: <http://tinyurl.com/mathcogprac>.

Presentation of DMRCP Fellows.

Tim Broßmann is a part-time doctoral student in the field of the philosophy of mathematical practice. He is particularly interested in the theory and use of examples in mathematical explanations. In his Master's thesis, he has examined the explanatory power of mathematical models and their use in science. His full-time job is as a dual student at the *Theologisches Studienzentrum Berlin* in the field of theology, social and innovation science. His research interests range from Christian ethics and systematic theology to the role of proof in mathematical practice and to philosophy of science in general.



Jan Vrhovski is an early-career scholar with primary focus on the history of mathematical logic, modern Chinese intellectual history, analytic philosophy, and the philosophy of language. He completed a first doctorate on the problem of reference in Wittgenstein and early Chinese logic and obtained a second doctorate in the history of mathematical logic in China. Currently, he is employed at the University of Edinburgh, contributing to the project “Situating International and Global Mathematics,” led by Michael Barany F. His current research involves topics like early formative history of topology, global history of mathematical logic, modern bibliographies and structural image of mathematics.



Zhouwanyue (Nata) Yang has been a doctoral student at the *Munich Centre for Mathematical Philosophy* (MCMP) at the *Ludwig-Maximilians-Universität München* (LMU) under the supervision of Hannes Leitgeb since 2020. Her dissertation treats mathematical practices as processes through which agents constitute their understandings about particular mathematical questions. Concrete case studies of mathematical practices are analyzed in order to argue for pluralism in mathematical understandings. She has additional research interests in process philosophy, mathematical philosophy of consciousness, and Kant's theoretical philosophy. Before she became a doctoral student, she received an MA and a BA in Philosophy from the LMU and a BA in public relations from Sun Yat-Sen University in China.



In this newsletter, we mark the Fellows and Senior Fellows of DMRCP with the postnominal letters ‘F’ and ‘SF’, respectively. If you have any information to be included in the next newsletter, please e-mail Deborah Kant at dmrcp.scientificcoordinator@cipsh.international.