

# VISUAL REASONING AND INTUITION IN MATHEMATICS

From  
Kant's  
Euclidicity  
to  
Digitalization

International  
Conference  
June 29th –  
July 1st 2017

Institut für  
Philosophie  
– Souterrain  
Freie Universität  
Berlin

Is mathematics only about proof? Do mathematicians only intend completely to formalize their sentences? While looking for its foundations, philosophers and mathematicians have often conceived mathematics as a hierarchic and uniform edifice of ideas. A praxeological view reverses this image. It considers a plurality of mathematical practices from heuristics and problem solving to communication. It reveals a historic and pragmatic diversity of approaches and media of mathematical thinking.

The conference focuses on practices that include visualization and "Anschauung" (intuition). How can Kant's idea of the decisive role of construction in mathematics be rehabilitated? How can understanding visual practices change our notion of mathematical thought? Which possibilities arise from digitalization and how do they transform mathematical practice?

**DFG** Deutsche  
Forschungsgemeinschaft

Freie Universität  Berlin

<http://www.geisteswissenschaften.fu-berlin.de/we01/institut/termine/conference-mathematics.html>

## Organizers

Sybille Krämer  
Özge Ekin  
Martin Beck  
Solvej Hartmann

DFG Project  
"Warum und mit welcher  
Berechtigung ist Kant  
Euklidianer?"

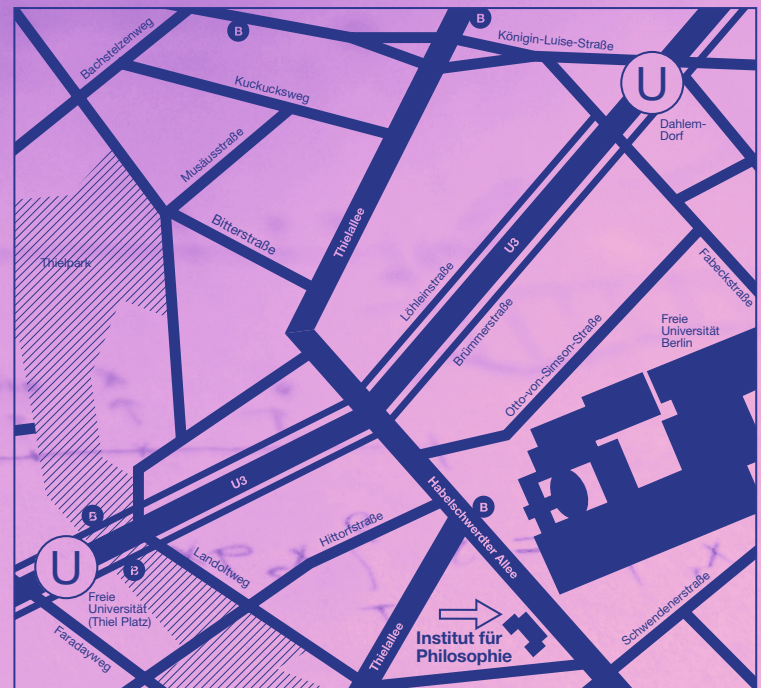
## Contact

Özge Ekin: [ozgeekin@zedat.fu-berlin.de](mailto:ozgeekin@zedat.fu-berlin.de)

For attendance of the conference we would like to ask you to register in advance via the contact address.

## Conference Location

Institut für Philosophie  
Souterrain  
Habelschwerdter Allee 30  
14195 Berlin



## Thursday 29.6.

Pirmin Stekeler-Weithofer Universität Leipzig 18:15  
“Geometrical Diagrams and Ideal Forms.  
Logical Syntax in the Constitution of Pure Intuition”

Chair: Sybille Krämer

Reception 19:45

## Friday 30.6.

Welcome and Introduction 9:00 – 9:15

Session 1 9:15 – 10:45

Chair: Özge Ekin

Vincenzo De Risi Universität Leipzig  
“A Geometry of Space. Diagrams in the Early Modern  
Euclidean Tradition and Kant”

Martin Beck Freie Universität Berlin  
“Diagrammatic Readings of Kant and the Exceptionality  
of Euclidean Geometry”

Break 10:45 – 11:15

Session 2 11:15 – 12:45

Chair: Jan Wöpking

Brendan Larvor University of Hertfordshire  
“What Hume Got Right About Mathematics”

Ofra Rechter Tel Aviv University  
“Why Is There a Problem About an Axiomatic Presentation  
of Arithmetic in Kant?”

Lunch Break 12:45 – 14:15

Session 3 14:15 – 15:45

Chair: Sybille Krämer

Marcus Giaquinto University College London  
“A Priori and A Posteriori Thinking in Mathematics”

Kenneth Manders University of Pittsburgh  
“The Geometrical Form of Intelligibility”

Break 15:45 – 16:15

Session 4 16:15 – 17:45

Chair: Valeria Giardino

Silvia De Toffoli Stanford University/IHPST Paris  
“Knots and Embeddings: New Tools for Understanding  
Incongruent Counterparts”

Konrad Polthier Freie Universität Berlin  
“New Forms, New Materials, New Processes”

Conference Dinner

## Saturday 1.7.

Coffee 9:30 – 10:00

Session 5 10:00 – 11:30

Chair: Sibylle Schmidt

Sybille Krämer Freie Universität Berlin  
“A Praxeological Philosophy of Mathematics?”

Valeria Giardino Henri Poincaré Archives, Nancy  
“Cognitive Tools and Representational Affordances”

Break 11:30 – 12:00

Session 6 12:00 – 13:30

Chair: Silvia De Toffoli

Ladislav Kvasz Charles University, Prague  
“Visual Reasoning and Instrumental Practice in Mathematics”

Benedikt Löwe ILLC Amsterdam/Universität Hamburg  
“Studying the Practices of Representing Infinity”

Lunch Break 13:30 – 14:15

Session 7 14:15 – 15:45

Chair: Martin Beck

Jan Wöpking Forschungsverbund Berlin  
“A Great Black Sea of Nothingness – Wittgenstein,  
Coetzee and LeWitt on Mathematical Intuition”

Özge Ekin Freie Universität Berlin  
“How Digitalization of Proofs and Visual Imagery  
Change the Mathematical Practice”

Closing Remarks 15:45 – 16:00

# PRO- GRAM

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