

Welcome from the Chairs



Dear MATH+ Community,

As the Christmas break approaches, we would like to take this opportunity to reflect on the past few months and to send you our Season's Greetings.

We are delighted to share that our MATH+ member **Klaus-Robert Müller (TU Berlin)** has received the **prestigious Leibniz Prize**. Congratulations!

Looking back at recent events, our annual **MATH+ Day**, held on 17 November, began with the General Assembly, including the Chairs' team report, continued with elevator pitches on current research projects and concluded with a vibrant poster session. As always, it provided an excellent platform for discussion, networking, and the exchange of ideas for future research and collaborations.

We are also pleased to report strong interest in our recent **Calls for Applications**: the **BMS PhD Program** and the **Dirichlet Postdoc Fellowships** (both with deadlines on 1 December) saw a successful increase in applications of 20% and 40%, respectively.

At the same time, the nomination process for the **MATH+ Dissertation Awards** is underway. We encourage you to consider nominating outstanding candidates before the **deadline on 31 December**.

In this issue of the newsletter, you will find a feature on the **Best Student Paper Award** received by Ekin Ergen (TU Berlin), as well as brief reports on several **outreach activities** from recent months, including **MATHINSIDE**, the **Science Slam**, and the joint **"Mathenacht aus Berlin, Bonn und Münster."**

Meanwhile, the **MATH+ Advent Calendar** is in full swing, offering 24 puzzle challenges inspired by MATH+ research projects and the chance to win excellent prizes.

As always, we encourage you to **share your research results, publications, awards, or news about visiting scholars** with Beate Rogler at rogler@mathplus.de.

We wish you a relaxing winter break and a wonderful start to 2026; we look forward to continuing our work together in the new year.

Sebastian Pokutta

Claudia Schillings

Andrea Walther

+ MATH+ Day 2025 with General Assembly, Research Pitches, and Poster Session



On 17 November 2025, the sixth MATH+ Day brought together more than 120 MATH+ members at Urania Berlin. The event once again provided an outstanding platform for discussion, networking, and the exchange of ideas for future research and collaborations.

The General Assembly featured reports from the Chairs' Team—[Claudia Schilling](#), [Sebastian Pokutta](#), and [Andrea](#)

[Walther](#)—covering recent developments, ongoing challenges, future strategies, and upcoming activities across MATH+. A series of elevator pitches from the Scientists-in-Charge highlighted developments and new research directions within the four MATH+ Application Areas—Energy, Health, Mobility, and Technology—and the three Emerging Fields—Learning-Informed Optimization, Multi-Agent Systems, and Decision Support for the Public Sector. The session also included updates from the Topic Development Lab, including the Method Development Units (MDUs) and the Thematic Einstein Semester.

The day concluded with a vibrant poster session showcasing results from more than 50 research projects. The posters covered a wide range of topics, including life sciences, transport and network research, material sciences, and the social sciences and humanities.



[Read more and view photos from the MATH+ Day](#)

+ Two Calls for Applications: BMS PhD Program and MATH+ Dirichlet Postdoc Fellowship Program

The [Berlin Mathematical School \(BMS\)](#) received 387 applications by the 1 December deadline for admission to its **PhD program starting in 2026**. With 77 more applications than in 2025, this represents an increase of around 20%. Applicants came from 66 countries, demonstrating the global attractiveness of the program.

The MATH+ **Dirichlet Postdoc Fellowship Program**, offering two-year positions starting in Fall 2026, attracted 343 applications—an increase of 143 compared to 2025 and a remarkable rise of almost 42%.

+ Call for Nominations: MATH+ Dissertation Awards

MATH+ awards up to three annual prizes for outstanding dissertations. All BMS graduates who completed their doctorate between 1 October 2024 and 30 September 2025 are eligible. Dissertations may be nominated by the PhD supervisor or another MATH+ Faculty Member. Nominations must be submitted electronically to dissertation-prize@mathplus.de. **Deadline: 31 December 2025.**

[Read more](#)

MATH+ People

+ **Leibniz Prize for MATH+ Member Klaus-Robert Müller (TU Berlin)**



The [German Research Foundation \(DFG\)](#) has awarded the [Gottfried Wilhelm Leibniz Prize](#) 2026 to MATH+ member [Klaus-Robert Müller](#), Professor of Computer Science at TU Berlin. He receives this prestigious award for his work on theoretical developments in the field of machine learning and their application in the natural sciences.

Klaus-Robert Müller is Head of the *Machine Learning Group*, Co-Director of the *Berlin Institute for the Foundations of Learning and Data (BIFOLD)* at TU Berlin, and has been a member of MATH+ since the Excellence Cluster was founded in 2019. He is considered a pioneer of machine learning and has been advancing this important area of artificial intelligence (AI) since 1989. His work combines excellence in formal mathematical thinking with a strongly application-oriented approach. Through his interdisciplinary perspective, he brings together fields such as biology, medicine, chemistry, mathematics, and computer science. Within MATH+, he is active in the Emerging Field project [Quantum Advantages in Machine Learning](#), where he has a project together with Jens Eisert (FU Berlin).

After studying physics and earning a doctorate in computer science at the Universität Karlsruhe, he held a postdoc position in Berlin and later led a research group at the Berlin CMD from 1995 to 2008. In 2003, he became a professor at Universität Potsdam. Since 2006, he has been a professor at TU Berlin and, since 2022, has served as Director of the BIFOLD. His scientific contributions have received numerous awards, including the Vodafone Innovation Award 2017, the Hector Science Award 2023, and the Feynman Prize in Nanotechnology 2024.

[Read the TU Berlin press release](#) (in German)

+ **ESA's Best Student Paper Award for Doctoral Student Ekin Ergen (TU Berlin)**



The **European Symposium on Algorithms (ESA)** is one of the top-tier conferences in the field. This year's conference was held in Warsaw on 15-17 September. ESA accepts papers on theoretical and practical aspects of algorithms and recognizes one paper written exclusively by a (doctoral) student with its **Best Student Paper Award**, selected by the program committee.

[Ekin Ergen's paper, which received this year's award](#), addresses online machine scheduling under a generalized model in which multiple (possibly overlapping) instances are optimized simultaneously. The work develops tight and near-tight bounds for several variants of this problem and provides partial answers to open problems in hypergraph coloring.

[Read the full version of the paper](#)

+ **The Following BMS Students Have Successfully Completed Their Doctorates**

Franz Friedrich August Bethke (HU Berlin)

"Exploiting the Linear Independence Kink Qualification for Subderivative Based Algorithms"

Naageswaran Manikandan (HU Berlin)

"Obstructions to positivity using Khovanov type theories"

Sandro Roch (TU Berlin)

"Arrangements: Combinatorial and Computational Problems"

Thomas Wagenhofer (TU Berlin)

"Asymptotics and Numerics in Rough and Local Stochastic Volatility Models"

Congratulations!

Correction Regarding the October Newsletter:

We would like to point out an error in the list of BMS graduates published in the October-Newsletter: The dissertation title of Nikola Sadovek (FU Berlin), "*Obstructions across geometry and topology*," was mistakenly replaced with the disputation title "*On chromatic numbers of Kneser (hyper)graphs*." The correct title is:

Nikola Sadovek (FU Berlin)

"Obstructions across geometry and topology"

MATH+ Events

Preview:

+ **MATH+ Fridays** in the Winter Semester 2025/26

- **30 January 2026** [Alexei Skorobogatov](#) (Imperial College London) @HU

MATH+ Outreach

+ **Book Reading: Alina Bronsky Presented "*Pi mal Daumen*" at the TU Berlin Library**



As part of the "*Berlin Reads a Book*" initiative by radioeins and the German Library Association, [Alina Bronsky read from her new novel "*Pi mal Daumen*"](#) on 5 November at the University Library of TU Berlin. The event was jointly organized by TU Berlin's Mathematics Library, the University Library, and MATH+.

The novel features two math enthusiasts—a 16-year-old young man and a 53-year-old woman—who meet at a mathematics institute in Berlin and develop an unusual friendship through their shared passion for mathematics. After the reading there was a lively discussion and book-signing session with the author.

+ SCIENCE SLAM (Berlin Science Week) with Two BMS Students Representing MATH+



The [“Science Slam” of the Berlin Clusters of Excellence](#)—part of the Berlin Science Week—took place on 6 November at Roadrunner’s Paradise Club. The venue was full, with more than 280 enthusiastic science fans cheering on ten young researchers presenting their work in 7-minute-slams.

BMS PhD students [Marwa Zainelabdeen](#) (WIAS/FU Berlin) and [Katarina Krivokuća](#) (FU Berlin) delivered excellent presentations. The loudest applause, however, went to Anushka Ghosh from UniSysCat, who won the Science Slam with an energetic and engaging performance.

+ MATHINSIDE Lectures at Zuse Institute Berlin



The [MATHINSIDE lectures on 10 November](#) at the Zuse Institute Berlin (ZIB) were attended by around 50 school students from special mathematics courses at Tiergarten Gymnasium. From 10 a.m. to 1 p.m. they listened to three compelling one-hour talks by PhD students from ZIB and TU Berlin, illustrating connections between mathematics and topics such as AI, online algorithms, and optimization.

MATHINSIDE is designed for high school classes to broaden their understanding of mathematical applications and to inspire a deeper interest in mathematical research.

+ "Mathenacht aus Berlin, Bonn und Münster" by Three Mathematical Clusters



The fourth joint ["Mathenacht," organized by the Mathematical Clusters of Excellence](#) in Berlin (MATH+), Bonn (Hausdorff Center for Mathematics), and Münster (Mathematics Münster) took place online on **28 November** from 3 p.m. to 11:30 p.m.

Around **600 participants joined the entire program**, which included workshops for school-age students, a math quiz, a panel discussion on “Quantum Sciences,” and three mathematical lectures by researchers from each cluster.