

40th Newsletter – July 2026

Welcome from the Chairs

Dear MATH+ Community,

As the semester comes to an end, we look back on a busy period of MATH+ events, funding decisions, and activities. Congratulations to everyone whose **research projects** were approved after the Cluster Days, as well as to the recipients of the **2025 MATH+ Dissertation Awards** and the newly selected **2026 Hanna Neumann Fellows**.

Our biggest event of the year is still to come, so save the date for **MATH+ Day, the celebration of the 20th anniversary of the BMS (BMS20)**, and the start of **MATH+'s second funding period**, taking place **16–19 November 2026**.

The end of the semester was already celebrated on 10 July at the **annual BMS Certificate Ceremony** and Summer Party. Other recent highlights included a ***Nature Communications* publication** by Max von Kleist's research group, the visit of the **President of École Polytechnique**, who shared her experiences as a woman mathematician during a Women's Lunch, and **Jürg Kramer's special talk** on Gerd Faltings' research at the “Berlin Day of Mathematics,” now available on the Abel Prize YouTube channel.

The People section features several honors and awards: **Cecilia Clementi (FU Berlin) received an ERC Advanced Grant** for ProDyGe (“Protein Dynamics with Generalized Machine-Learned Potentials”), **Gavril Farkas (HU Berlin) was awarded an Einstein Professorship**, **Alexander Mielke (WIAS) was appointed an Advanced Fellow** at the Vienna Centre for Advanced Studies (VICAS), and **Gabriele Steidl (TU Berlin) was elected a CNRS Fellow-Ambassador**. Congratulations to all!

We also welcomed **Guido F. Montúfar (UCLA) as a MATH+ Visiting Scholar**, hosted by Benjamin Gess at TU Berlin, and **Demian Nahuel Goos as the new science communication officer** in the MATH+ Office.

And, as every summer, we're already thinking about Christmas: the **2026 MATH+ Advent Calendar** is looking for new challenges. Please send your submissions to the School Activities Team by 16 October. Earlier submissions are especially welcome.

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

Have a wonderful and relaxing summer!



Sebastian Pokutta



Claudia Schillings



Andrea Walther

MATH+ News

+ Don't forget to "Save the Date"! BMS20 & Kick Off of the Second MATH+ Funding Period

The Berlin Mathematical School (BMS) turns 20 in November! We will celebrate this anniversary and kick off the second MATH+ funding period from 17 to 19 November 2026.

▪ Tuesday, 17 November: MATH+ Day

9:00	<u>MATH+ General Assembly</u> with the election of the new MATH+ Chairs
10:30–12:30	<u>Poster Session</u> with the Scientific Advisory Board
17:00	<u>Anniversary Celebration, Reception, and Party</u>

▪ Wednesday, 18 November & Thursday, 19 November:

Mathematical Conference celebrating the successes of BMS and MATH+

Program details and registration will be available soon.

+ MATH+ Call for Projects and Cluster Days 2026

We were delighted by the high quality of the innovative research proposals presented at the Cluster Days, held from 18 to 19 June 2026 at Urania Berlin.

We are now pleased to announce that 20 of the presented proposals have been selected to receive MATH+ funding for the next two to three years. Congratulations! We wish all projects an exciting start and every success in their research.

If you need support in advertising a PhD or postdoctoral position, please contact Beate Rogler at rogler@mathplus.de.

+ 2025 MATH+ Dissertation Awards



The Berlin Mathematical School (BMS) of the Cluster of Excellence MATH+ annually recognizes outstanding dissertations through the MATH+ Dissertation Awards.

We are delighted to announce that the 2025 MATH+ Dissertation Awards were presented to **Benedikt Gräble, Moritz Grillo, and Vasily Rogov** on 10 July 2026, at the BMS Certificate Ceremony. Congratulations to all!

[Read more about all awardees and their dissertations](#)

+ MATH+ Hanna Neumann Fellowships 2026

Each year, MATH+ awards Hanna Neumann Fellowships to outstanding female postdoctoral researchers in recognition of their achievements in mathematics and to promote their international visibility in the research areas of MATH+.

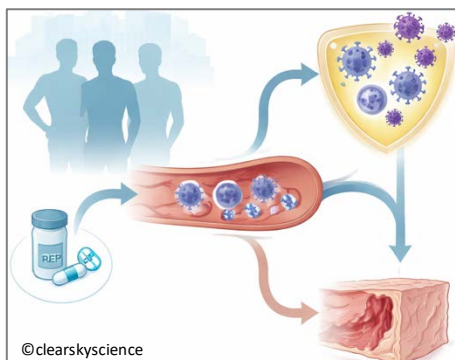
This year, MATH+ selected **three Hanna Neumann Fellows** from among the nominations submitted by MATH+ members. As the **external fellow, Caroline Namanya (Makerere University) from Kampala, Uganda**, will be hosted by Dominic Bunnett at TU Berlin during two research visits.

Two **Hanna Neumann Fellowships** have been awarded to MATH+ members: to **Hanka Dal Poz Kourimská from Universität Potsdam**, supervised by Myfwany Evans, and **Luisa Plato from WIAS**, supervised by Dietmar Hömberg.

An introduction to the fellows will follow shortly.

+ *Nature Communications* Paper on Pharmacological Markers of HIV Prevention by U.S.-German Research Team, Including Max von Kleist's Group

A recent publication in *Nature Communications* by an interdisciplinary U.S.-German research team, including MATH+ professor [Max von Kleist's research group](#) (Freie Universität Berlin/Robert Koch Institute), is titled „*Pharmacological Markers of HIV Prevention for Oral Pre-Exposure Prophylaxis in Men Who Have Sex with Men.*“



Oral pre-exposure prophylaxis (PrEP) has become one of the most effective strategies for preventing HIV infection, but important questions remain about how much medication is required for reliable protection and which biological markers best predict its effectiveness. These questions are particularly relevant because current international guidelines recommend different dosing strategies for cisgender women and men who have sex with men (MSM).

To address this, the researchers combined data from five major PrEP clinical trials with pharmacokinetic and mathematical modeling. Their analyses show that drug levels in circulating immune cells (peripheral blood mononuclear cells, PBMCs), rather than concentrations in rectal tissue, are the best predictor of PrEP efficacy in MSM. The findings also support the effectiveness of on-demand PrEP and suggest that taking three to four pills per week can provide more than 90% protection. Together with earlier findings in women, the study indicates that differences in adherence requirements between cisgender women and MSM may be smaller than previously assumed, providing important evidence for future HIV prevention guidelines.

[Read the article in *Nature Communications*](#)

+ *MATH+ Women's Lunch* Featuring [Laura Chaubard, President of École Polytechnique \(I'X, Paris\)](#), a *MATH+ Partner Institution*



MATH+ was delighted to welcome [Laura Chaubard, Director General and Acting President of École Polytechnique \(I'X, Paris\)](#), for a special *Women's Lunch* at TU Berlin's new IMoS building on 8 July.

Earlier this year, in March 2026, MATH+ and École Polytechnique (I'X, Paris) [signed a Memorandum of Understanding \(MoU\) in Paris](#) to strengthen their partnership and expand their scientific collaboration.

Laura Chaubard is a mathematician who earned her doctorate from Paris Diderot University (Paris VII). In 2023, she became the first woman to serve as President of École Polytechnique. During the MATH+ Women's Lunch, she reflected on her academic career, shared how she balanced her professional and

personal life, and encouraged students to pursue their own scientific ambitions. The participants also discussed their experiences studying mathematics in their respective home countries, in Germany and abroad, emphasizing the importance of support and mentorship.

+ **Conference “Two Centuries of Moduli” at HU Berlin—Celebrating the 200th Anniversary of Crelle's Journal and the Birth of Riemann: 7–11 September 2026**



On the occasion of the **200th anniversary of the founding of Crelle's Journal and of Riemann's birth**, the conference “Two Centuries of Moduli” will take place 7–11 September 2026. As Crelle's Journal has been closely linked to Humboldt-Universität and the Berlin Academy of Sciences and Humanities, the conference will be held at **Humboldt-Universität zu Berlin** and the **Berlin-Brandenburg Academy of Sciences and Humanities (BBAW)**. The event is organized by Gavril Farkas, Daniel Huybrechts, and Rahul Pandharipande. All lectures will take place at HU Berlin.

On 10 September, a special day will be held in the Einstein Lecture Hall of the BBAW on the topic “From Crelle's Berlin to Modern Moduli”, dedicated to the historical development of the concept of moduli and to the life and work of August Leopold Crelle.

[Read more](#)

+ **“Berlin Day of Mathematics” Features a “Special Talk” on the Abel Prize Laureate Gerd Faltings by DMV President Jürg Kramer**

Each year, high school students from across Berlin compete in the “Berlin Day of Mathematics,” a mathematics competition organized on a rotating basis by Freie Universität Berlin, Humboldt-Universität zu Berlin, Technische Universität Berlin, Berliner Hochschule für Technik (BHT), the Weierstrass Institute (WIAS), and the Zuse Institute Berlin (ZIB). As in previous years, the winning team received a trip to Oslo to attend the 2025 Abel Prize award ceremony, funded by MATH+. During the “Berlin Day of Mathematics”, MATH+ participated with mathematical games and information about the cluster's school activities, outreach events, and research areas.



[This year's event was organized by Freie Universität Berlin](#)

and was especially memorable because Gerd Faltings recently became the first German mathematician to receive the Abel Prize, the most prestigious prize in mathematics, often regarded as the equivalent of the Nobel Prize. To mark the occasion, Jürg Kramer, President of the German Mathematical Society (DMV) and a member of the MATH+

Council, gave a special talk highlighting Faltings' groundbreaking work. The talk is available on the [Abel Prize YouTube channel](#).

You can also find highlights from the “Berlin Day of Mathematics” on the MATH+ YouTube channel—including [impressions from the event](#), [fun math questions with students](#), and [short interviews with Jürg Kramer and Günter M. Ziegler](#), mathematician and President of FU Berlin, on mathematical prizes and Gerd Faltings. Watch the highlights on our [MATH+ YouTube channel](#).

MATH+ People

+ MATH+ Distinguished Fellow and BMS Chair Gavril Farkas Awarded Einstein Professorship



[MATH+ Distinguished Fellow](#) and **BMS Chair Gavril Farkas**, Professor of Algebraic Geometry at Humboldt-Universität zu Berlin, has been awarded an [Einstein Professorship by the Einstein Foundation Berlin](#), with funding for the next five years.

An internationally recognized expert in algebraic curves and moduli spaces, Farkas has been a professor at Humboldt-Universität since 2007. His research focuses on the structure and classification of algebraic curves and the relationship between algebraic equations defining curves and their geometric properties, making major contributions to the theory of algebraic curves and the resolution of important conjectures on their syzygies. His work has significantly advanced the field and strengthened Berlin's international reputation in algebraic geometry.

The **Einstein Professorship** recognizes both Farkas' outstanding scientific achievements and his long-standing commitment to supporting early-career researchers, which includes his leadership at the Berlin Mathematical School (BMS), MATH+'s graduate school. The additional funding will enable Humboldt-Universität, one of MATH+'s five partner institutions, to further strengthen this internationally recognized research area and help retain one of Berlin's leading mathematicians.

+ ERC Advanced Grant for MATH+ Member Cecilia Clementi (FU Berlin)



MATH+ member and physicist [Cecilia Clementi, Einstein Professor at Freie Universität Berlin](#), has been awarded an **ERC Advanced Grant** by the European Research Council (ERC) for her **project ProDyGe—“Protein Dynamics with Generalized Machine-Learned Potentials.”** The grant provides approximately €3.037 million over five years to advance simulations of biomolecular dynamics. We congratulate Cecilia Clementi on this achievement!

ERC Advanced Grants support outstanding researchers with a strong track record of research excellence who pursue ambitious, groundbreaking projects at the frontiers of their fields.

Cecilia Clementi is an **Einstein Professor of Theoretical and Computational Biophysics at Freie Universität Berlin**, where she has been a faculty member since 2020, strengthening connections between experimental biophysics and applied mathematics.

Her research combines methods from statistical physics, computational biophysics, and machine learning to advance the understanding of complex biological processes at the molecular level.

[Read more](#)

+ **MATH+ Distinguished Fellow Alexander Mielke Appointed Advanced Fellow at the Vienna Centre for Advanced Studies (ViCAS)**



Congratulations to Alexander Mielke on his appointment as an **Advanced Fellow at the new interdisciplinary centre at Universität Wien!** ViCAS will host all fellows from October to June 2027.

Mielke will pursue the project “Variational Principles and Mathematical Methods for Closed and Open Dissipative Systems in the Sciences.” His research focuses on partial differential

equations, mathematical modeling, and thermodynamics, with the aim of developing mathematical methods to better understand complex natural phenomena.

Since 2004, he has been Head of the Research Group on “Partial Differential Equations” at the [Weierstrass Institute for Applied Analysis and Stochastics \(WIAS\)](#) and a professor at the Humboldt-Universität zu Berlin. In 2023, MATH+ named him a **MATH+ Distinguished Fellow** in recognition of his outstanding contributions to the mathematical sciences and the Berlin mathematics community.

[Read more](#)

+ **MATH+ Professor Gabriele Steidl (TU Berlin) Selected as CNRS Fellow-Ambassador**



The **French National Centre for Scientific Research (CNRS)** has announced its 2026-2028 CNRS Fellow-Ambassadors, among them MATH+ Professor Gabriele Steidl (TU Berlin). Congratulations!

The program brings together outstanding researchers to strengthen international collaboration on key scientific challenges, including artificial intelligence, health, high-performance computing, climate, energy, and collective memories.

Gabriele Steidl's research lies at the interface of mathematics and computer science with a focus on image processing, machine learning, optimal transport, optimization, and applied and computational harmonic analysis.

Since March 2020, she has been a **MATH+ Professor at TU Berlin**, and a **member of the MATH+ Board**.

[Read more](#)

+ **MATH+ Welcomes Visiting Scholar Guido F. Montúfar, Hosted by Benjamin Gess at TU Berlin**



MATH+ welcomes **Guido F. Montúfar from the University of California, Los Angeles**, as a **Visiting Scholar at TU Berlin**, hosted by MATH+ member Benjamin Gess.

During his stay in June and July 2026, Montúfar is collaborating with Gess's group to strengthen ties between Berlin's mathematics and machine learning communities and foster new research at the interface of mathematics and artificial intelligence.

Montúfar's research develops the mathematical foundations of modern machine learning, with contributions to neural network theory, optimization, geometry, and learning dynamics.

A graduate of TU Berlin in mathematics and physics, he earned his PhD at Universität Leipzig and the *Max Planck Institute for Mathematics in the Sciences* before becoming Professor of Mathematics and of Statistics & Data Science at UCLA.

[Read more](#)

+ MATH+ Office Welcomes a New Colleague for Science Communication



Demian Nahuel Goos is a mathematician with roots in Argentina and Germany who is based at HU Berlin. He received his PhD in mathematics from the National University of Rosario (UNR), Argentina, in 2023. Demian has joined the MATH+ Office as a science communicator through the end of 2026. His work combines academia, public outreach, and science journalism, with a particular focus on the history of mathematics. For *Spektrum der Wissenschaft*, he hosts the mathematics storytelling podcast "Geschichten aus der Mathematik" (Stories from Mathematics).

+ The Following BMS Students Have Successfully Completed Their Doctorates

Fabio Bugini (TU Berlin)

"Rough Stochastic Differential Equations and Applications"

Robin Chemnitz (FU Berlin)

"Aspects of the Long-Term Evolution of Ergodic Cocycles: The Mather Semigroup, Hyperbolicity and Random Attractors"

Kamillo Ferry (TU Berlin)

"Algebra and Geometry of Max-linear Bayesian Networks"

Cesare Goretti (FU Berlin)

"The Kobayashi-Hitchin Correspondence for General Coherent Systems"

Chun-Sheng Hsueh (HU Berlin)

"Braiding, stabilizing, and generalizing open books"

Jonas Köppl (TU Berlin)

"On the long-time behaviour of interacting particle systems"

Margarita Kostré (FU Berlin)

"Topics in particle-based simulation: Multiscale Models and optimization methods"

Zijun Li (HU Berlin)

"Hybrid Algorithms for Two-Level Learning and Optimization: Theory and Applications"

Berenike Masing (FU Berlin)

"Enriched Periodic Timetabling"

Vira Raichenko (U Potsdam)

"Topology and Geometry of Biological Microstructures: Computational Strategies for 3-dimensional Image Data"

Maximilian Reiter (TU Berlin)

“Structure-Preserving Numerical Approximation of the Ericksen–Leslie Equations for Nematic Liquid Crystal Flow”

Christophe Roux (TU Berlin)

“First-Order Methods for Geodesically Convex Optimization on Riemannian Manifolds”

Amjad Saef (TU Berlin)

“Well-posedness and metastability of stochastic reaction-diffusion systems with singular perturbations”

Viktor Stein (TU Berlin)

“Metric Gradient Flows in Measure Spaces: Kernelization and Acceleration”

Péter Bernát Szabó (FU Berlin)

“Development of a practical deep-learning quantum Monte Carlo method”

Max Lennart Zimmer (TU Berlin)

“Effective and Efficient Prune-Retrain Pipelines for Neural Network Compression”

Congratulations!

MATH+ Events

Review:

+ YAM Network Meeting in Berlin, 6–7 July 2026



The 2025–2026 Young African Mathematicians (YAM) Fellowship cohort gathered in Berlin on 6 and 7 July for the **final YAM Network Meeting**, hosted by MATH+.

Bringing together fellows, mentors, and representatives from the YAM Network in Berlin, Bonn, and Heidelberg, the meeting offered an opportunity to reflect on the participants’ academic and personal experiences during their year at one of the four German mathematical institutions.

Highlights included **presentations by the fellows**, discussions about future career plans, a **career talk by Dominic Bunnett**, and a **feedback session led by Ralf Kornhuber**. The program concluded with a commitment to strengthening the YAM community and supporting the fellows’ academic careers.

MATH+ was pleased to host this year’s fellows, Kessel Wilson Mbouche Nzali and Manuella Kristeva Nakam Yopdup, who were recently introduced in an [interview](#) and a short [video](#).

[Read more and browse the photo gallery](#)

+ BMS Certificate Ceremony, MATH+ Dissertation Award Winners, and Summer Party



MATH+ and its graduate school, the Berlin Mathematical School (BMS), celebrated their 2026 graduates, the Young African Mathematicians (YAM) Fellows, and the recipients of the 2025 MATH+ Dissertation Awards during a festive certificate ceremony on 10 July at Freie Universität Berlin. Around 100 members of the MATH+/BMS community, along with

family and friends, attended the event, which followed the MATH+ Friday Colloquium by Benjamin Fehrman from Louisiana State University. The MATH+ Dissertation Awards were presented to Benedikt Gräßle (HU Berlin), Moritz Grillo (TU Berlin), and Vasily Rogov (HU Berlin) by the BMS Chairs John M. Sullivan and Holger Reich, together with MATH+ Chair Claudia Schillings.

The ceremony also honored YAM Fellows Kessel Wilson Mbouche Nzali and Manuella Kristeva Nakam Yopdup from Cameroon and recognized this year's BMS Phase I and Phase II graduates. The celebration concluded with a summer barbecue reception und summer party, bringing graduates, researchers, and guests together.

[Read more and browse the photo gallery](#)

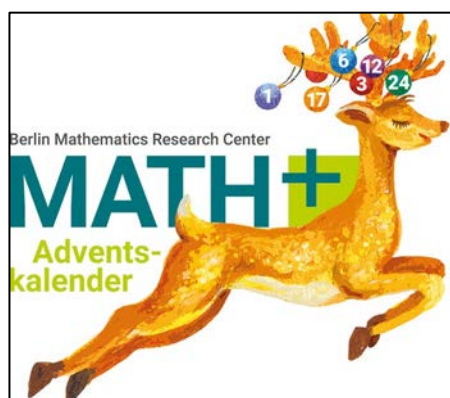
Preview:

+ MATH+ Events

- **19–21 August:** [Colloquium](#) on “Extremal and Probabilistic Combinatorics” at ZIB & Celebration of the [60th birthday of Tibor Szabó](#)
- **2–4 September:** [BMS-BGSMath Junior Meeting](#) in Barcelona
- **7–11 September:** [Conference at HU Berlin](#): Celebrating the 200th Anniversary of Crelle's Journal and the Birth of Riemann
- **6 November:** “Science Slam” of the Berlin Clusters of Excellence at Roadrunner's Club
- **16–19 November:** [BMS20 Celebration](#) and Kick Off the [Second Funding Period](#)

MATH+ Outreach

+ Call for Puzzle Submissions for the MATH+ Advent Calendar



The MATH+ Advent Calendar 2026 is now open for puzzle submissions! We warmly invite all MATH+ members to contribute a mathematical challenge.

The **submission deadline is 16 October 2026**, but we would be delighted to receive your puzzles as early as possible.

Please encourage your group members and (PhD) students to participate by submitting a mathematical puzzle suitable for students in the 10th grade and above. For inspiration, take a look at previous challenges and solutions on the MATH+ Advent Calendar website.

If you have any questions or need assistance regarding the MATH+ Advent Calendar, please contact schools@mathplus.de. Puzzle submissions can also be sent to this address. Many thanks to everyone who helps make this year's Advent Calendar a success!

[Read more on the MATH+ Advent Calendar website](#)

+ “Excellent Pub Quiz” of the Berlin Clusters of Excellence at the “Long Night of Sciences” in June 2026



The “Excellent Pub Quiz,” **organized by Berlin's Clusters of Excellence** as part of the 2026 Long Night of the Sciences, took place on 6 June 2026, in one of the lecture halls of Humboldt-Universität's main building. More than 110 participants, forming over 40 teams, competed in two quiz rounds featuring fun and thought-provoking questions from the Clusters of Excellence's diverse research fields.

This year's event marked the fourth edition of the popular science quiz at the Long Night of the Sciences. Once again, quiz enthusiasts and science fans were invited to form teams of two to four people, come up with creative team names, and put their knowledge to the test in a lively and entertaining competition. The event also featured fun and challenging questions inspired by the world of MATH+ mathematics.

[Read more and browse the photo gallery](#)