



25th Newsletter – December 2022

Welcome from the Chair

Dear MATH+ Community,

At the MATH+ Day on 18 November 2022, the General Assembly elected a new Board and a new Chair for our Cluster of Excellence MATH+ and the BMS. It has been my pleasure to serve as Chair for the past two years. Now I wish my successor, [Michael Hintermüller](#), from Humboldt-Universität zu Berlin and Weierstrass Institute for Analysis and Stochastic (WIAS), all the best for carrying on this important position.

A handwritten signature in blue ink, appearing to read 'Christof Rogler'.

Thank you very much, Christof, for the great job you have done for MATH+ over the past two years. I look forward to serving the Berlin mathematics community as the new Cluster Chair. Congratulations also to [Holger Reich](#), who took over the BMS Chair from [Jürg Kramer](#). [Gavril Farkas](#) will join the BMS Chairs for the first time and serve with [John M. Sullivan](#) as BMS Deputy Chair.

The MATH+ Board has chosen three further Distinguished Fellows. Alongside Gavril Farkas, the MATH+ Distinguished Fellowship will be awarded to [Alexander Mielke](#), [Bruno Klingler](#), and [Peter K. Friz](#). Congratulations! We will present their research over the next few newsletters.

Many thanks to all MATH+ members who have supported a number of MATH+ outreach events over the last months. From the participation in the Berlin Science Week events like the “Science Slam” or the “Decision Theatre Lab” introduction to the “Mathenacht” contributions, you have done a great job representing MATH+! Still ongoing is the current TES on “[Scales of Temporality: Modeling Time and Predictability in the Literary and in the Mathematical Sciences](#)”, providing an extraordinary interdisciplinary outlook we strongly recommend!

If you have any news you would like to share regarding your research, publications, prizes, or interesting guests, please contact Beate Rogler at rogler@mathplus.de.

I wish everyone a restful holiday period and an excellent start into the new year!

A handwritten signature in blue ink, appearing to read 'Beate Rogler'.

MATH+ Chair

+ Election of New Chair and Executive Board of MATH+



© MATH+ / Kay Herschelmann

The General Assembly elected [Michael Hintermüller](#) as the new Chair of MATH+ for the next two years at the MATH+ Day on 18 November 2022. **Congratulations!** Michael Hintermüller is a professor at the Department of Mathematics at Humboldt-Universität zu Berlin (HU Berlin) and Director of the Weierstrass Institute for Analysis and Stochastics (WIAS).

A very warm welcome to Michael Hintermüller! We wish him all the best for his term of office.

He succeeds [Christof Schütte](#) from Freie Universität Berlin (FU Berlin), who held the MATH+ Chair for the previous two years. The MATH+ community would like to thank Christof Schütte for his dedicated work and achievements throughout the past two years. Alongside [Martin Skutella](#) of TU Berlin, he will continue as Co-Chair (*on the photo, from left to right: M. Hintermüller, C. Schütte, M. Skutella*).

The General Assembly also elected the new [MATH+ Executive Board](#). The members will serve alongside Michael Hintermüller for the next two years.

[Read more](#)

+ New BMS Chair Holger Reich and Gavril Farkas as New BMS Deputy Chair



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[Holger Reich](#), Professor of Mathematics at Freie Universität Berlin (FU), is the new Chair of the Berlin Mathematical School (BMS). **Congratulations!** He took up his post on 18 November 2022 in accordance with the rotating chairpersonship and succeeds Jürg Kramer of Humboldt-Universität zu Berlin (HU). [Gavril Farkas](#) serves as new BMS Deputy Chair, together with [John M. Sullivan](#).

Everyone at the BMS and MATH+ would like to thank Jürg Kramer for his outstanding commitment as BMS Chair over the past two years, and we would like to extend a very warm welcome to his successor, Holger Reich (*on the photo, from left to right: J. Sullivan, G. Farkas, H. Reich*).

[Read more](#)

+ MATH+ Day



More than 200 MATH+ members participated in the MATH+ Day on 18 November. Everyone appreciated the opportunity to discuss and exchange ideas in person again. Apart from the



election of the new Board and new Chair, there were workshops with several proposals for new Emerging Fields and poster sessions with more than 70 presentations of research results.

MATH+ People

+ Further Three MATH+ Distinguished Fellows Selected



We are delighted to announce that MATH+ has chosen three more MATH+ members and well-known mathematicians as MATH+ Distinguished Fellows. Beside [Gavril Farkas](#) (HU Berlin) who had already been nominated in Summer 2022, [Bruno Klingler](#) (HU Berlin), [Alexander Mielke](#) (WIAS), and [Peter K. Friz](#) (TU Berlin) were awarded the MATH+ Distinguished Fellowship (*on the photo, from*

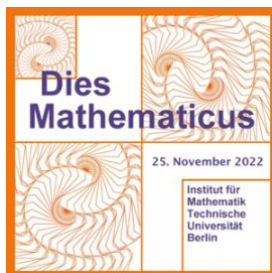
left to right: G. Farkas, B. Klingler, P. Friz, A. Mielke). **Congratulations!**

The MATH+ Distinguished Fellowship Program aims to recognize outstanding contributions to the mathematical sciences and to support the work of world-leading mathematicians in Berlin.

More information and an introduction to each fellow will be published on the MATH+ website over the next months.

[Read more](#)

+ Three BMS PhD Students Won Best Presentation Awards of the DIES MATHEMATICUS at TU Berlin



© Institute of Mathematics, TU Berlin

The DIES MATHEMATICUS is organized every year by the Institute of Mathematics of TU Berlin to bid farewell to its graduates and to honor the best among them. Additionally, a presentation competition is held.

We proudly announce that this year's first, second, and third place in the category "Best Presentation" (Master) were awarded to three BMS PhD students: **Jonas Köppl** (1st), **Sandro Roch** (2nd), and **Nina Smeenk** (3rd). **Congratulations!**

[Read more](#)

+ The Following BMS Students Have Successfully Completed Their Doctorate

Simona Stanislavova Boyadzhyska (FU Berlin)

"Minimal Ramsey graphs, orthogonal Latin squares, and hyperplane coverings"

Jo Andrea Brüggemann (HU Berlin)

"A Class of Elliptic Obstacle-Type Quasi-Variational Inequalities with an Additional Volume Constraint: Theory and Solution Methods"

Andrei Bud (HU Berlin)

"Moduli of Prym curves and strata of differentials"

Malak Diab (HU Berlin)

"Splitting Methods for Partial Differential-Algebraic Systems with Application on Coupled Field-Circuit DAEs"

Ingo Gühring (TU Berlin)

"Approximation with Neural Networks from a Theoretical and Practical Perspective"

Anieza Maltsi (HU Berlin)

"A mathematical study of the Darwin-Howie-Whelan equations for Transmission Electron Microscopy"

Manuel Radons (TU Berlin)

"Discrete geometry and optimization"

Laith Rastanawi (FU Berlin)

"On 4-Dimensional Point Groups and on Realization Spaces of Polytopes"

Congratulations!

MATH+ Events

Review

+ MATH+ at the Berlin Science Week (BSW), November 2022

New Ways for Knowledge Exchange – Introduction of the Project Schule@DecisionTheatreLab

On 05 November, all BUA „Experimental Science Communication Laboratories“ introduced their creative and innovative projects for science communication and exchange at the Berlin Science Week at the Science Campus in the *Museum für Naturkunde*. The MATH+ project *Schule@DecisionTheatreLab* was a lively presentation by the three PhD students of the project: Sinah Gürtler (FU), Joshua Wiebe (FU), and Christoph Werner (HU). They used the illustrations and graphics drawn by Lorna Schütte after the descriptions of the project members a few months ago. The lecture room was crowded; an audience of more than 60 participants closely followed the presentation and asked many questions.

The SCIENCE SLAM of the Berlin Clusters of Excellence with two MATH+ Representatives (ZIB/FU)

A very successful Science Slam on the final evening of the Berlin Science Week on 10 November attracted numerous visitors. Unfortunately, some had to be turned away due to the 250-person limit at the Roadrunner's Paradise Club (Prenzlauer Berg). Eight amazing slammers from five Clusters of Excellence explained their research in humorous ways in 10 minutes each. They gave it their all to be rewarded with the victory for the best presentation of research results. In the end, the audience voted for the winner. The MATH+ representatives Enrico Bortoletto (ZIB, BMS student/Ralf Borndörfer/Niels Lindner group) and Guillermo Olicón Méndez (FU, Posdoc, Maximilian Engel group) made the crowd go wild with their super funny, but also very educational contributions. Enrico's topic was "How to Make the U-Bahn Go Brrr" while Guillermo talked about "In Search of Lost Chaos." Both were only narrowly beaten by the later winner of the NeuroCure Cluster, Antonia Groneberg.

+ Digital "Mathenacht" of the Three Math Clusters of Excellence in Berlin, Bonn, and Münster

On 02 December, the "Math Night" was organized by the three Math Clusters of Excellence from Berlin (MATH+), Bonn (Hausdorff Center for Mathematics), and Münster (Mathematics Münster). The "Math Night" has taken place regularly over the last few years, but this year was MATH+'s first participation.

The afternoon program from 3-6 pm consisted of three workshops for pupils with an audience of 240 participants. MATH+ was represented by Niels Lindner from ZIB. He spoke about how math can help to organize changing trains without waiting. **The night program** began with a magic show and a panel discussion about different educational pathways, in which MATH+ Professor Andrea Walther from HU Berlin participated. This was followed by **three mathematical talks** with topics ranging from the mathematics in evacuation plans – presented by MATH+ Co-Chair Martin Skutella – and the geometry in spheres & donuts to the mathematics in electronic music.

It was a great and successful event, and we look forward to the next “Mathenacht 2023”.

[Read more](#)

Preview

+ MATH+ Fridays

13 January: [Robert Lazarsfeld](#) (Stony Brook University): tba, @TU/EW201

27 January: [Bruno Vallette](#) (Sorbonne U): tba

10 February: [Stephen J. Wright](#) (U Wisconsin): tba @TU/EW201

+ Spotlight Talks

11 January: [Aswin Kannan](#) (MATH+ Junior Research Group Leader): Benefits of Multiobjective Learning in Solar Energy Predictions

25 January: [Ariane Ernst](#) (AA1-5): [Space-Time Stochastic Models for Neurotransmission Processes](#)

08 February: [Guillermo Olicón Méndez](#) (AA1-8): [Random Bifurcations in Chemical Reaction Networks](#)

MATH+ Outreach

+ Call for Support of MATH+ Outreach Events and Science Communication

Are you interested in Science Communication and in presenting your research to an interested audience? We are always on the lookout for scientists who wish to represent MATH+ and explain their research and experiences to the general public in an amusing or entertaining fashion.

For younger scientists, in particular, this can be an essential distinguishing feature in their scientific careers, as more attention is being paid to science communication activities in addition to scientific qualifications. **Dear PIs and “Scientists in Charge”:** Please encourage your group members and (PhD) students to join our events, such as Science Slams, Meet the Scientist etc.

In case of interest, please get in touch with Ariane Beier (school@mathplus.de) and Beate Rogler (rogler@mathplus.de).