

**WINS**  
Women in Natural Sciences



# Empowering Women in Science

Outcomes and Insights of  
Seven Years of WINS Schools

2018–2024

**„IN 2024, WE CAN NOW  
LOOK BACK AT SIX  
EXTREMELY REWARDING  
WINS SCHOOLS, WHICH  
HAVE FOSTERED THE  
CAREER AND PERSONAL  
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130 FEMALE SCIENTISTS  
THROUGH INTENSIVE  
PROFESSIONAL AND  
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THAT IS STILL ONGOING.“**

Good ideas do not appear out of thin air, but often in exchange with others. In 2017, in the context of promoting women scientists at the Faculty of Mathematics and Natural Sciences at Humboldt-Universität zu Berlin, we had the opportunity to set up WINS Adlershof, a career development and networking program.

With a dedicated group of female colleagues, we have developed a multifaceted concept aiming at motivating, promoting, and supporting female doctoral and postdoctoral researchers to pursue an academic career.

New ideas emerged in this context included, among others, the organization of an annual interdisciplinary summer school – by women for women: The goal of the developed multi-day format was to stimulate and promote the desire to engage in scientific debate and, above all, facilitate networking. The success of these initiatives speaks for itself: In 2024, we can now look back at six extremely rewarding WINS Schools, which have fostered the career and personal development of about 130 female scientists through intensive professional and personal exchange that is still ongoing.

This brochure highlights the program of the WINS Schools, provides information about their positive outcomes, and gives space for participant's assessments – not least with the aim of presenting WINS Schools as a best-practice example of how female empowerment, the promotion of female (scientific) careers, and sustainable networking can be implemented profitably for everyone in different contexts.

**Prof. Dr. Caren Tischendorf,**  
**Dean of the Faculty of Mathematics and Natural Sciences**





# Introduction



Group photo of WINS School 2022

## How did the idea come about?

The guiding principle of the WINS School was the desire to awaken the interest of talented female scientists at an early stage of their academic careers.

Accordingly, not only female doctoral and post-doctoral researchers, but also female Master's students have been given the opportunity to gain an insight into the academic working world and benefit from the experience of older female colleagues. The key idea behind the WINS School was to put together two female professors from different institutes of our faculty to jointly develop a scientific program on a topic bridging their disciplines. Participants learn about different

subject areas and the professors gained new perspectives from the other discipline. This approach fosters creative academic work, often overlooked in daily university life, and inspires further academic discussions. Another important concept developed in the WINS School is fostering a relaxed environment where participants can get to know each other personally, share personal experiences, and engage in non-academic discussions, even with their professors.

An important prerequisite for this summer school was to leave the university setting and spend a long weekend at a scenic location in Brandenburg, first at the Erkner Education Center and then in subsequent years at the Blossin Youth Education Center on Lake Wolzig.

After a scientific introduction, the program of the four-day event includes group tasks and workshops, as well as the topic of strategic career planning with corresponding training sessions and discussion rounds. The summer school is rounded off with group sport activities, such as canoeing, stand-up paddling, or volleyball, which promote networking and team building in a comprehensive sense.

This holistic approach was convincing right from the start: within a few days, what started out as a group of 12 participants – later grown to 25 – became very quickly a group of like-minded people or even friends, some of them are still in contact today. The positive experience of working together and networking in an all-female environment not only encouraged many participants to live their role as a scientist with confidence and reflection, but also motivated them to pursue a career in academia.

The desire to continue this low-threshold format quickly developed. Since the first event in 2018 with a focus on mathematics and computer science, the annual WINS School has been offered with a variety of topics and outcomes. In the following years, for example, the aspect of career planning and working with role models was expanded: depending on the topic, successful women acting as role models were invited to give lectures and workshops to make the program even more attractive and to illustrate the range of future career opportunities for female scientists in the field of mathematics and natural sciences. A special focus was placed on female scientists working at the Adlershof campus, such as PD Dr. Franziska Emmerling (BAM), Dr. Antje Vollmer (HZB) or Dr. Gabrielle Thomas (Menlo Systems).



Whilst the first summer school in 2018 was initially only aimed at female Master's students from the Faculty of Mathematics and Natural Sciences and held in German, the event has since been offered in English, thereby not only expanding the circle of interested parties, but also creating a unique type of event in the German system.

## What is special about this format?

Summer schools and workshops are common events in the scientific community, especially in the STEM disciplines. By providing a protected environment in which participants can acquire knowledge, establish a network, and disseminate their own results, these events are considered a milestone for the development of young researchers. Summer schools and workshops are typically offered to a homogeneous target group, for example, of students or doctoral candidates, and, more rarely, post-doctoral scientists. Starting from this established concept in scientific education, the WINS Schools developed a new format addressing a broad audience of female scientists, ranging from Bachelor's students from their fourth semester up to junior group leaders. Targeting such an extended group, while appearing unconventional in the beginning, showed clear advantages. Students and post-docs have rare occasions to interact with each other on an equal level. With WINS School, this status-quo was turned around to offer more experienced scientists the opportunity to act as role models for younger colleagues and share with them first-hand experience on realistic career paths. In return, they can validate themselves by being seen as successful examples. This represents a powerful incentive especially for post-doctoral scientists striving to achieve recognition and visibility in the most delicate phase of their career.

The diversity of the target audience in terms of career levels is closely interconnected with the increasingly interdisciplinary character of the WINS Schools. While the first events combined two STEM disciplines addressing the same topic from different perspectives, starting from 2022 the format has been extended to encompass the whole spectrum of the natural sciences pivoting around a broad topic such as energy research or networks and frameworks. Making WINS Schools interdisciplinary events not only increased their visibility but also stimulated spin-off interdisciplinary conferences "Future WINS". While often praised and in high demand, interdisciplinary events are in fact rare due to the extreme degree of specialization reached nowadays in all branches of natural sciences. This is precisely where the diversity of the audience plays a key role. Bringing together scientists at





**Zsuzsanna Heiner (right) and Haritha Kambalathmana at a discussion in Blossin 2022**

different career levels facilitates communication and enables to establish an accessible language. This practice is beneficial not only in the context of such interdisciplinary events, but it also contributes to open minds and to broaden visions. As organizers, we are convinced that these actions can contribute to make the scientific environment a more sustainable and better place.

Even more importantly, they can give visibility to a new generation of female scientists and offer them a space where they can consolidate an interdisciplinary network and develop a “way to do science” that suits their personal needs.

# 2

**What do the  
participants say?**

## Sarah Kleest-Meißner | HU Berlin (Computer Science)

I studied Computer Science at Humboldt-Universität zu Berlin and received my Bachelor's and Master's degree in 2018 and 2020, respectively. I have just completed my doctorate in Theoretical Computer Science.

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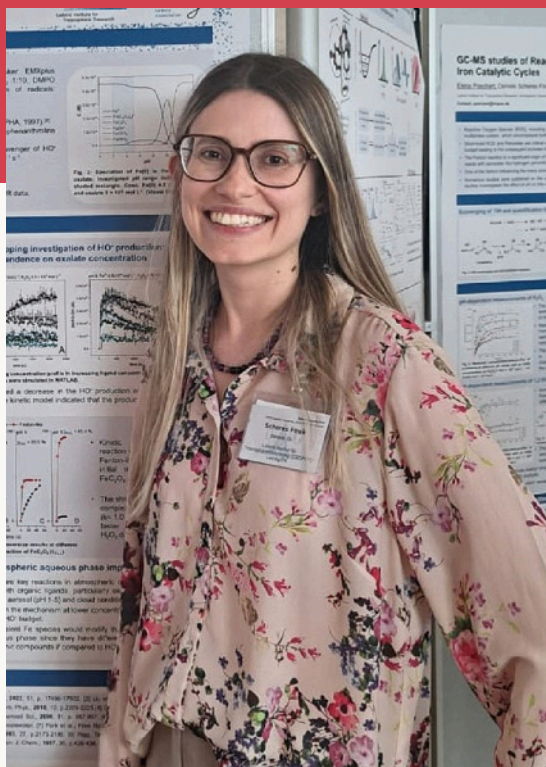
During my master's program I attended the WINS Summer School in 2018. The topic of the summer school perfectly suited my interests, and I was intrigued by its interdisciplinarity and curious about the format of the event itself. The interplay of multiple aspects made this summer school a highlight of my studies:

- The interdisciplinarity and the networking with people from another institute laid a foundation for further interdisciplinary research, since we learned how to define a common language.
- The development of a strong group feeling thanks to the joint journey allowed for heart-to-heart talks about experiences, problems, worries and future plans. **In particular during these conversations, the two female professors Prof. Caren Tischendorf and Prof. Nicole Schweikardt acted as role-models and gave many insights regarding an academic career. In retrospect, the summer school built a cornerstone for my decision to become a PhD Candidate under the supervision of Prof. Nicole Schweikardt.**
- The focus to female students increased the visibility of women and created a unique safe space which I had not experienced before during my studies even though I had very few bad experiences being a woman in a male-dominated field. This summer school felt like female empowerment and broadened my perspective regarding social issues within Computer Science and beyond.



**„The topic of the summer school perfectly suited my interests, and I was intrigued by its interdisciplinarity and curious about the format of the event itself.“**

„Overall, my involvement in WINS has gone beyond just advancing my career; it has also played a significant role in my personal growth as a woman navigating the world of science.“



## Daniele Firak | TROPOS Leipzig (Chemistry)

I am currently a postdoc at the Leibniz Institute for Tropospheric Research in Leipzig, Germany. I hold a Ph.D. in Chemistry from the Federal University of Paraná, Brazil. My first contact with the WINS School happened in 2022 when I was pursuing a further degree in the Doctoral School of Environmental Sciences of the Szeged University, Hungary.

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**WINS is a unique community of international female scientists that initially caught my attention through its events aimed at early-career researchers.**

Beyond being highly informative, there are several reasons why I have chosen to participate in various WINS-organized events. One of the most striking aspects is the palpable passion that both participants and invited speakers bring to their discussions about science and their careers—a passion that I have not always encountered in my own work environment. **Another outstanding feature is the international diversity of both the participants and organizers, which holds special significance for me as a scientist working far from my home country. Being part of such a diverse community has a deep impact on those of us who have ventured far from home.**

The opportunity to discuss career-related topics and their intersection with personal experiences in a relaxed and supportive atmosphere is another key factor that has drawn me to these events. This point also highlights the importance of WINS being a space specifically tailored for women scientists.

Overall, my involvement in WINS has gone beyond just advancing my career; it has also played a significant role in my personal growth as a woman navigating the world of science.



## Lynn Ostersehl | MPI Göttingen (Photonics)

After my bachelor's degree in biophysics at Humboldt-Universität zu Berlin and my master's degree in physics at Georg-August-Universität Göttingen, I have been working on my doctorate at the Max Planck Institute for Multidisciplinary Science in the Department of NanoBiophotonics (Prof. Hell) since 2022, working in the field of high-resolution fluorescence microscopy.

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The WINS Summer Schools offer a unique platform where female scientists from all career stages and with different scientific backgrounds can exchange ideas and network in an extraordinary atmosphere. **It is exciting to get to know female scientists from a wide range of disciplines and to benefit from their experiences. The special atmosphere is characterized by appreciation and support, which makes the exchange even more valuable.** For many participants, the contact lasts beyond the event, which leads to the development of a strong network.

**The WINS Summer Schools are an important support for career decisions, as they open up different perspectives and help with career planning.** They offer the opportunity to exchange ideas with other bright minds, away from the daily grind, and to share enthusiasm for science.

**A special feature of this event is the safe space in which women can discuss specific experiences.** Each year, the summer school has a different thematic focus, which always provides new impetus and attracts a wide variety of participants and workshops. In this diversity, you can find yourself and your research every year.



**„The WINS Summer Schools offer a unique platform where female scientists from all career stages and with different scientific backgrounds can exchange ideas and network in an extraordinary atmosphere.“**



**„I found it particularly interesting how we were able to discuss scientific issues and communicate well, even though we were working on very different projects.“**

## Dr. Maryline Ralaiarisoa | Yellow-SiC Development GmbH (Physics)

I am a physicist working in the field of renewable energy and was thrilled when I had the opportunity to take part. I studied at Humboldt-Universität zu Berlin and did my doctorate there.

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When I took part in the WINS Summer School 2022, I felt very connected to my former university. It was something special to exchange ideas with female students, doctoral candidates, postdocs, group leaders, professors and researchers. We were able to reflect, be inspired, give each other advice and share our own experiences. You suddenly gain clarity about observations that you were previously unable to classify precisely. This can have a very positive influence on everyday life. Science is not neglected, on the contrary: exciting scientific lectures and a presentation round by the participants are also on the agenda. **I found it particularly interesting how we were able to discuss scientific issues and communicate well, even though we were working on very different projects. I think such discussions are potential starting points for stimulating creativity and promoting intellectual thinking.**

The WINS Summer School also has a lasting effect, because you make friends, establish contacts and are prepared to pass on and give back. This successful networking is also due to the excellent management and organization. I think this event is very important because it builds women's networks. Among other things, the latter enable communication that would not have come to light in a mixed network because there are challenges that women specifically face.

## Anna Büttner | HU/Potsdam-Institut für Klimafolgenforschung (PIK) (Physics)

After my Bachelor's and Master's degree in physics at HU Berlin, I am currently finishing my PhD at PIK in cooperation with HU Berlin and plan to take up a postdoc position afterwards.

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The special thing about the WINS Summer School is definitely the relaxed atmosphere in which experiences can be shared with other women from all areas of the natural sciences. I was very interested in the topic at the time (“Light-Matter Interaction”). I also found it exciting to talk about physics in an all-female group for once, as we are otherwise often in the minority.

For me, it is particularly valuable to see how many women in the sciences struggle with similar challenges, be it doubting their own abilities or fighting for recognition. It is reassuring to know that you are not alone! Since this experience, I have consciously reached out to other women I work with. This has significantly strengthened the team spirit with my colleagues.

I think it's great that it's an event that is specifically aimed at women.

It makes it possible to address topics that might not come up in mixed groups. It also shows that science can work differently. I have rarely learned and worked in such a relaxed and supportive atmosphere.

**FUN FACT:** I shared a room with another student at the summer school. That was 6 years ago and she is still one of my best friends! :)

**„The special thing about the WINS Summer School is definitely the relaxed atmosphere in which experiences can be shared with other women from all areas of the natural sciences.“**



# 3



# Results and outlook



Petra Metz, Caterina Cocchi and Zsuzsanna Heiner (from left to right)  
at the Future WINS Conference 2022

## What have we achieved?

A summary based on the evaluations

### → Sustainable networking at various levels

The opportunity to focus on a topic in a safe space with like-minded people, to look beyond the disciplinary horizon and to exchange ideas beyond the specialist field was experienced as enriching and network-building. Many gained the confidence and determination to pursue academic careers.

Strong connections, both with peers and established female academics, are fostered through social media, even across large geographical distances. Participants find the diversity of their backgrounds and career stages to be a positive aspect of their experience at various European institutions. This also supports the mobility of participants, which is necessary in the academic world.

### → Experiencing self-efficacy and change of perspective

By becoming role models for female students through tutorships in workshops or lectures, female doctoral candidates and postdocs have the opportunity to change their perspective and to grow personally thanks to this experience.



## **Development of interdisciplinary thinking and understanding**

At the WINS School, female scientists from different disciplines come together and engage with each other's subject-specific "languages". This interdisciplinary competence is indispensable in today's scientific world and is rarely taught in everyday academic life. The earlier a basic knowledge of the different languages of the various disciplines is acquired, the better. Furthermore, the ability to translate one's own scientific research in such a way that it can be understood by a broad audience is essential in the age of open science.



## **Peer learning and exchange of experience on informal knowledge**

Being able to build up a broader informal and cross-institutional knowledge of various career-relevant aspects, e.g. regarding the requirements for doctorates in different German and European universities, is highly valued by many participants, as such contacts often do not exist at early career stages. This knowledge also helps to prepare the transition from one career stage to the next.



## **Targeted knowledge about career planning as a female scientist**

In addition to the scientific lectures, every year women with a scientific background from various fields are invited to give thematic guest lectures or workshops so that the participants can experience a wide range of future fields of activity – from the classic academic career to the field of science management or communication to self-employment as a patent attorney or entrepreneur.



## **Motivation for an academic career**

For the majority of participants, the increased motivation to continue working in academia is a key effect, which is not only reflected in academic metrics. Even those who subsequently opted for a different career path, for example in industry, felt inspired by their experience in the summer school and the diverse career options it showcased.

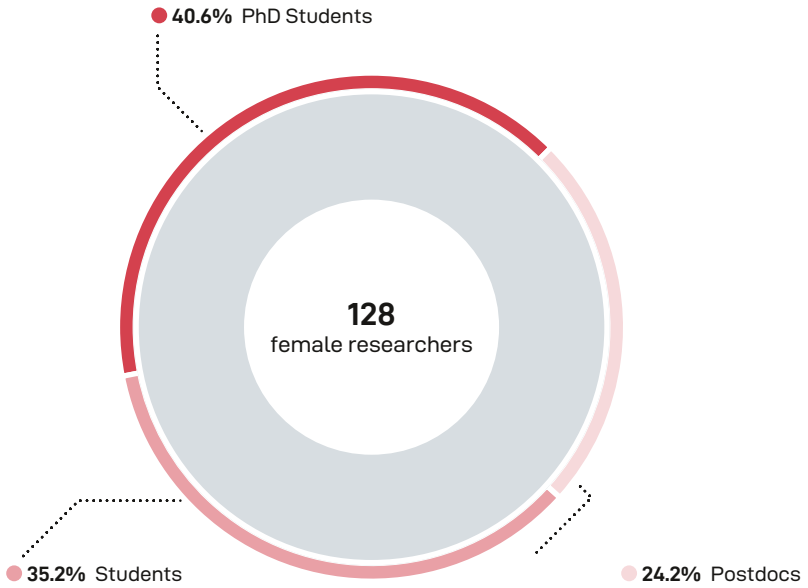
# Who took part?

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**A total of 128 female researchers took part in the WINS Schools from 2018-2024**, mainly doctoral students (40,6%), but also a good number of students (35,2%) and postdocs (24,2%), confirming the success of our strategy to span the entire spectrum of an early-stage career. About half of them came from HU Berlin, but also from 48 other German and European institutions. A large part of participants had a background in physics (34,4%) and chemistry (32,8%), but also from other fields such as mathematics (10,2%) and computer science (6,2%) as well as materials science (5,5%) and photonics/optics (3,9%). Overall, interdisciplinarity appeared prominently and the relative size of the institutes of our faculty was reflected in the number of participants.

## Overview of career stages

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## Overview of the different disciplines

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## Further informations

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<https://fakultaeten.hu-berlin.de/en/mnf/wisskar/wins-adlershof/winsschool/winsschool>

2018

**DISKRETE UND KONTINUIERLICHE METHODEN ZUR  
MODELLIERUNG, ANALYSE UND SIMULATION VON  
NETZWERKEN**

Co-organizers: Prof. Dr. Nicole Schweikardt (Computer Science)  
und Prof. Dr. Caren Tischendorf (Mathematics)

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2019

**LIGHT, COLOUR, MATTER: WHY DO WE SEE WHAT WE SEE?**

Co-organizers: Prof. Dr. Caterina Cocchi (Physics)  
und Prof. Dr. Zsuzsanna Heiner (Chemistry)

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2020

**CANCELLED DUE TO THE COVID-19-PANDEMIC**

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2021

**LIGHT, MATTER, AND LIFE: WHY DO WE SEE WHAT  
WE SEE AND HOW DO WE UNDERSTAND IT?**

Co-organizers: Prof. Dr. Caterina Cocchi (Physics)  
und Prof. Dr. Zsuzsanna Heiner (Chemistry)

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2022

**ENERGY FOR (YOUR) FUTURE**

Co-organizers: Prof. Dr. Caterina Cocchi (Physics)  
and Prof. Dr. Zsuzsanna Heiner (Chemistry)

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2023

**NETWORKS AND FRAMEWORKS**

Co-organizers: Prof. Dr. Caterina Cocchi (Physics), Prof. Dr. Zsuzsanna  
Heiner (Chemistry) and Prof. Dr. Caren Tischendorf (Mathematics)

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2024

**CROSS SECTIONS AND INTERFACES  
IN SCIENCE AND ITS ENVIRONMENT**

Co-organizers: Prof. Dr. Caterina Cocchi (Physics), Prof. Dr. Zsuzsanna  
Heiner (Chemistry) and Prof. Dr. Caren Tischendorf (Mathematics)







# What's next for us?

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**WINS School has successfully hosted six editions**, consistently offering new topics and welcoming female scientists at all career stages and institutions.

Despite using the same ingredients, the dish always comes out different. The interplay of personalities among the participants creates unique dynamics that never fail to intrigue us. One constant, however, is the very special atmosphere that sparks every time: the diversity among the participants, the appreciative and open exchange with like-minded people promote well-founded and constructive discussions. Sport activities and shared meals are also very important, as they provide space for informal discussions and team building.

The result is an open network, including follow-up events such as the Future WINS and Future Lab conferences, which fosters a positive bond between a young female academics and the HU Berlin. All participants of WINS Schools have the opportunity to remain part of the WINS network.

With this background, we are ready to expand this established gender-specific format in the context of the Center for Career Development, where young scientists of all genders have the opportunity to benefit from analogous opportunities



Participants of the summer school 2024 organized by the Graduate Center

for career development. Our goal is to nurture a new generation of scientists engaged in advancing gender and diversity equity in their careers.

In 2024, the first summer school on artificial intelligence was held as part of the Adlershof Graduate Center. Participants included Master's students and doctoral candidates from our faculty who, following the example of the WINS Schools, had the opportunity to combine scientific discussions on career development, learn about networking strategies, and try their hand at sports. Offering in the future both WINS School and Graduate Center's summer schools represents a sensible investment in terms of systematic and sustainable career development and networking for the next generation of scientists.

## ACKNOWLEDGEMENTS

The WINS School owes its existence to a number of dedicated colleagues. On behalf of the faculty, we would like to thank the co-organizers Prof. Dr. Nicole Schweikardt, Prof. Dr. Zsuzsanna Heiner as well as Dr. Ursula Fuhrich-Grubert, Dr. Nadine Weber, and Prof. Dr. Beate Meffert for their contribution in the conception and implementation of the concepts illustrated here. A big thank you also goes to all the speakers and trainers for their great and committed input, which made the WINS Schools a special event for everyone who attended them. Thanks also to our motivated participants, a new generation of women scientists – the Future WINS – who enrich and stimulate our network on every occasion.

**Last but not least, special thanks to our sponsors of the past years, whose generous support made possible the realization of the the WINS Schools:**



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### Editorial team

Dr. Petra Metz, HU Berlin

Prof. Dr. Caterina Cocchi, HU Berlin/ IRIS Adlershof/ Universität Oldenburg

Prof. Dr. Caren Tischendorf, HU Berlin

Dr. Milena Bauer, HU Berlin

Dr. Petya Jordan, HU Berlin

### Graphic concept, layout, art direction and infographics

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hu.berlin/wins

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