# 8 Years Later: CONNECT 2017 Alumni's Reflection on CONNECT 2025

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Abstract: The purpose of this paper is to reflect on the CONNECT 2025 Symposium in Neum, Bosnia and Herzegovina, from the angle of a junior organizer and a lecturer. We share our journey from the Western Balkans toward academic and research paths in the EU, beginning with CONNECT in 2017 and continuing through studies, research, and PhD work in Germany. Along the way, we highlight why studying abroad matters, what it teaches beyond formal education, and how these experiences can be brought back to strengthen local communities. The contribution also summarizes two accompanying lectures on *AI in Science* and *Gender and Science in the Western Balkans*, linking personal experience with broader scientific and societal themes.

Keywords: CONNECT 2017; CONNECT 2025; AI in science; women in science

## 1. CONNECT and the Path from the Balkans Towards the EU

Our journey started in 2017 at the first iteration of the CONNECT Symposium, titled Science and Society. This was where we first met, where faculties from Tuzla, Mostar, Banja Luka, and Novi Sad built a lasting bridge, and where long-lasting friendships began.

Shortly after the symposium ended, participants from Tuzla and Novi Sad met again in Novi Sad for the Night of Researchers (*srp. Noć Istraživača*). The event offered a night full of exciting experiments and provided a valuable opportunity to reflect on the symposium.

One year later, in 2018, the two of us were knocking on the doors of renowned German institutions. Ajla joined the Fraunhofer Institute for Industrial Mathematics ITWM in Kaiserslautern, while Goran entered the GSI Helmholtz Centre for Heavy Ion Research in Darmstadt. We returned to our hometowns full of hope and aware that significant steps lay ahead.

The major transition came in 2019, when we both decided to move to Germany to pursue master's degrees. Ajla enrolled at the Technical University of Kaiserslautern (now

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RPTU Kaiserslautern-Landau), while Goran began his studies at Johannes Gutenberg University Mainz. During this period, apart from attending lectures and writing exams on the topics of financial mathematics and particle physics, we worked on student jobs that introduced us to remarkable projects we might otherwise have missed and allowed us to meet many inspiring people.

After completing her studies, Ajla worked for a startup company in Hamburg before starting her PhD in Kaiserslautern. Goran, after a short break, began his PhD in Heidelberg at the German Cancer Research Center.

Eight years later, we found ourselves standing in the same place where we once listened to talks as bachelor students, on the Bosnian seaside in Neum, now sharing our own story and much more (Figure 1).

The idea behind the *Path from the Balkans to the EU* presentation was to show students in the Western Balkans the importance of studying abroad: exposing oneself to the unknown, meeting people from different walks of life, experiencing a different educational system, broadening one's horizons, and ultimately giving back to the community.

We hope that our words resonated with the students and that some of them will feel encouraged to begin their own journeys. After this session, we also delivered two separate lectures: Goran on *AI in Science* and Ajla on *Gender and Science in the Western Balkans*.


**Figure 1**. Ajla and Goran are presenting about CONNECT and the Path from the Balkans Towards the EU.

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## 2. AI in Science

Artificial intelligence has become one of the defining scientific topics of the 21st century, particularly during the 2020s. It increasingly shapes how we learn, interact, and make decisions, which makes it a compelling addition to both the scientific method and contemporary research practice. For this reason, we included the topic *AI in Science* in the symposium program (Figure 2).

The presentation began with a brief history of intelligent machines in science. Early expert systems based on hard-coded rules emerged in the 1950s. In the 1990s, these systems evolved into narrow AI driven by statistical learning. The field then entered a period of rapid growth in the late 2010s with the introduction of transformer architectures [1], which was an important shift for scientists worldwide. Transformer-based models led to the development of ChatGPT (https://chat.openai.com) in 2022 and to increasingly capable systems thereafter, enabling scientists to communicate with machines through natural language for the first time. This breakthrough effectively introduced AI as a co-developer, sparring partner, and powerful tool for brainstorming.

We then examined several core tasks that scientists face in their daily work and how AI has transformed them: literature review, scientific writing, and programming. Traditionally, reviewing literature required hours or days of searching databases such as PubMed or Google Scholar and manually synthesizing dozens of papers. Writing abstracts or articles often involves solitary drafting, with little feedback until late in the process. Programming frequently meant long debugging sessions and extensive tutorial viewing, often summarized by the vague advice to "find a project and learn by doing." Today, tools such as Scite.ai (https://scite.ai) and Research Rabbit (https://www.researchrabbit.ai) accelerate literature review, while large language models can synthesize findings across multiple papers. Scientific writing can now benefit from targeted prompt design, particularly for students with limited experience or non-native proficiency in English. Programming has also become more efficient through AI-assisted development environments such as GitHub Copilot (https://github.com/features/copilot) or Cursor (https://cursor.com), which support code completion, debugging, and even guided learning of best coding practices.

At the same time, we stepped back to evaluate these advances critically and highlight that the most effective path forward lies in human-AI collaboration. AI excels in speed, scale, and consistency. It can scan millions of research papers in seconds and detect subtle patterns in medical images that may escape the human eye. It does not tire and performs repetitive, structured tasks with remarkable reliability – tasks that scientists often find tedious. Humans, however, contribute qualities that AI still lacks: creativity, curiosity, and ethical judgment. We ask the right questions, interpret results within social and cultural contexts, and navigate uncertainty in complex, real-world situations. Ultimately, humans remain responsible for the scientific process and its societal consequences.

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In conclusion, AI should not be viewed as a replacement for scientists but as a powerful extension of their capabilities. When combined with human judgment and responsibility, AI can accelerate discovery while preserving the values that underpin scientific integrity.


**Figure 2.** Goran is presenting on AI in Science.

## 3. Gender and Science in the Western Balkans

We began the lecture by addressing why gender and science matter globally (Figure 3). First, equity and justice require science to reflect the societies it serves. When science excludes women, it risks biased outcomes, such as medical devices that are insufficiently tested on female populations. Second, gender diversity strengthens innovation and excellence.

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Research shows that diverse teams produce more impactful and more frequently cited work [2]. Gender equality also has clear economic benefits: McKinsey Global Institute reports that closing gender gaps in STEM could add trillions to global GDP [3].


**Figure 3.** Ajla is presenting on Gender and Science in the Western Balkans.

We then introduced some of the first women scholars in Bosnia and Herzegovina. These included the first female teacher, Staka Skenderova (1831–1891); the pioneering Bergman sisters – Berta Bergman (1894–1945), the first female high school graduate in Bosnia and Herzegovina (Mostar, 1912) and later a medical doctor (Vienna, 1918), and Marija Kon (Bergman) (1894–1987), the first woman in the country to earn a doctorate (PhD in Slavic and Germanic studies, Vienna, 1916). We also discussed Vera Šnajder (1904–1976), the first Bosnian woman to publish a mathematical research paper (1931) and the first

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female doctor of mathematics in Bosnia and Herzegovina (PhD, Sorbonne, 1928), as well as Zlata Grebo (1922–2019), the first female dean of the Faculty of Political Sciences at the University of Sarajevo, a cofounder of the city committee of the AFŽ (Women's Antifascist Front) in Mostar, and a Yugoslav delegate to the World Congress of Women in Helsinki in 1969. In presenting these scholars, the book Žene BiH was the primary source, i.e., Women of BiH (see https://zenebih.ba). Another interesting resource is the Online Museum of Women of Mostar(https://muzejzenamostara.ba).

The lecture then aimed to understand, trace, identify, and discuss key dimensions of women's participation in science. We first examined available data by comparing women's participation in science in the Western Balkans and Western Europe. We then traced historical and cultural factors that help explain why women's participation in science has been higher in the Western Balkans than in Western Europe (Figure 4). Next, we identified persistent challenges, including leadership gaps and field-specific disparities. Finally, we discussed future directions, focusing on policies, networks, and initiatives that could further advance gender equality in science in the Western Balkans.

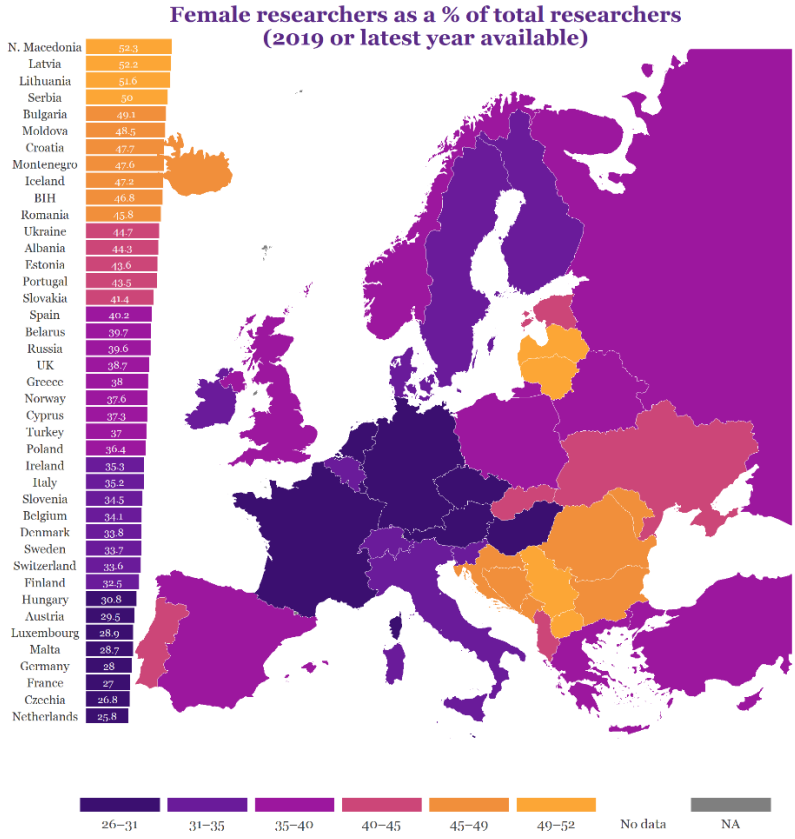


**Figure 4.** Female researchers as a % of total researchers (2019 or latest year available)[1].

[1] Source: https://milospopovic.net based on data from UNESCO Institute for Statistics from 2019.

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By highlighting the first women scholars in Bosnia and Herzegovina and the history of the AFŽ (https://afzarhiv.org, https://muzej.ba/polet-zena), we aimed to show students what women in the Western Balkans have accomplished and to motivate them to build on this legacy. The feedback we received confirmed that the lecture achieved this goal.

## 4. Conclusions

Like the previous editions, CONNECT 2025 was a great success (https://www.connect-2025.com). Students from the Western Balkans enjoyed the sunny seaside, mingled, exchanged ideas and life philosophies, and heard inspiring stories while learning about science in the region – experiences that may help shape their own scientific careers.

In this context, we are pleased to share that funding for CONNECT 2026 was officially granted this month. As junior organizers, we are very excited to see what the next edition will bring. The registration form will be announced next year, and we hope to welcome you then, this time in Montenegro.

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