Falling walls and groundbreaking ideas

L4T alumni and Bundestag Fellows were enthusiastic about the Falling Walls Science Summit 2024.

Falling Walls Foundation, Kira Hofmann

L4T alumni and Bundestag Fellows at the Science Summit 2024

The alumni of the *Leading for Tomorrow* (L4T) and *Science Meets Politics* (Bundestag Fellows) programs embarked on an extraordinary journey into the world of scientific innovation. At the invitation of the Wilhelm and Else Heraeus Foundation, they attended the Falling Walls Foundation's Science Summit in Berlin from November 7 to 9. This event is a beacon of inspiration, bringing together leading scientists, emerging talents, and pioneers from business and society.

The summit celebrates scientific breakthroughs and fosters interdisciplinary exchange. Here, researchers "break down walls"—whether in physics, medicine, engineering, or the social sciences. More than just a scientific conference, the event serves as a platform for inspiration, networking, and the development of innovative ideas. It consists of three key formats:

- Falling Walls LAB – A global pitching platform where young researchers present groundbreaking ideas.
- Falling Walls ENGAGE –A showcase of projects that bridge the gap between science and society.
- Falling Walls VENTURE –A forum where science meets entrepreneurship, transforming research into marketable innovations.

On the first day, 100 winners from 74 local competitions—selected from over 2,500 participants— took the stage at Falling Walls LAB. Each had just three minutes to present their projects, impressing the audience with innovative solutions to global challengues: a method for the biological decomposition of plastic waste, a bioelectrochemical approach to simultaneous energ y generation and wastewater treatment, and a precision medicine platform for non-invasive DNA methylation analysis. The ability to distill complex ideas into compelling, concise presentations underscored the exceptional quality of these contributions.

That evening, the WEH Foundation hosted a dinner for leading figures and emerging talents in physics. In his opening speech, Jürgen Mlynek addressed current political developments, emphasizing the role of nonprofit foundations and science rebuilding societal trust: *"Science can be a bridge that carries us through uncertainty."*

The second day was dedicated to the Heraeus Symposium *Breakthroughs in Physical Sciences*. 16 outstanding researchers—including L4T alumnus Mathis Fricke from TU Darmstadt—presented their cutting-edge work. Panel discussions highlighted the critical need for stronger ties between the scientific community and policymakers.

The evening offered an inspiring blend of science and culture. The "*AI Night*" explored the role of artificial intelligence across various fields — from biomedical research and scientific publishing to democracy itself.

On November 9, the Science Breakthroughs of the Year were honored—recognizing discoveries in Physical and Life Sciences, Engineering & Technology, Art & Science, and Women's Impact. These breakthroughs hold the potential to shape the world in the years to come.

In the Physical Sciences category, Saw Wai Hla (University of Ohio & Argonne National Laboratory) was awarded for detecting X-ray signals from a single atom—a groundbreaking advancement in X-ray spectroscopy that could revolutionize material analysis at the atomic level.

In Life Sciences, Michael Platten (DKFZ) was recognized for his pioneering work on vaccines against gliomas, a highly challenging form of brain cancer. His immunotherapy offers new hope for patients who previously had few treatment options.

In Engineering & Technology, Guihua Yu (University of Texas, USA) received the award for his hydrogel-based solar evaporators and water-harvesting systems, which enable the production of clean water using renewable energy.

Even on the third day, participants remained deeply engaged in interactive formats. Discussions centered on the ethical implications of new technologies, strategies for addressing climate change, and the vital role of science communication.

1) *T. M. Ajayi* et al., Nature **618**, 69 (2023)

The evening concluded with the performance *Spells: A Journey Through Art, Cosmos, and Collective Experience*, inviting reflection on the intersections of art, science, and our place in the universe. One highlight was *Gravity Synth*, a musical project by Leon Trimble (University of Birmingham), which combined a Michelson interferometer with a synthesizer to convert gravitational wave-like vibrations into audible sound.

These days served as a powerful reminder to L4T alumni and Bundestag Fellows of how science can transcend disciplines, break down barriers, and forge new connections. The summit was not only an opportunity to witness groundbreaking innovations but also a space for building lasting networks — a philosophy that Jürgen Mlynek emphasized in his speech: *"Always remain optimistic […] and build networks— this is the foundation of many careers."* The L4T alumni and Bundestag Fellows extend their heartfelt gratitude for the opportunity to participate in this remarkable event.

Falling Walls Foundation

L4T alumni and BT Fellows at the Heraeus Symposium „Breakthroughs in Physical Sciences"

Christian Kuttner and **Florian Steiner**