Issue **01/2026 March**

PRO LOEWE NEWS

INSIGHTS INTO CUTTING-EDGE RESEARCH FROM HESSE

THE LOEWE RESEARCH INITIATIVES REPORT.
FURTHER TOPICS AND NEWS FROM THE LOEWE RESEARCH NETWORK
AVAILABLE AT PROLOEWE.DE, LINKEDIN AND BLUESKY.

Cover image: Livia Maria Barros Campos (left) and Susi Zhihan Li (right), doctoral students in the LOEWE project MultiDrug-TDM at the Department of Biophotonics of TU Darmstadt. The project aims to develop a novel intelligent sensor system that can significantly improve the care of pediatric cancer patients. Photo: TU Darmstadt, Biophotonics

LOEWE

Excellent Research for Hessen's Future

AROUND 38 MILLION EUROS FOR CUTTING-EDGE RESEARCH IN HESSE: 18TH LOEWE FUNDING PHASE STARTED IN JANUARY 2026

Around €38 million in research funding will flow into excellent and innovative research projects through the 1**8th LOEWE funding round**. This includes **a new LOEWE Center** and **four new LOEWE Research Clusters**, which will receive a total of around €35 million for a four-year period starting in January 2026 through the Hessian research funding program. The topics of the **LOEWE projects** range from drought adaptation to personalized medical technology. The **LOEWE Administrative Commission** decides on the funding in each case following a competitive process and based on the assessments of external experts and the recommendations of the **LOEWE Program Advisory Board**.

"In the new L**OEWE projects**, universities and research institutes are collaborating to conduct excellent, pioneering research. **LOEWE research** addresses humanity's most urgent challenges," said Science Minister Timon Gremmels after the announcement of the new projects.

Prof. Dr. Stefan Treue, Chairman of the **LOEWE Program Advisory Board**, explained: "The newly selected **LOEWE Research Clusters** and the new **LOEWE Center** have the potential to generate highly relevant results that are significant far beyond the scientific community."

All five Hessian universities are involved in the research projects, as well as the Herder Institute for Historical Research on East Central Europe, the Frankfurt Institute for Advanced Studies, and the Max Planck Institute for Heart and Lung Research. **LOEWE** is also supporting ten highly innovative and bold research ideas with approximately €3 million as part of the 6th call for proposals under the funding line **"LOEWE Exploration"**.

The **LOEWE Center** and the **LOEWE Research Clusters** in detail:

LOEWE Center DynaRel – Dynamics of Religion: Ambivalent Adjacencies between Judaism, Christianity, and Islam in Historical and Contemporary Constellations. Lead: Goethe University Frankfurt.

LOEWE Research Cluster Lipid Space – Temporally and spatially resolved regulation of tissue homeostasis by lipids in the micro- and nano-environment. Lead: Goethe University Frankfurt.

LOEWE Research Cluster ADAPT – Adaptation to Drought and Extremes: The Surface-Soil-Groundwater Buffer under Climate Stress. Lead: University of Kassel.

LOEWE Research Cluster MultiDrug-TDM – Personalized Medical Technology for Therapeutic Drug Monitoring at the Point-of-Care in Pediatric Oncology. Lead: TU Darmstadt.

LOEWE Research Cluster GenDem – Interweaving Antifeminisms: Gender, Democracy, and Authoritarianism in 'Entangled Modernities'. Lead: Philipps University Marburg.

PROLOEWE PRESENTS: MANY WOMEN, ONE MISSION. LOEWE CUTTING-EDGE RESEARCH FROM HESSE – A PHOTO CAMPAIGN FOR THE INTERNATIONAL DAY OF WOMEN AND GIRLS IN SCIENCE ON FEBRUARY 11

Following the great success of last year's campaign, the ProLOEWE network is continuing its photo campaign for the International Day of Women and Girls in Science in 2026. Together with female scientists from the LOEWE-funded projects, we will showcase the diverse and prominent role of women in basic research in Hesse today – across a wide range of disciplines, roles, and career stages. The campaign aims to encourage girls and women to find their own path in science and, at the same time, highlight the importance of their perspectives for research and innovation.

The International Day of Women and Girls in Science was proclaimed by the United Nations General Assembly in 2015 and is observed annually on February 11. It recognizes the central role that women and girls play in science and technology and promotes equal access to education, research, and scientific careers worldwide.

UNESCO and UN Women coordinate the international activities surrounding this day together with partners from science, politics, and civil society. With our photo campaign, we are contributing to increasing the visibility of women in research – in Hesse and beyond.

IN SEARCH OF THE „MAGIC BULLET“: USING PHAGES, PROTEINS, AND RNA AGAINST PATHOGENS – LOEWE PROJECTS TOGETHER WITH ProLOEWE ON THE MS WISSENSCHAFT

What role do phages, proteins, and RNA play in modern anti-pathogen research? This question is the focus of the exhibit that **LOEWE Projects** and **ProLOEWE** will be presenting on the **MS Wissenschaft** from May to October this year.

The medicine of the future uses computer analyses and high-throughput methods to discover new targets for pathogens – from chemical agents to biological molecules that bind specifically to proteins or RNAs. This is leading to innovative strategies in the fight against antibiotic resistance. Phage therapy is a particularly promising approach: Phages are viruses that eliminate bacteria and are considered an encouraging answer to resistant germs. Modern mRNA methods and custom-designed phages are among the most important innovations in this field today.

As early as the beginning of the 20th century, Paul Ehrlich coined the term „magic bullet“ – drugs that find their target in the human body and act there with high selectivity. Modern research uses precisely this principle: “Our 3D models show where drugs dock onto proteins or RNA – like a key that fits the right lock – and what building blocks phages consist of,” explains Prof. Katharina Höfer, pharmaceutical microbiologist at the University of Marburg, **LOEWE Top Professor** and scientist involved in the Cluster of Excellence M4C (Microbes-for-Climate).

“Here with us, visitors can discover docking sites themselves, insert active ingredients into the appropriate pockets, and even design their own phages,” says Christof Wegscheid-Gerlach, a scientist at Philipps University and director of the Chemikum in Marburg.

The exhibit was created through a collaboration between the Marburg Pharmacy Department, the DFG-funded Research Training Group GRK 2937 “Nucleotide Metabolism in Microbes,” several **LOEWE research projects**, and **ProLOEWE**, the network of the **LOEWE research projects**. It demonstrates how basic research, technology, and societal relevance converge – and what the medicine of the future might look like.

For over 20 years, the **MS Wissenschaft** has been traveling on German and Austrian rivers and canals as a floating science center – this year focusing on the theme “Medicine of the Future.” Its hallmark: participation instead of observation. The **MS Wissenschaft** is an initiative of the Federal Ministry of Education and Research and Science in Dialogue.

More information about the **MS Wissenschaft** and the route plan for 2026 can be found at: https://ms-wissenschaft.de/en/

In 2025, the MS Wissenschaft also toured for almost five months, starting in May, visiting around 30 cities in Germany and Austria. Photo: Ilja C. Hendel / Wissenschaft im Dialog CC BY-SA 4.0

"VERNETZT DENKEN, VERNETZT BEHANDELN" – THE NEW PODCAST FROM THE LOEWE CENTER DYNAMIC ON CURRENT DEVELOPMENTS IN MENTAL HEALTH RESEARCH

„The brain is a dynamic network" – this is how a new science podcast begins, illuminating the topic of mental health from a fresh perspective. Mental illness is a central issue of our time, and research into it is highly dynamic. It now involves not only scientists from psychology and psychiatry, but also those from neuroscience and cutting-edge AI technology, whose expertise is united at the **LOEWE Center DYNAMIC**.

Launched in October 2025, the science podcast „Vernetzt Denken, Vernetzt Behandeln" (Networked Thinking, Networked Treatment) aims to make the often controversial debate surrounding mental health, as well as the diverse research approaches and scientific opinions on the subject, visible to the public and to put the people behind the research and their visions in the spotlight: Why are they dedicated to researching mental illness? In which areas and in what ways does this research change the everyday lives of patients? And how can it improve our understanding of mental illness and existing treatment methods?

But it's not just the brain that's a dynamic network – research needs to network too. The guests of the podcast repeatedly discuss the opportunities offered by network approaches, by modern technology for collecting and analyzing complex datasets that can uncover new connections between symptoms. The format doesn't shy away from critical questions. For example, the network approach – the assumption of a complex interplay between symptoms and circumstances in mental illnesses – is primarily cited as a potential source of innovative insights, while the challenges of ethically and transparently using AI models raise concerns. „Vernetzt Denken, Vernetzt Behandeln" provides a platform for this diversity of perspectives, authentically presenting research. This diversity is also reflected in the episodes: from current knowledge on everyday topics like rumination or supporting parents and children experiencing mental health challenges, to the relevance of neurobiology and psychoactive substances, and even explanations of specific research projects in **LOEWE-DYNAMIC**. Both non-experts and researchers alike gain unique insights here.

In conversation with the guests, it becomes clear: science is not a rigid construct, but a dynamic discourse in which diverse assumptions are repeatedly tested to ultimately improve the care of people with mental illnesses and promote prevention. „Vernetzt Denken, Vernetzt Behandeln" brings together various perspectives in one format and invites listeners to participate, reflect, and continue the discussion.

The podcast can be found on Spotify, Apple Podcasts, YouTube Music, and Amazon Music.

LEGAL NOTICE

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FRANKFURT CANCER CONFERENCE: HOSTED BY LOEWE-FCI IN FRANKFURT AM MAIN FROM SEPTEMBER 2ND TO 4TH

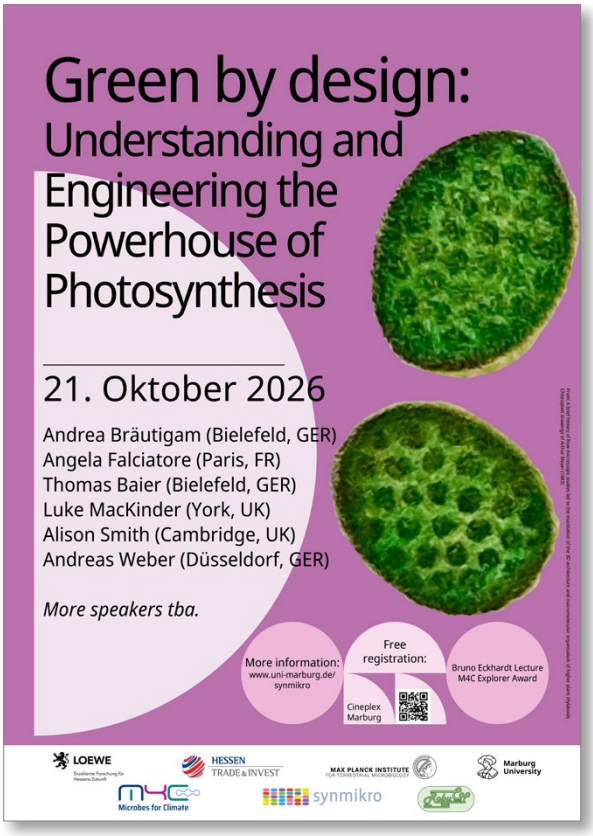
The Frankfurt Cancer Conference, which will bring together international researchers from all areas of oncology for the fourth time in 2026, has become a firmly established event in the city's calendar. To mark the 120th anniversary of experimental cancer research in Frankfurt, this year's conference revisits Paul Ehrlich's vision of the „magic bullet" and – based on the latest findings in the field of targeted therapies – looks toward the precision medicine of the future.

The event places cutting-edge cancer research from various institutions in the Rhine-Main region in an international context and strengthens interdisciplinary exchange. Prof. Florian Greten, spokesperson of the **LOEWE Center FCI**, will chair the conference this year and, together with Prof. Hubert Serve, the deputy spokesperson of FCI and co-chair, extends an invitation to participate. In collaboration with the Scientific Organizing Committee, they have succeeded in attracting numerous top-class speakers. The conference will kick off with a keynote lecture by Carl June, Professor of Immunotherapy at the University of Pennsylvania, on the topic of T-cell therapies.

The 4th Frankfurt Cancer Conference is a three-day in-person event on the Westend Campus of Goethe University. Around 30 speakers and up to 450 participants are expected. In addition to the lectures, two large poster sessions are planned, offering early career researchers in particular the opportunity to present their work and discuss it with the international audience of experts.

Further information about the event and the registration link can be found at: http://www.frankfurtcancerconference.org

The deadline for abstract submissions is March 26, 2026. Registration is open until June 25, 2026.



GREEN BY DESIGN: UNDERSTANDING AND ENGINEERING THE POWERHOUSE OF PHOTOSYNTHESIS. ANNUAL SYMPOSIUM OF THE FORMER LOEWE CENTER SYNMIKRO, OCTOBER 21, 2026, AT CINEPLEX MARBURG

On October 21, 2026, the former LOEWE Center will once again host the SYNMIKRO Symposium at the Cineplex cinema in Marburg. Under the title „Green by Design: Understanding and Engineering the Powerhouse of Photosynthesis," the event will focus on a deep comprehension and the technological possibilities of chloroplasts, the powerhouse of photosynthesis – because photosynthesis is one of nature's most fundamental and fascinating processes.

The symposium will present the latest discoveries regarding the function of chloroplasts, synthetic approaches to increasing photosynthetic efficiency, and innovative applications in sustainable biotechnology.

SYNMIKRO invites you to a day filled with inspiring lectures and scientific exchange, revealing the potential of photosynthesis for a more sustainable, greener future. This year, the event will also provide an opportunity to honor one of the co-founders of SYNMIKRO, Prof. Dr. Bruno Eckhardt, posthumously with a lecture.

The event is organized by the LOEWE Research Cluster RobuCop and the Cluster of Excellence M4C, supported by the LOEWE Research Cluster Tree-M, Microbial Nucleotide Metabolism – MiNu, and Hessen Trade & Invest GmbH.

Participation is free of charge. For better planning, please register at https://www.eventbrite.com/e/1976691942812

Professor Andreas Gattinger among „his" cows in the research cowshed at Gladbacherhof in Villmar, Hesse. Photo: Katrina Friese

Prof. Dr. Andreas Gattinger
A scientist with his feet on the ground – thinking globally and learning from each other

Professor Gattinger, together with Professor Lutz Breuer, you were the spokespersons for the LOEWE Research Cluster GreenDairy. What was the project about – and how did the idea come about? *The initial impetus for GreenDairy came in 2017 with the revised Fertilizer Ordinance, because we needed a larger manure storage tank for water protection reasons. We could only have built this tank further away from the site of the old dairy barn on the Gladbacherhof farm. And so, in this case, „the tail was wagging the dog": a new building was necessary! And then, of course, it was best to go with a suitable research concept accompanying it! No sooner said than done, and after a short amount of time the concept, the new barn, and 64 cows fed in different ways on either side of the feeding trough were in place. Our goal with GreenDairy was to develop innovative animal-plant farming systems that are ecologically and economically sustainable while simultaneously ensuring a high level of animal welfare. The project was based on the new research infrastructure of a digitized dairy farming system at the teaching and research unit Gladbacherhof of the Justus Liebig University (JLU) Giessen. This system enables the scientific comparison of so-called high-input and low-input milk production systems. Low-input systems with grazing and predominantly roughage from grassland are currently considered the ideal model for organic dairy farms, while high-input systems with grazing also incorporate increased proportions of farm-produced corn silage and grain.*
The entire trial management process is system-specific, and thanks to digitalization, we can guarantee a very high degree of precision in trial execution as well as data acquisition and documentation.

Would you like to tell us something about your personal background? *I come from a farming background, and since starting my position at JLU Giessen in April 2017, I have been living with my wife and son on my parents' farm in Selters in the Taunus region, just 6 km from Gladbacherhof. My parents initially didn't want me to study agricultural sciences; they didn't see a future for me in agriculture. So, I first completed an apprenticeship as a chemical laboratory technician at Fresenius Pharma, then worked on several farms in New Zealand, and finally studied agricultural sciences in Kassel and Aberdeen, Scotland. During my time in Aberdeen, my interest in soil ecology was sparked, so upon returning to Germany, I conducted research at the former Institute of Soil Ecology at Helmholtz Munich on "methane-producing and -consuming soil microorganisms in agroecosystems," which I ultimately submitted as my doctoral thesis at the Technical University of Munich. A few years later, I joined a Frankfurt-based start-up focused on greening desert sites in Saudi Arabia, Oman, and Abu Dhabi. This was a demanding but also very educational and exciting period, which also brought me into contact with Professor Urs Niggli. From 2010 to 2017, I had the opportunity to establish the climate research area at his Research Institute of Organic Agriculture (FiBL) in Frick, Switzerland. At the end of my seven years at FiBL, I had achieved a gratifying track record, as evidenced by the approximately six million euros in external funding secured and my appointment as Professor of Organic Farming at the Justus Liebig University Giessen (JLU).*

LOEWE is considered a unique funding instrument in Hesse. What were you able to achieve through this support? *With the LOEWE research funding, we were able to establish a platform for comparative agricultural systems research with cows in Hesse that is unique in Europe, perhaps even worldwide. Although the building permit and the financing plan for the research stable were already in place before the LOEWE funding approval, the two mutually reinforced each other. Due to the pandemic, there were delays and price increases for some construction trades, and the nationwide Öko-Feldtage (Organic Field Days) at Gladbacherhof were also just around the corner. The arrival of the funding commitment from LOEWE in the summer of 2021, with the project starting in January 2022, was therefore extremely motivating and also underscored the urgency of construction progress. As a result, the cows moved into the new barn at the end of May 2022, and four weeks later we were able to present this brand-new research infrastructure of the GreenDairy project to a considerable number of around 12,000 visitors during the Öko-Feldtage.*

The LOEWE funding for GreenDairy ended in late 2025. What happens now? *Even though the LOEWE funding for GreenDairy has ended, we by no means consider the project finished. On the contrary: The research of the past few years has generated a great deal of interest – now even internationally. My colleague Deise Knob has made a significant contribution to this. Through her contacts, agricultural scientists from Brazil approached us directly, scientists who, like us, are looking for environmentally friendly, climate-resilient, and animal-welfare-oriented solutions for the dairy industry.*
This exchange has led to close scientific cooperation. Together with our Brazilian partners, we have submitted a DFG grant application aimed at further developing our findings and transferring them to new climatic and agricultural contexts. This will allow us to consider issues of resilience, emissions reduction, and sustainable management globally in the future – and to learn from each other.

The interview was conducted by Tanja Desch.
The full interview can be found at
https://proloewe.de/en/proloewe-faces/