FALLING WALLS VENTURE

REPORT 2024

THE FORMAT

THE INTERNATIONAL PITCH COMPETITION FOR SCIENCE-BASED START-UPS

Falling Walls Venture is a pitch competition for the most promising science start-ups nominated by outstanding academic institutions from around the world. Watch pioneering founders who have successfully turned science into business demonstrate how entrepreneurial solutions can help solve today's most pressing challenges.

Carefully selected by a scientific Advisory Board, the 25 best start-ups present their innovative solutions in Berlin on 7 November as part of the Falling Walls Science Summit, an international forum that brings together the world's most forward-thinking scientists, innovators, and decision-makers. Divided into three clusters (Sustainability, Engineering of the Future, and Health Solutions), the start-ups pitch in front of a high-level Jury for the chance to win first place in their own cluster and the main title of "Science Breakthrough of the Year" in the Science Start-ups category.

"BEING PART OF FALLING WALLS VENTURE IS A VERY BIG SIGN OF RECOGNITION THAT I'M DOING THE RIGHT THING."
SALMA TAMMAM, REME-D

GLOBAL CALL
MARCH – MAY

PRE-SELECTION PROCESS
JULY

FALLING WALLS SCIENCE SUMMIT 2024
7–9 NOVEMBER

200 nominated start-ups were endorsed by outstanding institutions from around the world.

115 Finalists from 35 countries were carefully screened by our Advisory Board.

25 Winners pitched in Berlin in front of a high-level Jury on 7 November.

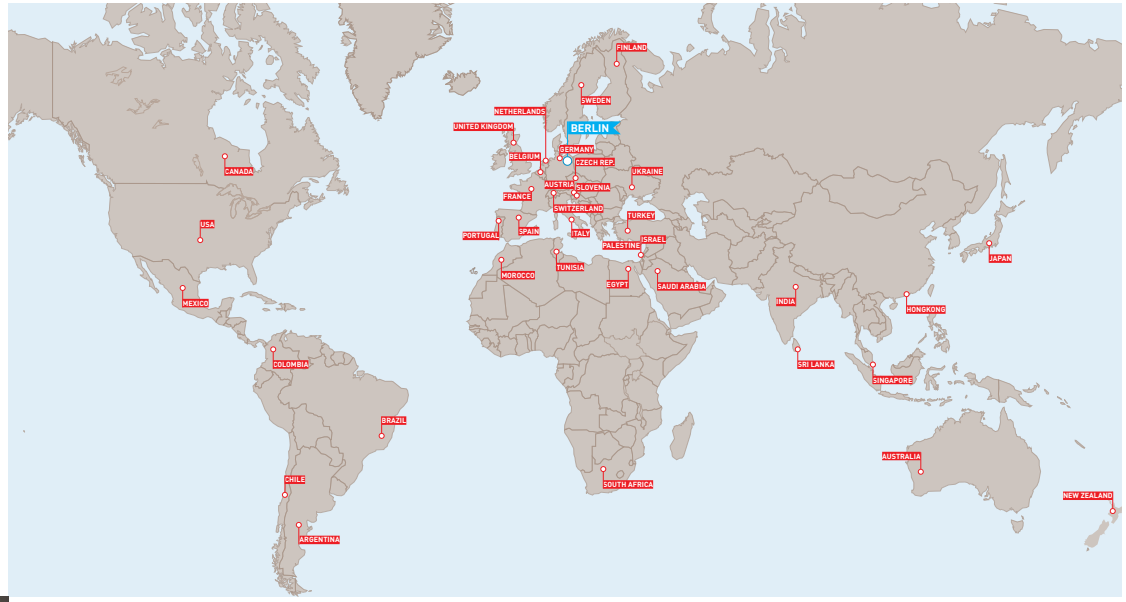
- **3 Cluster Winners**
- **1 Science Breakthrough of the Year 2024 in the Science Start-ups category**

GLOBAL REACH

200
NOMINATIONS

115
FINALISTS

37
COUNTRIES



25
WINNERS

12
COUNTRIES

3
CLUSTER WINNERS

1
BREAKTHROUGH OF THE YEAR

CLUSTER WINNERS

"SEEING SO MANY TALENTED, PASSIONATE PEOPLE ALL COMING TOGETHER TO TRY TO MAKE A DIFFERENCE AND DO GOOD IS INCREDIBLY ENCOURAGING."

CHRIS BAHL, AI PROTEINS

SCIENCE BREAK-THROUGH OF THE YEAR 2024 – CLUSTER HEALTH SOLUTIONS

ACTITREXX

ANDREA TÜTTENBERG

Nominated by Johannes Gutenberg University Mainz

Breaking the Wall to Immune Response Therapies. Autoimmune diseases, auto-inflammatory diseases, and allergies are associated with overshooting T cell-mediated immune reactions. Among these, Graft-versus-Host Disease (GvHD), a severe and potentially life-threatening complication after stem cell transplantation, faces a high unmet medical need. ActiTrexx is developing a platform of patent-protected cellular and biologic therapies targeting the root-cause of overshooting immune responses, thereby decreasing the need for immunsuppressants. Their cellular lead product Actileucel aims to prevent GvHD at an early stage after stem cell transplantation and to provide a curative approach. In 2024, ActiTrexx treated the first patient with Actileucel. The groundbreaking characteristic is its ultra-fast manufacturing process, which allows readiness of the cell therapy within 24 hours.

CLUSTER WINNER SUSTAINABILITY: SPARXELL

BENJAMIN DROGUET

Nominated by BMW Foundation Herbert Quandt

Breaking the Wall to Nature-Positive Colours. Sparxell is creating the next generation of colours and effects. Their mission is to eliminate toxic chemicals from colouration and replace them with nature-positive alternatives. They developed the world's first performance pigment from plants, using cellulose as feedstock—a renewable, biodegradable resource that can be extracted from waste streams.

CLUSTER WINNER ENGINEERING: NANOFLEX ROBOTICS

GRACE KATZSCHMANN

Nominated by Wyss Zurich Translational Center

Breaking the Wall of Unequal Stroke Treatment Access.

Nanoflex Robotics is dedicated to building next-generation telerobotic solutions that enhance access to life-saving procedures. By utilising advanced magnetic navigation technology and ultra-flexible guidewires, their Remote Intervention System (RIS) simplifies procedures and provides physicians with greater navigational control over critical interventions.

HEALTH SOLUTIONS

WINNERS

REME-D

SALMA TAMMAM
Nominated by Open Startup International

Breaking the Wall to Equitable Disease Diagnostics Access. Reme-D builds next-level diagnostics for regions with low resource settings and ensures equitable access to diagnostics for all.

GISENS

LUIS PIERPAULI
Nominated by GRID Exponential

Breaking the Wall to the Digitisation of Biology. Gisens has engineered a novel diagnostic testing device that allows patients suffering from chronic conditions to run multiple tests from the comfort of their own home.

AI PROTEINS

CHRIS BAHL
Nominated by Lightchain Capital

Breaking the Wall to AI-driven Protein Medicines. AI Proteins is re-imagining protein therapeutics with a novel approach for designing entirely new proteins using AI-based design and a high-throughput drug discovery platform.

DEEPEN

SERGEY TURTAEV
Nominated by Foundation for Technology, Innovation and Research Thuringia

Breaking the Wall to the Deep Brain with Microendoscopes. DeepEn develops the world's thinnest microendoscopes, capable of subcellular resolution observations within hard-to-access body regions while causing minimal damage to the surrounding tissue.

NANO 24

SHIRAN SHAPIRA
Nominated by Tel Aviv Medical Center

Breaking the Wall of Cytokine Storm-Related Death. Nano24 developed a versatile platform solution, EXO-CD24, for the cytokine storm (CS), the main cause of death in the last 7/8 global pandemics and probably in the next one to come.

EXAZYME

INGMAR SCHUSTER
Nominated by Free University of Berlin

Breaking the Wall to Sustainable Pharma Production. Exazyme offers an AI platform for protein engineers, biochemists, and biologists, enabling the design and optimization of proteins, from enzymes to antibodies. Their AI helps users tackle their toughest challenges more efficiently and effectively.

PRAMOMOLECULAR

MERLE FUCHS
Nominated by Technical University of Berlin

Breaking the Wall to Downregulating Cancer-causing Protein. PRAMOMOLECULAR is developing drugs with a new mode of action to treat particularly aggressive forms of lung or pancreatic cancer or heart failure by downregulating the disease-causing protein.

ENGINEERING OF THE FUTURE

WINNERS

ELECTRALITH

CHARLIE MC GILL
Nominated by Monash University

Breaking the Wall to a Green Future with Sustainable Lithium. ElectraLith is unlocking a green future with the cleanest, most versatile, and most cost-efficient method of extracting and refining lithium, the primary element of a sustainable future.

PEARCODE

MELPOMENI DIMOPOULOU
Nominated by CNRS Innovation

Breaking the Wall of Unsustainable Data Storage Using DNA. PearCode is transforming data storage with DNA. Harnessing the ultra-compact, durable nature of synthetic DNA, PearCode's fully automated DNA memory will offer storage capacities a billion times greater than traditional media.

QKERA

JENNIFER RUPP
Nominated by Technical University of Munich

Breaking the Wall to Safe and Powerful Batteries. Qkera develops solid electrolytes for next-generation lithium-ion batteries, offering safer, more powerful batteries with 30-50% higher energy density at affordable prices for mass-market applications like electric vehicles.

TAU SYSTEMS

BJORN MANUEL HEGELICH
Nominated by Team Global

Breaking the Wall to Compact Particle Accelerators. TAU Systems is developing the first compact particle accelerators and light sources that combine the capabilities of large accelerators with a small footprint to provide easy and affordable beamtime access for any company.

XEMX

SVEN MAIHÖFER
Nominated by Ruhr University Bochum

Breaking the Wall to New Materials in Green Chemistry. xemX is developing high-performance materials for the green chemical industry, creating customer-tailored and application-specific materials.

ARQUE SYSTEMS

MARKUS BECKERS
RWTH Innovation

Breaking the Wall to Scalable Quantum Computing Systems. ARQUE Systems is leveraging German semiconductor technology to develop and commercialise Quantum Computing systems reaching far beyond current capabilities based on electron spins in silicon.

NOSI

PATRIK ASPERMAIR
Austrian Institute Of Technology

Breaking the Wall to Smelling Machines. NOSI has developed a digital nose that teaches machines to smell, relying on an interplay of chemical sensors that are trained to certain smell patterns using machine learning.

WINNERS

S.LAB

JULIA BIALETSKA
Nominated by BMW Foundation
Herbert Quandt

Breaking the Wall to Industrial-scale Sustainable Packaging. S.Lab creates strong and reliable material capable of fully replacing foamed plastic by harvesting the strength of agricultural waste and the binding power of mycelium.

LEVEL NINE

SEADNA QUIGLEY
Nominated by Zero Carbon Capital

Breaking the Wall to Fossil-free Chemicals. Level Nine is developing the world's first nanozymes, next-generation catalysts that bridge the gap between enzymes and traditional catalysts. Their technology unlocks new possibilities for profitable and sustainable chemical production.

ORIGIN BY OCEAN

MARI GRANSTRÖM
Nominated by BMW Foundation
Herbert Quandt

Breaking the Wall to Healthy Oceans. Origin by Ocean is revolutionizing the way we address environmental challenges by transforming harmful algae into valuable, sustainable products.

GREENLYTE

FLORIAN HILDEBRAND
Nominated by University Duisburg-Essen

Breaking the Wall to a Green Carbon Economy. Greenlyte Carbon Technologies is developing a low-cost, robust Direct Air Capture technology that captures CO2 at world-leading energy rates, whilst supplying hydrogen as a by-product.

LINIUM BIOCHEMICALS

LUDOVIC SINET
Nominated by French National
Conservatory of Arts and Crafts

Breaking the Wall to Circular and Low-carbon Chemistry. Linium Biochemicals accelerates the sustainable transition of chemistry by offering a fossil-free, low-carbon, and price-competitive alternative for essential everyday chemical products in food, hygiene, pharmaceuticals, and materials.

CYCLIZE

MAIKE LAMBARTH
Nominated by BMW Foundation
Herbert Quandt

Breaking the Wall to Circular Plastic & CO2 Recycling. Cyclize utilises existing carbon sources, such as plastic waste and CO2, to produce drop-in syngas – a mixture of carbon monoxide and hydrogen – with the aid of a novel plasma reactor. This novel technology replaces natural gas.

BIOEUTECTICS

TOMAS SILICARO
Nominated by GRID Exponential

Breaking the Wall to Natural and Biodegradable Solvents. Bioeutectics is developing the next generation of green solvents with their eutectic biomimetic technology, replacing petrochemical solvents in industrial processes.

ECOLOCKED

MICHEIL GORDON
Nominated by BMW Foundation
Herbert Quandt

Breaking the Wall to Scale up Carbon Removal. ecoLocked is turning buildings into carbon sinks, converting captured carbon from locally sourced biomass residues into functional, carbon-negative building materials.

START-UP INSIGHTS

SUCCESS STORIES

We monitor the growth and performance of our start-ups by collecting data on their funding rounds and other growth indicators. The endorsement by renowned academic institutions, the careful evaluation by our scientific Advisory Board, and the selection by our high-level Jury contribute to a very high survival rate of our winning start-ups. The following success stories are examples of the impact of our work.

"THE QUALITY, DEPTH, AND MATURITY OF THE SCIENCE SUMMIT – SPANNING ACADEMIA, SCIENCE, GEOPOLITICS, AND SOCIETY – WAS UNPARALLELED. IT WAS AN HONOR TO PARTICIPATE AT FALLING WALLS VENTURE, WHERE WE MADE MEANINGFUL CONNECTIONS. A GREAT EXPERIENCE THAT WENT FAR BEYOND PITCHING."

CHARLIE MC GILL, ELECTRALITH

T3 PHARMACEUTICALS – ACQUIRED BY PARTNER

T3 Pharmaceuticals, presented by their Founder & CEO Simon Ittig, was awarded Falling Walls Science Breakthrough of the Year in the Science Start-ups category in 2018. Following initial investments and ongoing support from our valued partner Boehringer Ingelheim Venture Fund, the company was acquired by Boehringer Ingelheim in 2023 for 450 million CHF. Their innovative cancer therapy platform harnesses the natural behaviours of live bacteria and is now undergoing clinical studies.

REYEDAR – REPEATED SUCCESS

In 2019, Alessandro Grillini-Kromm embarked on his Falling Walls journey as a Finalist from Falling Walls Lab with a pitch on his PhD research "Breaking the Wall of Neuro-Visual Diagnosis". In 2020, he founded Reyedar, a start-up that has developed an innovative system for detecting neurovisual disorders. In 2023, he also convinced the Falling Walls Venture Jury and was awarded Falling Walls Science Breakthrough of the Year 2023 in the Science Start-ups category. The company's first product, the SONDA Screener, is now CE Certified and was officially launched in 2024.

ADVISORY BOARD

Our Advisory Board evaluated all 115 Finalists and selected 25 Winners who were invited to pitch their companies in Berlin on 7 November as part of the Falling Walls Science Summit. It consists of experts from diverse scientific backgrounds who have considerable experience with the evaluation of start-ups. Some of them are Falling Walls Venture alumni.

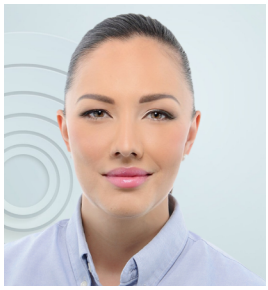
"BEING AN ENTREPRENEUR, YOU SPEND 99% OF YOUR TIME IN YOUR OWN BUBBLE WITH YOUR PROBLEM AND IT'S REALLY WONDERFUL WHEN YOU CAN COME TOGETHER WITH OTHER PEOPLE WHO ARE GOING THROUGH THE SAME THING."

GRACE KATZSCHMANN, NANOFLEX ROBOTICS

Our selection criteria

- Level of innovation
- Scope of impact
- Commercial potential
- Business model, team, and presentation

JOHANNA BRAUN
Innovation, Venture and Sustainability Advisor



SIGUNE CHOE
Founder and CEO
Straightwalk GmbH

ALLISON DRING
Co-Founder and CEO
Made of Air

CLARE EGAN
Head of Sustainability
rebuy

EKKEHARD FRANZKE
Strategic Advisor and Limited Partner
Eudemian Ventures

MAIKE HENNINGSEN
Head of Business Development
Helios

LINA HOLLENDER
Impact & Public Partnerships
Constellr

MATTHIAS HÖLLING
Deputy Head
Technopark Zurich

ANA KOLLER
Head of Research
First Momentum

CARSTEN MAHRENHOLZ
Founder and CEO
COLDPLASMATECH

STEFAN SCHERER
Innovation Management and Technology Transfer
Helmholtz Centre for Infection Research

ARNDT SCHWAIGER
Expert for Digital Business Models and AI

THE SELECTION PROCESS

JURY 2024

Our esteemed Jury, chaired by Stefan von Holtzbrinck, consisted of 13 highly distinguished international experts, investors, and corporate innovation leaders. The Jury came together in Berlin on 7 November to attend the 25 live pitches and ask questions. Afterwards, the Jury selected the Winners of each of the three clusters and the 2024 overall Winner in the Science Start-ups category.

"I'M VERY IMPRESSED WITH THE LEVEL OF KNOWLEDGE FROM THE ENTREPRENEURS. YOU CAN SEE THE HIGH QUALITY OF THEIR WORK NOT ONLY IN THEIR EXPERTISE, BUT ALSO IN THEIR STRONG MOTIVATION TO CREATE SOLUTIONS THAT HAVE A POSITIVE IMPACT ON OUR PLANET, FOR EXAMPLE IN THE ENERGY SECTOR."

LUCA LEA KLEENE, ENBW ENERGIE BADEN-WÜRTTEMBERG AG

STEFAN VON HOLTZBRINCK
CEO
Holtzbrinck Publishing Group

HEBA AGUIB
Chief Executive of RESPOND
BMW Foundation Herbert Quandt

MICHAEL BRIGL
Head of BCG Central Europe
Boston Consulting Group

DAVID GANN
Chair
UK Industrial Fusion Solutions

ALESSANDRO GRILLINI-KROMM
Founder & CEO
Reyedar

IRIS TEN HAVE
Founding Principal
Visionaries Tomorrow

FRANK KALKBRENNER
Global Head
Boehringer Ingelheim Venture Fund

LUCA LEA KLEENE
Innovation & Venture Growth Manager
EnBW Energie Baden-Württemberg

PAWEL KONZAL
Venture Executive Europe
Chevron Technology Ventures

MANON SARAH LITTEK
Founding Partner
Green Generation Fund

GREG OMBACH
Head of Research & Technology
Airbus

RASMUS ROTHE
Co-Founder & CTO
Merantix

ANDREAS ZABY
Innovation Manager
Federal Agency for Disruptive Innovation (SPRIND)

EXTENDED PROGRAMME

YOUR OPPORTUNITY TO GET INVOLVED

Beyond our pitch competition, we organise a programme for our Winners together with our esteemed partners to facilitate exchange, personal and business growth.

START-UP COACHING

After a 90-minute workshop, this year's winners had the opportunity to meet individually with a coach to rehearse their pitches for success on stage and in business.

REVERSE PITCHES

After the pitches of the Falling Walls Venture Winners, our partners and selected VCs had the opportunity to introduce themselves to the start-ups. 16 corporates, venture capital firms, and other members from the international deep tech ecosystem presented in 1–3 minutes each, among them Thong Le Hoang from Visionaries Tomorrow, Leah Becker from the BMW Foundation, and Michiel Scheffer from the European Innovation Council.

SCIENCEPRENEURS NIGHT

The Sciencepreneurs Night brought together over 120 visionary scientists, entrepreneurs, investors, and industry leaders to celebrate the Falling Walls Venture winning start-ups. This invite-only evening at the Merantix AI Campus in Berlin with the support of K.I.E.Z – Artificial Intelligence Entrepreneurship Center provided ample opportunity for networking, knowledge sharing, and inspiration with leaders and pioneers pushing the boundaries of science and technology.

EXPERT DISCUSSIONS ABOUT THE ECOSYSTEM

Various panels at the Falling Walls Science Summit focused on science-based entrepreneurship in our Sciencepreneurs forum. "Winning the Deep Tech Century: Europe's Path to Innovation", in partnership with the German Federal Agency for Disruptive Innovation (SPRIND) and Boston Consulting Group, explored how the European Union can boost groundbreaking innovation to remain a global economic leader and enhance competitiveness in technology and sustainability. At the CEO-Table "From Research Innovation to Corporate Strategy", four CEOs discussed how Germany, the champion of basic research, can move from the laboratory to the market more successfully.

"I LEFT FALLING WALLS VENTURE FEELING INSPIRED AND MOTIVATED BY THE EXCEPTIONAL SELECTION OF GROUNDBREAKING PROJECT PRESENTATIONS. IT WAS AN HONOR TO PARTICIPATE AS A NOMINATING INSTITUTION."

TIFFANY HELD, WYSS ZURICH TRANSLATIONAL CENTER

FALLING WALLS SCIENCE SUMMIT

SAVE THE DATE: 7–9 NOV 2025 IN BERLIN

GET IN TOUCH

E-MAIL
venture@falling-walls.com

PHONE
+49 30 60 988 39785

WEB
www.falling-walls.com

FALLING WALLS FOUNDATION gGmbH
Kochstraße 6–7
10969 Berlin,
Germany

OUR PARTNERS

FALLING WALLS VENTURE IS A COLLABORATIVE EFFORT, GENEROUSLY SUPPORTED BY

EnBW · Boehringer Ingelheim · MERANTIX AI CAMPUS BERLIN · K·I·E·Z by Science & Startups · AI NATION · Museum für Naturkunde Berlin