

FALLING WALLS SCIENCE SUMMIT

SHORTLISTED APPLICANTS FOR THE TITLE SCIENCE BREAKTHROUGH OF THE YEAR 2025

LIFE SCIENCES

Adam Jozwiak, University of California Riverside, *Breaking the Wall of Nature's Chemical Toolkit*

Ali R. Rezai, West Virginia University Rockefeller Neuroscience Institute,

Breaking the Wall of Treatment for Alzheimer's

Carole Mitnick, Harvard Medical School, *Breaking the Wall of One-Size-Fits-All TB Treatment*

Chi-Huey Wong, The Scripps Research Institute, *Breaking the Wall of Vaccine and Antibody Development*

Cornelia Holler, Max Planck Institute for the Science of Light, *Breaking the Wall of Reagent Delivery in Biology*

Crina Nimigean, Weill Cornell Medical College, *Breaking the Wall of Drugging Ion Channels*

Dario Riccardo Valenzano, Leibniz-Institute on Aging - Fritz-Lipmann Institute (FLI),

Breaking the Wall of APP-Driven Brain Aging

David Klenerman, University of Cambridge, *Breaking the Wall of Rapid low-cost DNA Sequencing*

David Maresca, Delft University of Technology, *Breaking the Wall of Deep Tissue Imaging*

Ingo Mellinghoff, Memorial Sloan Kettering Cancer Center, *Breaking the Wall of Targeted Brain Tumor Therapy*

Jake Brenner, University of Pennsylvania, *Breaking the Wall of Therapeutic DNA Delivery*

Jan Siemens, Institute of Pharmacology, *Breaking the Wall of Heat Tolerance*

Jia Fumin, Fudan University, *Breaking the Wall of Paralysis by Brain-Spine Integration*

Jin Woo Kim, Korea Advanced Institute of Science and Technology (KAIST),

Breaking the Wall of Retinal Regeneration

Mala Murthy, Princeton University, *Breaking the Wall of Mapping the Brain*

Melina Schuh, Max Planck Institute for Multidisciplinary Sciences, *Breaking the Wall of Invisible Ovulation*

Paola Laurino, Okinawa Institute of Science and Technology Graduate University,

Breaking the Wall of Ocean Microbes' Survival Secrets

Patrick Ming Kuen Tang, The Chinese University of Hong Kong, *Breaking the Wall of Cancer Pain and Beyond*

Peter Yingxiao Wang, University of Southern California, *Breaking the Wall of Genetic Control by Sound*

Philippa Borrill, John Innes Centre, *Breaking the Wall of Epigenetics in Crop Breeding*

Philippe Schucht, University Hospital of Bern, *Breaking the Wall of Blind Brain Surgery*

Qing-Feng Wu, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences,

Breaking the Wall of Hypothalamus Evolution

Ramon Sun, University of Florida, *Breaking the Wall of Metabolism with 3D and AI*

Rita Groß-Hardt, University of Bremen, *Breaking the Wall of Hybridization in Crops*

Ryotaro Hashizume, Mie University, *Breaking the Wall of Down Syndrome with CRISPR*

Sabine Mueller, University of California, San Francisco, *Breaking the Wall of Global Pediatric Brain Tumor Care*

Sanjay Ramakrishnan, Institute for Respiratory Health, University of Western Australia,

Breaking the Wall of Diagnostic Labels in Lung Attacks

Victoria Sanz Moreno, The Institute of Cancer Research, *Breaking the Wall of Therapy-Resistant Cancer*

Volker Haucke, Leibniz Forschungsinstitut für Molekulare Pharmakologie (FMP), *Breaking the Wall of Stroke Therapy*

Weixiong Zhang, The Hong Kong Polytechnic University, *Breaking the Wall of Polygenic Diseases*

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PHYSICAL SCIENCES

Alexie Leauthaud-Harnett, University of California Santa Cruz, *Breaking the Wall of Dark Energy*

Athina Anastasaki, ETH Zürich, *Breaking the Wall of Plastic Circularity*

Cathleen Crudden, Queen's University, *Breaking the Wall of Metal Instability*

Chetan Nayak, Microsoft, *Breaking the Wall of Topological Quantum Matter*

Christine Muschik, Institute for Quantum Computing, *Breaking the wall of Quantum Computing with Qudits*

Claudio Emma, SLAC, *Breaking the Wall of Intense Particle Beams*

Fan Zhang, The University of Texas at Dallas, *Breaking the Wall of Correlated Quantum Matter*

Feng Wang, City University of Hong Kong, *Breaking the Wall of Luminescence*

Ginestra Bianconi, Queen Mary University of London, *Breaking the Wall of Quantum Gravity with Entropy*

Henry Chapman, DESY, *Breaking the wall of Observing Molecules in Action*

Ignas Jimidar, Vrije Universiteit Brussel, *Breaking the Wall of Building Microscale Structures*

James Jee, Yonsei University, *Breaking the Wall of Dark Matter*

Jens Beckmann, University of Bremen, *Breaking the Wall of Stable & Crystalline Nitrene*

Jian-Wei Pan, University of Science and Technology of China, *Breaking the Wall of Practical Satellite QKD*

Jiong Zhao, The Hong Kong Polytechnic University, *Breaking the Wall of Ferroelectrics in Two-Dimension*

Junsuk Rho, Pohang University of Science and Technology (POSTECH),
Breaking the Wall of Metalens for Near-Eye Displays

Kai (Kathy) Leng, The Hong Kong Polytechnic University, *Breaking the Wall of Hybrid Perovskite Monolayers*

Liming Dai, University of New South Wales, *Breaking the Wall of Metal & Carbon Catalysts*

Marcello Ferrera, Heriot-Watt University, *Breaking the Wall of Ultra-fast Materials*

Mario Krenn, Max Planck Institute for the Science of Light, *Breaking the Wall of Human Creativity in Physics*

Martin Harmer, Lehigh University, *Breaking the Wall of 100 Years of Superalloys*

Richard Norte, Delft University of Technology, *Breaking the Wall of Miniaturization in Nanotechnology*

Sabine Richert, Goethe University Frankfurt, *Breaking the Wall of Molecular Spin Qubits*

Song Lin, Cornell University, *Breaking the Wall of Electrosynthesis*

Sujit K. Ghosh, IISER Pune, *Breaking the Wall of Nuclear Waste Remediation*

Tanja Mehlstäubler, PTB, *Breaking the Wall of Time & Frequency Standards*

Thomas Heine, TU Dresden, *Breaking the Wall of Framework Materials*

William Oliver, Massachusetts Institute of Technology, *Breaking the Wall of High-fidelity Quantum Gates*

Zlatko Papic, University of Leeds, *Breaking the wall of False Vacuum Decay*

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ENGINEERING & TECHNOLOGY

Aiman Rahmanudin, Linköping University, *Breaking the Wall of Flexible Energy Storage*

Cesar de la Fuente, University of Pennsylvania, *Breaking the Wall of Antibiotic Discovery with AI*

Chibueze Amanchukwu, The University of Chicago, *Breaking the Wall of Battery Safety*

Christian Malapit, Northwestern University, *Breaking the Wall of Clean Energy from Waste*

Gopala Krishna Anumanchipalli, University of California, Berkeley,

Breaking the Wall of Speech Loss with Neural Implants

Hang Zhang, Aalto University, *Breaking the Wall of Self-Healing Materials*

Hongliang Ren, Chinese University of Hong Kong, *Breaking the Wall of Safer Medical Imaging*

Jong Min Kim, Korea Institute of Science and Technology, *Breaking the Wall of Green Hydrogen Peroxide*

Juergen Popp, Friedrich Schiller University Jena/Leibniz Institute of Photonic Technology Jena (Leibniz-IPHT),

Breaking the Wall of Cancer Diagnosis and Treatment

Junwang Tang, University College London/Tsinghua University, *Breaking the Wall of Clean Energy Chemistry*

Lu Fang, Tsinghua University, *Breaking the Wall of High-Power AI Needs*

Mario Lanza, National University of Singapore, *Breaking the Wall of Low-Power AI Chips*

Min Yang, Fudan University, *Breaking the Wall of AI Self-Replication*

Oliver Amin, University of Nottingham, *Breaking the Wall of Unseen Magnetic States*

Outi Supponen, ETH Zurich, *Breaking the Wall of Smarter Drug Delivery*

Patrick Hopkins, University of Virginia, *Breaking the Wall of Thermal Inefficiency*

Rolf Drechsler, University of Bremen, *Breaking the Wall of Safer Digital Devices*

Shana Kelley, Northwestern University, *Breaking the Wall of Hidden Disease Signals*

Shirley Meng, University of Chicago, *Breaking the Wall of Safer, Stronger Batteries*

Shoji Takeuchi, The University of Tokyo, *Breaking the Wall of Biohybrid Robotics*

Sihong Wang, The University of Chicago, *Breaking the Wall of Implant Rejection*

Taizo Kobayashi, Ritsumeikan University, *Breaking the Wall of IoT Devices with Piezophotonics*

Takuzo Aida, The University of Tokyo/RIKEN, *Breaking the Wall of Non-Degradable Plastics*

Virgil Andrei, University of Cambridge, *Breaking the Wall of Solar Fuel and Chemical Synthesis*

Weiqiang Chen, New York University, *Breaking the Wall of Ethical Drug Testing*

Xiaojing Hao, University of New South Wales, *Breaking the Wall of Advanced Solar Energy*

Xile Hu, Ecole Polytechnique Fédérale de Lausanne (EPFL), *Breaking the Wall of Clean Fuel Materials*

Yun Jing, The Pennsylvania State University, *Breaking the Wall of Acoustic Precision*

Zhengwu Liu, The University of Hong Kong, *Breaking the Wall of Brain-Machine Interaction*

Zhiqin Chu, The University of Hong Kong, *Breaking the Wall of Flexible Diamond Membranes*

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SOCIAL SCIENCES & HUMANITIES

Alexandros Kentikelenis, Bocconi University, *Breaking the Wall of Inclusive Global Governance*

André Bächtiger, University of Stuttgart, *Breaking the Wall of Democratic Decline*

Andrea Cremaschi, Andrew Harris, Maria De Iorio, IE University, *Breaking the Wall of the Two Cultures*

Andreas Pondorfer, Technical University of Munich, *Breaking the Wall of Misguided Social Norms*

Benedetta Brevini, University of Sydney/New York University, *Breaking the Wall of AI's Planetary Impact*

Bridget Harris, Monash University, *Breaking the Walls of the Digital Cage*

Camilla Bellone, University of Geneva, *Breaking the Wall of Impaired Social Motivation*

Carlos Andres Gallegos-Riofrío, University of Vermont, *Breaking the Wall of Planetary Health Injustice*

Carola Hein, Delft University of Technology, *Breaking the Wall of the Port-City-Territory Divide*

Corey Abramson, Rice University, *Breaking the Wall of Ethnographically Scaling Human Insight*

Dina Pomeranz, University of Zurich, *Breaking the Wall of Tax Evasion*

Elina Mikelson, Riga Technical University, *Breaking the Wall of Hackathons through Coopetition*

Elke U. Weber, Princeton University, *Breaking the Wall of Loss of Societal Trust*

Emmanuel Letouze, Data-Pop Alliance, *Breaking the Wall of Humanitarian Action*

Eric A. Hanushek, Stanford University, *Breaking the Wall of Cognitive Decline with Age*

Eva Illouz, École des Hautes Études en Sciences Sociales, *Breaking the Wall of Political Rationality and Emotions*

Han Kyul Kim, University of Southern California, *Breaking the Wall of Misinformation in Social Media*

Henrik Alexander Schubert, Max-Planck-Institut für demografische Forschung,

Breaking the Wall of Fertility Trends in Developed Countries

Jennifer Lackey, Northwestern University, *Breaking the Wall of Epistemic Injustice*

Jobst Heitzig, Potsdam Institute for Climate Impact Research, *Breaking the Wall of Majoritarianism*

Leo Speidel, RIKEN, *Breaking the Wall of the Present and the Past*

Lilie Chouliraki, London School of Economics and Political Science,

Breaking the Wall of Media and Communication Ethics

Mira Johri, Université de Montréal, *Breaking the Wall of Exclusion from Child Vaccination*

Myriam Denov, McGill University, *Breaking the Wall of War and its Impact on Children*

Nicole Gross, National College of Ireland, *Breaking the Wall of Data Justice for Healthcare AI*

Octavio Aburto, Scripps Institution of Oceanography/UC San Diego, *Breaking the Wall of Marine Conservation Limits*

Shabana Khan, Indian Research Academy, *Breaking the Wall of Infodemic for Risk Communication*

Shee Kupi Shee, Lamu County Government, *Breaking the Wall of Peace Fragility in Disaster Zones*

Tim Kohler, Washington State University/Santa Fe Institute, *Breaking the Wall of Prehistory*

Ufuk Akcigit, University of Chicago, *Breaking the Wall of Prosperity via the Growth Academy*

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ART & SCIENCE

Ana Rajcevic, MIT, *Breaking the Wall of Redefining the Cell beyond Biology*

Arnhildur Pálmadóttir & Arnar Skarphéðinsson, s. ap architects, *Breaking the Wall of Lavaforming*

Beatie Wolfe, Freelance, *Breaking the Wall of Neurobiology through Art*

Behnaz Fahiri, MIT Media Lab, *Breaking the Wall of Silent Gazes*

Carla Alcalá Badias & Laura Villanueva, Polytechnic University of Valencia &

Royal Netherlands Institute for Sea Research, *Breaking the Wall of Microbial Prophecy*

Carlos Sfeir Vottero, Freelance, *Breaking the Wall of the Universal Forces*

Chloe Bensahel, MIT, *Breaking the Wall of Weaving Hybridity*

Christian Losert, ATELIER-E, *Breaking the Wall of Art dedicated to Neurons & Synapses*

Guillaumit, fabrique POLA, *Breaking the Wall of Air Pollution with Augmented Reality*

Isaiah Wilson, Sarah Baltzinger + Isaiah Wilson, *Breaking the Wall of Technology's Impact on Life*

Kim Hankyul, Freelance, *Breaking the Wall of Healing War Trauma*

Liat Grayver, University of Konstanz / Goldsmith University of London, *Breaking the Wall of Emodied Intelligence*

Lu Yang, Lu Yang Studio, *Breaking the Wall of Illusions of Digital Identity*,

Lyndsey Walsh, Humboldt University of Berlin, *Breaking the Wall of Empowering Bodily Autonomy*

Marc Vilanova, Freelance, *Breaking the Wall of Inaudible Ecologies*

Marco Barotti, Studio Marco Barotti, *Breaking the Wall of Ecological Healing through Sound*

Maria Arnal, Freelance, *Breaking the Wall of Sound and Nature*

Marte Aas, Freelance, *Breaking the Wall of Blood: Myth, Power, and Immortality*

Maya Erin Masuda, Freie Universität Berlin, *Breaking the Wall of Species through a Molecular Lenses*

Niamh Schmidtke, University of Limerick, *Breaking the Wall of Pulling Blood from a Stone*

Ore Disu, Museum Of West African Art, *Breaking the Wall of Inclusive Digital Heritage*

Paribartana Mohanty, Shiv Nadar University, *Breaking the Wall of Digital Sky Experience*

Philip Samartzis, RMIT University, *Breaking the Wall of Passive Observation*

Robertina Šebjanič, Freelance artist-researcher, *Breaking the Wall of Chemical Weapons on the Ocean Floor*

Sonya Isupova, Freelance, *Breaking the Wall of Mapping Uncertain Landscapes*

Susanne Winterling, Oslo National Academy of the Arts, *Breaking the Wall of the Flux under your Skin*

Thijs Biersteker, Woven Foundation, *Breaking the Wall of Glacier Data Becoming Music*

Vladan Joler, University of Novi Sad/ Academy of Arts, *Breaking the Wall of Calculating Empires*

Xin Liu, Xin Liu Studio LTD, *Breaking the Wall of Material Science & Artistic Innovation*