

FALLING WALLS LAB AUSTRIA

20 MAY 2022

TUtheSky - TU Wien
Getreidemarkt 9
1060 Vienna



CONCEPT

The Falling Walls Foundation founded the Falling Walls Lab in 2011 to:

CONNECT aspiring innovators

DISCOVER and develop talents

SUPPORT interdisciplinary dialogue and international cooperation

DEVELOP new ways of scientific communication

BUILD new and strong networks

TIMELINE

10:00	Jury briefing
10:30-11:00	Participant arrival and registration
11:00	Welcome and introductory remarks
11:15-12:15	Pitches
12:30	Networking break / Jury session
13:00	Awards ceremony / Group picture
13:30-15:30	Farewell reception

EVENT HOST

Dr. Elisabeth Schludermann

Head

Service Unit of Funding Support and Industry Relations

Technische Universität Wien

JURY

Priv.-Doz. Dr. Ioanna Giouroudi, Jury Chair

Head

Technische Universität Wien - Doctoral School

Dr. Ioanna Giouroudi is the Head of the TU Wien Doctoral School. She holds a doctorate degree in engineering sciences from Technische Universität Wien and a Habilitation (Venia Docendi) in nanobiotechnology from the University of Natural Resources and Life Sciences, Vienna. She is an IEEE (Institute of Electrical & Electronics Engineers) senior member and has over 20 years research experience in the fields of biotechnology and biomedical engineering. She has over 10 years of student supervision and teaching experience at University level and extended experience in project management both in academia and industry.

Dr. Josiane P. Lafleur

Co-Founder and Managing Director

Invisible-Light Labs

Dr. Josiane P. Lafleur holds a doctorate degree in chemistry from McGill University (Canada). She worked for several years in research and academia, first as a postdoctoral fellow at the Technical University of Denmark and then as an Assistant Professor at the University of Copenhagen (Denmark). In 2018, she decided to take the plunge and co-founded the TU Wien spin-off “Invisible-Light Labs GmbH”. The aim of Invisible-Light Labs is to bring radically new infrared sensing technology out of the confines of the laboratory, to the market where it can have a positive impact on our society.

Dr. Elvira Welzig

Head Intellectual Property Management

AWS – The Austrian Promotion Bank

Dr. Elvira Welzig is the IP Management Head of the Austrian Promotion Bank and has several years of experience in promotion and human resources management. She holds a doctorate degree in technical chemistry from the Technische Universität Wien and has completed research-related stays abroad in Spain and Germany, and continued her international education in innovation, open science and human resource management at Columbia University in New York, and at the MIT Massachusetts Institute of Technology Sloan School of Management.

Christine Ruckenbauer

Executive Director / Head of Technology Transfer

VetWIDI Forschungsholding GmbH / Vetmeduni Vienna

Mag. Christine Ruckenbauer has been the head of technology transfer at Vetmeduni Vienna, Austria's only veterinary, academic educational and research facility, since 2004. Since 2010 she is the executive director of VetWIDI, Vetmeduni's holding for Spin-off companies. Marinomed Biotech AG, ViruSure Forschung und Entwicklung GmbH and recently founded Pregenerate GmbH are three of the successful Vetmeduni spin-off companies she accompanied during their start-up periods. She holds a master's degree in microbiology from the University of Vienna.

Dr. Oliver Szolar

Co-Founder, Chairman of the Supervisory Board and Member of the Scientific Advisory Board

HeartBeat.bio

Oliver Szolar is a serial biotech entrepreneur and currently CEO of a:head bio AG. He is co-founder of heartbeat.bio AG, where he is chairman of the supervisory board and member of the scientific advisory board. Oliver was CEO of Savira pharmaceuticals from 2009 to 2018 and Managing Director of wings4innovation from 2014 to 2017. From 2007-2009, he held the position of CSO at onepharm. Prior to that, Oliver was i.e. Head of Analytical Operations at onepharm and Aphton/Igeneon. He holds a PhD in biotechnology from the University of Natural Resources and Life Sciences, Vienna, Austria.

PRESENTERS

1 Breaking the Wall of Decentralized Finance Complexity

Stefan Kitzler

Complexity Science Hub Vienna

Decentralized Finance (DeFi) allows the construction of complex financial services based on cryptoassets. A failure of a single service segment might cascade through the entire DeFi ecosystem. This research aims to investigate and decompose the architecture of the DeFi services in cryptoasset ecosystem.

2 Breaking the Wall of Circadian Misalignment

Marian Stoschitzky

Technische Universität Wien

A discrepancy between biological and social clock (e.g. due to early working hours) causes sleep inertia and impairs mood while it increases risk of cardiovascular or metabolic diseases. A bedroom light that integrates a mix of light flashes and artificial dawn into a gentle, audiovisual wake-up experience is developed. It harmonizes biorhythm and schedule while it wakes people up gently.

3 Breaking the Wall of Inflammatory Skin Diseases

Marta Palomo Irigoyen

Medical University of Vienna

Skin diseases affect 900 million people worldwide. Atopic Dermatitis is the most common inflammatory skin disease with *Staphylococcus aureus* colonization and comorbidities such as gut

inflammation. Using genetically engineered mouse models the results reveal S100A9 antimicrobial peptide as a potent therapeutic target to prevent Atopic Dermatitis and skin-dependent gut inflammation.

4 Breaking the Wall of Accidental Discoveries

Ammar Abbas

Technological University Dublin

In the past, there have been many accidental scientific discoveries. There is always one key element in them - Interdisciplinary knowledge. The problem is the manual literature review by researchers. An AI-enabled platform can assist researchers by discovering hidden interdisciplinary knowledge and hypothesis and helping researchers to focus more on experimental implementation allowing them to generate breakthrough scientific discoveries using Literature-Based Discovery (LBD).

5 Breaking the Wall of Sleep Diagnostics

Georg Brandmayr

Austrian Institute of Technology

Diagnosing sleep disorders requires error-prone full-body wiring polysomnography in uncomfortable sleep labs, interpreted by experts. In-ear EEG is handy, but missing eye signals hurt quality. The project aims to reduce the neurological signal interpretation effort of neurologists via automated information extraction based on temporal

electroencephalography (EEG) modelling AI approaches.

6 Breaking the Wall of Emotional Well-Being

Alina Herderich

Graz University of Technology

The great diversity of ways in which people regulate their emotions is still poorly understood hindering us from advancing research on emotional well-being and affective diseases such as depression. The heart of the project is a carefully curated set of emotion regulation descriptions gained from a custom-made assessment tool based on which state of the art NLP and clustering methods are applied.

7 Breaking the Wall of Targeted Cancer Therapy

Sebastian Hecko

Technische Universität Wien

Conventional cancer chemotherapy inherently lacks the site-specificity and thus safety of the drugs administered leading to severe side effects and off-target toxicity impacting the whole body. The mission is to precisely deliver and activate drugs only at the site of disease by exploiting controllable, ultra-fast in vivo chemical reactions thereby reducing the required therapeutic dosage.

8 Breaking the Wall of the Green Transition

Johannes Stangl

Complexity Science Hub Vienna

The challenge of the green transition is the reorganization of economic production so that the least amount of greenhouse gases is emitted while economic production is kept at sufficient levels. The systemic relevance of each company in production networks is computed and this index is compared with its emissions. High emissions and low systemic relevance indicate decarbonization leverage points.

9 Breaking the Wall of killing cells with cellular cytoskeleton

Razieh Khoshnevisan

Ludwig Boltzmann Institute

Is there any interaction between vimentin and DNA repairing proteins? Is there any relation between vimentin cage formation and efficacy of chemotherapies? Determining the role of vimentin cage in DNA repair and nucleus deformation are the main points of this research.

10 Breaking the Wall of Big Tech Platforms

Julian Netzer

TU Wien i²c Innovation Incubation Center

Small businesses depend on platforms like Facebook to reach their own customers. We're changing that by enabling them to build their own mobile app platform the simplest way possible - step by step.

FALLING WALLS LAB AUSTRIA

IN COOPERATION
WITH



THANK YOU
TO OUR PARTNERS AND SUPPORTERS

Supporting Partners



Network Partners



FEEDBACK

What was your overall impression of Falling Walls Lab Austria?

Do you have concrete suggestions for improvement? If so, what?

Contact: tuwdoc@tuwien.ac.at