FALLING WALLS
LAB
BUDAPEST 2018

12 June

Budapest University of Technology and Economics

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FALLING WALLS

PROGRAMME

10:30 - 11:00 Jury briefing

10:15 – 10:50 Arrival and registration for participants

11:00 - 11:15 Welcome and introductory remarks

11:15 - 11:45 Presentations (scholar presentations 1-10)

- M. Majtán (Cogito) "Breaking the wall of traditional education"
- A. Hofecker (Elearninga) "Breaking the wall of learning robotics"
- B. Bartos (Kagyló Kavics Kft) "Breaking the wall of internet border"
- O. Memisoglu (Nat. Univ.) "Breaking the wall of national security"
- D. Vámos (BGE) "Breaking the wall of black economy"
- A. Kondákor (BME) "Breaking the wall of traffic problems"
- Á. Magyari (Óbuda Group Zrt) "Breaking the wall of sustainable urban farming"
- P. Császma (BME) "Breaking the wall of forgotten medications"
- K. Muhi (Neumann János University) "Breaking the wall of boring education"
- I. Kovács (ZenCarl.com) "Breaking the wall of disconnection (JARVIS Project)"

11:45 - 12:15 Networking break

12:15 – 12:36 Presentations (scholar presentations 11-17)

- K. Havlik (DiabTrend Al Analytics ltd) "Breaking the wall of unpredictable diabetes"
- Á. Fülöp (GovEye) "Breaking the wall of Braille literacy "
- Z. Lovász (BME) "Breaking the wall of modal parameters estimation"
- E. Both (Szent Istvan University) "Breaking the wall of devil's snare intoxication"
- A. Kerekes (BME) "Breaking the wall of morphological analysis"
- B. Dávid (BME) "Breaking the wall of human subjectivity in laparoscopy"
- I. Varjas (Óbuda Group Zrt) "Breaking the wall of VTOL vehicles power necessity"

12:36 - 13:30 Networking break (scholars) / Evaluation session (jury)

13:30 - 13:45 Award ceremony / Group picture

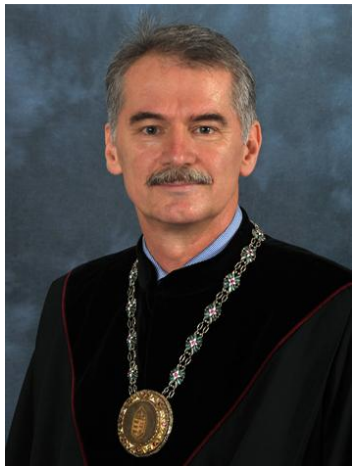
13:45 – 14:45 Farewell Reception

CONCEPT

The Falling Walls Foundation founded the Falling Walls Lab in 2011 with the great support of A.T. Kearney Central Europe in order to

... connect aspiring innovators
... discover and develop talents
... support interdisciplinary dialogue and international cooperation
... develop new ways of scientific communication
... build up new and strong networks

THE JURY



Prof. Dr. János JÓZSA

Rector, Budapest University of Technology and Economics

Rector (2015-), Professor (2003-), Head of Academic Research Group (2012-), Chairman of the National Hydro-science Programme of the Hungarian Academy of Sciences (2017-)

Main expertise/research interests:
Hydrodynamics and interface processes in shallow surface waters; field measurement and numerical modelling of wind-induced shallow lake flows and sediment transport; deterministic and stochastic modelling of turbulence, mixing and morphology in compound channels; Flood hydrology and floodplain inundation analysis. Principal investigator in a number of fundamental and applied research projects both in domestic and international context. Supervisor of 8 PhD students so far. Regular DPhil examiner at Oxford University.

THE JURY

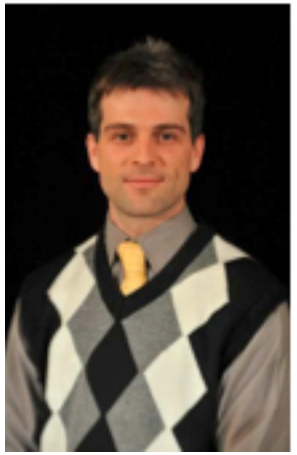
Dr. Pál DANYI

Associate Professor, Department of Management and Business Economics of Budapest University of Technology and Economics

Prof. Pál DANYI Associate professor at Dept of Management and Business Economics of BME since 1994. 17 years experience in IT industry (Ernst & Young, Magyar Telekom). 25 years teaching of Information management, IT strategy, CRM systems, and Entrepreneurship and startups.

His research areas include application of Artificial Intelligence and Big data methods in marketing, especially in pricing. Developer of a Price history website. He is also a founder or owner of several startups specializing in data-driven pricing techniques.

THE JURY



Dr. Kristóf IVÁN,

Dean, Pazmany Peter Catholic University, Faculty of Information Technology and Bionics

Kristof Ivan obtained his bio-engineer MSc degree from Budapest University of Technology and Economics in 2002 and his info-bionics Ph.D. from Pazmany University. He established a biomicrofluidics lab at Pazmany University with the aim of developing complex rapid test devices with low cost fabrication methods. He was visiting researcher at University of Minnesota, and also a Fulbright Scholar at UC Berkeley. He is currently the dean of the Faculty of Information Technology and Bionics at Pazmany University.

His research interests are passive and active particle separation methods for sample preparation in lab-on-a-chip devices, molecular diagnostic methods for food safety applications, disposable complex microfluidic solutions for diagnostic methods.

THE JURY

Dr. Éva DARKÓ

Senior scientist
Agricultural Institute, Centre for Agricultural Research, Hungarian Academy of Sciences

Éva Darkó works as a senior scientist at the Agricultutral Institute, Centre for Agricultural Research, Hungarian Academy of Sciences. She is a plant biologist and she got her PhD degree in 1998, at the Universit of Szeged (Hungary).

Her main research topic is related to plant stress physiology, but recently, her research interest focuses on application of LED lighting in plant cultivation. She studies how the changes of light intensity and spectral distribution can be used to manipulate the plant metabolism and thus the quantity and quality of foods.

THE JURY

Dr. Norbert FOGARASI

Managing Director, General Manager, Morgan Stanley Hungary

Norbert Fogarasi is the General Manager of the Morgan Stanley Hungary office of approximately 1900 staff, as well as the Head of the Technology and Data division of 800 staff.
He obtained an Hon.B.Sc. in computer science and an M.Sc. in mathematical finance from the University of Toronto and holds a Ph.D. in computational finance from the Budapest University of Technology and Economics.

He joined Morgan Stanley in 1999 to work on pricing and risk management systems for complex financial derivatives. In 2009 he was named Head of the Technology division then in 2011 General Manager for the office. He became a Managing Director of Morgan Stanley in 2012.

THE JURY

Dr. István GREINER

Deputy of the Research Director, Gedeon Richter Plc.

István Greiner graduated at Technical University of Budapest in 1984 as chemical engineer (M.Sc.). He works at Gedeon Richter Plc. since there, at the beginning as research scientist. His responsibility was all the API (Active Pharmaceutical Ingredients) research and development activities including new chemical entity, generic and biotechnological projects, included biosimilars. He directed chemical R&D during discovery and development of the FDA and EMA approved cariprazine. From 1st of August 2014 he was promoted to Research Director of the Company.

He is co-inventor of seven patents, invited as plenary speaker for international and domestic conferences and has more than 100 publications in well known peer reviewed international journals.

THE JURY

Prof. Dr. Rita M. KISS

Department of Mechatronics, Optics and Engineering Informatics at Budapest University of Technology and Economics

Rita M. Kiss, professor, Department of Mechatronics, Optics and Engineering Informatics at Budapest University of Technology and Economics. She is a civil engineer, but her research field is biomechatronics, biomechanics and the development of different smart medical instruments. Her most important inventions are spine screws and a measuring method for detecting stress distribution in knee endoprothesis during surgery. She is proud of her student who has ranked 3rd in Falling Walls Lab Budapest 2018.

THE JURY

Dr. Pál MAUROVICH-HORVAT

Associate Professor,
Semmelweis University in Budapest

Pál Maurovich-Horvat MD PhD MPH, Associate Professor of Cardiology and Radiology, director of the Cardiovascular Imaging Research Group at the Semmelweis University in Budapest, Hungary.

His research interest focuses on the development of diagnostic strategies to identify high-risk patients and vulnerable coronary plaques. He is the president of the Hungarian Association of Cardiovascular Imaging, and board member of the European Association of Cardiovascular Imaging of the European Society of Cardiology. He is member of the Scientific Program Committees of the Society of Cardiovascular Computed Tomography and the Radiological Society of North-America. Dr. Maurovich-Horvat is the author of 100 international, peer-reviewed publications on cardiac CT, his total impact factor is over 400 with citations over 3000.

THE JURY

Mr. Zsolt MONSZPART

Vice President for Innovation and General Affairs of the National Research, Development and Innovation Office

Zsolt Monszpart is Vice President for Innovation and General Affairs of the National Research, Development and Innovation Office since 2016. He graduated in economics in 1983. He had different top management positions at Óbuda University, at Budapest Waterworks Ltd, and at 77 Elektronika Ltd. He was CEO of MÁV-Start Passenger Railway Co. He was Executive Vice President of Ericsson Hungary Ltd, between 2002 and 2008.

Mr Monszpart served as a diplomat at the Hungarian Embassy in Sweden for 9 years. He worked in different positions in the Ministry of Foreign Trade. He is one of the vice presidents of the Hungarian Innovation Association as of 2006.

THE JURY

Dr. Kornél NÉMETH

Assistant Professor, Department of Cognitive Science at Budapest University of Technology and Economics

Németh Kornél is the assistant professor of the Department of Cognitive Science at Budapest University of Technology and Economics and the project leader of the congenital face blindness studies.

His main methods in the experimental studies of the neural background of healthy face recognition processes and congenital face blindness are the behavioural neuropsychological testing and human electrophysiology. He is committed to creative and innovative methodology both in experimental work and data processing technics.

THE JURY

Zsófia RUTTKAY

Associate professor, head of Creative Technology Lab at Moholy-Nagy University of Art and Design

Zsofia had been doing academic research in Hungary and in the Netherlands on AI, computer graphics and virtual humans, and received her PhD on Facial Animation. In 2009 she returned to Budapest and joined the Moholy-Nagy University of Art and Design as an associate professor where she founded the Creative Technology Lab.

Her research interests are: Applications of new interactions technologies for musea and cultural heritage, interactive books for children for reading and educational purposes, multimodal communication, embodied conversational agents, social behavior and cognitive modeling, inquiry- based learning, E-learning, games for education and (physical) training. http://create.mome.hu/ruttkay/
http://www.doktori.hu/index.php?menuid=192&sz_ID=9462&lang=EN
https://www.linkedin.com/in/zsofia-ruttkay-6135a824/

THE JURY

Prof. Dr. Ákos TÖRÖK

Head of Department of Engineering Geology and Geotechnics
Budapest University of Technology and Economics

Professor Ákos Török is the head of Department of Engineering Geology and Geotechnics at the Budapest University of Technology and Economics (Hungary). He holds a degree in geology and an international MSc title in environmental engineering. Along with extensive teaching activity in various fields of geology he has been a principal investigator in international research programmes on engineering geology, monumental stones, conservation science and urban geology.

His research focuses on building stones, aggregates, mortars, radioactive waste disposal, engineering geological hazards and environmental geology with more than 300 publications in these topics.

PARTICIPANTS

1. **Bence BARTOS**
   Kagyló Kavics Kft., Master student Corvinus University of Budapest
   education category: Economics & Bussines
   title: Breaking the Wall of the internet borders
   teaser: Dynamic variable internet provisioning model

2. **Eszter Borbála BOTH**
   PhD student at Szent István University
   education category: Agriculture
   title: Breaking the wall of devil's snare intoxication
   teaser: Devil's snare should not threaten food production.

PARTICIPANTS

3. **Péter CSÁSZMA**

   BSc student at Budapest University of Technology and Economics
   education category: Engineering & Technology
   title: Breaking the wall of forgotten medications
   teaser: A tracker device, made for unique medications

4. **Dávid BÁLINT**

   BSc degree at Budapest University of Technology and Economics
   education category: Engineering & Technology
   title: Breaking the Wall of Human Subjectivity in Laparoscopy
   teaser: Make laparoscopic staplers smart

PARTICIPANTS

5. **Fülöp ÁDÁM**
   GlovEye, MSc student at Budapest University of Technology and Economics
   education category: Computing & Information Science
   title: Breaking the wall of Braille literacy
   teaser: The ability to read for blind people

6. **Károly HAVLIK**
   DiabTrend AI Analyitcs Ltd., MSc student at Semmelweis University
   education category: Health Care & Medical Sciences
   title: Breaking the wall of unpredictable diabetes
   teaser: Understand the past to know the future

PARTICIPANTS

7. **Andor HOFECKER**
   eLearn:inga, MSc degree at Budapest University of Technology and Economics
   education category: Engineering & Technology
   title: Breaking the wall of learning robotics
   teaser: You can control robots too!

8. **Adria Flóra KEREKES**
   MSc student at Budapest University of Technology and Economics
   education category: Architecture & Urban Studies
   title: Breaking the wall of morphological analysis
   teaser: Morphological analysis of fractured rock surfaces

PARTICIPANTS

9. **András KONDÁKOR**
   BSc student at Budapest University of Technology and Economics
   education category: Engineering & Technology
   title: Breaking the wall of traffic problems
   teaser: IoT-based adaptive traffic control

10. **István KOVÁCS**
    ZenCarl.com, BSc degree at BGE - Budapest Business School
    education category: Economics & Business
    title: Breaking the Wall of Disconnection (JARVIS Project)
    teaser: Self-understanding done right by geek way

PARTICIPANTS

11. **Kristóf MUHI**
BSc student at Neumann Janos Unversity
education category: Computing & Information Science
title: Breaking the wall of boring education
teaser: Small step for the kid, big step for the education

12. **Zoltán LOVÁSZ**
Robert Bosch Kft., BSc degree at Budapest University of Technology and Economics
education category: Engineering & Technology
title: Breaking the Wall of the modal parameters identification
teaser: Using AI in mechanical systems

PARTICIPANTS

13. **Ábel MAGYARI**
Obuda Group Zrt., MSc degree at Budapest University of Technology and Economics
education category: Architecture & Urban Studies
title: Breaking the wall of sustainable urban farming
teaser: New way of urban farming

14. **Máté MAJTÁN**
Cogito, MSc at Semmelweis University
education category: Health Care & Medical Sciences
title: Breaking the wall of Traditional Education
teaser: We make education a community, not an institution!

PARTICIPANTS

15. **Ozge Memisoglu**
PhD student at National University of Public Service,
education category: Political Sciences, Sociology & History
title: Breaking the wall of national security
teaser: To create a drone-proof city for national security

16. **Dávid VÁMOS**
BGE, BSc student at Budapest Business School
education category: Economics & Business
title: Breaking the wall of Black Economy
teaser: The solve of black economy

PARTICIPANTS

17. **István Attila VARJAS**
SV Tech Inventions SARL Monaco, Bsc student at Pisa
education category: Engineering & Technology
title: Breaking the wall of VTOL Vehicles Power Necessity
teaser: Fly away in very safe way

CONTACT

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