COST Action TEATIME 20135

Second TEATIME Beginners Training School on the use of home cage technologies to monitor rodents

Hosted by the Faculty of Medicine Comenius University, Bratislava

CONTENT

INTRODUCTION

COST Action CA20135 (TEATIME) is funded by COST (European Cooperation in Science and Technology), which is a funding organisation for research and innovation networks in European Research Area.

The TEATIME is a network of behavioural research and animal welfare scientists, manufacturers of equipment, bioinformaticians and experts in machine learning to form a collaborative, multidisciplinary consortium. Together they are addressing issues such as the diversity of equipment available, complementarity of protocols and common formats for analysis and presentation of results to enable results to be more cross-comparable. They will look what is needed for the development of new bioinformatics tools such as ontologies (a form of controlled vocabulary) to describe behaviours, analysis of large volumes of data and tools such as Machine Learning to automatically describe or quantify behaviours to reduce the need for lengthy time spent watching videos.

The ultimate aim is to be able to describe animal behaviours with a minimum impact on the animals by monitoring them in the homecages where they live, enabling them to exhibit routine behaviours in a familiar environment. The aim is to share protocols and results that are as interpretable as results currently obtained from behavioural observations of animals outside their homecage which are considered the gold standard, but can be affected by animals being in unfamiliar and sometimes variable environments. Homecage monitoring also offers welfare advantages in that animals remain in their own environments, so are not subject to stresses of being moved to testing arenas. Also the 24/7 nature of the monitoring may pick up welfare issues of animals leading to better welfare outcomes.

The **Second TEATIME Beginners Training School** will be held at the Bratislava Science Park in Bratislava, Slovakia from 17th – 20th June 2025. It was designed for Masters, PhD and post-doctoral students, with at least 2 years hands-on research experience in rodent behavioural research.

The school will provide instruction on the use of home-cages including: experimental design, psychiatric and cognitive assessment and application to welfare and the 3Rs and will include a workshop on the use of Ethovision and ANY-maze.

The TEATIME grant awarding committee received 58 applications and selected 25 students (based on academic and research background and motivation) to attend the training workshop. The student participation was fully funded by COST.

TEATIME

PROGRAMME

	16 June	17 June	18 June	19 June	20 June
9:00 – 10:00 (Lecture 1)		Welcome talk (1) what is COST (2) who are the faculty (3) aims of the school (4) importance of social networking in science (Silvia Mandillo)	Standard behavioural assays – motor assessment (Silvia Mandillo)	Developing a home cage system – the academic point of view (Oren Forkosh)	How to plan your study – real-life troubleshooting (Silvia Mandillo & Otto Kalliokoski) Round table discussion
10:00-10:45 (Coffee break)		**Meet the expert break**	**Meet the expert break**	**Meet the expert break**	**Meet the expert break**
10:45-11:45 (Lecture 2)		Experimental design - 101 (Nuno Franco)	Standard behavioural assays – cognitive functions & models of psychopathologies (Michael Tsoory)	Scalability of data (Giorgio Rosati)	Translating standard tests to the home cage (Silvia Mandillo, Alice Melloni, Veronika Borbélyová)
11:45-12:45 (Lecture 3)		Experimental design - 101 (Nuno Franco)	Home cage assessment of cognitive functions & models of psychopathologies (Michael Tsoory)	Let's play the game of science! (Otto Kalliokoski)	Translating standard tests to the home cage (Silvia Mandillo, Alice Melloni, Veronika Borbélyová)
12:45-14:00 (Lunch)		**Lunch + Meet the expert**	**Lunch + Meet the expert**	**Lunch + Meet the expert**	**Lunch + Meet the expert**
14:00-15:00 (Lecture 4)		DeepLabCut for beginners (Daniela Domingues)	Home cage systems assays - motor assessment (Silvia Mandillo)	EthoVision & ANY-maze (Lior Bikovski, Alice Melloni, Nuno Franco, Aishwarya Vishwanathan, Romain Hollands)	Summary talk & End of School (Silvia Mandillo)
15:00 – 17:00 (Workshops & coffee)	**Evening Reception @ 6pm**	**Meet the students** Student presentations (5 min PPT)	Experimental design and quality control of data (Nuno Franco & Alice Melloni)		

Tuesday 17th June

LECTURE 1 – Welcome talk
Silvia Mandillo

Abstract

During this event, I will participate in several sessions. As the representative of our COST Action leader of a work group and co-organizer of this event, I will deliver our **first talk**, discussing the TEATIME Action, the importance of networking in an academic environment, and introducing our team of speakers. My **second and third talk** will provide an overview of standard behavioural tests and home cage systems used for the assessment of motor functions (see abstracts below), and discussing the relationship and complementarities between these methods. Finally, on the **last day** of the event, with my colleague, Dr. Otto Kalliokoski, we will conduct an open discussion on planning a study and addressing potential challenges and on the very last session I will also draw some conclusions on the whole experience of this training school.

LECTURE 2 and 3 – Experimental Design - 101
Nuno H. Franco

Abstract

Within the scientific community, there has been increasing distrust regarding the reliability of scientific research, animal-based or otherwise. Lack of awareness to even basic requirements of reliable research – adequate sample sizes, blinding, randomization, controlling for common biases – has been identified as a main cause of poor reproducibility and translational value of published findings. With the goal of improving the reliability of biomedical research, course participants will be introduced to good principles and practices in research planning and experimental design. While we cannot cover in the available time all types of designs for all kinds of research, it is expected that course participants will be able to properly randomize in an experiment, correctly identify the experimental unit, reflect on what sample size to use, and know the conditions that must be in place to make animal experiments more reliable, robust and reproducible, while avoiding animal waste and complying with the 3Rs of animal research.

LECTURE 4 – DeepLabCut for beginners
Daniela Domingues

Abstract

DeepLabCut (DLC) is an open-source software package designed for precise animal pose estimation. It leverages deep neural networks and transfer learning to accurately extract body part coordinates from video data, enabling detailed behavioural analysis.

Tracking and quantifying animal movement is fundamental in behavioural research. By measuring key locomotion metrics such as speed, distance travelled, and occupancy, and translating these into distinct behavioural postures, researchers can gain profound insights into

spontaneous animal behaviors. Deep learning and machine learning tools now make this process highly automated, whether supervised or unsupervised.

DLC stands out as a powerful, fast, and efficient supervised machine learning model for 2D and 3D markerless pose estimation in both single and multi-animal settings. Its user-friendly interface, along with extensive community support—complete with tutorials, forums, and detailed documentation—ensures a smooth learning curve for new users.

In this practical session, we will explore the architecture of machine learning tools for capturing, analyzing, and interpreting behavioral data from video footage. Our focus will be on mastering the DeepLabCut Graphical User Interface (GUI). I'll guide you through key parameter choices, share practical tips, and explain the reasoning behind each decision. By the end of this session, you will be equipped to confidently use DeepLabCut on your own.

WORKSHOP - Meet the students
Student presentations

Wednesday 18th June

LECTURE 1 and 4 – Standard behavioural assays and Home Cage motor assessment
Silvia Mandillo

Abstract

Understanding mouse behavior largely depends on analyzing their movements. Assessing motor functions is essential for gaining insights into mouse physiology and identifying potential pathological conditions. This lecture will present both standard and less commonly used tests for evaluating motor function in mouse models of human diseases. A practical approach will be taken, including detailed descriptions of the equipment and procedures involved.

We will explore case examples illustrating how these tests are applied to mouse models of motor neurodegenerative diseases and compare them with home cage monitoring systems that track activity in a more naturalistic setting. Special emphasis will be placed on animal welfare considerations and the impact of gender differences within the presented models.

LECTURE 2 and 3 (online) – Standard behavioural assays and Home cage assessment of cognitive functions & models of psychopathologies
Michael M. Tsoory

Abstract
The lectures, 2 and 3 on the 2nd day (June 18th, 2025) will deal first with the prevailing, standard, "out of the home-cage", behavioral assays that are used to asses cognitive functions and indices akin to psychopathological including: abnormal anxiety (and or stress responses), post-traumatic stress disorder (memory of fear and its extinction), schizophrenia and depression (learned helplessness/ despair, anhedonia).

The second lecture will present indices collected in different home cage-based monitoring systems that may be used for phenotyping of mouse models of the above noted mental dysfunctions. The lecture discusses in a critical manner issues of validity, reliability, scientific rigor and animal welfare.

LECTURE 5 - Experimental design and quality control of data
Nuno H. Franco and Alice Melloni

Abstract
See 17th June above "Experimental design - 101".

Thursday 19th June

LECTURE 1 (online) - Developing a home cage system – the academic point of view
Oren Forkosh

Abstract
From the first LED to the last byte on a backup drive, building a custom home-cage platform is a multidisciplinary exercise in curiosity-driven over-engineering. In this talk, we will go through the critical design choices we faced while turning an empty rack into a fully automated behavioural observatory. We will touch on topics such as lighting uniformity and spectrum, tunable photoperiods, camera placement, lens choice, and on-device compression, which all involve trade-offs between precision and storage capacity. I will also discuss why seemingly mundane details like when to check on the mice, cable routing, noise isolation between home cages, and even the type of plastic used can make or break a behavioural assay.

Hardware is only half the story. I will outline a data pipeline that transforms raw video and sensor streams into searchable, annotation-ready databases, and argue that a clear "data-first" ontology is the best antidote to future-you's confusion. Along the way, I will highlight the skill set that turns good ideas into working systems: a pinch of CAD, a dash of Python, and an unapologetic fondness for version control.

When should you build your own system instead of buying or borrowing? I will present a decision-making framework that balances budget, flexibility, and scientific ambition, and compare in-cage tracking with alternatives used in mice and other species. Finally, I will reflect on what home-built rigs still do better than their commercial counterparts. And why, in the end, a touch of OCD in the design phase is what protects you from behavioural noise disguised as biological insight.

LECTURE 2 – Scalability of data
Giorgio Rosati

Abstract
As interest in Home Cage Monitoring (HCM) grows across academic and industrial settings, the challenge is no longer whether to monitor animals continuously, but how to do it at scale. While many HCM technologies offer sophisticated data capture, their adoption is often limited by infrastructure demands, high data volumes, and per-unit costs that make full-facility deployment difficult.

The Digital Ventilated Cage (DVC) system takes a different path: designed from the start for scalability, it enables continuous, non-invasive animal activity monitoring while maintaining a minimal data footprint - around 10GB per rack per month. This makes it possible to digitise thousands of cages without overwhelming IT systems or budgets.

Beyond operations, DVC has become a valuable scientific tool, supporting research across neuroscience, chronobiology, metabolism, ageing, and disease models. Studies have used DVC activity data to characterise phenotypes, detect early behavioural changes, monitor circadian rhythms, and assess treatment efficacy in a fully automated, stress-free environment. These insights are made possible by the structured, high-frequency activity data collected 24/7 in group-housed conditions, without the need for cameras or tags.

With over 5,000 cages installed at UMCG (The Netherlands) or similar numbers at Rutgers University (USA), DVC has shown how digital monitoring can simultaneously improve animal welfare, reduce workload, and generate meaningful scientific data, scaling from operational efficiency to research impact.

For young researchers approaching HCM for the first time, DVC offers a unique opportunity: to explore new frontiers in preclinical science through a platform that is as practical as it is powerful.

LECTURE 3 – Let's play the game of science!
Otto Kalliokoski

Abstract – Let's play the game of science!
As researchers, we all play the game of science. Some may call it truth finding or evidence building, but there is some value to seeing it as a game. If we play this game just right, we learn fundamental truths about the universe. But we rarely get to assess our games. Could we have played better? In most cases, we can never really know if we interpreted the results of our experiment correctly. But what if we could? In this brief interactive session, we will explore how

the choices we make in designing experiments and interpreting results affect our ability to work out what is true and what is not. We will use a case study and real-life data in attempting to uncover the truth. Can you win the game of science?

WORKSHOP – EthoVision & ANY-maze
Alice Melloni, Nuno H. Franco, Aishwarya Vishwantathan and Romain Hollands

Abstract – ANY-maze
This workshop offers a comprehensive introduction to ANY-maze. Participants will gain hands-on insight into the core features that make our software both powerful and intuitive, from customizable zones and automated procedures to precise detection of behaviors like freezing and immobility. We will explore how the software supports a wide range of classic behavioral paradigms as well as its ability to adapt to more complex, lab-specific protocols. The session will also cover integration with a broad range of equipment allowing researchers to build fully automated test environments. Participants will learn how ANY-maze streamlines experiment design, manages multi-stage test schedules, delivers real-time data, and provides in-depth statistical analysis, all while maintaining a user-friendly interface. Whether you are new to ANY-maze or looking to optimize your current workflows, this session will provide the technical understanding needed to make the most of the system's full capabilities.

Abstract – EthoVision
This workshop offers a hands-on introduction to **EthoVision XT**, the industry-standard software for automated tracking and analysis of animal behavior. Designed for both new and experienced users, the session will walk participants through the full experimental workflow: from video tracking setup and zone configuration to advanced behavioral readouts and data interpretation. Practical exercises and real-world examples will highlight how to get the most out of EthoVision XT, optimize accuracy, and troubleshoot common issues. Participants will leave with both technical skills and a better understanding of how software can support reproducible, high-quality behavioral science.

Friday 20th June

LECTURE 1 – How to plan you study – real-life troubleshooting
Silvia Mandillo and Otto Kalliokoski

Abstract
This session will use real-life examples to guide participants through the process of planning and executing studies that combine classical behavioural tests with home cage monitoring (HCM). Through an interactive approach, we will highlight key aspects of experimental design, including the organization of experimental groups, scheduling within a realistic calendar, and practical considerations for setting up equipment and study environments.

Participants will explore common challenges that arise during the planning and implementation phases and discuss practical solutions. The focus will be on optimizing study design to achieve scientifically rigorous outcomes while also promoting animal welfare and supporting the well-being of researchers.

LECTURE 2 – Translating standard tests to the home cage
Silvia Mandillo, Alice Melloni and Veronika Borbélyová

Abstract

The session will begin with the presentation of two case studies (1, 2) that explore the adaptation of standard behavioral tests for cognition, anxiety, and sociability to home cage environments, using two distinct systems: the Digital Ventilated Cage (Tecniplast) and the PhenoTyper (Noldus).

In the second part of the session, participants will work in small groups to design their own study. Each group will select specific standard behavioral tests and plan how to implement them using home cage monitoring systems chosen from the TEATIME catalogue. This hands-on activity is aimed at encouraging creative thinking and practical application of HCM tools.

1. Digital Ventilated Cage Interlinking: **Home-Cage Monitoring System to Improve Welfare in Mouse Behavioural Testing** *(Alice Melloni and Silvia Mandillo)*

The possibility of a long-term, 24/7 monitoring of animal behaviour directly in the home-cage, has led to uncovering new digital biomarkers in mouse disease models while ensuring high standards of animal welfare. In this study, the utility of Digital Ventilated Cage to further facilitate behavioural research is explored, focusing on cognitive, anxiety, and social tests in C57BL/6J mice. Three tests traditionally performed out of the home cage (novel object recognition, light/dark, three-chamber tests) were adapted and executed in a new system called 'Interlinking', which consists of up to three DVC cages interconnected via tunnels through frontal cage openings. After habituation to the Interlinking tunnels, tests were carried out over three days. Experiments were conducted at CNR and IIT to ensure cross-lab comparison. Results suggested that this new system is particularly promising in the context of social behaviours. This is further supported by evidence of a close correlation between manually scored video data and digital biomarkers extracted from DVC data, such as mouse activity and cage occupancy.

2. **Let the Mice Set the Stage: Rethinking Sociability Testing in "Natural Environment"** *(Veronika Borbélyová)*

Sexual dimorphisms in the brain and behavior have garnered interest due to the varying prevalence, onset, and manifestations of neuropsychiatric disorders among males and females. Autism spectrum disorder (ASD) and Attention-deficit/hyperactivity disorder (ADHD) are predominantly diagnosed in males, indicating a potential influence of sex hormones on their origin. Males with ASD and ADHD demonstrate social difficulties during childhood, but females display more pronounced symptoms in adolescence and adulthood. Due to the complex mechanisms underlying social behavior, further research, including laboratory mice and rats, is essential for improving the management of social abnormalities in ASD along with other neuropsychiatric disorders.

In biomedical research, the social behavior of laboratory mice is commonly evaluated individually using various mazes, such as the three-chambered test as well as the reciprocal social interaction test. Such evaluations require placing animals in unfamiliar environments that may influence their behavior. Observing social behavior in home cage systems can assist in resolving this issue. Therefore, during my presentation, I will introduce the standard tests for assessing rodent social behavior, as well as possibilities of testing the social behavior of laboratory mice in a home cage monitoring system, particularly PhenoTyper cages. I will illustrate the advantages and limitations of such testing and will suggest possible solutions for these issues in testing

LECTURE 3 – Summary talk
Silvia Mandillo

FACULTY BIOGRAPHIES

Due to events beyond our control, Lior Bikovski was unable to attend the event. We would however like to thank him for all of his work organizing the Training School and the 3 previous TEATIME Training Schools.

Lior Bikovski – Training School organiser (Tel Aviv University, Israel)

Dr. Lior Bikovski is a researcher at Tel Aviv University and Director of the Myers Neuro-Behavioral Core Facility in the Faculty of Medicine. He also leads the Training Work Group of the TEATIME COST Action initiative. Dr. Bikovski holds a PhD in Psychology and brings over a decade of expertise in bio-behavioral research methods. He provides consultation on experimental design, data-analysis pipelines, and hands-on training in both automated and manual assays. His research spans traumatic brain injury, oncology, and neuropsychiatric disorders, with a strong focus on methodological innovation, standardization, and reproducibility.
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Alice Melloni (Italian Institute of Technology (IIT), Italy)

I am a postdoctoral researcher at the Italian Institute of Technology (IIT), with a background in Biology and Medical Biotechnology from the University of Bologna and a PhD in Neuroscience from the University of Padova. My research is driven by a deep interest in the science of sleep and in understanding how early life experiences can shape brain development and behavior in the long term. Currently, I focus on exploring the impact of maternal sleep deprivation during pregnancy on the offspring's behavior and wake-sleep pattern in early life and adulthood.

Throughout my research journey, I have gained hands-on experience with various home-cage monitoring systems, alongside traditional behavioral testing methods. This has led me to reflect deeply on how to bridge conventional behavioral assessments and the insights offered by automated, continuous monitoring, and seek ways to enhance the quality and translational value of animal research.

Aishwarya Vishwantathan (Stoelting Europe, Ireland)

With a Master's in Immunology from Trinity College Dublin and over four years at Stoelting Europe & ANY-maze, I bring a deep understanding of life sciences and behavioral neuroscience research. As the Principal Product Manager for the company, I've guided the development of ANY-maze by working closely with researchers to ensure the software meets evolving experimental needs with precision and reliability. My role bridges scientific insight and product design. I collaborate directly with labs worldwide, translating feedback from real experimental setups into meaningful software improvements. With hands-on knowledge of experimental design, data analysis, and automated behavioral tracking, I support users in optimizing their workflows and troubleshooting complex protocols. I also lead a team of product managers and contribute to internal process automation, enhancing both technical support and product development cycles. My approach is grounded in clear, accurate science communication,

ensuring that tools like ANY-maze remain accessible, flexible, and aligned with the demands of rigorous research.

Daniela Domingues (Paris Brain Institute, France)

Daniela Domingues is a third-year PhD candidate with the Neurobiology of Repetitive Behaviours (NERB) team, led by Eric Burguière at the Paris Brain Institute and the CRNL in France. Her academic journey in bioengineering began with her master's studies, during which she gained international experience at King's College London and the Karolinska Institutet in Stockholm, where she did her thesis focused on recall-based learning memory strategies in mice.

Following her master's, Daniela joined the Champalimaud Foundation in Lisbon, where she collaborated with Roche Pharmaceuticals to test novel dopaminergic compounds in mice. Driven by her passion for systems neuroscience, she then moved to Germany as a Max Planck Fellow at the IMPRS for Brain and Behaviour. However, her journey led her to France, where she is now pursuing her PhD in pre-clinical psychedelic research.

Daniela's project centers on unravelling the behavioural and neuronal effects of psychedelics, with a particular focus on the acute and long-term impacts of LSD in mice. She employs state-of-the-art technologies to collect and analyze data, advocating strongly for open science principles. During her PhD, she is optimizing the BEATBOX—an automated, home-cage behavioral assessment system developed by the NERB team—to evaluate the effects of LSD on mouse behavior in an ecological way. Her main research interests lie in understanding behavioural flexibility and exploration.

Outside the lab, you can find Daniela (@neurodaniela) at science communication events—she is the President of Pint of Science Portugal—or dancing freely in the beach. She postgraduate on "Entrepreneurial and intrapreneurial project management" at the 4EU+ and she is one of the co-founders of RobustCircuit (www.robustcircuit.eu), a neuroscience startup.

Giorgio Rosati (Tecniplast, Italy)

Giorgio Rosati is Senior Product Manager at Tecniplast, where he leads the development of the Digital Ventilated Cage (DVC®) system and its ecosystem. With a background in Electronic Engineering and a specialization in Bioengineering, Giorgio focuses on bridging technology and animal welfare through scalable, data-driven solutions for preclinical research.

Over the years, he has been involved in the design and validation of advanced monitoring tools that support both operational excellence and scientific discovery. He is currently spearheading initiatives to expand the DVC platform with complementary sensors and analytics, enabling large-scale digitalization of animal facilities.

Giorgio is particularly passionate about sustainability, automation, and empowering researchers and animal technicians with tools that are intuitive, robust, and scientifically relevant. His work reflects a strong commitment to innovation that is practical, impactful, and deeply connected to the real needs of vivarium environments.

Michael M. Tsoory (Weizmann Institute of Science, Israel)

Dr. Tsoory is a senior staff scientist, heading the Behavioral and Physiological Phenotyping Unit at the Department of Veterinary Resources, Weizmann Institute of Science. He did his B.A., M.A. and PhD in Psychology at the University of Haifa, Haifa, Israel. Where, he received his training and research experience in behavioral neuroscience combining different biological assays with behavioral assessments. For his M.A. he assessed the involvement of central monoamines in a rat model of social cooperation and for a PhD he established a novel early life stress rat model of exposure to stress during juvenility; assessing its effects on developmental related changes in neural cells adhesion molecules. During his Post-Doc at the Department of Neurobiology, Weizmann Institute of Science (Rehovot, Israel) he assessed the involvement of the CRF/Urocortin systems in modulating stress responses and learning faculties- developing models of stress induced psychopathologies.

He is also active as a stakeholder in the EQIPD initiative: a European Union's Horizon 2020 consortium aimed at Enhancing Quality In Preclinical Data.

Nuno H. Franco (i3S - University of Porto, Portugal)

I am a researcher at the i3S (University of Porto) on the topics of laboratory animal welfare, animal ethics and the 3Rs, and scientific quality. I have degrees in both Animal Biology and Science Education, and a PhD in Biomedical Sciences, and I have been teaching experimental design for over a decade, in Portugal and across Europe. I am a member of the FELASA working group on experimental design education, vice-president of the Portuguese Society for Laboratory Animal Science (SPCAL) and **Past**-President of the EU Education & Training Platform for Laboratory Animal Science (ETPLAS). I also sit on the i3S Animal Welfare Body and coordinate the Portuguese Network of Animal Welfare Bodies – RedeORBEA.

Oren Forkosh (Hebrew University of Jerusalem, Israel)

I'm an assistant professor at the Hebrew University of Jerusalem, where I lead a multidisciplinary lab studying animal behavior and cognition, personality, and emotion using computational tools and AI. My background is in physics, applied mathematics, and computer science, and we apply these disciplines to develop automated systems for tracking and analyzing behavior across species. I've built home cage setups for rodents, cows, chickens, and even feral cats, aiming to study animals in naturalistic and minimally invasive ways.

Otto Kalliokoski (University of Copenhagen, Denmark)

I am a biomedical researcher – formerly an engineer, now a laboratory animal scientist – with a focus on improving pre-clinical methodology and novel methods for unbiased assessments of animal welfare. I have been teaching meta-analysis, statistics and experimental design for more than a decade at the University of Copenhagen. My current interests lie in exploring how meta-analytical investigations can be used to replace redundant animal experiments. It is my firm belief that improving animal welfare in pre-clinical medicine benefits not only the animals, but also the research itself.

Romain Hollands (Noldus, The Netherlands)

Romain Hollands is Portfolio Strategy Manager for the animal research domain at Noldus Information Technology. With a background in neuroscience and a Research Master in Drug Development and Neurohealth from Maastricht University, he brings a unique combination of scientific expertise and strategic product insight. Romain began his career supporting researchers as a scientific consultant and later as an account manager. Now fully focused on shaping the future of behavioral research tools, he leads the strategic direction for Noldus' animal portfolio—ensuring that products like EthoVision XT evolve in line with emerging scientific needs, technical trends, and user workflows.

Silvia Mandillo (CNR, Italy)

I graduated in Natural Sciences at Università La Sapienza in Rome and I have a PhD in Psychology from Tufts University, Medford-Boston, USA. I am a Senior Research Scientist at CNR (National Research Council) - Institute of Biochemistry and Cell Biology in Monterotondo, Italy and faculty at Sapienza University in Rome for the Course 'Methods in Behavioural Neurosciences'.

I am also involved in European/Worldwide projects and consortia including IMPC, COST Action CA20135 TEATIME, ECNP and ETPLAS.

My research focuses on the study of motor and cognitive functions as well as social and emotional behaviours by using automated systems and ethologically based direct observations. I am currently conducting in-depth behavioural analysis of inbred and mutant mouse strains to develop genetic models of neurodegenerative and psychiatric diseases.

Veronika Borbélyová (Comenius University, Slovakia)

I am a young researcher at the Institute of Molecular Biomedicine (IMBM, www.imbm.sk), Faculty of Medicine, Comenius University (CU), Bratislava, Slovakia. I studied Animal Physiology and Ethology (2012) and earned a PhD in Normal and Pathological Physiology (2017) from the Faculty of Medicine, CU, Bratislava, Slovakia. I received a SAIA fellowship for research at New York Medical College, where I learned about behavioral testing of laboratory rats, orchiectomy, and ovariectomy. In Hungary, at the Faculty of Medicine, the University of Pécs, I was trained for neurodevelopmental assessments in laboratory rodents. I have successfully implemented these techniques at IMBM. As an ethologist at IMBM, I establish test protocols for the behavioral phenotyping of laboratory rodents. My expertise lies in the metabolic and behavioral phenotyping of laboratory rodents, including complex behavioral characterization (locomotor activity, anxiety, depression, memory, social interaction, etc.) using EthoVision XT software (Noldus). I test animals in various home-cage systems (e.g., PhenoTyper cages), and I am working on animal models for autism spectrum disorder and obesity-associated metabolic syndrome. Currently, I am a Slovak delegate in COST Action CA20135: Improving biomedical research by automated behaviour monitoring in the animal home-cage (TEATIME).

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TEATIME

STUDENTS

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Viktoria	Čurila	Faculty of Medicine Osijek	Croatia
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Nikola	Sutulovic	Belgrade University, Faculty of Medicine	Serbia
Dorota	Wronka	Institute of Bioorganic Chemistry, Polish Academy of Science	Poland
Natasha	Shpoliansky	Tel Aviv University	Israel
Helena	Justić	University of Zagreb School of Medicine	Croatia

FACULTY

First name	Last name	Organisation	Country
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Veronika	Borbélyová	Comenius University	Slovakia
Daniela	Domingues	Paris Brain Institute	France
Oren	Forkosh	The Hebrew University of Jerusalem	Israel
Nuno	Franco	University of Porto	Portugal
Romain	Hollands	Noldus Information Technology	The Netherlands
Otto	Kalliokoski	University of Copenhagen	Denmark
Silvia	Mandillo	Institute of Biochemistry and Cell Biology	Italy
Alice	Melloni	Istituto Italiano di Tecnologia	Italy
Giorgio	Rosati	Tecniplast	Italy
Michael	Tsoory	Weizmann Institute of Science	Israel
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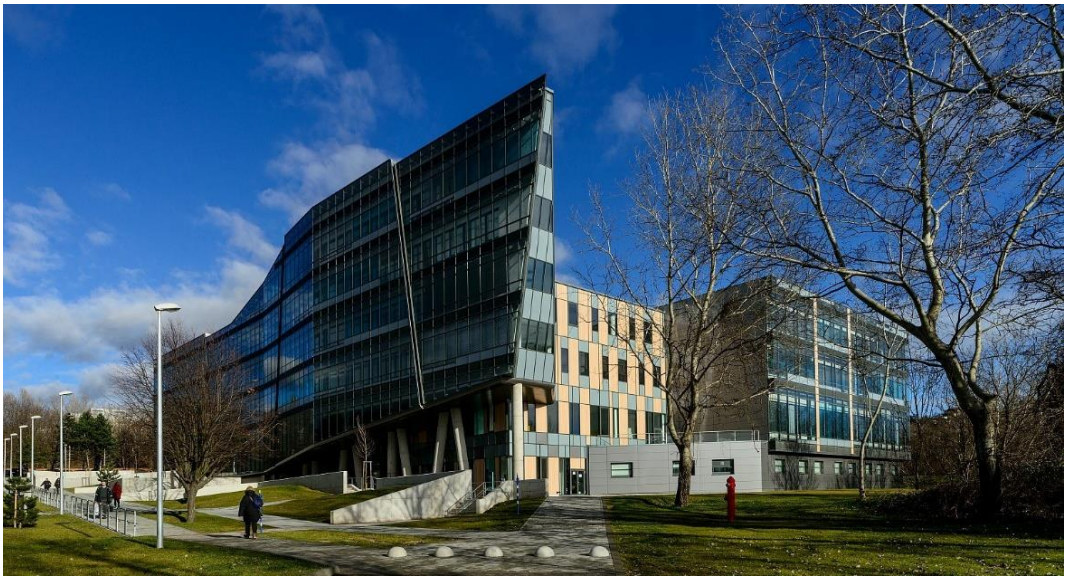

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COST (European Cooperation in Science and Technology) is a funding agency for research and innovation networks. Our Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This boosts their research, career and innovation.

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