nd International DIGITAL VIVARIUM FORUM

HOW TECHNOLOGY CAN SUPPORT BETTER SCIENCE

PRELIMINARY PROGRAM

6th - 8th September, 2022

Tecniplast Congress Centre, Buguggiate (VA) - Italy

For further information please contact:

Cristina PANIGADA cristina.panigada@tecniplast.it Giorgio ROSATI giorgio.rosati@tecniplast.it





Tuesday, September 6th



Welcome and Opening - Pietro Bernardini	2:00 PM
Moderator: TBD	
Improving biomedical research by automated behavior monitoring in the animal home-cage – importance of communication and networking (Vootele Voikar - Research coordinator, Neuroscience Center / Laboratory Animal Center, Helsinki Institute of Life Science, University of Helsinki, Finland)	2:10 PM
Spontaneous bouts of rest, activity, and locomotion of C57BL76J mice in their home-cage (Brun Ulfhake - Department of laboratory medicine, Karolinska Institutet and ECF at Stockholms University)	2:35 PM
Validation of the Digital Ventilated Cage System for Circadian and Sleep Phenotyping (Selma Tir - PhD student in Clinical Neurosciences, University of Oxford)	3:00 PM
Detection of narcolepsy symptoms in HCRT knock out mice using the DVC® system (Birgitte R. Kornum - Associate professor, Department of Neuroscience, University of Copenhagen)	3:25 PM
The Impact of exercise on brain structure and function. A combination of ultra-high field imaging and 24/7 behavior monitoring (Amanda Kiliaan - Professor Anatomy-Translational Neuroanatomy, head of research Anatomy Dept Medical Imaging, Anatomy Donders Institute for Brain, Cognition, and Behavior, Chair Preclinical Imaging Center PRIME Radboud university medical center)	3:50 PM
Coffee Break	4:20 PM
Partner Presentations	4:50 PM
Automated home-cage for continuous activity monitoring in different mouse models (Fabrizio Scorrano - Principal Scientist, Novartis AG)	5:15 PM
Assessing the DVC [®] analytic capacity to detect sciatic nerve crush induced motor impairments and recovery (<i>Michael Tsoory</i> - Head of the Behavioral and Physiological Phenotyping Unit, Department of Veterinary Resources, Weizmann Institute of Science, Rehovot, Israel)	5:40 PM
Closing session	6:00 PM
Dinner	8:00 PM

Wednesday, September 7th



Moderator: TBD	
Phenotyping spontaneous in cage activity and place preference in inbred and outbred mice using DVC® (Sara Fuochi, GMO Data Manager Experimental Animal Centre, Universität Bern)	9:00 AM
Digital Ventilated Cage activity monitoring uncovers rest-related phenotypes in mouse models of neurodegenerative diseases (<i>Silvia Mandillo</i> - PhD Research Scientist CNR – National Research Council - Italy)	9:25 AM
How well do you know your mice? (Sonia Bains - Neurological Phenotyping Manager and Phenotyping Technical Developer, Mary Lyon Centre at MRC Harwell)	9:50 AM
Establishing Homecage Monitoring in Neuroscience Drug Discovery (<i>Eoin O'Connor</i> - Principal Scientist Neuroscience & Rare Diseases, Roche Pharma Research and Early Development, Roche Innovation Center Basel, F. Hoffmann-La Roche Ltd)	10:15 AM
Proof of concept: Evaluation of a Digital Ventilated Cage (DVC®) System for Facility Management, assessment of animal welfare and potential research use cases (<i>Michaela Socher</i> - Principal Veterinarian and Associate Director Comparative Medicine)	10:40 AM
Coffee Break	11:05 AM
The Effects of Light on Mouse Physiology and Behaviour (Stuart Peirson - Professor of Circadian Neuroscience, Sleep and Circadian Neuroscience Institute (SCNi), Nuffield Department of Clinical Neurosciences, University of Oxford)	11:35 AM
Introduction of Digital Ventilated Cages in the Central Animal Facility of UMCG (Catriene Thuring - DVM, PhD, Deputy Head Central Animal Facility, University Medical Center Groningen, The Netherlands, Designated veterinarian)	12:00 PM
Potential use of DVC [®] to detect fight events in male mice (Fabrizio Scorrano, Mara Rigamonti e Dimitri Diomaiuta - Principal Scientist, Novartis AG; Tecniplast S.p.A.)	12:25 PM
Lunch Break	12:50 PM
Partner Presentations	2:20 PM
High-fat diet induced obesity in mice is secondary to the dietry induced elongation in their endogenous circadian rhythm period length (Roee Gutman - Department of Animal Sciences, Tel-Hai College; and Department of Nutrition and Natural Products, MIGAL – Galilee Research Institute, Israel)	2:50 PM
Can DVC [®] technology replace standard actimetry testing in safety assessment studies? (Céline Gommet - Projects & Innovation / In Vivo Research Center France, Sanofi)	3:00 PM
Coffee Break	3:25 PM
The Inspire Aging Mouse Cohort: DVC [®] Analytics and the measure of spontaneous/voluntary mobility (Angelo Parini - MD, PhD, Professor of Physilogy, Health Faculty - Toulouse, Coordinator of the INSPIRE animal cohort project, Institute of metabolic and cardiovascular diseases INSERM U 1297)	3:55 PM
Using Polyuria to Diagnose Sustained Hyperglycemia in a Mouse Model of Spontaneous Type 2 Diabetes (<i>Thomas Svava Nielsen</i> - Senior Scientist Novo Nordisk Foundation Center for Basic Metabolic Research, University of Copenhagen)	4:20 PM
Exploitation of DVC®'s data collection to support scientific questions (Sebastian Brachs - Head of Research Lab - Department of Endocrinology and Metabolism - Charité – Universitätsmedizin Berlin)	4:45 PM
Food Intake Monitoring in Techniplast DVC [®] Cages (Soo Min, Judith Altarejos and Jason Mastaitis - Senior R&D Specialist, Director of Obesity Metabolism & Muscle Disease, Senior Staff Scientist, Regeneron Pharmaceuticals Inc.)	5:10 PM
Home cage-based phenotyping from improved animal welfare monitoring to better science (Oliver Stiedl - Chairman of the Animal Welfare Body VU University Amsterdam and VU University Medical Center)	5:35 PM
Event + Dinner	6:00 PM

Thursday, September 8th



Moderator: TBD	
Automated identification of pups delivery by using novel in-cage microphones (Marcello Raspa/Marco Garzola, PhD Technology Executive (CNR-IBBC), Head of Biological Resources at the CNR European Mouse Mutant Archive and National Centre for Phenogenomics (EMMA/Infrafrontier/IMPC)	9:00 AM
Deciphering the genetics of healthspan through life-long monitoring of a large murine genetic reference population (<i>Giacomo Von Alvensleben</i> - Scientific Assistant in the Laboratory of Integrative Systems Physiology (LISP) EPF, Lausanne, Switzerland)	9:25 AM
The DVC® system for the automated detection of abnormal repetitive behaviors (Daniela Pollak- Professor for Behavioral Biology, Medical University of Vienna, Austria)	9:50 AM
Use of activity measurement for severity assessment (André Bleich - Director of the Institute for Laboratory Animal Science and Central Animal Facility & Animal Welfare Officer of the Hannover Medical School)	10:15 AM
Partner Presentations	10:40 AM
Coffee Break	11:10 AM
A multicentre study on spontaneous in-cage activity and micro-environmental conditions of IVC housed C57BL/6J mice during consecutive cycles of bi-weekly cage-change (Hervé Lerat- Director of the "hTAG" Core Facility, University of Grenoble Alpes)	11: 40 AM
The use 24 hour activity monitoring to determine whether male C57BL/6J mice are more social compared to female C57BL/6J mice (Joanna Moore - Investigator and Named Information Officer,	12:05 PM
Laboratory Animal Medicine, UK, IVIVT, Research, GSK)	
	12:30 PM
Laboratory Animal Medicine, UK, IVIVT, Research, GSK) Which construction works are likely to influence mouse behavior? An approach to the problem (Markus	12:30 PM 12:55 PM
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Laboratory Animal Medicine, UK, IVIVT, Research, GSK) Which construction works are likely to influence mouse behavior? An approach to the problem (Markus Brielmeier - DVM, Head of Core Facility Laboratory Animal Science (CF-LAS) at HelmholtzMunich) Partner Presentations	12:55 PM



THE AGENDA

3 thematic days dedicated to discover how the digital technology solutions already improved some research areas, affected the entire facility and positively impacted on animal welfare management. The Digital Vivarium becomes more and more the best solution to drive our pre-clinical industry to the next stage.

SOME TOPICS

- 🔆 Circadian rhythms
 - Ageing Neuroscience Impacts of environmental variables Animal Welfare Automate Human end-points Ammonia impacts



