Behavior and Conditioning

More than
26.000 citations
in behavioral
research

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Since more than 50 years Ugo Basile designs and manufactures classic and innovative devices, essential in animal behavioral studies.

Whether your research involves the study of memory, learning, anxiety, depression, fear, stress, social interaction, addiction, or more complex behavioural protocols, we have the answer: our line of conditioning/avoidance cages, mazes, videotracking, etc. **keeps growing thanks to always new devices and methods.**

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ugo basile®
TRANSFORMING IDEAS
INTO INSTRUMENTS

NEW

OPERON (Papaleo-Scheggia's method)

The Utimate Intra/Extradimensional Attentional Set-Shifting Task for Mice

Attentional set shifting is a measure of cognitive flexibility and executive functions, which refers to the ability to switch between arbitrary internal rules; similar tasks for rodents are currently limited due to their manual-based testing procedures and they are hampering translational advances in psychiatric medicine.

This novel ID/ED Operon task is an effective preclinical tool for drug testing and large genetic relevant screenings to study the executive dysfunctions and cognitive symptoms of psychiatric disorders!

The instrument is composed of two compartments, divided by an automated sliding door, with an operant wall mounted on each side; this includes 3 automated tridimensional stimulators (visual, odor and texture), left and right, with 2 nose pokes and a pellet dispenser in the middle for the reward.

We have designed an innovative Revolver System which provides automated tactile stimulation and an Odor Delivery System which provides 10 different odors in 2 independent channels.

The software automatically manages all the Operon tools following a precompiled protocol and collects the data.

FEATURES	BENEFIT
2-compartments cage, divided by an automated sliding door	Continuous trial repetition
Operant walls including lights, odor delivery and revolving floor	Automated tridimensional stimulation (visual, odor and texture)
Proprietary Revolver System	Automated change of floor tactile stimulation
Odor Delivery System, 2-channels and 10 independent flowmeters	Automated odor stimulation via 10 different odors independently on the two chambers
Left and right nose pokes and pellet dispenser for each compartment	Automated reward when the correct choice is made
AnyMaze V.6 or above	Fully automated managing of all the OPERON cues, sensors and data acquisition

STARTLE/PPI TEST
Automatic detection of Startle Reflex in Mice

NEW

Prepulse inhibition (PPI) is a neurological phenomenon in which a weaker prestimulus (prepulse) inhibits the reaction of an organism to a subsequent strong startling stimulus (pulse). When prepulse inhibition is high, the corresponding one-time startle response is reduced.

The reduction of the amplitude of startle reflects the ability of the nervous system to temporarily adapt to a strong sensory stimulus when a preceding weaker signal is given to warn the organism. PPI is detected in numerous species ranging from mice to human.

Deficits of prepulse inhibition manifest in the inability to filter out the unnecessary information; they have been linked to abnormalities of sensorimotor gating. Such deficits are noted in patients suffering from illnesses like schizophrenia and Alzheimer's disease.

Our system consists of a Stimulating/Recording Platform encompassing a mouse box, the light and the speaker, which deliver the startling stimuli (pulses), positioned inside our new-design Isolation Cubicle.

On the 12" touch-screen Controller, sound and light parameters are set via a user-friendly interface. Trials can be configured by defining trial number, acoustic/visual stimulus and timing of the different experimental sequences (all fully randomizable): pulse, prepulse, inter-pulse interval. One controller manages signals from up to 4 Stimulating/Recording Platforms.

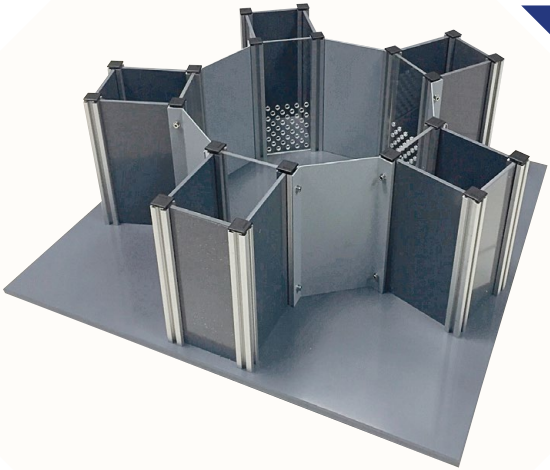
FEATURES	BENEFIT
Maximum Flexibility, full event randomization	Configure your own experimental schedule including pulse, pre-pulse, inter-pulse interval
Multiple-cage system	The touch-screen electronic unit manages up to 4 stimulating platforms
New-design Isolation Cubicle	For effective sound attenuation and isolation of the different platforms
Two Mouse Boxes provided with each Platform	No holder needed!
Part of the BEEHIVE SYSTEM	The same controller can manage different conditioning tests. Ask for details!

NEW

AGORA MAZE
Socio-Box Test for Mice

Research has shown that, although human social behavior is generally more complex, humans and animals share some aspects of social behavior; developing new tools for the assessment of social skills in mouse models is essential to further advance in the understanding of these diseases.

Prerequisite for living in social environment is a highly complex set of social skills that governs interactions between members of a group; consequently, impairments in these social skills, have consequences for individuals and society.

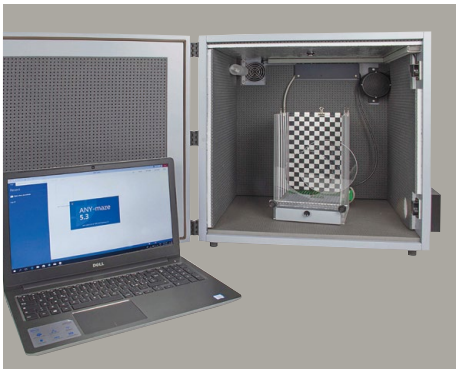


The new Agora Maze allows evaluation of preference for social novelty or the propensity to spend time with a previously un-encountered mouse rather than with a familiar mouse.

The rationale of this test is based on the free choice by a subject mouse to spend time in any part of an open circular arena (αγορα, from the Greek word meaning "gathering place") attached to 5 cubicles with an animal inside each.

FEATURES	BENEFIT
The grey floor gives high contrast with both light and dark animals	Optimized for Videotracking
Transparent, perforated dividers	Facilitates social interaction and exchange of odors
One central Arena, and 5 external boxes for stimulus mice	Allows confronting the subject with 5 different stimulus animals
Magnetic attachment of the external boxes	Designed for quick replacement of stimulus mice
Quick to disassemble and set-up	Easy cleaning, essential in a social behavior test!

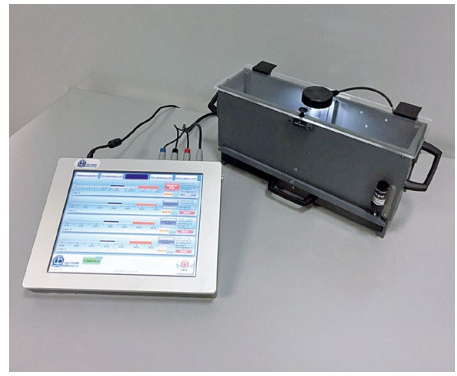
Fear Conditioning



The UGO BASILE ANY-maze controlled Fear Conditioning System automates the two most common fear conditioning paradigms: Contextual Fear Conditioning and Cued fear Conditioning. The detection of freezing is automated and based on video analysis. Multiple systems, with virtually no limit, are easily assembled.

Tests are run in an animal cage with a grid floor, whose appearance can be easily altered by attaching patterned contexts on the walls and floor, within a sound-attenuating box.

Active Avoidance



Active avoidance is a fear-motivated associative avoidance task. In this task the animal has to learn to predict the occurrence of an aversive event (shock) based on the presentation of a specific stimulus (tone), in order to avoid the aversive event by moving to a different compartment.

Our Active Avoidance Set-Up has been designed to enable the researcher to perform a wide range of avoidance experiments, each according to a flexible schedule

Passive Avoidance

The Passive Avoidance Set-Up (step-trough method) by Ugo Basile, is an efficient and reliable instrument for the classic Passive Avoidance Test.

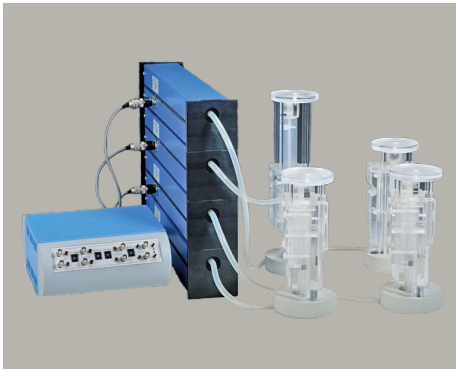
A partition which embodies a sliding door divides the P.A. Cage into two compartments, one black and one white, brightly illuminated. The simple and reliable tilting floor detection scores the animal movement across the two compartments.

Conditioned Place Preference

The Conditioned Place Preference (CPP) cage is a 2-compartment box to evaluate the abuse potential of substances and the motivational effects of drugs in mice or rats.

Designed and optimized for use with any video-tracking software, the box includes the contextual cues required by the experimental paradigm: 4 interchangeable floors with square or circular patterns and 3 sets of walls.

Morris Water Maze and Atlantis System



The Ugo Basile Water Maze pools, made of alimentary-grade fiber-glass, are at the same time lightweight, resilient and durable. Available in different sizes and colors.

In combination with the optional Atlantis automatized platforms, and our videotracking system, they are the state of the art set-up for the Morris water maze test.

Barnes Maze

The Barnes Maze is a valid alternative to the water maze to study spatial memory. The motivational drive is the rodent's instinctive aversion for open spaces and natural preference for dark and "sheltered" spaces.

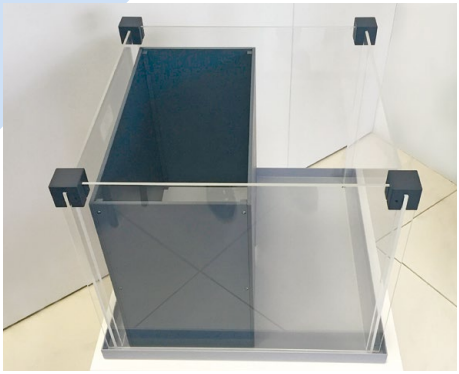
High contrast color and non-reflective surface make our mazes ideal for videotracking. Different colors and designs are available on request. Specific models for rats or mice.

Elevated Plus and Zero-Mazes

The elevated plus maze (EPM) was designed to measure anxiety in laboratory animals and as a general research tool in neurobiological anxiety research. The model is based on the animal aversion to open spaces.

An alternative is the Elevated Zero-Maze, sometimes preferred as it offers the animal a smoother transition from closed to open arms. Both models are available in different colors. Specific models for rats and mice.

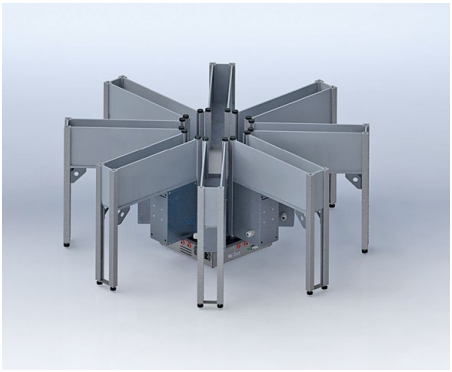
Open Field and Light/Dark Cages



The Open Field is used to assess exploratory behavior and novel object recognition (NOR). Our models, designed to give optimal results with any Video-Tracking system, are available for rats and mice, in different sizes and configurations.

The Light/Dark Cages is typically used in the assessment of anxiety; our models, for rats or mice, can also be conveniently used as Open Field, by removing the dark insert.

Multi-Maze System

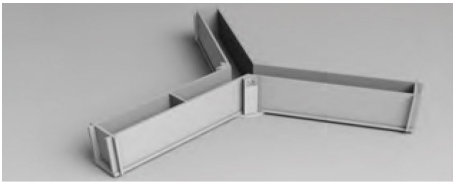


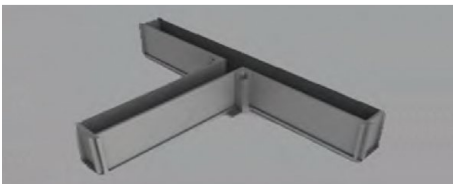
The multi-maze system is a versatile modular device of original design with which the ideal configuration to study spatial learning and spatial memory in rats or mice can be assembled.

Its components can be easily combined to set-up an electronically controlled device, in the Y, T and 8-arm radial maze configurations.

The proprietary sliding doors, controlled by the electronic unit or via videotracking software, retract in the maze floor, quickly but silently, ensuring unobstructed animal tracking.

Radial, Y- and T- Mazes





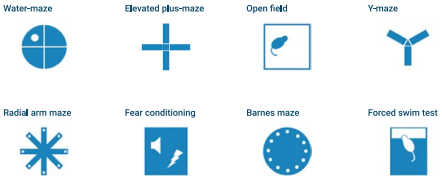
Our manual radial, Y- and T- mazes have a metal base painted in a high contrast, non-reflective grey (more colors on request) ideal for videotracking. Surface texture selected for best rodent's comfort. All models available for rat or mouse.

Quality materials: durable, resilient, easy to clean and to store. Metal arm assembly for the radial maze, plastic arms that can be disassembled in the Y and T mazes.

Videotracking Software

ANY- maze
Behavior Tracking Software

ANY-maze is today's most advanced video tracking system.
Trusted by thousands of researchers around the world, ANY-maze couples an unrivalled depth of features with a simple, familiar design, to provide automated testing in virtually any behavioural test.



ANY-maze's flexible design makes it easy to set up experiments in a wide range of different apparatus: plus maze, water-maze, T-maze, activity boxes, forced swim test, open-field cages, Fear Conditioning, etc.

Using ANY-maze you can perform tests in up to sixteen pieces of apparatus simultaneously.

Ugo Basile designs and manufactures classic and innovative devices essential in animal behavioral studies:

MEMORY & LEARNING
ANXIETY - DEPRESSION
FEAR - STRESS
SOCIAL INTERACTION
ADDICTION
COMPLEX BEHAVIOURAL
PROTOCOLS
On laboratory animals

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Behaviour, Mazes, Tracking
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Metabolism, Feeding Behaviour
Muromachi Microwave Fixation

Researchers trust Ugo Basile to fulfill their need of reliable custom instruments!
It's true UGO BASILE TRANSFORMS IDEAS INTO INSTRUMENTS.
Just think about the most classical Ugo Basile devices, such as RotaRod and Plantar Test: born of a brilliant idea, designed and industrialized by us in close cooperation with the inventor of the method, they've now become a worldwide standard.
We welcome your ideas!

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