



**Multisensory and Temporal Processing Laboratory,  
Panteion University of Social and Political Sciences**

## Description

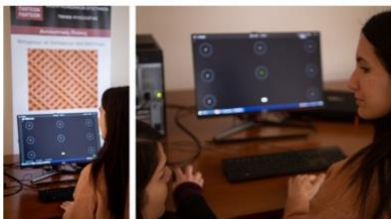
Panteion University of Social and Political Sciences is a public university that conducts research and offers courses and degrees in a wide range of disciplines in the fields of social and political theory. Panteion University was founded in 1930 and is the 5<sup>th</sup> oldest institution of higher education in Greece. Today, Panteion has 9 academic departments, one of which is the Department of Psychology. The Department of Psychology was founded in 1989 and has contributed to the establishment of Psychology as a science in Greece over the last 36 years. The Department is the first choice of approximately 95% of students admitted to it, with students scoring the highest marks among candidates competing for admission to higher education institutions in Greece.

The Department of Psychology hosts the Multisensory and Temporal Processing Laboratory (MultiTimeLab), a laboratory that focuses on the study of multisensory and temporal processing and, more specifically, on: (a) cognitive processes and their gamification; (b) multisensory integration of simple and complex stimuli based on the informational relevance of sensory streams; (c) time and timing perception with a focus on the mechanisms of timing perception and time estimation in uni- and multisensory events; (d) temporal modulations for better decision making and well-being. The MultiTimeLab team brings expertise in coordination, networking, and basic research and development to European, international, and national projects.

## Infrastructure/Equipment

Panteion University is located on Leoforos Sygrou Avenue, in Kallithea, near the centre of Athens. The privately owned facilities include 3 buildings, constructed in different eras, and beautiful gardens, which make up a picturesque and welcoming campus. The MultiTimeLab is housed in a Panteion University site in Gyzi. The space consists of three experimental rooms and office spaces with a total area of 134 sqm. The Laboratory has the following equipment:

### Eye tracking



High-sensitivity eye tracking equipment for behavioural measurements, as well as virtual reality equipment with eye tracking in a virtual environment. We have equipment to measure physiological signals (heart rate, skin conductivity, temperature) synchronized with eye movement recordings.

### Virtual reality



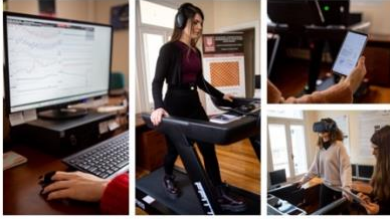
Virtual reality tools for experimental procedures and projection of audiovisual stimuli. We also have body motion and eye movement detectors in virtual environments.

### Physiology



Devices to measure physiological signals such as heart rate, skin conductivity, and temperature during experimentation, as well as devices to monitor activity during the day and sleep. Capabilities to synchronise physiological measurements in combination with eye movement and/or virtual reality.

### Gait & Exercise



Gait sensors for measuring gait parameters during navigation in the environment. Exercise equipment to induce physical virtual experiences and naturalistic experimentation

### Audiovisual multimedia



High resolution video and audio recording devices and large screen presentation of stimuli. Devices for measuring the luminance of visual stimuli and the intensity of auditory stimuli. Large-screen projection and presentation equipment.

## Funding sources

Project: Bottom-Up or Top-Down? An exploration of multisensory brain function and its benefits in everyday life



Funder: [Dana-FENS Brain Awareness Week 2024](#)

Project: Think Up! Game-based system for cognitive skill evaluation and personalised training to promote mental development and health for children



Funder: 2022-2023, ΠΕΠ Αττικής, ΕΣΠΑ

Project: [Interdisciplinary Perspectives on the Politics of Adolescence & Democracy \[IP-PAD\]](#)



Funder: 2023-2026 Marie Curie Doctoral Training Networks HORIZON-MSCA-2022-DN-01

Project: [Multisensory Integration in Natural and Virtual Reality Walking Scenarios for Successful Ageing \[SenseWalk\]](#)



Funder: 2022-2025 Hellenic Foundation for Research & Innovation (HFRI)

Project: [Τον νου σου στον νου σου! Ενίσχυση της εκπαίδευσης μέσα από την αλληλεπίδραση και απαρτίωση των αισθήσεων στον εγκέφαλο \[Ακρωνύμιο: ΤΝουΣΣΝουΣ\]. Mind your mind! Enhancing learning through the interaction and integration of the senses in the brain.](#)



Funder: 2021-2023 Hellenic Foundation for Research & Innovation (HFRI)

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Project: Εργαστηριακό Εγχειρίδιο στον Πειραματικό Σχεδιασμό για Φοιτητές Ψυχολογίας [Laboratory Workbook in Experimental Design for Students in Psychology]



Funder: 2020-2021 Hellenic Academic Ebooks, Kallipos

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Project: Modulating Human Subjective Time Experience (ChronoPilot)



Funder: 2021-2025 FETOPEN-01-2018-2019-2020 - FET-Open Challenging Current Thinking

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Project: Is seeing, feeling, hearing believing? Using multisensory illusions as an educational tool on human perception and brain function.



Funder: Dana-FENS Brain Awareness Week 2021

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Project: Development Of cortical Multisensory Integration mechanisms at micro- and macro- scales during Normal and pathophysiological conditions (DOMINO)



Funder: 2020-2023 FLAG-ERA JTC2019 Human Brain Project

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Project: Portable brain technologies in educational neuroscience research



Funder: 2018-2020 Emerging Field Group (EFG) European Association for Research on Learning and Instruction (EARLI)



### **MultiTimeLab's expertise:**

MultiTimeLab can contribute to the following activities:

*Time Perception:* Human experimentation and measurement of subjective time perception. Modulation of subjective time perception for expanding or contracting one's percept of time so as to increase one's wellbeing, minimize errors, and enhance better decision making.

Related projects: ChronoPilot, IP-PAD, SenseWalk, DOMINO

*Multisensory perception:* Human experimentation and measurement of sensory and multisensory perception. Use of multisensory stimulation for enhancement of learning, increase attention to targets, decrease informational load, and faster responding. Use of multisensory stimulation to slow down the negative effects

of cognitive and sensory decline (e.g., aging) and increase efficiency of navigation and decision making in real and virtual environments.

Related projects: Earli, DOMINO, TNovΣΣNovΣ, SenseWalk

*Cognitive processing:* Human experimentation and measurement of cognitive processes (e.g., attention, memory, decision making). Transform and standardize successful laboratory tasks to gamified versions for measurement and enhancement of cognitive capabilities and skills. Targeting multiple cognitive skills in various populations and settings so as to achieve generalization of abilities in everyday life settings or for symptomatology control.

Related projects: SenseWalk, ThinkUp!, Earli, TNovΣΣNovΣ

*General activities:* Measurement and performance evaluation of new products, dissemination activities, and organizational/coordination activities.

Related projects: Brain Awareness events, TRF, ChronoPilot, SenseWalk, TNovΣΣNovΣ, Earli, IP-PAD