



FONDATION  
USJ

1875  
Université Saint-Joseph de Beyrouth  
Saint Joseph University of Beirut  
جامعة القديس يوسف في بيروت



Faculty of Medicine  
Institute of Psychomotor  
Therapy

Call for Support For the  
*Integration of Virtual Reality and Technologies at the Center for  
Diagnosis, Therapy and Research in Psychomotor Therapy (CDSP)*

*More*  
MODERNITY



USJ  
TOUJOURS  
*plus*

USJ  
ASPIRE  
*For more*

**FUNDRAISING  
CAMPAIGN  
150 YEARS OF  
USJ**



One of the pillars of our new fundraising campaign “USJ, Aspire for More”, launched as part of the Saint Joseph University of Beirut’s (USJ) 150<sup>th</sup> anniversary celebration in 2025, is to achieve “More Modernity.” This initiative aims to acquire essential equipment or replace faulty or obsolete materials in laboratories, care centers, and classrooms across our faculties.

Equipping these spaces with modern facilities is crucial for maintaining our university’s status as a knowledge generator. This initiative is essential for USJ to continue its mission and remain a center of excellence at the forefront of knowledge and technology.

## 1. PROJECT TITLE

Integration of Virtual Reality and Technologies at the Center for Diagnosis, Therapy and Research in Psychomotor Therapy (CDSP) at the Institute of Psychomotor Therapy (IPM).

## 2. APPLICANT

The Institute of Psychomotor Therapy of the Faculty of Medicine at the Saint Joseph University of Beirut and *Fondation USJ*.

## 3. LOCATION

This project will take place in Lebanon, at the Center for Diagnosis, Therapy and Research in Psychomotor Therapy at the Institute of Psychomotricity on the Innovation and Sports Campus (CIS) of USJ.

## 4. PROJECT OVERVIEW

**The CDSP is a diagnostic and therapy center dedicated to serving both society and the community.** It stands as a crucial pillar for providing accessible, **reduced-cost services** in Beirut. Esteemed by patients, families, doctors, schools, and therapists alike, it is a vital resource for directing families in need, delivering high-quality care while maintaining affordability. Amid the ongoing economic crisis, the demand for these cost-effective services has significantly increased.

The CDSP serves patients of all ages, and specializes in the **assessment, diagnosis, and management of psychomotor disorders**. It also provides guidance on accessing appropriate medical care, consultations, and relevant academic and professional resources.

Academically, the CDSP serves as a training facility for Master’s students, providing a comprehensive series of theoretical and practical instruction led by instructors of the Institute of Psychomotor Therapy (IPM). This includes parent interviews, multidisciplinary meetings, care protocols, diagnostic refinement, assessments, and therapeutic techniques. This experience enhances students’ professional skills in psychomotricity, strengthen their professional identity, and emphasizes the importance of effective care.

In terms of research, the CDSP team, in collaboration with IT professionals, has developed software to digitize data collection and maintain traceability for various complex issues. This system enables instructors and students to evaluate techniques, validate psychomotor care protocols, and refine psychomotor tests.

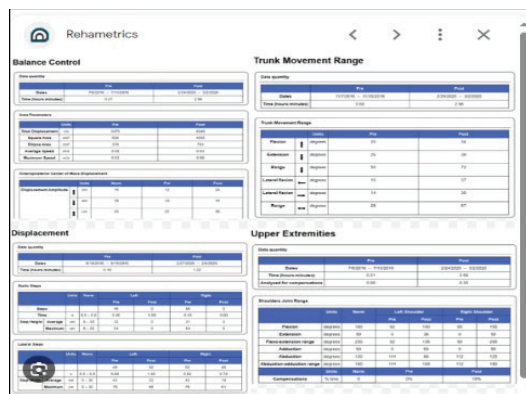
The CDSP specializes in:

- Motor rehabilitation
- Analysis writing through digital tablets
- Biofeedback applications
- Rehabilitation through Motor Imagery Technique (IM)

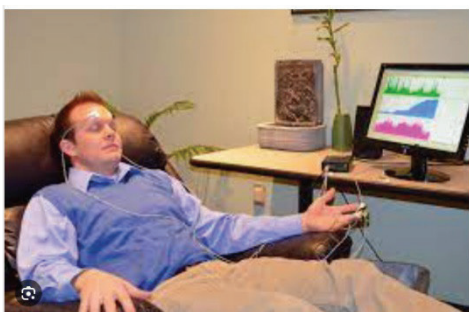
**As a research center, the CDSP allows students to apply innovative data, protocols, and interventions in an academic setting.** However, the absence of advanced stimulating tools presents a significant gap. This limitation also affects the implementation of the latest protocols with patients, despite their importance. The center’s emphasis on offering reduced-cost services results in narrow profit margins, which restricts investment in advanced rehabilitation technologies.

## 5. CONTEXT AND NEEDS

1) Currently, extensive research highlights the efficacy of Virtual Reality (VR) in rehabilitation. VR has proven effective in treating motor disorders such as balance, gait, and coordination, as well as attentional and visuospatial difficulties. VR refers to computer-generated artificial environments that enable users to explore and interact with objects within a virtual space-time (Cherniack, 2011). By replicating the “perception-cognition-action”, VR fosters brain and behavioral responses similar to those in real-world scenarios (You et al., 2005). This technology has demonstrated its utility in assisting healthcare professionals throughout therapeutic interventions. Today, a range of VR and immersive tools, such as the **innovative Rehametrics platform**, developed from extensive clinical research on motor and cognitive rehabilitation, broadens the therapeutic options available to psychomotricians.



2) The **Biofeedback/Neurofeedback** machine records physiological signals and provides real-time visual or auditory feedback to patients. This immediate feedback helps them gain awareness and control over their physiological state, enabling them to correct certain biological functions. Biofeedback has demonstrated effectiveness in treating tension headaches, chronic pain, certain cardiac arrhythmias, and many other conditions.



3) Writing is a key component in psychomotricity, representing a complex interplay between cognitive, linguistic, and psychomotor development. In Lebanon, the impact of bilingualism on writing development is of particular interest. The use of digital tablets to analyze handwriting is therefore highly valuable. This advanced technology not only facilitates the early detection of conditions such as Parkinson's disease but also supports patient rehabilitation by providing precise measurement of therapeutic outcomes.

## 6. OBJECTIVES

**For psychomotor practice:**

- Implementing precise, valid, and targeted therapeutic interventions.
- Bridging the gap between theoretical knowledge and hands-on practice.
- Gathering quantitative data on patient performance session by session, allowing for the fine-tuning of intervention plans and enabling more personalized treatment.
- Exploring innovative activities and exercises that might not be feasible in a traditional setting.



#### For research:

- Collecting objective performance metrics during rehabilitation sessions, enabling a quantitative analysis of progress through detailed clinical reports.
- Validating rehabilitation protocols using this data, which helps refine treatment approaches by providing concrete evidence of the effectiveness of the methods employed.

### 7. TARGET BENEFICIARIES

**Patients:** The CDSP enhances patient motivation and active participation, reduces rehabilitation time, and ensures precise monitoring during exercises, providing immediate visual, auditory, and kinesthetic feedback. It accommodates approximately 25 patients daily.

**Psychomotor therapy students:** Students are given the opportunity to familiarize themselves with the latest technological advancements in rehabilitation, gaining essential hands-on experience that equips them to effectively use various tools with patients in their future careers. The CDSP welcomes around 20 students each year.

**The scientific community:** Researchers benefit from opportunities to advance knowledge in psychomotor rehabilitation, conducting studies that refine treatment methods and integrate emerging technologies, contributing to the ongoing evolution of therapeutic practices.

### 8. RESOURCES

To fund this project, we seek the solidarity and generosity of donors interested in supporting the CDSP.

### 9. FINANCIAL ASSISTANCE REQUEST

**18,581 USD** (eighteen thousand five hundred and eighty-one US dollars).

### 10. DETAILED BUDGET

Description	Price
Rehametrics Software	Price: 12,210 € Discount of 46.43%: 6,540.46 € Approximate price in USD: \$ 7,064
<b>1 Biofeedback / Neurofeedback Machine:</b> - Mitsar 21 Channel EEG Amplifier with WinEEG Software and Bluetooth: 8,399 \$ - Electro-Cap System III for QEEG: 1,899 \$ - Nuprep EEG & ECG Skin Prep Gel (3 packs of 4 oz tubes): 32.36 \$ - Ten20 EEG Conductive Paste (4 oz jars, 3 packs): 28.76 \$	\$ 10,359.12
2 Graphic Tablets: Price per tablet: 578.94 \$	\$ 1,157.88
<b>Total</b>	<b>\$ 18,581</b>

These quotes date from March 2024.

1 EUR = 1.08 USD (therefore, the financial aid request and budget are subject to change based on fluctuations in the exchange rate).

## 11. PROJECT RESULTS AND REPORTING

### ● Results

The expected outcomes are:

- An increase in the number of patients at the CDSP.
- Improved quality of academic instruction.
- A rise in the number of publications.

### ● Transparency

We will send a detailed narrative report outlining the impact of the donation.

Additionally, a financial report on the works conducted will be shared.

Annually, we distribute an impact report to the USJ Community, as well as all friends and donors.

**For your donation:** <https://www.usj.edu.lb/donations/>

**For more information, please contact Fondation USJ:**

Fondation USJ, Rectorate, Damascus Road, P.O. Box 17-5208 - Mar Mikhael  
Beirut 1104 2020

**Phone:** 961-1-421000, Ext : 1135

**Email:** [fondationusj@usj.edu.lb](mailto:fondationusj@usj.edu.lb)

