

Motion simulator with virtual environment for tele-rehabilitation of people with lower motor limb lesions

Responsible researchers: Dante Elías, Benjamín Barriga, Rocío Callupe

Research assistants: José Luis Zarate, Leslie Casas, Enrique Bances

Funded by: FINCyT- PIBAP Contract 19 and LUCET90 Mid term

Involved institutions: Hogar Clínica San Juan de Dios

Department of Engineering-Mechanics Section

The National Records of People with Disabilities (October 2007) indicates that Peru has more than 43,000 people with disabilities, being the locomotion disability which holds the largest number of people (26.106 people, 60.1%). It is therefore essential to take them in treatment and rehabilitation, as the effect on personal and family economics, and public and private, is direct and immediate.

In this context, seeking to improve the tele-rehabilitation capabilities with advanced technology, it is proposed to develop a simulator stand-up type platform for rehabilitation of disabled people in lower limb motor locomotion.

The simulator, based on Stewart-Gough platforms, will allow the patient's feet to perform smooth and coordinated movements simulating normal gait. A non immersive virtual reality is making the treatment more challenging and less tedious, while a system of information technology and communication through Internet allows rehabilitation specialists to provide service in remote health centers in addition to those made in-situ.