

ENCARNACIÓN MICÓ AMIGO

I consider medical science an innovative and perfect interface between technology and the thrilling field of the human body. With this approach I develop my research, looking to pursue the most challenging goal for any biomedical engineer: the improvement of health conditions in the world, because developing health sciences is betting for life.

My foundation in Science, Technology, Ergonomics, Materials and Design has served as a platform on which I have developed a broad interest in the connections between the main concepts of biomedical engineering, drawn from engineering, computing, communications, mathematics and physics to scientific and applied problems in the field of medicine and biology.

I studied a Bachelor in Industrial Design Engineering at Universitat Politècnica de València, and in my third year I received the international scholarship “Promoe”, which gave me the wonderful opportunity to develop the bachelor thesis under the supervision of Yu Yong Sensei at Kagoshima University, Japan. The project was based upon the design of a force sensor for robotic rehabilitation application in the Kirishima Rehabilitation Centre. This experience brought me in contact with the fascinating biomedical field, guiding my motivation to study the “Master of Science in Biomedical Engineering” at Universitat de Barcelona and Universitat Politècnica de Catalunya. During my master studies I also had the opportunity to collaborate voluntarily in different projects, especially in the field of Biomaterials and Biomechanics at Hospital Clínic de Barcelona and Charité Universitätsmedizin Berlin. My master thesis was carried out at Politecnico di Torino, Italy, with the well-known Erasmus program. Under the guidance of Carlo Ferraresi I contributed to his research team for the development of a biomechanical robotized device with a therapeutic methodology application, designed for the recovery of the cardio-circulatory functions affected in paraplegic patients with spinal injury.

After performing my studies I have been awarded by Universitat Politècnica de València with the international scholarship “Blasco Ibáñez”. Under this program I developed a project at College of Biomedical Engineering & Applied Sciences in Kathmandu, Nepal, where I combined research activities with teaching tasks in the field of Biomechanics. Teaching is an awesome opportunity to share biomedical knowledge for the motivation of future biomedical engineers.

I am fascinated by human movement, especially I consider gait analysis and postural control a really fascinating field, whose clinical application might permit the improvement of health conditions affected by neuromotor and supraspinal motor degeneration. Therefore I want to contribute to advance my skills to provide scientific answers to practical questions, working at the interface between neurosciences and biomechanics in order to understand how movement analysis reflects the computation performed by the brain. Within the Moving Beyond program I learn how to address profound challenges in the global biomechanical field for collaborative research among industry and academia. It gives me the amazing possibility to support the engineering team of McRoberts and the Faculty of Human Movement Sciences at VU University Amsterdam. The research is focused on the development of a method which is easily deployable and at a price that makes it accessible to the widest possible population. It contributes to clinical practice while creating substantial value for public health. Thus, the technology responds to a real need: drive the evolution of modern biomechanical techniques in order to provide a compelling diagnostic and evaluative tool for Parkinson Disease patients, which may bring ultimately benefit for the patient’s quality of life. All in all, our challenge is to move the biomechanical analysis from the laboratory to the patients’ home environment to study real daily life movement with ambulatory inertial sensors.