Elena García Armada's

Biography-Life-Work

She was born in 1971 in Valladolid, Spain.

She grew up in a scientific environment:

Her mother is a doctor of physics and work in a university as a teacher.

His father was a teacher of Electromagnetism and he created the School of Telecommunications Engineering in Santander.

She finished her degree and master at the age of 28.

Elena García remember that she always chosen the toy and the game she wanted.
Her parents teached her the reason of things.

She studied in the Polytechnic University of Madrid. And as she loved created something from nothing, she focused her studies in robotic.

In **1997**, after her incorporation in **Robotic Center** (CAR), she started to work in her doctered. She finished it in 2002.

Five years later, she began to work en CSIC.

Then she began his professional career designing robots oriented to the industry.

About her career...

In 2009 she met Daniela, a girl who, as a result of a traffic accident, was left in a severe state of tetraplegia.

From then on, she focused her work on manufacturing devices aimed at improving physical faculties, contributing to rehabilitation and increasing the mobility of children suffering from degenerative neuromuscular diseases.

Her main lines of research include improving the agility of locomotion in quadrupeds; creating lower limb exoskeletons and active ortesis; dynamic stability in walking robots and their adaptation to complex terrain with environmental disturbances.

ATLAS 2020

In the field of creating pediatric exoskeletons, the most outstanding and awarded project has been ATLAS 2020.
It is an exoskeleton made of aluminum. It weights 9 kilogram.
It is capable of controlling stiffness while allowing for more agile and articulated movement through its different sensors of force, pressure and temperature. It is equipped with intelligent joints that interpret the movements of the patient detecting which ones are desired and which are unwanted, something fundamental since in many cases there are spasmodic movements that, misinterpreted, carry serious safety risks to the patient.

SILO 4

One of its first projects was SILO4, a 30 kilogram robot, where the algorithm to improve the control and stability of the machine was tested and which allows greater autonomy by the robot, thus ignoring human supervision.

By improving the adaptability of the robot to the ground, it increases its balance and prevents it from tipping over, which is essential for dragging or transporting loads. SILO4 is intended for use in reconnaissance and rescue work in disasters and for demining.

Nowdays

Elena García Armada is actually the founder of Marsi Bionics, a company derived from the CSIC and the UPM, whose objective is the research and creation of pediatric exoskeletons, structures based on supports that adjust to the child's legs and trunk, and that by incorporating motors that mimic muscle function, they give you strength to walk and stay upright.

AWARDS AND PRIZES

- Hipatia-Women in Science 2019 to a scientific path.
- Gold medal from Madrid, 2018.
- Prize Women to follow.
- Elena García, between 10 scientifics people more excellents, 2016.
- The best sanitary technology. Prizes ABC Health 2016.
- The best innovation project. Prize CEPYME 2015.
- First prize Innova eVIA 2014.