

## **Hand prosthesis using electromyographic signal**

**Brizeida N. Gamez\*, Franklin Cabrera and Luis Serpa**

\* Unidad Academica de Ingenieria de Sistemas, Electrica y Electronica  
Universidad Catolica de Cuenca  
Cuenca, Ecuador  
e-mail: brizeida.gamez@gmail.com

### **ABSTRACT**

An active and artificial extension model of the distal extremity (hand), based on the anthropometry of an adult, is presented; in a way to generate alternatives solutions that will allow the amputee performing daily tasks without the need of making a large financial investment. The design was divided in two phases; the mechanical part, in which the Autodesk Inventor software was used to perform the corresponding simulations and the numerical analysis based on the Finite Elements Method to validate the design; while in the electronic part, the software Multism by National Instruments was used to design and simulate the processing of the involved signals. As a result, hand prosthesis with myoelectric activation, made from the biceps and pectoral's pulse, is obtained, with the ability to perform cylindrical and spherical grasp tasks, while being able to detect high clamping points through pressure sensors located in the distal phalanges

### **REFERENCES**

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