Seminario, miércoles 26 de abril, 9:30-11:00

Sala de Juntas Aulario Sur

Campus de Gijón

Construction and Control of a Prosthetic Hand

For an amputee, replacing a missing limb with a functional prosthetic can alleviate physical or emotional distress and mean a return to real life challenges.

A normal hand has advanced grip functions it can make a forceful grip but it is also a precision instrument with capacity for fine delicate well controlled movements. In addition, the hand is a sense organ – the sense of touch provides us with an important feedback mechanism to control the power in the hand grip. That is why, although there are a whole variety of prosthetic hands available, 27% of their users do not use the prosthesis actively and more than 20% do not actually use a prosthesis at all.

The Artificial Prosthetic Hand project is the AGH University and Department of Orthopedic Equipment of Inovamed company cooperation. It is the largest manufacturer of medical prostheses in Poland and research project is aiming at development of an artificial hand, which can serve as a substitute for a standard passive hand prosthesis. The purpose is to mimic, as much as possible, the functions of a normal hand. During the presentation, the most recent research from all over the world as well as the details of our project will be introduced.

Ireneusz Dominik currently holds a position of Assistant Professor at the Faculty of Mechanical Engineering and Robotics, AGH University of Science and Technology in Krakow, Poland. He is the author and co-author of more than 50 articles in peer reviewed journals, 4 books and 4 patents.

The field of his research is focused on the practical implementation of type-2 fuzzy sets theorem in controlling mechatronic systems and smart materials structures, especially shape memory alloy actuators.