FORO DEPARTAMENTO DE MATEMÁTICAS

Biologically-inspired approaches in sensing, mechanics and control of robotic systems

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Abstract

This talk is a self-introduction given on the occasion of visiting Universidad del Valle. The talk consists of several fragments of my past research and also considerations for the future research. The research results covered in the talks include the following topics.

First, we introduce biologically-inspired approach to contact point sensing using a dynamic active antenna, and illustrate its applications. Next, we present an analysis of force-dependent stiffness in mechanisms with in-parallel actuation, and show how the force and the stiffness should be simultaneously modulated. Then, we proceed further to the analysis of non-holonomic systems and discuss motion planning of rolling-based manipulations with limited contact area, which is an important component of multifingered-robot hand control. Then, we will consider the problem of reinforcement learning of motion patterns in robotic systems. Finally, we will discuss the problem of trajectory planning in modeling of human-like reaching movements.

LUGAR: SALA DE POSGRADO MATEMÁTICAS

FECHA Y HORA: LUNES 21 DE NOVIEMBRE, 3:00PM.

INVITA: DEPARTAMENTO DE MATEMÁTICAS, POSGRADO EN CIENCIAS MATEMÁTICAS

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