Engineering Neuroscience & Health

Department of Biomedical Engineering Division of Biokinesiology and Physical Therapy

ENH SEMINAR SERIES

Presents:

Aaron Dollar

Yale University

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Monday

November 21, 2011

4:00 p.m.

Pizza will be served: 3:30— 4 pm

"Understanding Human Hand Use to Motivate Design of Low-Dimensional Mechanical Hands"

Aaron Dollar, Ph.D.

Assistant Professor of Mechanical Engineering and Materials Science ,Yale University

Director of the GRAB Lab

Co-founder and editor of RoboticsCourseWare.org

Despite decades of research, current robotic systems are unable to reliably grasp and manipulate a wide range of unstructured objects in human environments. Traditional approaches attempt to copy the immense mechanical complexity of the human hand in a stiff "robotic" mechanism along with complicated sensing and control schemes. Alternatively, by careful inclusion of adaptive underacted transmissions and tuned compliance, we have been able to achieve a level of dexterity and reliability as yet unseen in the robotics community. I will describe our ongoing efforts to study human grasping and manipulation during the activities of daily living as well as work towards developing robust, open-loop grasping and dexterous manipulation capabilities in engineered systems including robotics, prosthetics, and small aerial vehicles.

Locations: *Seminar is simultaneously presented*

UPC: HNB 100 — LIVE
Hedco Neurosciences Building
UPC Campus Map/Directions:
http://www.usc.edu/about/visit/upc/

HSC: CHP 147 – Video Conference
Center for the Health Professional
HSC Campus Map/Directions:
http://www.usc.edu/about/visit/hsc/

Organized by Professor Francisco Valero-Cuevas http://bbdl.usc.edu/ENH

Web Cast
http://capture.usc.edu/college/Catalog/pages/catalog.aspx?catalogId=946350f1-ca84-40e7-b867-e16adba01e4e

Information about all seminars can be found at
http://bbdl.usc.edu/ENH-Schedule.php