

**The Center for Control, Dynamical Systems, and Computation**

welcomes



**STEFANO SOATTO**

University of California at Los Angeles

“Perception, Action and  
the Information Knot that Ties Them

May 20, 2011 (Friday)

3:00 - 4:00 PM

Webb Hall 1100

This event is hosted by:



## **ABSTRACT**

Professor Soatto will describe a notion of Information for the purpose of decision and control tasks, as opposed to data transmission and storage tasks implicit in Communication Theory. It is rooted in ideas of J. J. Gibson, and is specific to classes of tasks and nuisance factors affecting the data formation process. When such nuisances involve scaling and occlusion phenomena, as in most imaging modalities, the “Information Gap” between the maximal invariants and the minimal sufficient statistics can only be closed by exercising control on the sensing process. Thus, sensing, control and information are inextricably tied. This has consequences in understanding the so-called “signal-to-symbol barrier” problem, as well as in the analysis and design of active sensing systems. Professor Soatto will show applications in vision-based control, navigation, 3-D reconstruction and rendering, as well as detection, localization, recognition and categorization of objects and scenes in live video.

## **BIOGRAPHY**

Professor Stefano Soatto is the founder and director of the UCLA Vision Lab ([vision.ucla.edu](http://vision.ucla.edu)). He received his Ph.D. in Control and Dynamical Systems from the California Institute of Technology in 1996; he joined UCLA in 2000 after being Assistant and then Associate Professor of Electrical and Biomedical Engineering at Washington University, Research Associate in Applied Sciences at Harvard University, and Assistant Professor in Mathematics and Computer Science at the University of Udine, Italy. He received his D.Ing. degree (highest honors) from the University of Padova, Italy in 1992. Dr. Soatto is the recipient of the David Marr Prize (with Y. Ma, J. Kosecka and S. Sastry) for work on Euclidean reconstruction and reprojection up to subgroups. He also received the Siemens Prize with the Outstanding Paper Award

from the IEEE Computer Society for his work on optimal structure from motion (with R. Brockett). He received the National Science Foundation Career Award and the Okawa Foundation Grant. He is a Member of the Editorial Board of the International Journal of Computer Vision (IJCV), the International Journal of Mathematical Imaging and Vision (JMIV) and Foundations and Trends in Computer Graphics and Vision.

## **SCHEDULE OF APPOINTMENTS**

May 20, 2011 (Friday)

11:00 - 11:30	João Hespanha, HFH 5157
11:30 - 12:00	Andy Teel, HFH 5121
12:00 - 13:30	Lunch, Francesco Bullo
13:30 - 14:00	Mathew Turk, HFH 2163
14:00 - 14:30	Frederic Gibou, ENGR II 2334
14:45 - 15:00	Seminar Preparation Webb Hall 1100
15:00 - 16:00	CCDC Seminar* Webb Hall 1100 (*This presentation will be video recorded.)