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**Mechatronics, Embedded Systems and Automation (MESA) Lab**

**Presents**

**2014 Fractional Calculus Day[[1]](#footnote-1) @ UCMerced**

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**The Fourth** [**AFC Workshop Series**](http://mechatronics.ucmerced.edu/AFC) **@ MESA LAB @ UC Merced**

<http://mechatronics.ucmerced.edu/research/applied-fractional-calculus>

(Please email RSVP to Prof. YangQuan Chen (yqchen@ieee.org) if you plan to attend by June 1st, 2014)

**Organizer:**

Prof. YangQuan Chen, ME/EECS/SNRI/HSRI/UCSolar, School of Engineering, E: ychen53@ucmerced.edu

**When and Where:**

June 2, 2014. Monday, 9AM-5PM. Soda/pizza provided.

MESA LAB @ 4225 N. Hospital Rd., Atwater, CA 95301. Tel: (209)-2284398 (lab)

UC Merced Castle Facility is a gated community. Please RSVP or call at the main entrance.

**Why you should attend?**

Fractional calculus (FC) is about differentiation or integration of non-integer orders. The concept of fractional calculus has tremendous potential to change the way we see, model, and control the nature around us. Using integer order calculus, behaviors of many complex systems are being said to be “anomalous” such as “anomalous relaxation”, “anomalous diffusion” etc. It has already been known that “anomalous is normal” from observation and modeling point of view if fractional calculus is used. Meanwhile, beneficial uses of the mathematical tool of fractional calculus from engineering point of view are being shown and (hopefully) fractional calculus will become an enabler for new science discoveries.

If you wish to do potentially transformative research using this new tool of FC, **FC Day @ UCMerced** event is for you!

**Confirmed Speakers:**

* Prof. Dr. Yan Li, [Shandong University](http://www.csce.sdu.edu.cn/), China. “*Recent developments in fractional-order dynamic systems: stability, control and optimization*: Part I and II"
* Dr. Ying Luo, [Hermes Micronvision](http://www.hermes-microvision.com/), USA. “*Fractional Order Motion Control and Industrial Perspectives*”
* Yousef Naranjani, Ph.D. Candidate, ME, UC Merced, “*Multi-Objective Optimization of Distributed-Order Fractional Damping*”
* Other MESA LAB AFC ([Applied Fractional Calculus](http://mechatronics.ucmerced.edu/AFC)) Group members (20 min each)
	+ Dr. YangQuan Chen. Jitter dynamics, outlier’s data right and fractional calculus
	+ Dr. Tomas Oppenheim. Attention quantification and fractional calculus
	+ Dr. Jiacai Huang. Motion control with human in the loop
	+ Dr. Xiaodong Sun. Fractional Random Number Generators
	+ Dr. Guimei Zhang. Fractional Order Image Processing: Multiview case
	+ Dr. Zhanbing Bai. An Issue in Fractional Order Mechanics
	+ Dr. Zhigang Lian. More optimal Levy search
	+ Jianxiong Cao. Optimal spraying of fractional dynamic pest spreading in precision agriculture
	+ Yanan Qiu. Fractional order friction compensation experiments
	+ Xiaobao Jia. Occupancy engaged building energy efficiency: An overview
	+ Taizhi Lyu. Hurst parameter of Hurst parameter series
	+ Zhuo Li. Fractional order decoupler design
	+ Tiebiao Zhao. Embedded RIOTS:A research roadmap
	+ Marwin Ko. Human stress observer/estimator: A progress report
1. For 2013 edition of FCDay@UCMerced, check <http://mechatronics.ucmerced.edu/node/68> [↑](#footnote-ref-1)