AFC Workshop Series @ UC Merced (4/21/2014 – 4/21/2015) One Year Summary

<http://mechatronics.ucmerced.edu/afc>

78 recorded talks

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| Date | Speaker | Title/ Time | Place/remarks |
| 04/21/15 | YangQuan Chen | Remarks on One Year Celebration.  Comments on Bruce West’s New Book: “Tomorrow’s Science – Fractional Calculus View of Complexity”  “Recent advances in stochastic fractional dynamics and its control”  By Dr. Lincong Chen | SE2-220 |
| 04/07/15 | Norelys Aguila Camacho | Fractional Calculus in Adaptive Systems: The Error Model Approach | SE2-220 |
| 04/03/15 | Mark Edelman | Systems with power-law memory and fractional attractors (3:00-4:00 PM) | SE2-224 |
| 03/24/15 | YangQuan Chen | **AFC Activities @ SCOPUS** | SE2-220 |
| 03/10/15 | YangQuan Chen | AFC Activities @ MESA Lab @ UC Merced @ Spring 2015 (12:00-13:00 ) | SE2-220 |
| 02/27/15 | Ricardo Sanfelice, UC Santa Cruz | Hybrid Control for Aerospace Robotics: From Hybrid Systems Theory to Robust Global Tracking Algorithms for Underactuated Vehicles(12:00-13:20) | COB-263 |
| 02/17/15 | Dr. Carlos Montalvo  University of South Alabama | Meta Aircraft Flight Dynamics and Controls  (15:00-16:00 ) | SE2-224 |
| 02/10/15 | YangQuan Chen | Informational Items. FCAA new article on “Fractional Calculus – Quo Vadimus” (12:00-12:20 ) | SE2-290 |
| 02/10/15 | YananQiu | Constrained Control for Brushless DC Motors with Fractional Friction Compensation (12:20-13:00 ) | SE2-290 |
| 01/27/15 | YangQuan Chen | AFC Trip Report (12:00-13:00) | SE2-290 |
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| 12/18/14 | Wang, Yong  USTC | Positive Real Lemmas for Fractional Order Systems  (16:00-16:30) | MESA Lab  #820 |
| 12/18/14 | Wei, Yiheng  USTC | FOABC: Fractional order adaptive backstepping control(16:30-17:00) | MESA Lab  #820 |
| 12/18/14 | Wang, Yong  USTC | Representation and LQR of Exact Fractional  Order Systems(17:00-17:30) | MESA Lab  #820 |
| 12/18/14 | Wang, Yong  USTC | Book Reading Report: “Fractional Differential Equations” by Igor Podlubny(17:30-18:00) | MESA Lab  #820 |
| 12/16/14 | Duval Johnson | Magneto-Rheological Fluid Based Optimal Fractional-Order Suspension (12:30-13:00) | SE2-290 ME280 final FISP |
| 12/16/14 | Brendan Smith | Optimal Modeling of Swarm Robotic Systems using Time Fractional Order Fokker-Planck Equation (FPE)  (13:00-13:30) | SE2-290  ME280 final FISP |
| 12/05/14 | Dr. Woonki Na  California State University, Fresno | Controls of Power Converters for Energy Systems and Electric Vehicle Applications (13:30-14:30) | SE2-224 |
| 12/02/14 | NiloufarIrannejad | Stability of Haptic System with Force-Feedback  (12:00-12:30) | SE2-290 |
| 12/02/14 | YangQuan Chen | Complexity as Prisma Spectrum of Fractional Order – from Inverse Power Law to Mittag-Leffler  (12:30-13:30) | SE2-290 |
| 12/01/14 | YangQuan Chen | Scientific Data Drone Research at UC Merced  (12:30-13:20) | KOLLIG Room 217 |
| 11/24/14 | Calvin Coopmans,  Utah State University | Cyberphysical Unmanned Remote Sensing  (12:00-13:00) | SE2-224 |
| 11/18/14 | ZhigangLian | Levy alpha-stable distribution and applications  (12:00-12:30) | SE2-290 |
| 11/18/14 | Xiaodong Sun | Generalized exponential distributions and processes (12:30-13:00) | SE2-290 |
| 11/18/14 | LiyanQiao | Self-Introduction (13:00-13:30) | SE2-290 |
| 11/04/14 | Lincong Chen Huaqiao University | Stochastic dynamics and fractional optimal control of quasi integrable Hamiltonian systems with fractional derivative damping (12:30-13:30) | SE2-290 |
| 10/31/14 | Dr. Yuri Owechko, HRL Laboratories | Overview of Sensor Processing Research at HRL Laboratories (13:30-14:30) | SE2-224 |
| 10/06/14 | YangQuan Chen | Comments on “stretched exponential” and “fractional calculus”: Confusion and opportunities (17:00-17:30) | MESA Lab  #820 |
| 10/06/14 | XiaoDong Sun | Comments on “Synthesis of bidomensional \alpha-stable models with long-range dependence”  (17:30-18:00) | MESA Lab #820 |
| 09/22/14 | GuiMei Zhang | Depth ordering (16:00-16:30) | MESA Lab #820 |
| 09/22/14 | JianXin Liu | Self-Introduction (16:30-17:00) | MESA Lab #820 |
| 09/08/14 | YangQuan Chen | AFC Trip Report (15:30-14:00) | MESA Lab #820 |
| 09/08/14 | GuiMei Zhang | Two paper in IFAC 14 (16:00-16:30) | MESA Lab #820 |
| 09/08/14 | TieBiao Zhao | PEM fuel cell fractional order modeling and identification (16:30-17:00) | MESA Lab  #820 |
| 09/08/14 | XiaoBaoJia | Introduction Neural networks based HVAC predictive control at IFAC-WC 2014 (17:00-17:30) | MESA Lab  #820 |
| 09/08/14 | YananQiu | My doubt (17:30-18:00) | MESA Lab #820 |
| 08/25/14 | YananQiu | Adaptive Backstepping Dynamic Surface Control for Output-Constrained Dynamic Brushless DC Motor(16:00-16:30) | MESA Lab  #820 |
| 08/25/14 | ZhiGangLian | Based on L´evy distribution searching scheme for the target and application to crashed flight(16:30-17:00) | MESA Lab  #820 |
| 08/25/14 | JianXiong Cao | Solving diffusion equations with two dimensional space variables from the prospective of control  (17:00-17:30) | MESA Lab  #820 |
| 08/11/14 | Igor Podlubny  Technical University of Kosice Slovakia | The Evolution of Generalized Differentiation  (11:00-12:00) | MESA Lab  #820 |
| 08/11/14 | JianXiong Cao | DRONE MATH-Optimal unmanned cropdusting for pest management: the cases of time-fractional, space-fractional and time-space fractional pest spreading dynamics (12;00-12:30) | MESA Lab  #820 |
| 08/11/14 | GuiMei Zhang | Fractional calculus and image processing  (12:30-13:00) | MESA Lab  #820 |
| 08/11/14 | XiaoDong Sun | Fractional Calculus in sea clutter --A Survey (13:00-13:30) | MESA Lab #820 |
| 08/11/14 | YananQiu | Barrier Lyapunov Functions(BLF)-based output-constrained control for Brushless DC Motor with its application to ABS system (13;30-14;00) | MESA Lab #820 |
| 08/11/14 | YongLi Song | Turing-Hopf bifurcations in the reaction-diffusion equations and its application to an autocatalysis model (14:00-15:00) | MESA Lab #820 |
| 07/28/14 | YangQuan Chen | QUO VADIMUS Applied Fractional Calsulus  (16:00-16:30) | MESA Lab #820 |
| 07/28/14 | NiloufarIrannejad | Vanderbilt haptic paddle (16:30-17:00) | MESA Lab #820 |
| 07/28/14 | Zhuo Li | A Brief Introduction to MFD (Matrix Fraction Description) (17:00-17:30) | MESA Lab #820 |
| 07/28/14 | Tomas Oppenheim | Cal Maritime Academy, Vallejo, CA(17;30-18:00) | MESA Lab #820 |
| 06/30/14 | GuiMei Zhang | Two papers in icfda14 (14:00-14;30) | MESA Lab #820 |
| 06/30/14 | ACai Huang | Introduction for the most interesting papers in ICFDA2014 (14:30-15:00) | MESA Lab#820 |
| 06/30/14 | ZhiGangLian | Self-Introduction (15:00-15:30) | MESA Lab#820 |
| 06/30/14 | TieBiao Zhao | Indirect Approach for Closed-loop System Identification with Fractional Models (15:30-16:00) | MESA Lab #820 |
| 06/30/14 | Tomas Oppenheim | Main viewpoints of “Book of Extremes” and Why Fractional Calculus is the Tool(16:00-16:30) | MESA Lab#820 |
| 06/30/14 | JiaXiaoJia | Two Interesting Papers Introduction at ICFDA 2014 (16:30-17:00) | MESA Lab#820 |
| 06/30/14 | XiaoDong Sun | Interesting TOPICS in ICFDA2014 (17:00-17:30) | MESA Lab#820 |
| 06/30/14 | Zhuo Li | ICFDA’14 Paper Review (On selected two papers) (17:30-18:00) | MESA Lab#820 |
| 06/16/14 | YangQuan Chen | Remarks on Applied Fractional Calculus Related Paper@ACC2014 and ICRA 2014 (15:00-16:00) | MESA Lab #820 |
| 06/16/14 | ZhanBingBai | Monotone iterative method for a class of fractional differential equations (16:00-16:30) | MESA Lab#820 |
| 06/16/14 | Acai Huang | Introduction for the most interesting papers in ICFDA2014(16:30-17:00) | MESA Lab#820 |
| 06/16/14 | Tomas Oppenheim | CTRW MATLAB Toolbox (17:00-17:30) | MESA Lab#820 |
| 06/16/14 | Jiacai Huang | Mathematical Models of Human Pilot Behavior  (17:30-18:00) | MESA Lab#820 |
| 06/16/14 | GuiMei Zhang | Multi-view image stitching(18:00-18:30) | MESA Lab#820 |
| 06/02/14 | YangQuan Chen | Introduction to Fractional Calculus Day @ UC Merced 2014 Edition (9:00-9:10) | MESA Lab#820 |
| 06/02/14 | YangQuan Chen | Jitter Dynamics, Outlier’s Data Right and Fractional Calculus(9:10-9:30) | MESA Lab#820 |
| 06/02/14 | Yan Li | Recent developments in fractional-order dynamic systems - stability, control and optimization  (9:30-10:00) | MESA Lab#820 |
| 06/02/14 | Ying Luo | Fractional Order Motion Control and Industrial Perspectives(10:00-10:30) | MESA Lab#820 |
| 06/02/14 | Tomas Oppenheim | Attention and Health Quantification and Fractional Calculus (10:30-11:00) | MESA Lab#820 |
| 06/02/14 | Yousef Naranjani | Multi-Objective Optimization of Distributed-Order Fractional Damping (11:00-11:30) | MESA Lab#820 |
| 06/02/14 | Jiacai Huang | Motion control with Human in the Loop (HuIL)  (11:30-12:00) | MESA Lab#820 |
| 06/02/14 | XiaoDong Sun | The survey on rand number generator (13:00-13:30) | MESA Lab#820 |
| 06/02/14 | GuiMei Zhang | Fractional Order Image Processing (13:30-14:00) | MESA Lab#820 |
| 06/02/14 | ZhanBing Bai | An issue in Fractional order mechanics­--The motion equation and the fractional variation (14:00-14:30) | MESA Lab#820 |
| 06/02/14 | ZhiGang Lian | Self-Introduction (14:30-15:00) | MESA Lab#820 |
| 06/02/14 | Jian Xiong Cao | Optimal spraying of fractional dynamic pest spreading in precision agriculture (15:00-15:20) | MESA Lab#820 |
| 06/02/14 | Yanan Qiu | An adaptive friction coulomb compensation  with its application on a fractional horsepower dynamometer(15:20-15:40) | MESA Lab#820 |
| 06/02/14 | XiaoBao Jia | Occupancy Model Engaged Building  Energy Efficiency Overview (15:40-16:00) | MESA Lab#820 |
| 06/02/14 | Taizhi Lyu | Hurst parameter of Hurst parameter series (16:00-16:20) | MESA Lab#820 |
| 06/02/14 | Zhuo Li | Some implementation of FC in practical physical and industrial scenarios (16:20-16:40) | MESA Lab#820 |
| 06/02/14 | TieBiao Zhao | Embedded RIOTS: A Research Roadmap  (16:40-17:00) | MESA Lab#820 |
| 05/19/14  16:00--18:00 | JianXiong Cal | High Order Numerical Approximation to Caputo Derivative and Its Application (16:00-16:30) | MESA Lab#820 |
| XiaoBao Jia | Optimization Strategies for Building Energy Manangement Systems (16:30-17:00) |
| ZhiGang Lian | Target Search (17:00-17:20) |
| Zhuo Li | A Brief Literature Survey on the Preview Control Systems and the Computed Torque Method |
| Taizhi Lyu | Fractional Calculus Application in Psychological Signal Analysis |
| 05/05/14  16:00--18:00 | ZhanBing Bai | The existence of solutions for a class of fractional differential equations | MESA Lab#820 |
| JiaCai Huang | Fractional Calculus Application in Human-in-the-Loop (HuIL) System |
| Tomas Oppenheim | Elucidating a “Best” Understanding of Biomolecule Dynamics with Stochastic Fractional Calculus |
| XiaoDong Sun | Fractional Calculus in sea clutter |
| GuiMei Zhang | A Novel Fractional Order Canny Operator for Texture Images |
| 04/21/14  14:00--18:00 | ZhanBing Bai | Self-Introduction | MESA Lab#820 |
| Jiacai Huang | Self-Introduction |
| JianXiong Cao | Self-Introduction |
| ZhiGang Lian | Self-Introduction |
| Marwin Ko | Self-Introduction |
| Yanan Qiu | Self-Introduction |
| XiaoDong Sun | Self-Introduction |
| Tomas Oppenheim | Self-Introduction |
| GuiMei Zhang | Self-Introduction |
| Zhuo Li | Self-Introduction |
| XiaoBao Jia | Self-Introduction |

**Dr. Chen’s 2014 Talks**

1. YangQuan Chen. “Fractional Order Modeling of Complex Relaxation Dynamics.” 1/31/14. UC Merced BEST Graduate Program Invited Seminar Series.
2. YangQuan Chen. “Drones as CoEcologists for Water, Dust, Land to Peat Bogs”. MESA LAB Robots and Ribs Symposium. (2/8/14)
3. YangQuan Chen. “Robotic Environmental Co-Journalist for EJN”. MESA LAB Robots and Ribs Symposium. (4/4/14)
4. YangQuan Chen. “The Era of Robotic Environmental Co-Journalists.” 4/30/14. Groundtruth and Airwaves: Sensor Networks and Emerging Technology for Environmental Journalism Symposium. CITRIS@UC Berkeley.
5. YangQuan Chen. “Fractional order calculus and applications to heat transfer”. 5/5/14. Lam Research Invited Seminar.
6. YangQuan Chen. “Optimal Stochastic Foraging: From Levy to Mittag-Leffler” 5/12/14. The First Foraging Workshop @ UC Merced. Organized by Anne S. Warlaumont.
7. YangQuan Chen. “Fractional Calculus and Its Applications in Modeling and Signal Processing.” 5/23/14. Agilent Invited Seminar.
8. YangQuan Chen. “Fractional Order Flight Control” MESA LAB Robots and Ribs Symposium. (7/11/14)
9. YangQuan Chen. “Introduction to UC Merced’s Scientific Data Drone Research”. MESA LAB Robots and Ribs Symposium. (10/10/14) Teledyne visit.
10. YangQuan Chen. “You and Your Research” – How to make your students “Publish and Flourish” 11/13/14. Publish and Flourish workshop @ FWDAF @ UC Merced invited speaker.
11. YangQuan Chen. “Scientific Data Drone Research @ The MESA Lab of UC Merced” 12/1/2014. ENGR191 Professional Seminar.
12. YangQuan Chen. “Scientific Data Drone Research at UC Merced”. 12/12/14. Beihang University, Beijing China. Invited Seminar.
13. YangQuan Chen. “Fractional Calculus, Delay Dynamics and Networked Control Systems”. 12/12/14. Beihang University, Beijing China. Invited Seminar.
14. YangQuan Chen. “Fractional Calculus for Better Understanding Extreme Phenomena.” 12/14/14. GuangDong University of Foreign Studies, China. Invited Seminar.
15. YangQuan Chen. “Scientific Data Drone Research at UC Merced”. 12/18/14. Harbin Institute of Technology Shenzhen Graduate School, Shenzhen, China. Invited Seminar.
16. YangQuan Chen. “Complexity as Prisma Spectrum of Fractional Order Dynamics in Nature and Man-made Systems: A New Perspective – from Inverse Power Law to Mittag-Leffler” 12/19/14. Fractional Calculus Day at South China University of Technology, Guangzhou, China.