# CHRISTOPHER D. MCCOY, PH.D.

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## ADJUNCT PROFESSOR

Dynamic instructor and thorough leader focused on providing students with a rigorous and "hands-on" curriculum based on course goals and academic progression. Equipped with the tools and skills required to assist others in building and advancing toward success. Adept at establishing transformative learning environments and responding effectively to the needs of students. Strong problem solving, project management and organizational skills coupled with advanced knowledge of mechanical engineering and design. Fluent in English and Spanish. Regularly applied strengths:

- Creative Learning Environment
- Mechanical Engineering/Design
- Performance Assessments
- Student-Centered Instruction
- Project Management
- Student/Colleague Motivation
- Curriculum Development
- Classroom Management
- Cooperative Learning
- Assessment Tools
- Relationship Development
- Effective Communicator

## EDUCATION

**Ph.D., Mechanical Engineering Design (Minor: Materials, Electrical Engineering, GPA: 3.72 / 4.0) –** December, 2013
University of California, Berkeley
- Dissertation: "Extending and Characterizing Fuel Flexibility in Small Scale Power Systems"
- Study Abroad: Fulbright Scholar Study Abroad Program – Universidad Politécnica de Madrid, Spain

**Master of Science, Mechanical Engineering (GPA: 3.72 / 4.0) –** May, 2009
University of California, Berkeley
- Thesis: "Feasibility, Design and Optimization of a Torsionally-Actuated MicroGimbal Using the PolyStrata Process"
- Management of Technology Certificate

**Bachelor of Science, Mechanical Engineering (with Honors - GPA: 3.7 / 4.0) –** December, 2005
University of California, Berkeley

## TEACHING/INSTRUCTIONAL EXPERIENCE

### Adjunct Professor
I.E. Business School, Madrid, Spain · 2012 to Present
- Co-teach Global MBA course titled "Hands-on Rapid Innovation Accelerator."
- Introduce students to the entrepreneurial mindset, a compilation of tools for market testing and the Rapid Innovation Cycle, a process that helps people market test the feasibility of a new product or service.
- Design and implement course curriculum and structure, assess student progress and provide guidance and assistance in comprehension of course material.
- Foster a classroom environment conducive to learning and promoting excellent student/teacher interaction.
- Implement various teaching strategies and differentiated assessments in order to accommodate diverse student needs.
- Consistently receive favorable remarks from students and recognition as one of the top professors.
- Acknowledge for outstanding teaching strengths with Teaching Excellence Awards, 2012 and 2013.

### Instructor
TechShop, San Francisco, CA · 2013 to Present
- Serve as Instructor for the Safety and Basic Use (SBU) course for the Makerbot Replicator 1.2, Type A Machines and Epilog 45/60W Laser Cutters.
- Facilitate workshops for employees to ensure optimal performance and compliance with quality standards.
- Recipient of Net Promoter Score from workshops facilitated, 9.13 N=151.

### Co-Founder/Executive Educator
HandsOnRI, Inc. · 2011 to Present
- Co-founded hands-on education program focused on market testing and unlocking creativity; program offers a diverse set of courses and workshops for all levels of education, K-12, undergraduate, graduate, MBA, Global, Executive MBA and corporate education.
- Introduced the program to various organizations and continue to provide ongoing program facilitation for academic facilities on a global scale.
    - Universidad Politécnica de Madrid, Spain - Fall 2011
    - Universidad Politécnica de Cartagena, Spain - Spring 2012

- LeanCamp Madrid, Spain Fall 2012
- BEST Undergraduate Organization, Madrid, Spain 2012
- Instituto de Empresa / IE Business School, Madrid, Spain, Fall 2012, Spring / Fall 2013, Fall / Spring 2014
- Zain Mobile, Amman, Jordan 2014
- Sunnyside High School in Fresno, CA

**Invited Lecturer/Speaker** · 2012 to Present

- Lecturer – University of California Berkeley, *iManufacture and the Kickstarter Experiment: the Successful Failure*.
- Lecturer – U.S. Department of Agriculture, TechShop, *Introduction to the world of digital design and fabrication and how those technologies can and are being used in food innovations*.
- Lecturer – Ventura County Office of Education, *Educating Educators on the Power of Digital Design and Fabrication*.
- Panelist – World 3D Printing Technology Industry Conference; American Summit 2014.
- Panelist – Hult School of Business; *JUMP! Globalize Your Venture – The Thought Leadership Summit on Global Entrepreneurship*.
- Presenter – World MakerFaire, *Common 3D Printing Failures and How to Fight Against Them*.
- Speaker/Workshop Host – Zain Mobile, *Hands-On Rapid Innovation*.
- Speaker – Leancamp, Madrid, *Agile Entrepreneurship Spain's Leancamp*.
- Lecturer – Intel European Research and Innovation Conference (ERIC), *Building a Smart, Sustainable and Inclusive Society through Research and Innovation Partnership*.

## Industrial Experience

**Founder and CEO**
You3Dit Inc. San Francisco, CA · 2013 to Present

- Developed a web platform for individuals wanting to create, personalize, prototype and/or fix physical objects leveraging a global network of digital designers and fabricators.
- Worked closely with stakeholders, communicating growth objectives and value of products and services offered.
- Maintaining the following average MoM Growth rates:
  - Users: 55.8%, Projects: 60.6%, Machines: 36.2%, Software: 36.90%, Revenue: 78.29%

**Senior Business Operations Specialist/Gas Engineer**
Pacific Gas and Electric, San Ramon, CA · 2013 to 2014

- Developed and refined Gas Operations System Governance process that coordinated changes and ensured the safety of the company's system of record for work management: SAP.
- Led cross-functional team that delivered SAP-enabled, pressure set point tool to the business in under six months.
- Initiated a project focused on enhancing business communication in an industry full of technical and legally-specific terminologies, including CFR 49.
- Served as the Lead Facilitator for both Gas SAP Governance Committees, Change Review – for key stakeholders and managers – and Steering Committee – for directors and senior management.
  - Planned agenda, presented technical changes, solicited feedback and documented change request results.

**Lead Student Facilitator**
Consortium of Information Systems Executives · 2007 to 2009

- Key contributor for leadership organization consisting of 25 top Silicon Valley CIOs who address current IT trends, technology and challenges.

**Mechanical Designer**
FormFactor, Inc. · 2006

- Designed, built and executed experimental tests that solved customer reported probe card issues.
- Served as co-lead mechanical designer on 2 new probe card products; developed the first design flowchart for a new probe care product.

## Research Experience

**Ph.D. Research**

- Conducted final stages of the characterization and extension of fuel-flexibility in rotary engine power systems project for the Departamento de Motopropulsión y Termodinámica.
- New efforts added new energy, resources and interest into project which had lost funding in the U.S.

**Masters Research**

- Extended and characterized on-demand, reliable, small-scale portable power using internal combustion engines that run on a variety of fuels.

**Independent Research**
- Microelectromechanical systems (MEMS) Rotary Engine Power System project.
- MEMS Optical Switches project funded by DARPA.

## AFFILIATIONS

**Member** · Tau Beta Pi, National Engineering Honor Society (2004 to Present)
**Member** · Pi Tau Sigma, National Mechanical Engineering Honor Society (2004 to Present)
**Member** · Fulbright Alumni Network (2011 to Present)

## RECOGNITIONS & HONORS

- Recognition by the U.S. Ambassador to Spain at Nueva Economía Fórum, Madrid; during his speech to the forum, U.S. Ambassador to Spain (former CEO of HBO), James Costos, note Dr. McCoy and Hands-On Rapid Innovation course as an example of the success of the Fulbright Scholars Exchange program. (2014)
- Certificate of Recognition – Pacific Gas & Electric (2014)
- Recognition of Teaching Excellence, IE Business School (2012 to 2013)
- Fulbright Scholar (2010 to 2011)
- American Federation of Motorcyclists – 2nd place Thunderhill Raceway; Clubman Middleweight, 3rd place Infineon Raceway; Clubman Middleweight (2010)
- FFI Fame Award (2006)
- NSF Runner-Up (2006)
- ASME Farbar Award (2005)
- Engineering Student of the Year (2003)

## PUBLICATIONS, CONFERENCES & PATENTS

**Doctor of Philosophy: Mechanical Engineering Publication**
Extending and Characterizing Fuel Flexibility in Small-Scale Power Systems by McCoy, Christopher David, Ph.D., UNIVERSITY OF CALIFORNIA, BERKELEY, 2013, 225 pages; 3616488 (http://gradworks.umi.com/36/16/3616488.html)

**Masters of Science: Mechanical Engineering Publication**
McCoy, C.D., Pisano, A.P., Feasibility, design, and optimization of a torsionally-actuated microgimbal using the Polystrata® process. University of California, Berkeley. Engineering Library. May 2009.

**Conferences**
- McCoy, C.D.; Arias, J.R.; Velazquez, A.; Pisano, A.P.; EXTENDING AND CHARACTERIZING THE FUEL FLEXIBILITY OF A 4.97 CC ROTARY ENGINE, pages 524-527, Proceedings PowerMEMS, 2012
- McCoy, C.D., Chagpar, Z., Tasic, I. "The Rapid Innovation Cycle - An innovation and market testing process for new products and services development." ASEAN Entrepreneurship Conference. Kuala Lumpur, Malaysia Nov 5-6, 2012.
- McCoy, C.D., Maiden, N., Sánchez-Sanz, M., Arias, J.R., Velázquez, Á., Fernandez-Pello, C., Pisano, A.P. "Performance, fuel-flexibility and emissions characteristics of a 4.97cc Wankel rotary engine for portable power." 23rd ICDERS, Irvine, CA, July 24-29, 2011.
- Chan, M., McCoy, C.D., Wodin-Schwartz, S., Warren, C., "MEMS-scale kinematic clamps for repeatable precision alignment." American Society of Precision Engineers. 24th Annual Meeting. Monterey, CA. October 2009.
- McCoy, C.D., Revillé, J.P., "Fuel flexible engine design for optimal combustion." MIT Energy Conference 2009, Boston, MA, March 2009.
- McCoy, C.D., Chen, Y.M., Walther, D.C., Pisano, A.P., "Optimal design and characterization of a metal MEMS microgimbal platform." IMAC 2008, Orlando, Florida, Jan 2008.
- [Park, S.W., McCoy, C.D., Mehr, A., Kuypers, J.H., Pisano, A.P., "Design optimization of a MEMS magnetostatic linear actuator." IMAC 2008, Orlando, Florida, Jan 2008.
- Cardes, A., McCoy, C., Inaoka, K., Walther, D.C., Pisano, A.P., Fernandez-Pello, C. "Characterization of fuel flexibility in a 4.97cc rotary engine." International Combustion Symposium. Lisbon, Portugal. 6-11 Oct. 2005.

**Patent**
Hobbs, E., McCoy, C., Porter, James, Slocum, A., "Adjustment mechanism." US 7,368,930 – 6 May 2008