David P. Larson

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Education

2012–present **Ph.D. Mechanical Engineering**, University of California, San Diego.
- Emphasis: Fluid Mechanics
- Advisor: Professor Carlos F.M. Coimbra

2008–2012 **B.S. Mechanical Engineering**, University of California, Merced.

Research Interests

Evolutionary Methods, Genetic Algorithms, Fluid Mechanics of biological locomotion, Fractional and Variable Order Methods

Research Experience

2012-present **Research Assistant**, *Coimbra Group*, University of California, San Diego.
- Analyze Nonlinear Chaos Dynamics using Fractional and Variable Order Methods

Summer 2011 **Visiting UC LEADS Scholar**, *Animal Flight Lab*, University of California, Berkeley.
- Investigated effects of turbulent air flow on hummingbird kinematics and metabolism.
- Developed Particle Image Velocimetry (PIV) data analysis scripts for turbulent flows.
- Host Program: Cal NERDS
- Website: http://ib.berkeley.edu/labs/dudley/

Summer 2010 **UC LEADS Scholar**, *Coimbra Group*, University of California, Merced.
- Investigated aerodynamic trends of flapping animal flight.

2010–2012 **Lab Manager**, *Coimbra Group*, University of California, Merced.
- Oversee research lab safety.
- Manage group computer network and server.
- Train group members on proper use of lab equipment.

2009–2012 **Student researcher**, *Coimbra Group*, University of California, Merced.
- Developing evolutionary non-integer order methods for solar forecasts.
- Implementing cloud cover modeling system to improve solar forecasts.
- Testing long term degradation of anti-dust glass coating for solar panels.
- Analyzing animal flight data to determine underlying aerodynamic trends.
- Website: http://sol.ucmerced.edu/

2008–2009 **Student researcher**, *Hirst Group*, University of California, Merced.
- Investigated phase separation in lipid tubules.
- Website: http://faculty.ucmerced.edu/lhirst/

2007–2008 **Lab assistant**, *MEMS Lab*, University of California, Santa Cruz.
- Developed prototype printable RF-ID tag for tracking of dragonflies.
- Trained undergraduates to continue printable RF-ID tag research.
- Website: http://mems.soe.ucsc.edu/

Honors & Awards

May 2012 **1st Place (tied) People's Choice**, *Innovate to Grow Competition*, UC Merced.
- Entry Title: Harvesting Energy from Irrigation Canals
- Project team members: David Larson, Daniel Leong, Steven Fleming, Samuel Isaiah
- Website: https://eng.ucmerced.edu/innovatetogrow

2010–2012 **UC LEADS Scholar**, University of California, Merced.
- UC Leadership Excellence through Advanced Degrees (LEADS).
- Website: http://graduatedivision.ucmerced.edu/grad-prep-programs/uc-leads

2011 **Distributed Power Generation Project**, *ESW, SunEdison/MEMC, Autodesk*.
- Entry Title: Solar Powered Cargo Ship.
- Sponsors: ESW (Engineers for a Sustainable World), SunEdison/MEMC, Autodesk
- Funding Amount: $8150.

Apr 2010 **Honorable Mention**, *CITRIS Big Idea Competition 2010*, UC Berkeley.
- Entry Title: Distributed Computing for Open Access Solar Forecasting.

Apr 2010 **5th Place**, *ASME Old Guard Oral Presentation Competition*, San Luis Obispo, CA.
- Entry Title: Distributed Computing for Open Access Solar Forecasting.

2008–2009 **Dean's Undergraduate Research Scholar**, University of California, Merced.

Dec 2009 **2nd Place**, *Service Learning Final Presentation*, University of California, Merced.

May 2009 **1st Place**, *Service Learning Final Presentation*, University of California, Merced.

Dec 2008 **1st Place**, *Service Learning Final Presentation*, University of California, Merced.

Technical Skills

OS	Mac, Windows, Linux, Unix	programming	Matlab, Mathematica, Java, Bash, PHP, MySQL
CAD	Pro/ENGINEER, Autodesk Inventor	Simulation	COMSOL, Autodesk Multiphysics Simulation
Editors	Vim	typography	LaTeX, Microsoft Office