

David Philip Larson

CONTACT INFORMATION	Ph.D. Student Mechanical and Aerospace Engineering University of California, San Diego 9500 Gilman Drive La Jolla, CA 92093-0411	dplarson@ucsd.edu
RESEARCH INTERESTS	Solar Forecasting, Non-Integer Order Methods, Nonlinear Chaos, Machine Learning	
EDUCATION	University of California, San Diego <i>Ph.D. in Mechanical Engineering</i> - Advisor: Carlos F.M. Coimbra	2012–present
	University of California, Merced <i>B.S. in Mechanical Engineering</i>	2008–2012
CITIZENSHIP	U.S.	
RESEARCH EXPERIENCE	Lab Manager - Lab: Coimbra Group - Location: University of California, San Diego - Oversee research lab safety - Manage group computer network and servers	2012–present
	Graduate Student Researcher - Lab: Coimbra Group - Location: University of California, San Diego - Investigating the application of Non-Integer Order Methods to Nonlinear Chaos Dynamics	2012–present
	Visiting UC LEADS Scholar - Lab: Animal Flight Lab - Location: University of California, Berkeley - Host Program: Cal NERDS - Investigated effects of turbulent air flow on hummingbird kinematics and metabolism - Developed Particle Image Velocimetry (PIV) data analysis scripts for turbulent air flows	Summer 2011
	UC LEADS Scholar - Lab: Coimbra Group - Location: University of California, Merced - Investigated aerodynamic trends of flapping flight	Summer 2010
	Lab Manager - Lab: Coimbra Group - Location: University of California, Merced - Oversaw research lab safety - Managed group computer network and servers - Trained group members on proper lab equipment use	2010–2012

	Undergraduate Student Researcher - Lab: Coimbra Group - Location: University of California, Merced - Deployed high-fidelity irradiance and weather instrumentation at sites across CA and WA state - Tested long term degradation of anti-dust glass coating for solar panels - Analyzed animal flight data to determine underlying aerodynamic trends	2009–2012
	Undergraduate Student Researcher - Hirst Group - Location: University of California, Merced - Investiaged phase separation in lipid tubules	2008–2009
	Lab Assistant - Lab: MEMS Lab - Location: University of California, Santa Cruz - Developed prototype printable RF-ID tag for tracking of dragonflies - Trained undergraduates to continue printable RF-ID tag research	2007–2008
PROFESSIONAL MEMBERSHIPS	American Society of Mechanical Engineers Student Member	2009–present
	Engineers for a Sustainable World Student Member	2011–present
TECHNICAL SKILLSETS	Programming - Matlab, Python, Mathematica, PHP, MySQL, Unix shell scripting Version Control - Git - Gitlab Rapid Prototyping - CAD/CAE: Pro/ENGINEER, Autodesk Inventor - Machining: mill, lathe, and drill press machining - 3D printing Irradiance and Weather Instrumentation - Yankee Environmental Systems (YES) Multi-Filter Rotating Shadowband (MFR-7) and Total Sky Image (TSI-880) - Eppley Laboratory Precision Spectral Pyranometer (PSP), Normal Incidence Pyrhe-liometer (NIP), Precision Infrared Radiometer (PIR), Total Ultraviolet Radiometer (TUVR), and Automatic Solar Tracker (SMT-3) - Campbell Scientific CR1000 Data Logger - Irradiance, Inc. Rotating Shadowband Radionometer (RSR2) - Vaisala Weather Transmitter (WXT520) Particle Image Velocimetry - LaVision DaVis image software, high speed cameras, q-switched lasers, wind tunnels Productivity Applications - TeX (LaTeX, Bibtex), Vim, most common productivity packages (for Mac OS X, Windows, and Linux platforms)	

Operating Systems

- Mac OS X, Linux, Windows

AWARDS

Innovate to Grow Competition

May 2012

- 1st Place (tied) People's Choice
- Entry Title: Harvesting Energy from Irrigation Canals
- Authors: David Larson, Daniel Leong, Steven Fleming, Samuel Isaiah

Distributed Power Generation Project

2011

- Sponsors: ESW, SunEdison/MEMC, Autodesk
- Entry Title: Solar Powered Cargo Ship
- Funding Amount: \$8150

CITRIS Big Idea Competition

Apr 2010

- Honorable Mention
- Entry Title: Distributed Computing for Open Access Solar Forecasting
- Authors: Ricardo Marquez, David Larson, Hugo Pedro
- Award Amount: \$1000

ASME Old Guard Oral Presentation Competition

Apr 2010

- 5th Place, District D
- Entry Title: Distributed Computing for Open Access Solar Forecasting

University of California, Merced

- Dean's Undergraduate Research Scholar, 2008-2009
- 2nd Place Service Learning Final Presentation, Dec 2009
- 1st Place Service Learning Final Presentation, May 2009
- 1st Place Service Learning Final Presentation, Dec 2008