

Christopher S. R. Matthes

UCLA Mechanical and Aerospace Engineering
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EDUCATION:

PhD, Aerospace Engineering

University of California, Los Angeles

September 2012—Present

Bachelor of Science, Mechanical Engineering

Michigan State University, East Lansing, MI

Cum Laude

Honors College

May 2012

EXPERIENCE:

Research Fellowship

NASA Jet Propulsion Laboratory

California Institute of Technology, Pasadena, CA

Summer 2012

- Involved in design of “next generation” rover mobility configuration
- Performed detailed analysis of various rover configuration climbing abilities for comparison of wheel arrangement and suspension systems
- Became familiar with current Rocker-Bogie suspension system and mobility analysis
- Independently developed prototype design for an 8-wheel rover using NX Unigraphics
- Initiated prototype fabrication through construction of wheel assemblies using surplus motors and harmonic drives
- Utilized stereolithography for the production of the newly designed motor housings and rover components

Research Fellowship

NASA Jet Propulsion Laboratory

California Institute of Technology, Pasadena, CA

Summer 2011

- Implemented hardware modifications on a thin film sputtering vacuum system used in fuel cell catalyst research for NASA applications
- Conducted independent project planning and design on vacuum chamber configuration
- Directly involved in research related to the JPL power systems group
- Became familiar with the laboratory facilities through regular involvement in catalyst testing and individual project execution
- Published a NASA New Technology Report for invention developed for research application in vacuum systems

Propulsion Internship

Dynetics Inc., Huntsville, AL

Summer 2010

- Worked directly with hardware on a lunar lander monopropellant propulsion system for NASA Marshall Space Flight Center
- Constructed and tested valves and thrusters for the lunar lander test bed propulsion system
- Became familiar with propulsion system design and layout
- Lead the construction of the Acceptance Data Package for the contract

RELEVANT SKILLS:

- Classes taken in applied engineering technology and computer aided design
- Working knowledge of Microsoft Office Suite
- Experience with computer aided design (NX Unigraphics, SolidWorks)
- Working knowledge of MATLAB, COMSOL, C++, LaTeX

HONORS:

- Boy Scouts of America: Eagle Scout
- Michigan State University Honors College
- Tau Beta Pi, MSU Chapter
- National Society of Collegiate Scholars
- MSU Dean's List Each Semester

SCHOLARSHIPS AND AWARDS:

- NASA Space Grant Fellowship 2011, 2012
- Boeing Engineering Scholarship 2011
- Michigan Competitive Scholarship 2010
- Clarence A. Dennis Scholarship 2010
- P. Eduard Geldhof Scholarship 2009

ACTIVITIES:

- Tau Beta Pi 2010—2012
Participate in community service and engineering-related events
- MSU Concert Orchestra 2008—2012
- Boy Scouts of America 1996—2008
Achieved Eagle Scout October 19, 2006
Junior Assistant Scoutmaster, Order of the Arrow Society Member
- Philmont Scout Ranch Summer 2007
Crew Chief: 12 day, 60 mile backpacking expedition in NM
- Oakland Youth Orchestra Principal Chair—French Horn 2002—2008
Performed advanced musical repertoire in extracurricular ensemble
- HS Marching and Concert Band Section Leader 2004—2008
- OCCRA Robotics Team Member 2007—2008
Robotic design and construction for competition purposes