

James J. Lawrence

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Work Experience

NASA Intern (08/2016 – 12/2016)

NASA Langley Research Center - Hampton, Va

- Performed materials testing on hundreds of Carbon-Carbon (C/C) composite samples under the guidance of Dr. David Glass and Dr. Wallace Vaughn
- Aided in the use of NASA's arc jet Hypersonic Materials Environmental Test System (HyMETS) to test the viability of potential coatings for the leading edge of hypersonic vehicles with representatives from Materials Research & Design, inc. and Lockheed Martin
- Taught myself the CAD program PTC Creo and used it to design test fixtures for elevated temperature material testing

Research Assistant (01/2017 – Present)

Robotics and Human Control Systems Laboratory – Oregon State University, Corvallis, OR

- Working with Dr. Ravi Balasubramanian in the development of a passive implant that improves grip strength in patients with median-ulnar palsy
- Taught myself Abaqus and built finite element models to represent muscle tissue's response to the implant
- Currently teaching myself the finite element analysis program FEBio

Education

High School Diploma: 06/2014

Lincoln High School – Portland, OR

- 3.8 GPA
- Member of the National Honor Society
- Recipient of Oregon State University Academic Achievement Scholarship

Oregon State University – Corvallis, OR (2014 – Present)

- Majoring in Mechanical Engineering with a Minor in Aerospace Engineering
- 3.52 GPA
- Designed and built a robot for competition (01/2017-03/2017)
 - 40+ teams competed
 - Received second place
- Member of the OSU 2017-2018 Experimental Sounding Rocket Association (ESRA) 30K rocketry team (06/2017 – present)
 - Designing and manufacturing a payload that creates a microgravity environment for scientific experiments
 - In charge of all technical decisions including structural design, propulsion system, and recovery system
 - Working in a team of three as the payload sub-team and collaborating with the 5 other sub-teams to develop the competition rocket

About Me

- Proficient Software: MATLAB, SolidWorks, PTC Creo, Cura, Abaqus, Engineering Equation Solver (EES), Microsoft Office Suite
- Proficient Hardware: Drill Press, Mill, Lathe, Vertical and Horizontal Band Saw, Cold Saw, Spot Welder, 3D Printer
- Built my own 3D printer for personal and academic use
- National Member of American Institute of Aeronautics and Astronautics (AIAA)
- Member of Sigma Pi Fraternity
- Boy Scouts of America (BSA) – Achieved Rank of Eagle Scout

References

NAME	EMPLOYER	TITLE	PHONE	EMAIL
DR. DAVID GLASS	NASA Langley Research Center	NASA Mentor	757-876-9177	David.E.Glass@nasa.gov
DR. RAVI BALASUBRAMANIAN	Oregon State University	Lead Engineer	412-477-1121	ravi.balasubramanian@oregonstate.edu
DR. NANCY SQUIRES	Oregon State University	Capstone Advisor	541-737-2337	squiresn@oregonstate.edu