

# Logan Halstrom

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## EDUCATION

### University of California, Davis

- Ph.D. Candidate in Mechanical and Aerospace Engineering (GPA: 3.86) Sep 2013 – Jun 2019  
Thesis: Computational Fluid Dynamics Simulation and Validation of Parachute Pendulum Motion
  - CFD simulation of rigid-geometry parachute motion and resulting unsteady aerodynamics
  - Validation and calibration by comparison to wind tunnel test
  - Insight into root cause of dynamic instability of fully-deployed parachutesAdvisor: Dr. Stephen Robinson
- Aerospace Engineering, B.S. and Mechanical Engineering, B.S. (GPA: 3.72) Jun 2013
  - Graduated with College Honors

## EXPERIENCE

### Johnson Space Center, National Aeronautics and Space Administration

- Pathways Intern, Applied Aeroscience and CFD Branch (EG3) Jun 2014 – Present  
CFD Simulation and Analysis Projects:
  - Simulated oscillatory motion and aerodynamics of Orion parachutes
  - Simulated wind tunnel wall loading due to parachute blockage
  - Simulated separation of capsule during launch abort and analyzed proximity aerodynamics
  - Performed transonic stability analysis for RED-Data2 re-entry heating probeAerodynamics Projects:
  - Developed a genetic algorithm for optimizing the Orion Flush Air Data System (FADS) sensor array
  - Developed a general-use FADS trajectory reconstruction algorithmSupervisors: Steve Labbe, Mark Hammerschmidt, and Ben Kirk
- USRA Intern, Aircraft Operations Division (CC3) Jul 2013 – Sep 2013  
Projects:
  - Designed and conducted a pitot-static calibration flight test for the WB-57 aircraft
  - Assisted with Reduced Gravity Operations safety inspectionsSupervisors: Gregory Johnson and Jack Woods

### University of California, Davis

- Teaching Assistant, Department of Mechanical and Aerospace Engineering Sep 2013 – Present  
Courses:
  - *Applied Aerodynamics*: Compressible/transonic, viscous flow, finite wings, aircraft equilibrium, panel methods
  - *Computational Aerodynamics*: 2D finite difference Euler methods, transonic small-disturbance theory
  - *Stability and Control of Aerospace Vehicles*: State-space representation, longitudinal and lateral stability
  - *Rocket Propulsion*: Fluid and thermodynamics of liquid and solid rocket enginesSupervisors: Dr. Stephen Robinson, Dr. Jean-Pierre Delplanque, Dr. Ron Hess, and Dr. Mohamed Hafez

## PROFESSIONAL AFFILIATIONS & ACTIVITIES

### Aerosciences Journal Club, UC Davis

- Co-founder 2016 – 2018
- ### American Institute of Aeronautics and Astronautics, UC Davis Chapter
- Member 2011 – Present
- ### Advanced Modeling Aeronautics Team, UC Davis
- Captain 2012 – 2013
    - Designed and manufactured a model aircraft optimized for specific mission requirements
    - Managed team members throughout all stages of the design process
    - Competed and placed 2nd in the SAE 2013 Aero Design West Competition
  - Member 2011 – 2012

## SKILLS

### Documentation/Presentation

- $\LaTeX$ , Beamer, Microsoft Word, Power Point

### Computing

- Linux, Python, MATLAB, FORTRAN, C++, High Performance Computing, MPI/OpenMP

### Computational Fluid Dynamics

- OVERFLOW, OpenFOAM, Chimera Grid Tools, Pointwise, Tecplot 360, ParaView

**AWARDS &  
SCHOLARSHIPS**

- Mechanical and Aerospace Engineering Departmental Fellowship, UC Davis 2019  
In recognition of meritorious accomplishments
- Joseph L. Steger Fellowship, Joseph L. Steger Foundation 2016 – 2018  
Fellowship awarded in recognition of outstanding academic record and excellent work in the area of Computational Fluid Dynamics
- Group Achievement Award, National Aeronautics and Space Administration 2017  
For development of an advanced heatshield flight experiment as part of the Xby2016 effort, helping extend the knowledge of aerothermal and TPS modeling through flight
- Outstanding Achievement, NASA Johnson Space Center Office of Education 2015  
For outstanding contributions as an intern for the Johnson Space Center
- Service Award, UC Davis Department of Mechanical Engineering 2013  
For service as the captain of the Advanced Modeling Aeronautics Team
- Regents' Scholar, University of California 2011 – 2013  
The most prestigious award on the UC Davis campus given to students entering with a GPA higher than 3.80
- Forrest Mitchell Award, Northern California Scholarship Federation 2012  
For maintaining the highest GPA of any Junior scholarship recipient

**LANGUAGES**

- English: Native language
- Spanish: Basic (speaking, reading, writing)
- Russian: Basic (speaking, reading, writing)

**INTERESTS**

Backpacking, running, cooking, gardening, digital photography, acoustic guitar, aviation

[CV created on 04-14-2020]