

KARENA FIORE

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EDUCATION

University of Colorado Boulder

Master of Science: Aerospace Engineering Sciences

Boulder, CO

Expected Graduation: May 2023

- GPA: N/A
- Pursuing dual degree in bioastronautics and engineering management

Georgia Institute of Technology

Bachelor of Science: Aerospace Engineering

Atlanta, GA

Aug 2015 – Dec 2019

- GPA: 3.47
- Team Lead in Space Systems Senior Design Project 2019
- Mentored aerospace engineering undergrads through Women in Engineering and GT1000 programs
- Recipient of Women in Engineering Scholarship in 2017 and 2019
- Attended study abroad programs GT Lorraine in 2016 and GT AE Limerick in 2018

WORK EXPERIENCE

Northrop Grumman Innovation Systems

Project Engineer Intern

Magna, UT

May – Aug 2019

- Authored test matrix and test plan for Oxsol 100 solvent requalification to ensure Trident II (D5) program continuity
- Coordinated with departments from all three NGIS plants to execute test plan for solvent requalification effort
- Co-wrote Shore A hardness test plan to qualify digital durometer to test propellant hardness
- Digitized 150+ Problem/Failure Analysis Board documents for common employee usage and records retention

Orbital ATK

Quality Engineer Intern

Magna, UT

Jan – May 2018

- Established timeline and led multi-plant team in preliminary inspections for GEM63 inert case
- Contained and investigated nonconformances for Trident II (D5) and GEM63 programs and established corrective actions
- Analyzed data sets and nonconformance trends for CASTOR30XL and LAS programs for process improvement
- Completed procedural assessments on commercial and Navy rocket motors for quality assurance

PROJECTS

Space Systems Design Project

Atlanta, GA

Jan – May 2019

- Led a team of eight engineers to form a mission concept proposal to orbit Saturn and obtain data of Enceladus
- Formed management plan to interpret the infrared images of the moon's surface and mass spectroscopy data
- Created schedule and cost budgets for flight hardware development, personnel, mission operations, and data archival
- Performed risk analysis to determine the top risks that could impact the mission's success and created handling plans

RESEARCH

Georgia Tech Aerospace Systems Design Laboratory

Research Assistant for Dr. Michael Balchanos: Resilient Space Habitat Operations

Atlanta, GA

Jan – Dec 2019

- Compiled Advanced Life Systems (ALS) information for a lunar space habitat based on extensive literature research
- Amassed a list of requirements for crew member daily consumptions of oxygen, potable water, and food
- Accumulated storage requirements for a lunar space habitat atmosphere, food, water, and waste materials
- Edited 50+ ALS, thermal, sizing, and power requirements and formed a top-level MBSE model

LEADERSHIP

- Team leader of eight engineers for space systems senior design project in 2019 to design an Enceladus-bound small satellite
- Led multi-plant team at Orbital ATK to perform dimensional inspections on inert solid rocket motor and various components
- Mentor to undergrads aerospace engineers in Women in Engineering Mentor & Mentee Program at Georgia Tech in 2018 and 2019
- Fencing Club Tournament Committee Chair 2017, organized the Fall SIFA 2017 Collegiate Tournament and 2018 Yellow Jacket Open

SKILLS

Aerospace Engineering: Thermodynamics, Statics, Dynamics, Aerodynamics, Jet/Rocket Propulsion, Conservation Laws, System Dynamics, Aircraft/Spacecraft Vehicle Performance, Systems Engineering, Deformable Bodies, Material Properties, Structural Analysis, Controls, Spaceflight Operations and Dynamics, Orbital Mechanics

Software: MATLAB, basic Java, ESI, Pilgrim/SmartSolve, DISCUS, SolidWorks, Office (Excel, Word, PowerPoint)

Instrumentation: SmartScope, Optical Comparator, 3D Printer, Deltronic Pins, Calipers, Micrometers, Chop Saw

Communication: Technical Data and Formal Reports, Preliminary Design Review, SOPs, OOIs

Miscellaneous: Piano, Violin, Fencing, Archery, Swimming, Fiction Writing, First Aid, CPR

EXTRACURRICULAR ACTIVITIES

- Member of Georgia Tech Fencing Club (YJFC), Georgia Tech Archery Club, American Institute of Aeronautics and Astronautics (AIAA), Society for Asian Scientists and Engineers (SASE), Women in Engineering (WIE), Society of Women Engineers (SWE)