

Douglas Keller Jr.

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Education

University of Alaska Fairbanks

Master of Science: Mechanical Engineering

Fairbanks, Alaska, USA

Fall 2017 – Fall 2018

University of Alaska Fairbanks

Bachelor of Science: Mechanical Engineering

Fairbanks, Alaska, USA

Fall 2014 – Fall 2018

Research Experience

University of Alaska Fairbanks

Master of Science Thesis

(In collaboration with and funded by NASA's Armstrong Flight Research Center)

Determined the effect of electromagnetic interference from electric motors on load sensing strain gauges.

Fairbanks, Alaska, USA

Fall 2017 – Fall 2018

Geophysical Institute, University of Alaska Fairbanks

Alaska Space Grant Undergraduate Research Fellowship

Studied the atmospheric boundary layer (ABL) with NASA's network of micro-pulse lidars (MPLNET).

Fairbanks, Alaska, USA

Fall 2017 – Summer 2018

Geophysical Institute, University of Alaska Fairbanks

Raman Spectroscopy Lidar

(Funded by the National Science Foundation)

Assisted with the setup of a Raman spectroscopy lidar and developed mechanical fixtures for application.

Fairbanks, Alaska, USA

Fall 2016

Vocational Experience

Alaska Center for Energy and Power, University of Alaska Fairbanks

Temporary Research Technician

Rewriting the Alaska Center for Energy and Power's (ACEP) Energy Technology Facility's (ETF) safety manual.

Fairbanks, Alaska, USA

Spring 2019 – Present

College of Engineering and Mines, University of Alaska Fairbanks

Teaching Assistant

Graded homework and exams, and assisted students with studies in engineering.

Fairbanks, Alaska, USA

Spring 2017 – Fall 2018

NASA Armstrong Flight Research Center

Mechanical Engineering Intern

Tested thermodynamics and heat transfer of the initial Fiber Optic Sensing System (FOSS) enclosure concept for the Quiet Supersonic Technology (QueSST) X-Plane (now the X-59).

Edwards, California, USA

Summer 2017

Publications

Accepted w/ Minor Revisions.....

D. Keller, D. R. Eagan, G. J. Fochesatto, R. Peterson. "Advantages of Fiber Bragg Gratings over Resistance-Based Strain Gauges in the Presence of Electromagnetic Interference Emitted from an Electric Motor for Aerospace Application."

In Progress.....

D. Keller, G. J. Fochesatto. "A New Wavelet to Determine the Planetary Boundary Layer Height from MPLNET Lidar Backscatter."

Conference Proceedings.....

G. J. Fochesatto, O. Galvez, P. Ristori, D. Keller, and E. L. Fochesatto. "Lidar to Determine the Fractions of Ice, Liquid and Water Vapor in Polar Tropospheric Cloud." *Proceedings of the 28th International Laser Radar Conference*, Bucharest, Romania. 25-30 June 2017.

Sports

Alaska Krav Maga & Fitness

Krav Maga Instructor

Taught Krav Maga, Muay Thai, and fitness classes to students at varying levels of skill. Also trained in Brazilian Jiu Jitsu.

Fairbanks, Alaska, USA

Winter 2017 – Winter 2018

Hockey: Played hockey competitively until 2014, peaking at the Junior A Tier III level in the AWWHL (now part of the NA3HL). Played intramurals and beer league from then on.