



# Doug Keller

PhD Student



France



[www.alaskanresearcher.org](http://www.alaskanresearcher.org)



[dg.kllr.jr@gmail.com](mailto:dg.kllr.jr@gmail.com)

## About me

I'm a PhD student at the Laboratoire de Météorologie Dynamique in Palaiseau, France. I'm originally from Alaska and was raised in the small town of Chugiak. Growing up I played hockey competitively, peaking at the Junior A Tier III level in the American West Hockey League just before university. More recently, I've trained in Brazilian Jiu Jitsu, Krav Maga, and Muay Thai, and also taught the latter two. I tend to stay active, but I'm not afraid to relax and play a few video games either or even a game of chess. I'm a pretty open book, don't hesitate to send me an email asking for more information.

## Skills

Optics

Python, C, CUDA, MATLAB, Fortran

Oceanography

Atmospheric Sciences

Fluid Mechanics

Heat Transfer

Signal Processing

## Interests

Any and everything relating to the atmosphere and ocean, including numerical weather forecasting, optical phenomena, air-sea interaction, remote sensing, and more. I have experience in multiple areas of engineering and science. Parallel processing and GPU computation are also areas of interest.

## Education

- since 2019 Ph.D. Ingénierie, Mécanique et Énergétique École Polytechnique, IP Paris  
*Impact of the spatial and temporal variability time of the Mistral on dense water formation in the Mediterranean Sea*
- 2017-2018 M.Sc. Mechanical Engineering University of Alaska Fairbanks  
*Comparison Of Resistance-Based Strain Gauges And Fiber Bragg Gratings In The Presence Of Electromagnetic Interference Emitted From An Electric Motor*
- 2014-2018 B.Sc. Mechanical Engineering University of Alaska Fairbanks  
*Magna Cum Laude w/ Aerospace Concentration*

## Publications

- 2019 D. Keller, D. R. Eagan, G. J. Fochesatto, R. Peterson, *Advantages of Fiber Bragg Gratings for Measuring Electric Motor Loadings in Aerospace Application* Review of Scientific Instruments

### Submitted

- 2020 D. Keller, G. J. Fochesatto *Seasonal Variation of Subarctic and Arctic Superior Mirages with GPSRO* Applied Optics

## Experience

- since 2019 Ph.D. Thesis Laboratoire de Météorologie Dynamique  
Determining the spatial and temporal effects of the Mistral and Tramontane winds on the Northwestern Mediterranean Sea
- 2019 Arctic and Subarctic Superior Mirages Geophysical Institute  
Determined the occurrence and variability superior mirages in the arctic and subarctic regions with GPS radio occultation.
- 2019 Research Technician Alaska Center for Energy and Power  
Wrote the safety manual for the Energy Technology Facility and performed data analysis and organization for the Alaska Fuel Use Study.
- 2017-2018 M.Sc. Thesis College of Engineering and Mines  
Determined the effect of electromagnetic interference from electric motors on load sensing strain gauges utilizing fiber Bragg gratings.
- 2017-2018 Alaska Space Grant Fellowship Geophysical Institute  
Studied the atmospheric boundary layer with the use of NASA's MPLNET and developed a new wavelet.
- 2017 Mechanical Engineering Intern NASA Armstrong  
Tested the heat transfer capability of the Fiber Optic Sensing System housing for use on the X-59 X-plane
- 2016 Raman Spectroscopy Lidar Geophysical Institute  
Designed a beam splitter cube fixture for the optical layout of a H<sub>2</sub>O three phase detecting lidar.

## References

- Director Philippe Drobinski, Ph.D. Laboratoire de Météorologie Dynamique  
+33 01 69 33 51 42 [philippe.drobinski@lmd.polytechnique.fr](mailto:philippe.drobinski@lmd.polytechnique.fr)
- Researcher Romain Pennel, Ph.D. Laboratoire de Météorologie Dynamique  
+33 01 69 33 52 33 [romain.pennel@lmd.polytechnique.fr](mailto:romain.pennel@lmd.polytechnique.fr)
- Dept. Chair Javier Fochesatto, Ph.D. Atmospheric Sciences, Geophysical Institute  
+1 907 474 7265 [gjfochesatto@alaska.edu](mailto:gjfochesatto@alaska.edu)