Doug Keller

PhD Student

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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 Centery 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_20 three phase detecting lidar.

References

Director — Philippe Drobinski, Ph.D. — Laboratoire de Météorologie Dynamique
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