Gabrielle Cecilia Claus

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A current Lawrence University student studying physics and mathematics interested in conducting bifurcation and nonlinear dynamics research, particularly in CFD and turbulence modeling.

EDUCATION

LAWRENCE UNIVERSITY, Appleton, WI **Anticipated June 2021**
Bachelor of Arts in Physics
Bachelor of Arts in Mathematics
Bachelor of Music in Piano Performance

RESEARCH & EXPERIENCE

ONTARIO TECH UNIVERSITY, Toronto, Ontario, Canada **Summer 2020**

- **Turbulence Edge State Tracking in Kolmogorov Flow** –Ongoing project in studying turbulence in Kolmogorov flow, attempting to compute edge states and asymptotic solutions of transition using Re as a parameter value
- Independent research in turbulent boundary layers and resulting bifurcations

AIR FORCE INSTITUTE OF TECHNOLOGY, Dayton, OH **Summer 2019**

- **Geometry Effects on Fluidic Oscillators** – Research and co-authoring a publication looking at aspect ratio, area ratio, Coanda effects, and wall effects on the frequency and oscillation angle of fluidic oscillators, and developing a model for predicting frequency based on the effects
- Computational fluid dynamics (CFD) experience with combustion in Ansys Fluent

LAWRENCE UNIVERSITY, Appleton, WI **2017-2019**

- **Building a Microscope –** For a lab and helped upgrade equipment (2016)
- **Code Optimization and Gradient Descent Algorithms** (2019) – optimizing code for a function describing quantum states of Cesium atoms.
- Laboratory experience with optics and electronics
- Independent study in CFD and numerical algorithms/simulations

UNIVERSITY OF TWENTE, Enschede, Netherlands **2019**

- Implementing optimization methods in Python and Monte Carlo simulations
- **Comparison study between optimization methods -** how they solve the spin glass np-hard problem in photonics

ADDITIONAL SKILLS

- Programming: Visual Basic, Mathematica, Excel, IDL, Python, C++, Fortran
- Computational Fluid Dynamics (CFD) and Ansys Fluent
- Classical, jazz, and collaborative piano

AWARDS

- University of Rochester Honorary Science Award (2015)
- Lawrence University Dean's List (2017-2019)
- Nominated to Sigma Pi Sigma (2020)