

Anthony S. Walker

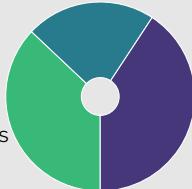
Ph.D. Candidate & Scientific Developer

i CONTACT

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 Anthony Walker

COURSEWORK

-  Thermal Fluid Sciences
 Mathematics
 Computer Science



</> SOFTWARE

OpenMP Arch Linux
Git Matlab Ghidra
SQL Cantera MPI
Ubuntu React OpenGL
Slurm Windows C++ RegEx
Office C+ Fortran Bash
Macos CUDA Java
Haskell Markdown
Python OpenCL x86 Docker Latex

LANGUAGES

- English Native
French 

⚙️ EMPLOYMENT

Aug 2016–May 2018	Undergraduate Research Assistant PENN STATE · Erie PA 
May 2017–Aug 2017	Test Stand Engineering Intern BELL HELICOPTER · Fort Worth TX 
Sept 2018–Present	Graduate Research Assistant OREGON STATE UNIVERSITY · Corvallis OR 
April 2022–Present	KP-SAM Scientific Developer Intern KAIROS POWER · Alameda CA 

• Developed software for modeling of piezo-electric power generation in turbulent flow.

• Developed a troubleshooting guide for repair and maintenance of test stand systems.

• Development of a heterogeneous coupled GPU/CPU solver to reduce latency and accelerate simulations of multi-dimensional PDEs.

• Open source development within Cantera to accelerate chemical kinetics with advanced numerical techniques.

• Development and maintenance of a package to automatically generate input files for a nuclear design code.

• Development of automatic verification software for the core-design team.

• Various miscellaneous responsibilities such as database setup, numerical benchmarking, and automated memo generation.

📚 EDUCATION

2018	Penn State B.S. MECHANICAL ENGINEERING · Minor Computer Science  GPA: 3.41
2021	Oregon State M.S. MECHANICAL ENGINEERING ·  GPA: 3.83
Expected 2023	Oregon State PH.D. MECHANICAL ENGINEERING · Minor Computer Science  GPA: 3.83

📄 PUBLICATIONS

Generalized preconditioning for accelerating simulations with large kinetic models

⌚ Walker, Anthony S. Speth, Raymond L. Niemeyer, Kyle E.

⌚ 2022  PROCI: Proceedings of the Combustion Institute,
<https://doi.org/10.1016/j.proci.2022.07.256>

The two-dimensional swept rule applied on heterogeneous architectures.

⌚ Walker, Anthony S. & Niemeyer, Kyle E.

⌚ 2021  MDPI: Mathematical and Computational Applications,
<https://doi.org/10.3390/mca26030052>

Applying the swept rule for solving explicit partial differential equations on heterogeneous computing systems

⌚ Magee, Daniel J & Walker, Anthony S & Niemeyer, Kyle E

⌚ 2020  Journal of Supercomputing,
<https://doi.org/10.1007/s11227-020-03340-9>