Michael E. Rowan

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https://mrowan137.dev

EMPLOYMENT	AMD

Senior Member of Technical Staff Santa Clara, CA (2024 – Present)

Member of Technical Staff Santa Clara, CA (2021 – 2024)

- Application performance optimization for the exascale supercomputer El Capitan.
- Spotlight Awards (3×): for work on El Capitan June 2024 Top500 ranking, MI300 accelerator execution & product launch, and exascale supercomputer Frontier.

BERKELEY LAB

Postdoctoral Fellow Berkeley, CA (2019 – 2021)

- Performance tuning of particle-in-cell code WarpX for GPU+CPU platforms.
- Improved load balancing in WarpX, achieving 4× speedup in realistic use cases.

EDUCATION **HARVARD UNIVERSITY**

Ph.D. in Physics Cambridge, MA (2013 – 2019)

- Dissertation: *Dissipation of Magnetic Energy in Collisionless Accretion Flows*
- Awards: E.M. Purcell Fellowship, An Wang Fellowship, W.F. Noyes Fellowship

OBERLIN COLLEGE

B.A. in Physics, Mathematics Oberlin, OH (2009 – 2013)

- Thesis: *Doppler-free Sat. Fluor. Spectroscopy of Lithium Using a Frequency Comb*
- Awards: NSF S-STEM Award for Computation & Modeling, Weinstock Prize in Physics, Stern Merit Scholarship in Natural Sciences, Phi Beta Kappa, Sigma Xi

SKILLS Research, GPU computing, Programming (HIP/CUDA, C, Python), Perf. tuning

SELECTED PUBLICATIONS

M.E. Rowan, A. Huebl, K.N. Gott, J. Deslippe, M. Thévenet, R. Lehe, & J.-L. Vay (2021). "In-situ Assessment of Device-side Compute Work for Dynamic Load Balancing in a GPU-accelerated PIC Code." In *PASC21: Proceedings of the Platform for Advanced Scientific Computing Conference 2021*.

M.E. Rowan, L. Sironi, & R. Narayan (2017). "Electron and Proton Heating in Trans-relativistic Magnetic Reconnection." In *The Astrophysical Journal* 850 29.