James Schloss

Leios Labs LLC
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EDUCATION

Ph.D. 2019
Okinawa Institute of Science and Technology, Onna-son, Okinawa, JP

RESEARCH EXPERIENCE

CEO ongoing
LeiosLabs LLC

Open research related to heterogeneous computing, computer graphics, and computational science

Postdoctoral Fellow 2020-2021
Primary Investigator: Raffaele Ferrari, MIT

Developing Heterogeneous computing methods (CPU + GPGPU) for the Climate Machine (CLIMA) project in collaboration with MIT, CalTech, and NPS

JSPS fellow, Quantum Systems 2014-2019
Primary Investigator: Thomas Busch, OIST

Developing GPU computing methods to simulate vortex dynamics in superfluid Bose–Einstein condensates

SELECTED ACADEMIC WORKS

Papers:

Uncertainty Quantification of Ocean Parameterizations: Application to the K-Profile-Parameterization for Penetrative Convection
Andre Nogueira Souza, GL Wagner, Ali Ramadhan, B Allen, V Churavy, James Schloss, J Campin, Chris Hill, Alan Edelman, John Marshall, G Flierl, Raffaele Ferrari
Journal of Advances in Modeling Earth Systems 12 (12), e2020MS002108

GPUE: Graphics Processing Unit Gross–Pitaevskii Equation solver
J Schloss, LJ O'Riordan
Journal of Open Source Software 3 (32), 1037

Chaotic few-body vortex dynamics in rotating Bose-Einstein condensates
T Zhang, J Schloss, A Thomasen, LJ O'Riordan, T Busch, A White Physical Review Fluids 4 (5), 054701

Awards, Grants, and Fellowships:

JSPS KAKENHI Grants-in-aid, JP17J01488 2017-2019
JSPS DC1 Research Fellowship for Young Scientists 2017-2019

PROFESSIONAL SKILLS

Languages & Software: Julia, C++, CUDA, Fortran, Python, OpenGL, Linux
Selected projects:
Algorithm Archive: www.algorithm-archive.org/
KernelAbstractions, MIT: https://juliagpu.github.io/KernelAbstractions.jl/stable/
GPUE, OIST: github.com/GPUE-group/GPUE
DEMON simulation code, Auburn University: github.com/AU-PSL/demonsimulationcode
VBOTS visualization, Los Alamos National Labs.
LeiosLabs: youtube.com/user/leiosos, twitch.tv/simuleios