Marissa Ramirez Zweiger

Personal Data

email: mzweig@berkeley.edu
Web Site: mzweig.github.io

Education

Expected Graduation: 2021 — Ph.D in Nuclear Engineering with an emphasis in Computational Science
University of California, Berkeley
Minor: Mathematics | Advisor: Dr. Rachel Slaybaugh

Aug 2015 — Bachelor of Arts in Mathematics
University of California, Berkeley
Senior Project: *The Line-Based Discontinous Galerkin Method for Equations of Fluid Dynamics*

Work Experience

Sep 2015-*Present* — Graduate Research Assistant at Oak Ridge National Lab
Radiation Transport Group, Exnihilo Development Team
Projects: Rayleigh Quotient Iteration with Multigrid in Energy Preconditioning, A Parallel Efficiency Model for Radiation Transport

May-Aug 2015 — Undergraduate Researcher at University of California, Berkeley
Dr. Per-Olof Persson, Applied Math
Project: The Line-Based Discontinuous Galerkin Method for Equations of Fluid Dynamics

Nov 2014 -Aug 2015 — Undergraduate Researcher at University of California, Berkeley
Dr. Rachel Slaybaugh, Nuclear Engineering
Project: The Implementation of the Chebyshev Rational Approximation Method into PyNE

Scholarships and Awards

2014 - 2015 — UC Berkeley McNair Scholar — The McNair Scholars Program
Dec 2014 — Scored in the Top Third of Participants — Putnam Mathematical Competition

Research Grants

Apr 2016 — Co-Principal-Investigator, Oak Ridge Leadership Computing Facility, 5M CPU Hours (with Dr. Steven Hamilton)

Languages

English, Native; Spanish, Fluent; Khmer, Beginning

Computer Skills

Python, Matlab, FORTRAN, C++, MPI, UNIX, vim, Git, LaTeX,

Service Activities

2014 - present	Board Member	Oakland Catholic Worker	Oakland, CA
2009 - present	Camp Counselor	Mid-Hudson Valley Camps	Esopus, NY
Apr 2016	Lead Judge	Southern Appalachian Science Fair	Knoxville, TN
Oct 2015	Volunteer	Nuclear Science Week	Knoxville, TN
2014 - 2015	ESL & Math Tutor	San Quentin State Prison	San Quentin, CA
2011 - 2015	Outreach Volunteer	Raza Recruitment & Retention Center	Berkeley, CA
2010 - 2011	ESL & Math Teacher	The Ponheary Ly Foundation	Cambodia

Training

Sixth Summer School on Formal Techniques. May 22 - 27, 2016. Menlo College, Atherton, CA.

Publications

M. Ramirez Zweiger, R. N. Slaybaugh. *The Implementation of the Chebyshev Rational Approximation Method for Burnup Calculations Into PyNE*. The UC Berkeley McNair Scholars Journal (2016).

Conferences

Talks

M. Ramirez Zweiger, T. M. Evans, S. P. Hamilton, T. M. Pandya, R. N. Slaybaugh, *Radiation Transport Using Rayleigh Quotient Iteration with Multigrid in Energy Preconditioning.* The Copper Mountain Conference on Iterative Methods; March 24th, 2016; Copper Mountain, CO.

M. Ramirez Zweiger, P. O. Persson. *The Line-Based Discontinuous Galerkin Method for Equations of Fluid Dynamics.* The McNair Scholars Symposium; July 31st, 2015; University of California, Berkeley.

Workshops

PyNE: Python for Nuclear Engineers. American Nuclear Society Student Conference; Mar 31st, 2016; Madison, WI.

PyNE: Python for Nuclear Engineers. ANS Joint International Meeting on Mathematics and Computation; Apr 23rd, 2016; Nashville, TN.

Invited Talks

High Performance Computing: The Road to Exascale. McNair Scholars Seminar; July 20th, 2016; University of California, Berkeley.