

Ryan Reed Grove

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CITIZENSHIP: United States of America

SKILLS, QUALIFICATIONS, AND EXPERTISE

Programming:

- C++ with MPI
- Python
- Java
- Matlab
- HTML
- R
- SQL
- C
- Parallel computing and multithreading
- Object-oriented programming

Software Packages:

- Linux and Ubuntu
- deal.II (finite elements)
- ASPECT (mantle convection)
- LaTeX and Beamer
- Girobi (linear programming)
- CPLEX (linear programming)
- AMPL (linear programming)
- Sage

Computational Mathematics:

- Finite element method
- Stabilization schemes
- Viscoelastic fluid flow
- Navier Stokes equations
- Finite difference method
- Immersed boundary method
- Numerical linear algebra
- Modeling and simulation
- Numerical differential equations
- Stochastic models and processes
- Linear and network programming

Physics:

- Quantum mechanics
- Nuclear Physics
- Electricity and Magnetism

Version Control:

- GIT
- Subversion

EDUCATION

- *Ph.D., Mathematical Sciences, Clemson University* 2017(*expected*)
Thesis area: Finite element method, stabilization schemes, and parallelization **QPA: 3.69/4.00**
- *M.S., Applied Mathematics, Indiana University of Pennsylvania* 2013
Thesis area: Viscoelastic fluid flow, Navier Stokes equations **QPA: 3.83/4.00**
- *B.S., Physics, Indiana University of Pennsylvania* 2012
Minor: Computer Science **QPA: 3.95/4.00**
- *B.S., Applied Mathematics, Indiana University of Pennsylvania* 2012
QPA: 3.95/4.00

INTERNSHIPS

- *Software Engineer, The Aerospace Corporation* Jun - Aug 2015
TBD.

RESEARCH APPOINTMENTS

- *Research Assistant, Clemson University* Aug 2013 - present
Simulate problems in thermal convection using ASPECT software package.
Compare nonlinear stabilization schemes for advection-diffusion equations using deal.II.
- *Web Analyst, Indiana University of Pennsylvania* Sep - Dec 2012
Prepare and interpret multiple web traffic reports for the Communications Department.
Find efficient ways to query and maintain a large database of web traffic information.
- *ASPECT Hackathon, Texas A&M University* May 2014
Served as research and personal mentor to participants at this workshop.
Helped graduate students in the geoscientific community program in deal.II and use ASPECT.

CONFERENCE PRESENTATIONS AND SEMINARS

Given over **8** contributed talks and **1** poster session at seminars and conferences. This includes:

- *2015 SIAM Conference on Computational Science and Engineering* Mar 2015
The Calvin L. Rampton Salt Palace Convention Center, Salt Lake City, UT **Poster**
Title: "Comparison of Nonlinear and Linear Stabilization Schemes for Advection-Diffusion Equations"
- *Fall Southeastern Sectional Meeting of the American Mathematical Society* Nov 2014
The University of North Carolina at Greensboro, Greensboro, NC **Talk**
Title: "Comparison of Nonlinear and Linear Stabilization Schemes for Advection-Diffusion Equations"
- *Pennsylvania State System of Higher Education Mathematics Association* Apr 2013
Clarion University, Clarion, PA **Talk**
Title: "Immersed Boundary Modeling of Journal Bearings in a Viscoelastic Fluid"

SERVICE AND VOLUNTEER WORK

- *SIAM Webmaster, Clemson University* Aug 2014 - present
Maintainer of the website: <http://people.clemson.edu/~siam/>
- *Volunteer Firefighter, Portage Area Fire Department* Jul 2012 - May 2013
Respond to emergency calls such as QRS, fire, and hazardous materials calls.
- *Volunteer Assistant, Cambria Residential Services* Aug 2006 - Jun 2012
Take individuals with mental health disabilities into the community on social outings.
Cook, clean, and transport individuals with mental health disabilities.

HONORS, AWARDS, AND SCHOLARSHIPS

Received over **\$29,000** in honors, awards, and scholarships combined.

- *Travel Support* 2013 - present
Received travel support for **6** conferences totalling around **\$3,000** over **2** years.
- *S-COAM, Indiana University of Pennsylvania* 2009 - 2013
Scholarship renewed **7** times totalling around **\$25,000** over **4** years.
Participated in the Mathematics Enrichment Activities Network.