Ryan Reed Grove

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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: 3.85/4.00**
- **_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

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**

  <u>Title:</u> "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**

  <u>Title:</u> "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**

  <u>Title:</u> "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.
- **Community Service Award** *2005 - 2008*

  Received award **3** years in a row for a total of about **$1,000**.

  Had a combined total of over **3,000** community service hours.