J. Quinn Norris

Department of Physics University of California, Davis One Shields Avenue Davis, CA 95616

253-249-4330 jqnorris@ucdavis.edu

Education

Ph.D in Physics	Expected
University of California Davis, Davis CADissertation Title: Invasion percolation model for fracking.	Graduation Jun. 2015
M.S. in Physics	Dec. 2012
• University of California Davis, Davis CA	
B.S. in Physics with University Honors	Aug. 2011
Brigham Young University, Provo UT	
 Honors Thesis Title: A Computational Study of Carbon Nanotubes Embedded in Silicon 	
Advisor: Brett Hess	
Minors in English and Math	
Awards & Fellowships	
• Ray & Constance Chandler Graduate Fellowship, UC Davis, Fall 2011	
• Harvey Fletcher Physics Department Scholarship, BYU, Fall 2010	
• Roland A. & Dora Mae Crabtree Scholarship, BYU, Winter 2010	
Alvina Soffel Barret Scholarship, BYU, Fall 2007 through Winter 2009	
• Eagle Scout Award, 1999	
Teaching Experience	
Associate Instructor, University of California, Davis	Fall 2014
• Instructor of Record for Physics 102: Computational Laboratory in Physics	
• Responsible for the entire course including weekly lectures, weekly labs, and a	
final project for 45 upper-division physics majors.	
 Coordinating lab instruction with 1 teaching assistant. 	

Associate Instructor, University of California, Davis	Summer
• Instructor of Record Physics 9C: Introduction to Electricity and Magnetism	Session II
• Responsible for the entire course including lectures, homework, quizzes and	2014
final exam for 50 physics and engineering majors.	
• Coordinated grading and discussion sections with 2 teaching assistants.	
Associate Instructor, University of California, Davis	Spring 2014
Instructor of Record Physics 9C: Introduction to Electricity and Magnetism	
• Responsible for the entire course week course including lectures, homework,	
quizzes and final exam for 175 physics and engineering majors.	
• Coordinated grading and discussion sections with 3 teaching assistants.	
Teaching Assistant , University of California, Davis	Fall 2011-
• Physics 7A and 7B: General Physics for biological science majors.	Spring 2012
• Led four 140 minute physics discussion-labs per week.	1 0
• Assisted 20 plus students a week during office hours	
Teaching Assistant/Grader , Brigham Young University Physics Department	Sep. 2009-
• Graded 90 homework assignments a week with prompt feedback.	Dec. 2010
• Assisted 50 students a week in completing their assigned 3 hour labs.	
• Assisted 200 plus students a week with homework assignments.	
Periodicals Reference Assistant, Harold B. Lee Library, Brigham Young University	Jan. 2007-
• Assisted 100 patrons a semester in locating books and articles for assignments,	Apr. 2009
papers, and background research.	
Passarah Experience	
Creducto Student Personnehor University of California Davis	Lum 2012
Developed a percolation model for slickwater fracking	Jun. 2012- Present
 Developed a perconation model for snewwater macking. Developed computational tools to simulate fracture networks, determine their 	1 /050///
properties, and compare their relationship to observed microseismicity.	
• Exploring applications of the model to earthquake rupture, biology, and	
econophysics.	
• Preparing to release the computer model through UC Davis Computational	
Infrastructure for Geodynamics.	
Undergraduate Researcher, Brigham Young University	Sep. 2009-
• Identified carbon nanotubes that are commensurate with the silicon lattice.	Jul. 2011
• Generated position files for eight large (over 200 atoms) nanotube embedded in silicon systems.	
Performed density functional calculations using VASP on BYU's Fulton	
Supercomputer.	

Publications

- J. Quinn Norris, Donald L. Turcotte, Eldridge M. Morres, and John B. Rundle. Hydraulic Fracturing (Fracking) in California. in *Applied Geology in California*, edited by Robert Anderson and Horacio Ferriz. (In review)
- J. Quinn Norris, Donald L. Turcotte, and John B. Rundle. A damage model for fracking. (Revised version in review)
- J. Quinn Norris, Donald L. Turcotte, and John B. Rundle. Anisotropy in fracking: A percolation model for observed microseismicity. *Pure Appl. Geophys.* 1-15 (2014). doi: 10.1007/s00024-014-0921-9
- J. Quinn Norris, Donald L. Turcotte, and John B. Rundle. Loopless nontrapping invasion percolation model for fracking. *Phys. Rev. E* **89**, 022119 (2014). doi: 10.1103/PhysRevE.89.022119
- Jaren Quinn Norris. A Computational Study of Carbon Nanotubes Embedded in Silicon, Brigham Young University Honors Thesis (2011).

Presentations

- J. Quinn Norris, Donald L. Turcotte, and John B. Rundle, Percolation model for earthquake ruptures. *GENAH 2014*, July 2014. Matsushima, Miyagi, Japan.
- J. Quinn Norris, Donald L. Turcotte, and John B. Rundle. Modified invasion percolation model for fracking. *2013 AGU Fall Meeting*, December 2013. San Francisco, CA.
- J. Quinn Norris, Modeling Fracking. BYU-Idaho Physics Department Colloquium. September 2013. Rexburg, ID.
- J. Quinn Norris, Donald L. Turcotte, and John B. Rundle. An invasion percolation model for earthquakes with applications to fracking. *2013 SCEC Annual Meeting.* September 2013. Palm Springs CA.
- Jaren Norris. Computational study of carbon nanotubes embedded in silicon. *American Physical Society, 2010 Annual Meeting of the Four Corners Section of the APS.* October 2010. Odgen, UT.
- Quinn Norris. Computational study of carbon nanotubes embedded in silicon. 2010 Spring Research Conference, BYU College of Physical and Mathematical Sciences. March 2010. Provo, UT.

Technical Experience

Programming

• C++, Python, Mathematica, Matlab, LabVIEW, HTML, Maple

Computers

· Linux, Windows, Hardware, Networking, LaTeX, Multiple Office Packages