

PhD Student (Third Year)
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Education:

PhD (Fall 2015-present) - Geophysics, Department of Geosciences, Virginia Polytechnic Institute and State University (Current GPA: 3.63/4)

Master of Science (Fall 2013- Summer 2015) – Geophysics, Department of Geosciences, Virginia Polytechnic Institute and State University (GPA: 3.58/4)

Bachelor of Engineering (2002-2006) – Civil Engineering, Anna University, Chennai, India (79% with distinction)

Research:

- Hydrothermal modeling and analysis of off-axis, closed passive fluid circulation and its evolution with seafloor age, using marine conductive heat flow measurements collocated with seismic reflection data procured in the southern flank of the Costa Rica Rift in the Panama Basin, as part of the OSCAR project (Fall 2015 – Present).
- Analysis and development of a mathematical fluid circulation model using marine heat flow measurements and seismic reflection data in a sediment pond of the Ecuador Fracture Zone in Panama Basin, as part of the OSCAR project (Fall 2015 – Spring 2017).
- Performing a numerical modeling experiment in a synthetic Enhanced Geothermal System to analyze influence of Thermal Hydrological Mechanical Chemical processes in porosity and permeability alteration. (Fall 2016 – Present).
- Numerical modeling of the hydrothermal system at East Pacific Rise 9° 50' N including Anhydrite Precipitation (Fall 2013 - Fall 2015).

Internships:

Research Consultant to the NASA DEVELOP program based at Wise County Node, VA participating in the Texas Health and Air Quality project. The project aims to perform 3D spatial and temporal tracking and transport of aerosols resulting from wildfire smoke plumes in the state of Texas, utilizing NASA Earth Observations. (June 5th-August 11th, Summer 2017).

Publications:

Kolandaivelu, K., R. N. Harris, R.P. Lowell, A. Alhamad, E. Gregory and R.W. Hobbs (2017), Analysis of a Conductive Heat Flow Profile in a the Ecuador Fracture Zone, *Earth and Planetary Science Letters*, <https://doi.org/10.1016/j.epsl.2017.03.024>.

Kolandaivelu, K., R. N. Harris, R.P. Lowell, D. Wilson, and R.W. Hobbs (*in prep* 2017), Evolution of Heat Flow with Age on the Southern Flank of the Costa Rica Rift, *Geophysical Research Letters*.

Kolandaivelu, K. and R.P. Lowell (*in prep* 2017), Numerical modeling of the hydrothermal system at East Pacific Rise 9°50' N including anhydrite precipitation, *Journal of Geophysical Research: Solid Earth*.

Kolandaivelu, K., R. Jayne, R. Pollyea and R.P. Lowell (*in prep 2017*), A numerical modeling investigation of porosity and permeability alteration influenced by Thermal Hydrological Mechanical Chemical processes in Enhanced Geothermal Systems, *Geothermics*.

Kolandaivelu, K., A. Odwuor, E. White and B. Colley (*in prep 2017*), Analysis of Biomass Burning Impacts on the Air Quality of El Paso, Texas in July 2016 using Ground Observations and NASA Earth Observations, *Atmospheric Chemistry and Physics*.

Lowell, R.P., **K. Kolandaivelu**, and P.A. Rona (2014), Hydrothermal activity, Reference Module in *Earth Systems and Environmental Science*, Elsevier, <http://dx.doi.org/10.1016/B978-0-12-409548-9.09132-6>.

Presentations:

Kolandaivelu, K., R. Harris, R.P. Lowell, E. Gregory, A. Alhamad and R.W. Hobbs (2016), Analysis of a Conductive Heat Flow Profile in a the Ecuador Fracture Zone, abstract T13B-2711, 2016 Fall Meeting, AGU, San Francisco, CA, 12-16 Dec. (Poster)

Harris, R.N., **K.P. Kolandaivelu**, E.P.M. Gregory, R. Alshafai, R. P. Lowell and R.W. Hobbs (2016), New marine heat flow measurements at the Costa Rica Rift, Panama Basin, abstract T13B-2710, 2016 Fall Meeting, AGU, San Francisco, CA 12-16 Dec. (Poster)

Kolandaivelu, K. and R. Lowell (2015), Numerical modeling of the hydrothermal system at East Pacific Rise 9°50' N including anhydrite precipitation, abstract OS43A-2028, 2015 Fall Meeting, AGU, San Francisco, CA, 14-18 Dec. (Poster)

Kolandaivelu, K. and R.P. Lowell (2015), Numerical modeling of the hydrothermal system at East Pacific Rise 9°50' N including anhydrite precipitation, 52nd Annual Conference, American Institute of Professional Geologists, Anchorage, AK September 19-22 (awarded Best Graduate Student poster).

Awards:

- Tillman Award for Teaching Excellence, Introductory Laboratories, Department of Geosciences, Virginia Tech (May 2017)
- Petroleum Industry Research Scholarship (2017)
- USSSP travel award for the ECORD Summer School in Petrophysics, University of Leicester, Leicester, UK (2016)
- Travel Award under GSA Travel Fund Program (TFP), Graduate Student Assembly, Virginia Tech (2015)
- David R. Wones Research Scholarship (2015)
- John K. Costain Graduate Geophysics Endowed Scholarship (Summer 2014)

Workshops:

ECORD Petrophysics Summer School, University of Leicester, Leicester, UK, 26th June – 1st July, 2016

Extra Curriculum:

- Chair, 2018 Geosciences Student Research Symposium (Fall 2017 – Present)
- Liaison Committee Representative (Geophysics) – Department of Geosciences (Fall 2016 – Spring 2017)
- Graduate Student Assembly – Delegate from Geosciences Department (Fall 2015 – Summer 2016)
- Vice President, Society of Exploration Geophysicists (Fall 2014 – Fall 2015) – Virginia Tech

- Treasurer, Society of Exploration Geophysicists (Fall 2013 - Spring 2014) – Virginia Tech
- Global Ambassador, Virginia Tech (2014-2015)

References:

- Dr. Robert P. Lowell, PhD advisor, Department of Geosciences, Virginia Polytechnic Institute and State University. Email: rllowell@vt.edu
- Dr. Ryan Pollyea, Assistant Professor, Department of Geosciences, Virginia Polytechnic Institute and State University. Email: rpollyea@vt.edu
- Dr. John Hole, Professor, Department of Geosciences, Virginia Polytechnic Institute and State University. Email: hole@vt.edu
- Dr. Richard Hobbs, Professor, Department of Earth Sciences, Durham University, UK. Email: r.w.hobbs@durham.ac.uk