

D. Sarah Stamps

Virginia Tech
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APPOINTMENTS

Assistant Professor, Virginia Tech	2015 – present
NSF Postdoctoral Fellow, MIT/UCLA	2013 – 2015
NSF Graduate Research Fellow, Graduate Research Assistant, Purdue University	2008 – 2013
NSF Undergrad. Research Assistant, The University of Memphis	2007

EDUCATION

2008 – 2013	Purdue University Ph.D. Geophysics and Geodesy	IN, USA
2004 – 2007	The University of Memphis B.S. Earth Sciences, minor in mathematics <i>magna cum laude, honors thesis</i>	TN, USA

AWARDS

NSF CAREER Award	2020-present
NSF Computational Infrastructure for Geodynamics Distinguished Lecturer	2017-present
NSF EarthCube Community Service and Leadership Award	2017
NSF Postdoctoral Research Fellowship	2013
NSF Graduate Research Fellowship	2009

FUNDED / RECOMMENDED PROPOSALS

December 2020*	Dry Rifting in the Albertine-Rhino Graben, Uganda, PI, NSF Frontiers in Earth Science , \$3M total, \$491,754
June 2020 - present	CAREER: Volcano-Tectonic Interactions During Early Phases of Continental Rifting, PI, NSF Geophysics , \$625,000
Mar 2019 – present	Subsidence Monitoring Network to Improve Elevation Datum Quality for Comprehensive Analysis of Land Motion Effects on Marsh Migration in The Chesapeake Bay, co-PI, USGS , \$170,000
Oct 2018 – Oct 2019	Measuring Vertical Land Motions in the Hampton Roads Area, Virginia: Towards Investigating Land Subsidence Processes in the Chesapeake Bay Virginia Tech Coastal Hazards Seed Grant, PI, \$5000
Oct. 2017 - May 2018	Collecting Observations for Data Analysis and Encoding in the Geosciences (CODE-GEO) Virginia Tech ICTAS, PI, \$10,000
Sept. 2017- present	Brokered Alignment of Long-Tail Observations (BALTO) NSF EarthCube Integration , PI, \$1.4 M total, \$572,342
Oct. 2016 - present	Collaborative Proposal: An Expanded Implementation of Cloud-Hosted Real-time Data Services for the Geosciences (CHORDS) NSF EarthCube Program , co-PI, \$87,815 (+ \$24,269 supplement)

- July 2016 - present Collaborative Research: Quantifying plume-lithosphere interactions with GNSS geodesy, seismology, and geodynamic modeling
NSF GeoPRISMS Program, PI, \$393,047 (+REU for \$6000)
- Apr. 2017-Nov. 2018 Impending Volcano Eruption Response in Northern Tanzania
National Geographic Society Rapid Grant, PI, \$18,500
- July 2016–June 2017 Geodetic and Geochemical Constraints on the Hypothesized Lwandle-Somalia Plate Boundary in Northern Madagascar
National Geographic Society Waitt Program, co-PI, \$14,185
- Mar 2014-Mar 2015 An investigation of plate boundary formation in Madagascar
National Geographic Society Committee for Research and Exploration, PI, \$25,056
<http://www.nationalgeographic.com/explorers/bios/d-sarah-stamps/>
- June 2013-Aug 2015 An investigation of continental rift-parallel deformation, PI,
NSF Earth Sciences Postdoctoral Research Fellowship, \$170,000
- Dec 2011-Apr 2013 Kinematic constraints on the Lwandle-Somalia plate boundary across Madagascar from GPS Geodesy – Is Madagascar Breaking Apart, PI,
National Geographic Society Waitt Program, \$15,000
- June 2009–May 2013 Testing rifting models in the East African Rift, PI, **NSF Earth Sciences Graduate Research Fellowship**, \$100,000

PUBLICATIONS IN REVIEW

- ****Rajaonarison, T.A., D.S. Stamps, J. Naliboff** (in review), Role of Lithospheric Buoyancy Forces in Driving Deformation in East African from 3D Geodynamic Modeling, *Geophysical Research Letters*
- ****Njinju, E.A., D.S. Stamps, K Neumuller, J. Gallagher** (in review), Lithospheric control of melt generation beneath the Rungwe Volcanic Province, East Africa, *Journal of Geophysical Research*

REFEREED PUBLICATIONS (23; H-Index 13; I10 index 13; Citations 1028)

****student author *Corresponding Author**

1. **D.S. Stamps, C. Kreemer, R. Fernandes, T. Rajaonarison, G. Rambolamanana** (in press), Redefining East African Rift System Kinematics, *Geology*
2. Glerum, A., S. Brune, **D.S. Stamps, M. Strecker**, Why does Victoria rotate? Continental microplate dynamics in numerical models of the East African Rift, 2020, *Nature Communications*
3. ****Rajaonarison, T.A., D.S. Stamps, S. Fishwick, S. Brune, A. Glerun, J. Hu**, 2020, Numerical Modeling of Mantle Flow Beneath Madagascar to Constrain Upper Mantle Rheology Beneath Continental Regions, *Journal of Geophysical Research*, doi: 10.1029/2019JB018560
4. ****Njinju A. E., E. Atekwana, D.S. Stamps, M.G. Abdelsalam, E.A. Atekwana, K.L. Mickus, V.N. Nyalugwe**, 2019, Lithospheric Structure of the Malawi Rift: Implications for Rifting Processes in Magma Poor Rift Systems, *Tectonics*, doi:10.1029/2019TC005549
5. Rui, X. and **D. S. Stamps**, 2019b, Strain Accommodation in the Liangshan Mountain area, Southeastern Margin of the Tibetan Plateau, *Journal of Geophysical Research*, doi: 10.1029/2019JB017614

6. ****Njinju A. E., F. Kolawole, E.A. Atekwana, D.S. Stamps, E.A. Atekwana, M.G. Abdelsalam, K.L. Mickus, A.B. Katumwehe, and V.N. Nyalugwe, 2019, Terrestrial heat flow in the Malawi Rifted Zone, East Africa: Implications for tectono-thermal inheritance in continental rift basins, *Journal of Volcanology and Geothermal Research*, doi:10.1016/j.jvolgeores.2019.07.023**
7. ****Jones, J. R., Stamps, D. S., Wauthier, C., Saria, E., and Biggs, J., 2019, Evidence for slip on a border fault triggered by magmatic processes in an immature continental rift. *Geochemistry, Geophysics, Geosystems*, 20, 2515–2530. doi:10.1029/2018GC008165**
8. **Rui, X., D.S. Stamps, A Geodetic Strain Rate and Tectonic Velocity Model for mainland China Based on GNSS Data Spanning 1996-2017, 2019a, *Geochemistry, Geophysics, Geosystems*, 20, 1280–1297. doi:10.1029/2018GC007806**
9. **Stamps, D.S., E. Saria, C. Kreemer, 2018, Sub-Saharan Africa Geodetic Strain Rate Model 1.0, *Scientific Reports*, 20, 1280-1297, doi:10.1038/s41598-017-19097-w**
10. **F. Kolawole, E. A. Atekwana, **S. Malloy, D. S. Stamps, R. Grandin, M. G. Abdelsalam, K. Leseane and E. M. Shemang, Aeromagnetic and gravity data, and Differential Interferometric Synthetic Aperture Radar (DInSAR) analysis reveal the causative fault of the April 3, 2017 Mw 6.5 Moijabana, Botswana Earthquake, 2017, *Geophysical Research Letters*, 44, 8837–8846, doi:10.1002/2017GL074620**
11. **Ji, K.H., *Stamps, D.S., Geirsson, H., Mashagiro, N., Syauswa, M., Kafudu, B., Subira, J. and d'Oreye, N., 2017, Deep magma accumulation at Nyamulagira volcano in 2011 detected by GNSS observations, Special Pub. on Kivu Rift, *Journal of African Earth Sciences*, 134, 824-830, doi: 10.1016/j.jafrearsci.2016.06.006 *corresponding author.**
12. **Muirhead, J.D., S.A. Kattenhorn, H. Lee, S. Mana, B.D. Turrin, T.P. Fischer, G. Kianji, E. Dindi, and D.S. Stamps, 2016, Evolution of upper crustal faulting assisted by magmatic volatile release during early-stage continental rift development in the East African Rift, *Geosphere*, 12 (6), doi:10.1130/GES01375.1**
13. **Rui, X. and D.S. Stamps, 2016, Present-day kinematics of the eastern Tibetan Plateau and Sichuan Basin: Implications for lower crustal rheology. *Journal of Geophysical Research*, 121(5), 3846-3866, doi:10.1002/2016JB012839**
14. **Saschau, T., D. Koehn, D.S. Stamps, M. Lindenfield, 2015, Fault kinematics and stress fields in the Rwenzori Mountains, Uganda, *International Journal of Earth Sciences*, 105(6), 1729–1740, doi:10.1007/s00531-015-1162-6**
15. **Stamps, D.S., G. Iaffaldano, E. Calais 2015, Role of mantle flow in Nubia-Somalia divergence, *Geophysical Research Letters*, 42(2), 290-296, doi:10.1002/2014GL062515.**
16. **Stamps, D.S., L.M. Flesch, E. Calais, A. Ghosh, 2014, Current kinematics and dynamics of Africa and the East African Rift, *Journal of Geophysical Research*, 119(6), 5161-5186 doi:10.1002/2013JB010717**
17. **Saria, E., E. Calais, D.S. Stamps, D. Delvaux, C.J.H. Hartnady, 2014, Present-day kinematics of the East African Rift, 119(4), 3584-3600, *Journal of Geophysical Research*, doi:10.1002/2013JB010901**

18. Fernandes, R., Miranda, J. M., Delvaux, D., **D.S., Stamps**, E. Saria, 2013, Re-evaluation of the kinematics of Victoria Plate using continuous GNSS data, *Geophysical Journal International*, 193(1), 1-10, doi:10.1093/gji/ggs071
19. **Stamps, D.S.**, L.M. Flesch, E. Calais, 2010, Lithospheric buoyancy stresses in Africa from a thin sheet approach, *International Journal of Earth Sciences, Special Publication on Continents in Extension*, 99(7), 1525–1533, doi: 10.1007/s00531-010-0533-2
20. Calais, E., N. d'Oreye, J. Alberic, A. Deschamps, D. Delvaux, J. Deverchere, C. Ebinger, R.W. Ferdinand, F. Kervyn, A.S. Macheyeke, A. Oyen, J. Perror, E. Saria, B. Smets, **D.S. Stamps**, C. Wauthier, 2008, Aseismic strain accommodation by slow slip and dyking in a youthful continental rift, East Africa, *Nature*, 456, 783–787, doi:10.1038/nature07478
21. **Stamps, D.S.**, E. Calais, E. Saria, C. Hartnady, J.-M. Nocquet, C.J. Ebinger, and R. Fernandes, 2008, A kinematic model for the East African Rift, *Geophysical Research Letters*, 35(5), L05304, doi:10.1029/2007GL032781
22. Smalley, R. Jr., I.W. Dalziel, M.G. Bevis, E. Kendrick, **D.S. Stamps**, E.C. King, F.W. Taylor, E. Lauria, A. Zakrajsek, and H. Parra, 2007, Scotia arc kinematics from GPS geodesy, *Geophysical Research Letters*, 34(21), L21308, doi:10.1029/2007GL031699
23. **Stamps, D.S.**, R. Smalley, Jr., 2006, Strings and Things for Locating Earthquakes, *Seismological Research Letters*, Vol. 77(6), 677-683, doi:10.1785/gssrl.77.6.677

DATA PRODUCTS AND SOFTWARE (28; 26 with doi's; 24 open-access GPS Data Sets at UNAVCO; 2 NSF ASPECT CIG; 2 NSF EarthCube cyberinfrastructure)

1. **Stamps, D. Sarah**, Nyblade, Andy, Tugume, Fred, 2019, Uganda-Kenya Eastern Branch GNSS Network - UGN1, UNAVCO, Inc., GPS/GNSS Observations Dataset, <https://doi.org/10.7283/5YWS-G946>
2. **Stamps, D. Sarah**, Nyblade, Andy, Tugume, Fred, 2019, Uganda-Kenya Eastern Branch GNSS Network - UGN2, UNAVCO, Inc., GPS/GNSS Observations Dataset, <https://doi.org/10.7283/96K9-CY19>
3. **Stamps, D. Sarah**, Nyblade, Andy, Tugume, Fred, 2019, Uganda-Kenya Eastern Branch GNSS Network - UGN3, UNAVCO, Inc., GPS/GNSS Observations Dataset, <https://doi.org/10.7283/NCNX-MF08>
4. **Stamps, D. Sarah**, Nyblade, Andy, Kianji, Gladys, 2019, Uganda-Kenya Eastern Branch GNSS Network - KYN1, UNAVCO, Inc., GPS/GNSS Observations Dataset, <https://doi.org/10.7283/PGZG-QN51>
5. **Stamps, D. Sarah**, Nyblade, Andy, Kianji, Gladys, 2019, Uganda-Kenya Eastern Branch GNSS Network - KYN2, UNAVCO, Inc., GPS/GNSS Observations Dataset, <https://doi.org/10.7283/879W-ZH24>
6. **Stamps, D. Sarah**, Nyblade, Andy, Kianji, Gladys, 2019, Uganda-Kenya Eastern Branch GNSS Network - KYN3, UNAVCO, Inc., GPS/GNSS Observations Dataset, <https://doi.org/10.7283/JW25-DC44>
7. **Stamps, D. Sarah**, Nyblade, Andy, Kianji, Gladys, 2019, Uganda-Kenya Eastern Branch GNSS Network - KYN4, UNAVCO, Inc., GPS/GNSS Observations Dataset, <https://doi.org/10.7283/OZK5-HF19>.
8. **Stamps, D. Sarah**, Nyblade, Andy, Kianji, Gladys, 2019, Uganda-Kenya Eastern Branch GNSS Network - KYN5, UNAVCO, Inc., GPS/GNSS Observations Dataset, <https://doi.org/10.7283/MC7S-S138>

9. **Stamps, D. Sarah**, Nyblade, Andy, Kianji, Gladys, 2019, Uganda-Kenya Eastern Branch GNSS Network - KYN6, UNAVCO, Inc., GPS/GNSS Observations Dataset, <https://doi.org/10.7283/GWTD-X957>.
10. **Stamps, D. Sarah**, Nyblade, Andy, Kianji, Gladys, 2019, Uganda-Kenya Eastern Branch GNSS Network - KYN7, UNAVCO, Inc., GPS/GNSS Observations Dataset, <https://doi.org/10.7283/TDCA-Z146>
11. **Stamps, D.S.**, Saria, Elifuraha, Hyeun Ji, Kang, ***Jones, J. Robert*, Ntambila, Daud, Daniels, Mike and Mencin, Dave, 2017a, TZVOLCANO: OLO6-OLO6_OLO_TZA2017 P.S., UNAVCO, GPS Data Set, doi:10.7283/T51V5CR2
12. **Stamps, D.S.**, Saria, Elifuraha, Hyeun Ji, Kang, ***Jones, J. Robert*, Ntambila, Daud, Daniels, Mike and Mencin, Dave, 2017b, TZVOLCANO: OLO7-OLO7_OLO_TZA2017 P.S., UNAVCO, GPS Data Set, doi:10.7283/T5F47MW0
13. **Stamps, D.S.**, Saria, Elifuraha, Hyeun Ji, Kang, ***Jones, J. Robert*, Ntambila, Daud, Daniels, Mike and Mencin, Dave, 2017c, TZVOLCANO: OLO8-OLO8_OLO_TZA2017 P.S., UNAVCO, GPS Data Set, doi:10.7283/T59C6W64
14. **Stamps, D.S.**, Saria, Elifuraha, Hyeun Ji, Kang, ***Jones, J. Robert*, Ntambila, Daud, Daniels, Mike and Mencin, Dave, 2016a, TZVOLCANO: OLO1-OLO1_OLO_TZA2016 P.S., UNAVCO, GPS Data Set, doi:10.7283/T5TB15P4
15. **Stamps, D.S.**, Saria, Elifuraha, Hyeun Ji, Kang, ***Jones, J. Robert*, Ntambila, Daud, Daniels, Mike and Mencin, Dave, 2016b, TZVOLCANO: OLO2-OLO2_OLO_TZA2016 P.S., UNAVCO, GPS Data Set, doi:10.7283/T5JS9P7J
16. **Stamps, D.S.**, Saria, Elifuraha, Hyeun Ji, Kang, ***Jones, J. Robert*, Ntambila, Daud, Daniels, Mike and Mencin, Dave, 2016c, TZVOLCANO: OLO3-OLO3_OLO_TZA2016 P.S., UNAVCO, GPS Data Set, doi:10.7283/T5Z31XFX
17. **Stamps, D.S.**, Saria, Elifuraha, Hyeun Ji, Kang, ***Jones, J. Robert*, Ntambila, Daud, Daniels, Mike and Mencin, Dave, 2016d, TZVOLCANO: OLO4-OLO4_OLO_TZA2016 P.S., UNAVCO, GPS Data Set, doi:10.7283/T55M64H7
18. **Stamps, D.S.**, Saria, Elifuraha, Hyeun Ji, Kang, ***Jones, J. Robert*, Ntambila, Daud, Daniels, Mike and Mencin, Dave, 2016e, TZVOLCANO: OLO5-OLO5_OLO_TZA2016 P.S., UNAVCO, GPS Data Set, doi:10.7283/T5PK0DXZ
19. Daniels, M. D., Kerkez, B., Chandrasekar, V., Graves, S., **Stamps, D. S.**, Martin, C., Dye, M., Gooch, R., Bartos, M., ***Jones, J.*, Keiser, K., 2016, Cloud-Hosted Real-time Data Services for the Geosciences (CHORDS) software (Version 0.9). UCAR/NCAR - Earth Observing Laboratory. <https://doi.org/10.5065/d6v1236q>
20. **Stamps, D.S.**, Saria E., Ji K-H, ***Jones J.*, Ntambila D., 2016f, TZVOLCANO real-time data stream, UNAVCO, GNSS/GPS Data Set, doi: <http://dx.doi.org/10.5065/D6P849BM>
21. ***Rajaonarison, T.* and **D.S. Stamps**, 2016, Adiabatic Boundary, CIG ASPECT
22. ***Rajaonarison*, 2016, Cartesian to WGS84 transformation utility, CIG ASPECT
23. **Stamps, D.S.** and G. Rambolamanana, 2015, Madagascar 2014, UNAVCO, GPS Data Set, doi:10.7283/T5WS8RKK
24. **Stamps, D.S.** and F. Tugume, 2015, Uganda 2014, UNAVCO, GPS Data Set, doi:10.7283/T5SN077
25. **Stamps, D.S.** and E. Saria (2015), Tanzania 2014, UNAVCO, GPS Data Set, doi:10.7283/T5XD0ZZG

26. **Stamps D.S.** and G. Rambolamanana, (2012), Madagascar Uganda 2012: Madagascar 2012, UNAVCO, GPS Data Set, doi:10.7283/T5HX19S6
27. **Stamps D.S.** and D. Koehn, (2012), Madagascar Uganda 2012: Uganda 2012, UNAVCO, GPS Data Set, doi:10.7283/T5HX19S6
28. **Stamps, D.S.** and G. Rambolamanana, (2010), Tanzania Madagascar Uganda 2010: Madagascar, UNAVCO, GPS Data Set, doi:10.7283/T5000052

UNREFEREED PUBLICATIONS

1. Evans, Eileen L.; Nikulin, Alex; Ford, Heather A.; Stamps, D. Sarah; Creasy, Neala; Swiatlowski, Jeryl; et al. (2020): An Early Career Investigator Community Vision for the Future NSF Geophysical Facility: Education, Workforce, and Outreach Needs. figshare. Online resource. <https://doi.org/10.6084/m9.figshare.12398372.v1>
2. Ford, Heather A.; Floyd, Michael; Stamps, D. Sarah; Mendoza, Manuel; Bozdog, Ebru; Bowden, Daniel; et al. (2020): An Early Career Investigator Community Vision for the Future NSF Geophysical Facility: Data Services Needs. figshare. Online resource. <https://doi.org/10.6084/m9.figshare.12398321.v1>
3. Stamps, D. Sarah; Eilon, Zach; Fan, Wenyan; Lynner, Colton; Kehoe, Haiyang; Ford, Heather A.; et al. (2020): An Early Career Investigator Community Vision for the Future NSF Geophysical Facility: Instrumentation Services Needs. figshare. Online resource. <https://doi.org/10.6084/m9.figshare.12398288.v1>
4. NSF EARTHCUBE: A Position Paper on EarthCube adoption/promotion of principles embodied in the FAIR acronym for current and future activities, 2019, Rubin, K.H., Kelbert, A., **Stamps, D.S.**, Meier, O., Koskela, R. and the EarthCube Leadership Council
5. NSF EARTHCUBE REPORT: Ouida Meyer, **D. Sarah Stamps**, Lynne Schreiber, and the EarthCube Science Committee, 2018, EarthCube Resources for GEO-CI Workshops, <https://doi.org/10.5281/zenodo.3371777>
6. NSF EARTHCUBE REPORT: David Arctur, Scott Peckham, **D. Sarah Stamps**, Bob Arko, Janet Fredericks, 2016, AIP Tiger Team Response to the Xenity Architecture Implementation Plan
7. NSF EARTHCUBE SCIENCE COMMITTEE REPORT: Aronson E, Bristol S, Burgess AB, Chandrasekar V, Close H, van Eyken T, Ferrini V, Gomez B, Kinkade D, Kelbert A, Martin RL, Ritterbush K, Rubin K, Schmittner A, Slota S, **Stamps DS**, Stocks K, Tzeng MW, Wiebe P, Wood-Charlson E, 2015, Geoscience 2020: Cyberinfrastructure to reveal the past, comprehend the present, and envision the future, EarthCube Working Paper ECWP-2015-1, [dx.doi.org/10.7269/P3MG7MDZ](https://doi.org/10.7269/P3MG7MDZ)
8. WHITE PAPER: Douglas B., R, Bennett, **D.S. Stamps**, N. Niemi, B. Wang, E. Nissan, M, Oskin, A. Duvall, M.Hamburger, 2015, Current directions of field science education with respect to geodetic technologies, White Paper for Workshop on Future Seismic and Geodetic Facility Needs in the Geosciences, May 4-6, 2015.
9. WHITE PAPER: **Stamps D.S.** et al., 2013, An investigation of rift-parallel surface deformation along the East African Rift System, GeoPRISMS Planning Workshop for East African Rift, Morristown, NJ, 10/25/13-10/27/13.

10. WHITE PAPER: **Stamps D.S.** et al., 2013, An investigation of plate boundary formation in Madagascar, GeoPRISMS Planning Workshop for East African Rift, Morristown, NJ, 10/25/13-10/27/13.

PRESS

1. Geosciences' D. Sarah Stamps rocks science in National Geographic Kids book, July 15, 2019, Virginia Tech College of Science News, S. Mackay
2. UNAVCO Highlight: CHORDS Provides Next Generation Infrastructure for Real-time Geoscience Data Services, March 9, 2019
3. Spring Virginia Tech Science Magazine for CODE-GEO Spring Break trip. S. Mackay, 2018
4. National Geographic "Earth and Space Science" by Mark Hendrix High School Textbook featurette, to be released in 2019
5. National Geographic Explorer consultant for "Absolute Expert: Rocks and Minerals" by Ruth Strother, National Geographic Kids Book
6. Invited AGU Policy Twitter featured Tweet (2018)
7. Geoscience's D. Sarah Stamps to spearhead \$1.4 million NSF grant to build key cyberinfrastructure project (2017), Virginia Tech News, Jessi Rogers, https://vtnews.vt.edu/articles/2017/10/Science-Stamps_balto_funding.html
8. National Geographic Story (2017) 'Mountain of God' Volcano Preparing to Erupt, Micheal Greshko, <http://news.nationalgeographic.com/2017/07/tanzania-volcano-eruption-ancient-humans-science/>
9. Geosciences team to place GPS sensors around Tanzanian volcano in effort to predict eruptions (2016), Virginia Tech News, S. Mackey, <https://vtnews.vt.edu/articles/2016/06/science-volvcanotanzaniastudy.html>
10. Rifting in Eastern Africa: Geodetic data deciphers spreading forces (2014) UNAVCO Geodetic Science Snapshot, written by L. Rowen, <http://www.unavco.org/science/snapshots/solid-earth/2014/stamps.html>
11. Plate tectonics in the East African Rift (2008) UNAVCO Highlight, <https://www.unavco.org/highlights/2008/stamps.html>

TEACHING EXPERIENCE

Spring 2020	Virginia Tech	Blacksburg, VA
Spring 18-19	Assistant Professor	
Spring 2016	Tectonics/Advanced Tectonics	
Spring 19,20	Virginia Tech	Blacksburg, VA
Fall 2019	Assistant Professor	
Fall 17-18	Hazards in the Geosciences: Geosciences in the Cinema	
Fall 2018	Virginia Tech	Blacksburg, VA
Fall 2020	Geodesy in the Earth Sciences	

June 2018	AfricaArray Annual Meeting University of Witswatersand Instructor and developer International Scientific Collaboration and AfricaArray	Johannesburg, S. Africa
June 2017	AfricaArray Annual Meeting University of Witswatersand Instructor and developer Experiment Design and Implementation with GNSS	Johannesburg, S. Africa
Spring 2017	Virginia Tech Assistant Professor, co-led by J. Spotila Active Tectonics Seminar	Blacksburg, VA
Fall 2016	Virginia Tech Assistant Professor Tectonic Geodesy	Blacksburg, VA
Fall 2015	Virginia Tech	Blacksburg, VA
Fall 2017	Assistant Professor, co-taught with S. King in 2015	
Fall 2020	Geodynamics and ASPECT	
Winter 2015	University of California, Los Angeles Assistant Adjunct Professor Geologic Maps	CA, USA
July 2014	University of Antananarivo Lead Instructor and Developer (international teaching staff) <i>Introduction to GPS Geodesy and High Precision Observations</i> http://www.unavco.org/education/advancing-geodetic-skills/short-courses/2014/gps/gps.html	Madagascar
March 2013	University of Bukavu Instructor and Developer <i>GPS Geodesy and Applications in Geodynamics Short-Course</i>	Dem. Rep. of Congo
Sum 2010 – Spring 2012	Purdue University Teaching Assistant, Laboratory Instructor, or Guest Lecturer <i>Physical Geology, Geosciences in the Cinema, Dynamics Earth</i>	IN, USA
Fall 2013	Boston University Guest Lecturer <i>Introductory Geophysics</i>	MA, USA
June 2013	University of Antananarivo Instructor and Developer <i>GPS Training Program</i>	Madagascar

Spr 2007 - **Center for Earthquake Research and Information** TN, USA
Fall 2007 Student Teacher

Spring 2005 **The University of Memphis** TN, USA
Instructor
Environmental Geology Laboratory

STUDENTS AND RESEARCHERS

Tahiry Rajaonarison, PhD student, August 2015 - present, Virginia Tech
Joshua R. Jones, PhD student, January 2016 - present, Virginia Tech
Emmanuel Njinju, PhD student, August 2017 - present, Virginia Tech
Karen Williams, PhD student, August 2020*, Virginia Tech
Gabbi Troia, Undergraduate researcher, Oct 2019 – present, Virginia Tech
Miles Mason, Undergraduate researcher, Oct 2019 – present, Virginia Tech

Previous

Rebecca Plosay, Undergraduate researcher, Oct 2019 – May 2020, Virginia Tech
Ryan Roane, Undergraduate researcher, January 2018 – July 2020, Virginia Tech
Roberto Gorjon-Andujar, Undergraduate researcher, August 2018 – May 2020, Virginia Tech
Israel Mamo, Undergraduate researcher, May 2019 – June 2019, Virginia Tech
ThaoVy Nguyen, Undergraduate researcher, April 2017 – June 2019, Virginia Tech
Sarah Morgan, Undergraduate researcher, January 2018 – December 2018, Virginia Tech
Rui Xu, Associate Researcher, 2017-2018, Sichuan Earthquake Bureau, China
Jessica Schobelock, Masters student, now Software Engineer at Capitol One
Sean Malloy, Undergraduate researcher, now Field Engineer at UNAVCO
Codi Wiersma, Undergraduate researcher, now graduate student at Virginia Tech
Jared Guzman, Undergraduate researcher
Greg Jesmok, Undergraduate researcher, 2016, University of California, Los Angeles
Raul Carrillo, Undergraduate researcher, 2016, University of California, Los Angeles
Herimitsinjo Nia, Masters II, November 2015, University of Antananarivo, Madagascar
Tahiry Rajaonarison, Masters II, August 2013, University of Antananarivo, Madagascar

ORAL PRESENTATIONS (selected)

Apr 2020 University of California, Los Angeles
Clues about the break-up of the African continent

Feb 2020 Vertical Land Motions in the Chesapeake Bay Workshop
What geologic processes could impact vertical land motions?

Feb 2020 University of New Mexico
Clues about the break-up of the African continent

Nov 2019 Michigan State University as CIG Distinguished Lecturer
Clues about the break-up of the African continent

Nov 2019 Grand Valley State University as CIG Distinguished Lecturer
Clues about the break-up of the African continent

April 2019 The University of Memphis
Re-Evaluating the Somalian Plate: an update on East African kinematics

- March 2019 Penn State University
Re-Evaluating the Somalian Plate: an update on East African kinematics
- Nov 2018 University of Delaware
Advances in the kinematics of the East African Rift System
- Oct 2018 International Conference on the East African Rift System (Tanzania)
- *A geodetic strain rate model for the East African Rift System*
- *The Tanzania Volcano Observatory*
- Sept 2018 Appalachian State University
Advances in the kinematics of the East African Rift System
- June 2018 University of Witwatersand, AfricaArray Annual Meeting
Is active tectonics on Madagascar consistent with Somalia Plate kinematics?
- June 2018 EarthCube All-Hands Meeting
Tanzania Volcano Observatory: Implementing Real-Time GNSS Monitoring with the EarthCube Cyberinfrastructure CHORDS
- Apr 2018 Hampton University as NSF CIG Distinguished Lecturer
Advances in the Kinematics and Dynamics of Africa
- Dec 2017 American Geophysical Union Fall Meeting
Invited Speaker: *Is active tectonics on Madagascar consistent with Somalia Plate kinematics?*
- July 2017 University of Witwatersand, AfricaArray Annual Meeting
Keynote: *Advances in the Kinematics and Dynamics of Africa*
- April 2017 University of Kentucky, Holbrook Lecture
Present-day kinematics of the eastern Tibetan Plateau and Sichuan Basin: Implications for lower crustal rheology
- January 2017 University of Michigan, The Smith Lecture
Continental Rift Initiation: Top Down and Bottom Up Perspectives
- June 2016 Ardhi University, Tanzania, Departmental Special Seminar
Crustal Deformation and Volcano-Tectonic Interactions in East Africa
- Apr 2016 Princeton University
Dynamics of Lithosphere-Asthenosphere Interactions Along the East African Rift
- Mar 2016 UNAVCO Science Workshop
Invited Speaker: *Implications of Lithosphere-Asthenosphere Interactions on Rift-Parallel Deformation*
- Mar 2016 Office of Foreign Disaster Assistance, USAID
TZVOLCANO project introduction
- Mar 2016 Volcano Disaster Assistance Program, United States Geological Survey
TZVOLCANO project introduction
- Mar 2016 Global Volcanism Program, Smithsonian Institute
TZVOLCANO project introduction

- Feb 2016 National Geographic Headquarters, Washington, D.C.
Is Madagascar Breaking Apart?
- Dec 2015 American Geophysical Union Fall Meeting, San Francisco, CA
Continental Deformation in Madagascar from GNSS Observations
- Mar 2015 Virginia Tech, Blacksburg, VA, Departmental Colloquium
Continental Rift-Parallel Surface Motions in Africa
- Jan 2014 Harvard University, Cambridge, MA
Evidence of Rift-Parallel Deformation Along the Western Branch and Main Ethiopian Rift?
- Dec 2013 University of California, Los Angeles, CA
Evidence of Rift-Parallel Deformation Along the Western Branch and Main Ethiopian Rift?
- Nov 2013 Massachusetts Institute of Technology, Cambridge, MA
Rift-Parallel Deformation Along the East African Rift
- Nov 2013 Active Volcanism and Continental Rifting Conference, Rwanda
Keynote: *Kinematics and Dynamics of the East African Rift*
- Oct 2012 NSF GeoPRISMS East African Rift Planning Workshop, New Jersey
Role of Mantle Flow on Rifting in East Africa
- June 2012 Queen Elizabeth National Park 2012 Research Symposium, Uganda
GPS Experiments in the East African Rift
- Nov 2011 University of Memphis – Memphis, TN
The East African Rift: kinematics and dynamics
- Aug 2010 University of Antananarivo, Madagascar
Kinematics of the Lwandle-Somalia Plate Boundary from GPS Geodesy: Is Madagascar Breaking Apart?
- Oct 2010 IGCP 565 Workshop on separating hydrologic and tectonic signals in geodetic data: GPS Experiments in the East African Rift – Reno, NV
GPS Experiments in the East African Rift

COLLABORATORS AND OTHER AFFILIATIONS

International Collaborators: Kang-Hyeun Ji (Korea Institute for Geosciences and Mineral Resources), Xu Rui (Sichuan Earthquake Bureau, now Sichuan University), Elifuraha Saria (Ardhi University, Tanzania), Gerard Rambolamanana (University of Antananarivo, Madagascar), Fred Tugume (Geological Survey and Mines, Department Ministry of Natural Resources of Uganda), Gladys Kianji (University of Nairobi), Stewart Fishwick (University of Leicester), Juliet Biggs (University of Bristol), Sascha Brune (GFZ), Anne Glerum (GFZ)

U.S. Collaborators: Corné Kreemer (University of Nevada, Reno), James Gallagher and Dave Fulker (OPeNDAP), Mike Daniels (UCAR), Dave Mencin (UNAVCO), Andy Nyblade (Penn State), Wolfgang Bangerth (Colorado State University), Christelle Wauthier (Penn State), Estella Atekwana (Oklahoma State University), Scott Peckham (University of Colorado), Anne Sheehan (University of Colorado), Zach Easton and Dan Fuka (Virginia Tech), Deidre Gibson and Bill

Moore (Hampton University), Chuck Meertens (UNAVCO), J. Hu (CalTech), John Naliboff (UC Davis), Brad Aagaard (USGS)

Graduate Advisor: Eric Calais, Ecole Normale Supérieure (formerly Purdue University)

Major Postdoctoral Advisor: Brad Hager, Massachusetts Institute of Technology

PROFESSIONAL COMMUNITY SERVICE

Early Career Investigator Virtual Workshop for Visioning the Future NSF Geophysical Facility, co-leader	2020
Public Access to Data Committee at Virginia Tech	2019 - present
NSF EarthCube Leadership Council (elected)	2017 - 2019
UNAVCO Virginia Tech Institutional member representative	2015 - present
NSF EarthCube Science Committee	2015 - present
NSF EarthCube P418-GUI Advisory Team	2018 - 2019
Grand Challenges in Geodesy Workshop	2018
NSF EarthCube Registry Priority Action Team	2017
NSF EarthCube 2017 All-Hands Meeting Organizing Committee	2017
EarthCube Architecture and Implementation Plan	2016
UNAVCO Education and Community Engagement Committee	2009-2012, 2015-2017
American Geophysical Union Fall Meeting Session, Co-chair	2014, 2016, 2017
American Geophysical Union Geodesy Executive Committee	2008-2010

PROFESSIONAL SOCIETY MEMBERSHIPS

- American Geophysical Union
- Geological Society of America
- Seismological Society of America
- American Association for the Advancement of Science
- International Association for Geoscience Diversity

COMPUTATIONAL SKILLS

- SELEN 4.0
- GAMIT-GLOBK GNSS/GPS processing software maintained at MIT
- Generic Mapping Tools, Matlab, TDEFNODE, LaTeX, SHELLS, AWK, vi
- sparse codes in Fortran (Holt and Haines, 1993; Flesch et al., 2001; Stamps et al., 2010, 2014, 2018)
- Coulomb 3.4
- CHORDS and Grafana
- GitHub community code development and contributions ASPECT (Computational Infrastructure for Geodynamics Community Code) in C++

BOOKS

National Geographic Kids Book, Absolute Expert: Rocks and Minerals (2019), featured National Geographic Explorer and scientific advisor, author: Ruth Strother