

D. Sarah Stamps

Virginia Tech
3651
Department of Geosciences
4044 Derring Hall
Blacksburg, VA 24061

Phone: (+1) 540-231-

Fax: (+1) 540-231-3386

Email: dstamps@vt.edu

<http://www.geodesy.geos.vt.edu>
[National Geographic Explorer](#)

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 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 PROPOSALS

| | |
|----------------------|--|
| 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 , \$150,000 |
| Oct 2018 – present | 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, \$234,958 |
| 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 UNDER REVIEW OR IN REVISIONS

- Glerum, A., S. Brune, **D.S. Stamps**, M. Strecker, Why does Victoria rotate? Continental microplate dynamics in numerical models of the East African Rift, (in review), *Nature Communications*

REFEREED PUBLICATIONS (21; H-Index 11; !H index 12; Citations 808)

**student author *Corresponding Author

1. ***Rajaonarison, T.A.*, D.S. Stamps, S. Fishwick, S. Brune, A. Glerun, J. Hu, (accepted), Numerical Modeling of Mantle Flow Beneath Madagascar to Constrain Upper Mantle Rheology Beneath Continental Regions, *Journal of Geophysical Research*
2. ***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*
3. Rui, X. and **D. S. Stamps**, 2019, Strain Accommodation in the Liangshan Mountain area, Southeastern Margin of the Tibetan Plateau, *Journal of Geophysical Research*
4. ***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
5. ***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
6. Rui, X., **D.S. Stamps**, A Geodetic Strain Rate and Tectonic Velocity Model for mainland China Based on GNSS Data Spanning 1996-2017, 2019, *Geochemistry, Geophysics, Geosystems*, 20, 1280–1297. doi:10.1029/2018GC007806
7. **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

8. 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 Mojabana, Botswana Earthquake, 2017, *Geophysical Research Letters*, 44, 8837–8846, doi:10.1002/2017GL074620
9. Ji, K.H., ***Stamps, D.S.**, Geirsson, H., Mashagiro, N., Syaushwa, 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.
10. 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
11. 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
12. Saschau, T., D. Koehn, **D.S. Stamps**, M. Lindenfeld, 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
13. **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.
14. **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
15. 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
16. 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
17. **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
18. 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. Perron, 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
19. **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

20. 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
21. **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/10.7283/0ZK5-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> (first of its kind for GNSS/GPS data)
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. 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
2. 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>

3. 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
4. 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)
5. 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.
6. 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.
7. 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-volvcannotanzaniastudy.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 20* | Virginia Tech | Blacksburg, VA |
| Spring 18-19 | Assistant Professor | |
| Spring 2016 | Tectonics/Advanced Tectonics | |
| Fall 2019 | Virginia Tech | Blacksburg, VA |
| Spring 19 | Assistant Professor | |
| Fall 17-18 | Hazards in the Geosciences: Geosciences in the Cinema | |
| Fall 2018 | Virginia Tech | Blacksburg, VA |
| | Geodesy in the Earth Sciences | |
| June 2018 | AfricaArray Annual Meeting University of Witswatersand | Johannesburg, S. Africa |
| | Instructor and developer | |
| | International Scientific Collaboration and AfricaArray | |
| June 2017 | AfricaArray Annual Meeting University of Witswatersand | Johannesburg, S. Africa |
| | Instructor and developer | |
| | Experiment Design and Implementation with GNSS | |
| Spring 2017, | Virginia Tech | Blacksburg, VA |
| | Assistant Professor, co-led by J. Spotila | |
| | Active Tectonics Seminar | |
| Fall 2016 | Virginia Tech | Blacksburg, VA |
| | Assistant Professor | |
| | Tectonic Geodesy (now Geodesy in the Earth Sciences) | |
| Fall 2015 | Virginia Tech | Blacksburg, VA |
| Fall 2017 | Assistant Professor, co-taught with S. King in 2015 | |
| | Geodynamics and ASPECT | |
| Winter 2015 | University of California, Los Angeles | CA, USA |
| | Assistant Adjunct Professor | |
| | Geologic Maps | |
| July 2014 | University of Antananarivo | Madagascar |
| | 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 | |

| | | |
|---------------------------|--|--------------------|
| 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 - Fall 2007 | Center for Earthquake Research and Information Student Teacher | TN, USA |
| Spring 2005 | The University of Memphis Instructor Environmental Geology Laboratory | TN, USA |

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
 Ryan Roane, Undergraduate researcher, January 2018 – present, Virginia Tech
 Roberto Gorjon-Andujar, Undergraduate researcher, August 2018 – present, Virginia Tech
 Gabbi Troia, Undergraduate researcher, Oct 2019 – present, Virginia Tech
 Miles Mason, Undergraduate researcher, Oct 2019 – present, Virginia Tech
 Rebecca Plosay, Undergraduate researcher, Oct 2019 – present, Virginia Tech
 Winnie Avent, Undergraduate researcher, Dec 2019 – present, Virginia Tech

Previous

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)

- 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
- Aug 2009 Advanced Workshop on Monitoring, Evaluating, and Communicating Seismic and Volcanic Hazards in East Africa
Present-day Strain Rates and Large-scale Dynamics of 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), 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)

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

Major Postdoctoral Advisor: Brad Hager, Massachusetts Institute of Technology

PROFESSIONAL COMMUNITY SERVICE

| | |
|---|----------------------|
| 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 |
| Publication Reviewer | 2010-present |
| NSF Proposal Reviewer | 2013-present |
| 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 (requires knowledge of RINEX and BINEX geoscience data standards for GNSS/GPS data)
- Generic Mapping Tools, Matlab, TDEFNODE, LaTeX, SHELLS, AWK, vi
- sparse codes in Fortran (Holt and Haines, 1993; Flesch et al., 2001; Stamps et al., 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

PENDING AND PLANNED PROPOSALS

PI, PENDING, *CAREER: Volcano-Tectonic Interactions During Early Phases of Continental Rifting*, NSF Geophysics Program, 01/01/2020 – 12/30/2024, \$695,754

PI, PENDING, *Geodetic and Geodynamic Constraints on Vertical Land Motions and Mantle Viscosity Structure of the Chesapeake Bay and Surroundings*, NSF Geophysics Program, 07/01/2020 – 06/30/2024, \$436,515

PI, PLANNED (resubmission), *Collaborative Research: Dry Rifting in the Albertine-Rhino Graben (DRIAR), Uganda*, co-PIs: Estella Atekwana, Rob Evans, Susan Van der Lee, Mike Taylor, Eliot Atekwana, Andrew Katumwehe, NSF Frontiers in Earth Sciences Program, Planned for resubmission in February 2020, 08/01/2020-07/31/2024, \$3,000,000