
ANDREW A. NYBLADE

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EDUCATION

Ph.D.	Geology	1992	University of Michigan
M.S.	Geophysics	1985	University of Wyoming
B.A.	Geology	1982	Wittenberg University
B.A.	Earth Science Education	1982	Wittenberg University

PROFESSIONAL EXPERIENCE

2019-present	Head, Department of Geosciences, Pennsylvania State University
2007-present	Professor, Department of Geosciences, Pennsylvania State University
2004-present	Honorary Professor, School of Geosciences, The University of the Witwatersrand, Johannesburg, South Africa
2002-2007	Associate Professor, Department of Geosciences, Pennsylvania State University
2001-present	Faculty Affiliate, Graduate Program in Acoustics, Pennsylvania State University
2003	Cox/Blaustein Visiting Professor, Department of Geophysics, Stanford University
1997-2002	Assistant Professor, Department of Geosciences, Pennsylvania State University (tenure-track)
1994-1997	Assistant Professor, Department of Geosciences, Pennsylvania State University (fixed term appointment)
1995	Visiting Scientist, US Geological Survey, Branch of Seismology, Menlo Park, CA
1992-1993	National Science Foundation Postdoctoral Fellow, Department of Geosciences, Pennsylvania State University
1988-1991	Teaching and Research Assistant, Department of Geological Sciences, University of Michigan
1986-1988	High School Math and Physics Teacher, International School Moshi, Moshi, Tanzania
1985-1986	Exploration Geophysicist, Exxon Co. U.S.A., Denver, Colorado
1982-1985	Teaching and Research Assistant, Department of Geology and Geophysics, University of Wyoming

AWARDS AND HONORS

2018	Wilson Award for Outstanding Service, College of Earth and Mineral Sciences, Pennsylvania State University
2017	President's Award for Excellence in Academic Integration, Pennsylvania State University
2015, 2016	GeoPRISMS Distinguished Lectureship
2013	Elected Fellow of the American Geophysical Union
2012	Paul G. Silver Award for Outstanding Scientific Service, American Geophysical Union
2009	Diversity Recognition Award, Pennsylvania State University
2003	Cox/Blaustein Visiting Professorship, Department of Geophysics, Stanford University
1991	National Science Foundation Postdoctoral Fellowship
1983	Hill Foundation and Conoco Fellowships, University of Wyoming
1981	Phi Beta Kappa and Wittenberg Honor Society, Wittenberg University

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- American Geophysical Union
- Seismological Society of America
- Geological Society of America

EDITORIAL RESPONSIBILITIES

- **Associate Editor**, Lithosphere, Geological Society of America, 2008-2010
- **Tectonics Editor**, Books Board, American Geophysical Union, 2003-2010
- **Associate Editor**, Journal of Geophysical Research, American Geophysical Union, 1997-2000
- **Guest Editor**, South African Journal of Geology, special AfricaArray issue, 2009
- **Reviewed papers** for Bulletin Seismological Society of America, Earth and Planetary Science Letters, Geological Society of America Bulletin, Geology, Geophysical Journal International, Geophysical Research Letters, Gondwana Research, Journal of African Earth Sciences, Journal of Arid Environments, Journal of Geophysical Research, Journal of Volcanology and Geothermal Research, Marine and Petroleum Geology, Nature, Nature Communication, Petroleum Geoscience, Lithos, Physics of the Earth and Planetary Interiors, Science, Tectonophysics, The Journal of Geology, Lithosphere, South African Journal of Geology.
- **Reviewed book chapters** for Geological Society of London Special Publications, Geological Society of America Special Papers, Elsevier books, American Geophysical Union.
- **Reviewed proposals** for National Science Foundation, National Environmental Research Council (UK), Institute of Geophysics and Planetary Physics (University of California), Civilian Research and Development Foundation, Defense Threat Reduction Agency, National Nuclear Security Administration, Air Force Research Laboratory, National Research Foundation (South Africa), Department of Energy, Deutsche Forschungsgemeinschaft (DFG), American Chemical Society – Petroleum Research Fund, Swiss National Science Foundation, Australian Antarctic Science Division, Netherlands Organization for Scientific Research

AFRICAARRAY (2005-present)

A. Nyblade is a founder and co-director of AfricaArray (www.africaarray.org), a multifaceted initiative supporting science capacity building in Africa and the U.S. with a strong emphasis on enhancing diversity in the geosciences. The AfricaArray network of 53 permanent geophysical observatories in 17 African countries provides seismic, GPS and weather data openly to the community. Eighteen postdocs, 88 graduate students, and 128 U.S. undergraduate underrepresented minority students have been supported and mentored since 2005.

PENNSYLVANIA STATE SEISMIC NETWORK (PASEIS; 2006-present)

With support from the Pennsylvania Bureau of Topographic and Geologic Survey and Department of Environmental Protection, A. Nyblade constructed and operates a seismic network for the state of Pennsylvania (<http://paseis.geosc.psu.edu>). In 2016 the network was expanded from 10 to 30 stations and event location services were added.

MARCELLUS CENTER FOR OUTREACH AND RESEARCH (MCOR; 2016-present)

A. Nyblade is a co-director of MCOR (<http://www.marcellus.psu.edu>) and focuses his efforts on promoting geological, geophysical and environmental research related to shale gas and oil exploitation in the Appalachian Basin.

STUDENTS AND POSTDOCS SUPERVISED

Postdocs: Maryam Yousefi (current), Sampath Rathnayaka (current), Fenitra Andriampenomanana Ny Ony (current), Wei Wang (2019-2021), David Oakley (2019-2020), Natalie Accardo (2018-2019), Erica Emry (2012-2016), Sharim Shamsalsadati (2014-2016), John Paul O'Donnell (2011-2015), Ranto Raveloson (2011-2014), Gabriel Mulibo (2012-2013), Brian Bagley (2011-2012), Jordi Julià (2007-2011), Angela Reusch (2009-2010), Samantha Hansen (2008-2010), Mulugeta Dugda (2007-2009), Yongcheol Park (2007), Alemayehu Jemberi (2006-2007), Audrey Huerta (2005-2007), Richard Brazier (1996-1998)

PhD students at Penn State: Erica Lucas (current), Kyle Homman (current), Austin White-Gaynor (2020), David Yoxtheimer (2019), Cristo Ramirez (2017), Gabriel Mulibo (2012), Fred Tugume (2011), Aubreya Adams (2010), Angela Reusch (2009), Mulugeta Dugda (2007), Yongcheol Park (2007), Margaret Benoit (2005)

PhD students at the University of the Witwatersrand co-supervised with Ray Durrheim: Tsiriandrimanana Rakotondraibe (current), Azangi Mongongolo (current), Fenitra Andriampenomanana Ny Ony (2017), Nada Ahmed El Tahir (2015), Eldridge Kgaswane (2013)

PhD students at other African universities: Ofonime Akpan, University of Calabar, Nigeria (2016); Alain Tokam, University of Yaounde, Cameroon (2010)

MS students at Penn State: Kaelie Contreras (current), Lisa Ma (2020), Cate Bressers (2019), David Soto (2018), Kameron Ortiz (2018), Ashley Grijalva (2017), David Borrego (2016), Gabriella Arroyo (2015), Austin White-Gaynor (2015), Kyle Homman (2015), Marsella Kachingwe (2014), Priscilla Brownlow (2013), Katie Boyle (2012), Alysa Young (2012), Andrew Lloyd (2011), Stewart Rouse (2010), Marco Finotello (2009), Gabriel Mulibo (2008), Fred Tugume (2008), Timothy Watson (2005), Juliette Florentin (2002), Ronald Knox (1999), Robert Last (1996)

MS students at the University of the Witwatersrand co-supervised with Ray Durrheim: Gabriel Mbogoni (current), Helio Iguane (2017), Azangi Mongongolo (2011)

BS students at Penn State (senior theses supervised): Porraket Dehdacho (2020), Al Reem Alshimmari (2020), Alexandra Sabattier (2020), Chad Cole (2019), Chris Markle (2019), Nick Schuler (2019), Joey Grant (2019), Alonso Alzua (2018), Robby Miles (2018), Terrance Delisser (2018), Christian Falzone (2017), Tyler Betz (2016), Brandon Clark (2016), Mercedes Gainor (2016), Calvin Johnson (2013), Daniel Kluskiewicz (2010), Candra Gross (2010), Timothy Watson (2002), Edwin Leech (2001), Daniella Shore (1999), David Miller (1999), Andrew McIlhenny (1998), Stuart Humber (1997), Timothy Fives (1997), Stacey Geyer (1996), Brian Vacchiano (1996), Scott Anderson (1995), Scott Robinson (1994)

Students at other universities with one or more thesis chapter supervised: Seongryong Kim (Seoul National University, PhD, 2012); Ewenet Gashawbeza (Stanford University, PhD, 2004); Kristopher Walker (Stanford University, PhD, 2003); Christopher Birt (University of Leicester, PhD, 1996); Aloyce Tesha (University of Texas - El Paso, MS, 1995)

PEER-REVIEWED PAPERS AND BOOK CHAPTERS

(* Student advisee + Postdoc advisee)

2021

(195)⁺Andriampenomanana, F., **A. Nyblade**, R. Durrheim, F. Tugume, and J. Nyago,

- Shear wave splitting measurements in northeastern Uganda and southeastern Tanzania: Corroborating evidence for sublithospheric mantle flow beneath eastern Africa, *Geophysical Journal International*, in press.
- (194) Kintner, J., K.M. Cleveland, C. J. Ammon, and **A. Nyblade**, Local-distance seismic event relocation and relative magnitude estimation: Applications to mining related seismicity in the Powder River Basin, Wyoming, *Bulletin Seismological Society of America*, doi: 10.1785/0120200369.
- (193) Aster, R. C., B. P. Lipovsky, H. M. Cole, P. D. Bromirski, P. Gerstoft, **A. Nyblade**, D. Wiens, R. Stephen, Swell-Triggered seismicity in the near-edge damage zone of the Ross Ice Shelf, *Seismological Research Letters*, doi: 10.1785/0220200478.
- (192) *White-Gaynor, A., **A. Nyblade**, R. Durrheim, R. Raveloson, M. van der Meijde, I. Fadel, H. Paulssen M. Kwadiba, O. Ntibinyane, N. Titus, and M. Sitali, Shear-wave velocity structure of the southern African upper mantle: Implications for craton structure and plateau uplift, *Geophysical Research Letters*, doi: 10.1029/2020GL091624
- (191) ⁺Raveloson, R., **A. Nyblade** and R. Durrheim, Joint inversion of surface wave and gravity data reveals sub-basin architecture of the Congo Basin, *Geology*, doi:10.1130/G48408.1
- (190) ⁺Oakley, D., B. Forsythe, X. Gu, **A. Nyblade**, and S. L. Brantley, Seismic ambient noise analyses reveal changing temperature and water signals to 10s of meters depth in the critical zone, *Journal of Geophysical Research - Earth Surface*, doi: 10.1029/2020JF005823.
- (189) *Lucas, E. M., **A. A. Nyblade**, A. J. Lloyd, R. C. Aster, D. A. Wiens, J.P. O'Donnell, G. W. Stuart, T.J. Wilson, I. Dalziel, J. P. Winberry, and A. D. Huerta, Seismicity and Pn velocity structure of central West Antarctica, *Geochemistry, Geophysics and Geosystems*, doi: 10.1029/2020GC009471.
- 2020**
- (188) ⁺Andriampenomanana, F., **A. A. Nyblade**, M. E. Wyssession, R. J. Durrheim, F. Tilmann, G. Barruol, M. Pratt, G. Rambolamanana, and T. Rakotondraibe, Seismic velocity and anisotropy of the uppermost mantle of Madagascar from Pn tomography, *Geophysical Journal International*, doi.org/10.1093/gji/ggaa458.
- (187) *White-Gaynor, A., **A. Nyblade**, R. Durrheim, R. Raveloson, M. van der Meijde, I. Fadel, H. Paulssen M. Kwadiba, O. Ntibinyane, N. Titus, and M. Sitali, Lithospheric boundaries and upper mantle structure beneath southern Africa imaged by P- and S-wave velocity models, *Geochemistry, Geophysics and Geosystems*, doi: 10.1029/2020GC008925
- (186) Baker, M. G, R. C. Aster, D. A. Wiens, **A. Nyblade**, P. D. Bromirski, P. Gerstoft, R. A. Stephen, Teleseismic Earthquake Wavefields Observed on the Ross Ice Shelf, *Journal of Glaciology*, 1–17, doi: 10.1017/jog.2020.83.
- (185) Dunham, C.K., J.P. O'Donnell, G. W. Stuart, A. M. Brisbourne, S. Rost, T. A. Jordan, **A. A. Nyblade**, D. A. Wiens, and R. Aster, A joint inversion of receiver function and Rayleigh wave phase velocity dispersion data to estimate crustal structure in West Antarctica, *Geophysical Journal International*, doi: 10.1093/gji/ggaa398.
- (184) *Lucas, E. M., *D. Soto, **A. A. Nyblade**, A. J. Lloyd, R. C. Aster, D. A. Wiens, J.P. O'Donnell, G. W. Stuart, T.J. Wilson, I. Dalziel, J. P. Winberry, and A. D. Huerta, P- and S-wave velocity structure of central West Antarctica: Implications for solid earth-ice interactions and the tectonic evolution of the West Antarctic Rift System, *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2020.116437
- (183) *Rakotondraibe, T., **A. A. Nyblade**, M. E. Wyssession, R. J. Durrheim, G. Rambolamanana, G. Aleqabi, P. J. Shore, M. J. Pratt, F. Andriampenomanana, G. Rumpker, and E. Rindraharisaona, Seismicity and seismotectonics of Madagascar revealed by 2011-2013 island-wide MACOMO broadband seismic array, *Tectonophysics*, doi: 10.1016/j.tecto.2020.228547
- (182) Hopper, E., J. Gaherty, D. Shillington, N. Accardo, **A. Nyblade**, C. A. Scholz, P. Chindindali, R. Ferdinand, G. Mgboni, G. Mulibo, B. Holtzman, and C. Havlin, Preferential localized thinning of lithospheric mantle in the melt-poor Malawi Rift, *Nature Geoscience*, doi:10.1038/s41561-020-0609-y

- (181) Gu, X., G. Mavko, L. Ma, D. Oakley, N. Accardo, B. J. Carr, **A. A. Nyblade**, and S. L. Brantley, Seismic imaging maps clay reactions and CO₂ production under a ridge and valley landscape, *Proceedings of the National Academy of Sciences*, doi: 10.1073/pnas.2003451117
- (180) Shen, W., D. Wiens, A. Lloyd, and **A. Nyblade**, A Geothermal heat flux map of Antarctica empirically constrained by seismic structure, *Geophysical Research Letters*, doi:10.1029/2020GL086955
- (179) Accardo, N., J. B. Gaherty, D. J. Shillington², E. Hopper, **A. A. Nyblade**, C. J. Ebinger, C. A. Scholz, P.R.N. Chindandali, R. Wambura-Ferdinand, G. Mbogoni, J.B. Russell, B.K. Holtzman, C. Havlin, and C. Class, Thermo-chemical modification of the Upper Mantle beneath the Northern Malawi Rift Constrained from Shear Velocity Imaging, *Geochemistry, Geophysics and Geosystem*, doi: 10.1029/2019GC008843
- (178) ⁺Emry, E.L., **A. A. Nyblade**, A. Horton, S. E. Hansen, J. Julià, R. C. Aster, A. D. Huerta, J. P. Winberry, D.A. Wiens, S. Anandakrishnan, and T. J. Wilson, Prominent thermal anomalies in the mantle transition zone beneath the Transantarctic Mountains, *Geology*, doi: 10.1130/G47346.1.
- (177) Shillington, D, C. A. Scholz, P. R.N. Chindandali, J. B. Gaherty, N. J. Accard, E. Onyango, C. J. Ebinger, and **A. A. Nyblade**, Controls on intrarift faulting in the North Basin of the Malawi (Nyasa) Rift, East Africa, *Tectonics*, doi: 10.1029/2019TC005633
- (176) Fadel, I., H. Paulssen, M. van der Meijde, M. Kwadiba, O. Ntibinyane, **A. Nyblade**, and R. Durrheim, Crustal and upper mantle shear wave velocity structure of Botswana: the April, 3, 2017, central Botswana earthquake linked to the East African Rift System, *Geophysical Research Letters*, doi: 10.1029/2019GL085598.
- (175) Winberry, J. P., A. D. Huerta, S. Anandakrishnan, R. Aster, **A. Nyblade**, and D. Wiens, Glacial Earthquakes and Precursory Seismicity Reveal Thwaites-Glacier Calving Behavior, *Geophysical Research Letters*, doi:10.1029/2019GL086178
- (174) Kintner, J., K.M. Cleveland, C. J. Ammon, and **A. Nyblade**, Testing A Local Distance Rg/Sg Discriminant Using Observations from the Bighorn Region, Wyoming, *Bulletin Seismological Society of America*, doi: 10.1785/ 0120190188
- (173) Kintner, J., C. J. Ammon, K. Homman, and **A. Nyblade**, Precise Relative Magnitude and Relative Location Estimates of Low-Yield Mine Blasts in Pennsylvania, *Bulletin Seismological Society of America*, doi: 10.1785/ 012019163
- 2019**
- (172) Lloyd, A. J., D. A. Wiens, H. Zhu, J. Tromp, **A. A. Nyblade**, R. C. Aster, S. E. Hansen, I. W. D. Dalziel, T. J. Wilson, and E. R. Ivins, Seismic Structure of the Antarctic Upper Mantle Based on Adjoint Tomography, *Journal of Geophysical Research*, doi: 10.1029/2019JB017823
- (171) O'Donnell, J.P., A. M. Brisbourne, G.W. Stuart, C.K. Dunham, Y. Yang, G.A. Nield, P.L. Whitehouse, **A.A. Nyblade**, D.A. Wiens, R.C. Aster, S. Anandakrishnan, A.D. Huerta, T. Wilson; J.P. Windberry, Mapping crustal shear wave velocity structure and radial anisotropy beneath West Antarctica using seismic ambient noise, *Geochemistry, Geophysics and Geosystems*, doi: 10.1029/2019GC008459
- (170) ^{*}Ortiz, K., **A. Nyblade**, M. van der Meijde, H. Paulssen, M. Kwadiba, O. Ntibinyane, R. Durrheim and I. Fadel, Upper mantle P- and S-wave velocity structure of the Kalahari Craton and surrounding Proterozoic terranes, southern Africa, *Geophysical Research Letters*, doi: 10.1029/2019GL08405.
- (169) Chen, Z., P. D. Bromirski, P. Gerstoft, R. A. Stephen, W. S. Lee, S. Yun, S. D. Olinger, R. C. Aster, D. A. Wiens, and **A. A. Nyblade**, Ross ice shelf icequakes associated with ocean gravity wave activity, *Geophysical Research Letters*, doi: 10.1029/2019GL084123
- (168) O'Donnell, J.P., G.W. Stuart, A. M. Brisbourne, K. Selway, Y. Yang, G.A. Nield, P.L. Whitehouse, **A.A. Nyblade**, D.A. Wiens, R.C. Aster, S. Anandakrishnan, A.D. Huerta, T. Wilson; J.P. Windberry, The uppermost mantle seismic velocity structure of West Antarctica from Rayleigh wave tomography: insights into tectonic structure and

- geothermal heat flow, *Earth and Planetary Science Letters*, 522 (2019) 219–233, doi: 10.1016/j.epsl.2019.06.024
- (167) Ebinger, C., S. Oliva, S., T-Q Pham, K. Peterson, P. Chindandali, F. Illsley-Kemp, C. Drooff, D. Shillington, N. Accardo, R. Gallacher, J. Gaherty, **A. Nyblade**, G. Mulibo, Kinematics of Active Deformation in the Malawi Rift and Rungwe volcanic province, Africa, *Geochemistry, Geophysics and Geosystems*, doi: 10.1029/2019GC008354
- (166) Baker, M.G., R.C. Aster, R.E. Anthony, J. Chaput, D.A. Wiens, **A. Nyblade**, P. Bromirski, R. Stephen, P. Gerstoft, Seasonal and spatial variations in the ocean-coupled ambient wavefield of the Ross Ice Shelf, *Annals of Glaciology*, doi: 10.1017/jog.2019.64
- (165) Olinger, S., D.A. Wiens, B. P. Lipovsky, R. Aster, **A. Nyblade**, R. Stephen, P. Bromirski, P. Gerstoft, Z. Chen, Tidal and thermal stresses drive seismicity along a major Ross Ice Shelf rift, *Geophysical Research Letters*, doi: 10.1029/2019GL082842
- (164) *White-Gaynor, A.L., **A. A. Nyblade**, R. C. Aster, D. A. Wiens, P. D. Bromirski, P. Gerstoft, R. A. Stephen, S. E. Hansen, T. Wilson, I. W. Dalziel, A. D. Huerta, J. P. Winberry, and S. Anandakrishnan, Heterogeneous upper mantle structure beneath the Ross Sea Embayment and Marie Byrd Land, West Antarctica, revealed by P-wave tomography, *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2019.02.013
- (163) West, N., E. Kirby, **A. Nyblade** and S. Brantley, Climate preconditions the Critical Zone: Elucidating the role of subsurface fractures in the evolution of asymmetric topography, *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2019.01.039
- (162) †Emry, E., Y. Shen, **A. Nyblade**, A. Flinders, and X. Bao, Upper mantle earth structure in Africa from full-wave ambient noise tomography, *Geochemistry, Geophysics and Geosystems*, doi: 10.1029/2018GC007804

2018

- (161) Accardo, N. J., D. J. Shillington, J. B. Gaherty, C. A. Scholz, **A. A. Nyblade**, P.R.N. Chindandali, G. Kamihanda, T. McCartney, D. Wood, and R. Wambura Ferdinand, Constraints on rift basin structure and border fault growth in the northern Malawi Rift from 3-D seismic refraction imaging, *Journal of Geophysical Research*, doi: 10.1029/2018JB016504.
- (160) *Grijalva, A., **A. Nyblade**, K. Homman, N. J. Accardo, J. B. Gaherty, C. J. Ebinger, D. J. Shillington, P. R. N. Chindandali, G. Mbogoni, R. W. Ferdinand, G. Mulibo, J. P. O'Donnell, M. Kachingwe, and G. Tepp, Seismic evidence for plume- and craton-influenced upper mantle structure beneath the northern Malawi rift and the Rungwe volcanic province, East Africa, *Geochemistry, Geophysics and Geosystems*, doi: 10.1029/2018GC007730
- (159) Chen, Z., P. D. Bromirski, P. Gerstoft, R. A. Stephen, D. A. Wiens, R. C. Aster, and **A. A. Nyblade**, Ocean-excited plate waves in the Ross and Pine Island Glacier Ice Shelves, *Journal of Glaciology*, doi: 10.1017/jog.2018.66.
- (158) *Ramirez, C., **A. Nyblade**, M. Wyssession, M. Pratt, F. Andriampenanana, and T. Rakotondraibe, Complex seismic anisotropy in Madagascar revealed by shear wave splitting measurements, 215, 1718-1727, *Geophysical Journal International*, doi: 10.1093/gji/ggy367.
- (157) Chaput, J., R.C. Aster, D. McGrath, M. Baker, R. Anthony, P. Gerstoft, P. Bromirski, **A. Nyblade**, R.A. Stephen, D. Wiens, S. Das, and L. Stevens, Near-surface environmentally forced changes in the Ross Ice Shelf observed with ambient seismic noise, *Geophysical Research Letters*, 45, doi: 10.1029/2018GL079665
- (156) Shen, W., D. Wiens, S. Anandakrishnan, R. Aster, P. Gerstoft, P. Bromirski, S. Hansen, I. Dalziel, D. Heeszel, A. Huerta, **A. Nyblade**, R. Stephen, T. Wilson, and P. Winberry, The crust and upper mantle structure of central and West Antarctica from Bayesian inversion of Rayleigh wave and receiver function data, *Journal of Geophysical Research*, 123, doi: 10.1029/2017JB015346
- (155) *Borrego, D., **A. A. Nyblade**, N. J. Accardo, J. B. Gaherty, C. J. Ebinger, D. J. Shillington, P. R. N. Chindandali, G. Mbogoni, R. W. Ferdinand, G. Mulibo, J. P. O'Donnell, M. Kachingwe, and G. Tepp, Crustal structure surrounding the northern Malawi rift and

- beneath the Rungwe volcanic province, East Africa, *Geophysical Journal International*, 215, 1410–1426, doi: 10.1093/gji/ggy331
- (154) Tepp, G., C. J. Ebinger, H. Zal, R. Gallacher, N. Accardo, D. J. Shillington, J. Gaherty, D. Keir, **A. A. Nyblade**, G. J. Mbogoni, P. R. N. Chindandali, R. Ferdinand-Wambura, G. D. Mulibo, G. Kamihanda, Seismic anisotropy of the upper mantle below the Western rift, East Africa, *Journal of Geophysical Research*, doi: 10.1029/2017JB015409.
- (153) Barletta, V., M. Bevis, B. Siming, T. Wilson, A. Brown, A. Bordoni, M. Willis, S. Khan, M. Rovira-Navarro, I. Dalziel, R. Smalley, E. Kendrick, S. Konfal, D. Caccamise, R. Aster, **A. Nyblade**, D. Wiens, Observed rapid bedrock uplift in Amundsen Sea Embayment promotes ice-sheet stability, *Science*, 360, 1335–1339, doi: 10.1126/science.aao1447
- (152) Lough, A., D. Wiens, and **A. Nyblade**, Intraplate earthquakes reactivate ancient rift zones in East Antarctica, *Nature Geoscience*, doi.org/10.1038/s41561-018-0140-6.
- (151) ⁺O'Donnell, J.P., S. Shamsalsadati, R. A. Brazier, and **A. A. Nyblade**, Locations and source parameters for calibration events in Turkey, Saudi Arabia, Ethiopia and Tanzania, *Bulletin Seismological Society of America*, 108, 145-154, doi.org/10.1785/0120170180.
- 2017**
- (150) Shen, W., D. A. Wiens, T. Stern, S. Anandkrishnan, R. Aster, I. Dalziel, S. Hansen, D. Heeszel, A. Huerta, **A. Nyblade**, T. J. Wilson, and J. P. Winberry, Seismic evidence for lithospheric foundering beneath the southern Transantarctic Mountains, *Geology*, doi:10.1130/G39555.1
- (149) *Ramirez, C., **A. Nyblade**, E. Emry, J. Julià, X. Sun, S. Anandkrishnan, D. Wiens, R. Aster, A. Huerta, P. Winberry, P. Shore, and T. Wilson, Crustal structure of the Transantarctic Mountains, Ellsworth Mountains and Marie Byrd Land, Antarctica: New constraints on shear wave velocities, Poisson's ratios and Moho depths, *Geophysical Journal International*, doi:10.1093/gji/ggx333.
- (148) Bromirski, P.D., Z. Chen, R.A. Stephen, P. Gerstoft, D. Arcas, A. Diez, R. Aster, D.A. Wiens, **A. Nyblade**, Tsunami and infragravity waves impacting ice shelves, *Journal of Geophysical Research – Earth Surface*, doi:10.1002/2017JC012913.
- (147) *Andriampenanana F., **A. A. Nyblade**, M. E. Wyssession, D. A. Wiens, R. J. Durrheim, G. Rambolamanana, F. Tilmann, G. Aleqabi, P. J. Shore, M. J. Pratt, T. Rakotondraibe, R. D. Tucker, and J. Julia, The structure of the crust and uppermost mantle beneath Madagascar, *Geophysical Journal International*, 201, 1525-1544, doi:10.1093/gji/ggx243.
- (146) ⁺O'Donnell, J.P, K. Selway, **A.A. Nyblade**, R. A. Brazier; D. A. Wiens, S. Anandkrishnan, R. C. Aster, A. D. Huerta, T. Wilson, and J. P Winberry, The uppermost mantle velocity and viscosity structure of central West Antarctica, *Earth and Planetary Science Letters*, 472, 38–49, doi: 10.1016/j.epsl.2017.05.016
- (145) Poggi, V., R. Durrheim, G. Tuluka, G. Weatherill, M. Pagani, **A. Nyblade**, and D. Delvaux, Assessing Seismic Hazard of the East African Rift: a pilot study from GEM and AfricaArray, *Bulletin of Earthquake Engineering*, doi: 10.1007/s10518-017-0152-4.
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2019

- (44) Emry, E., **A. Nyblade**, Y. Shen, Complex upper mantle structure beneath the East African

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- (43) Webb, S., M. Manzi, S. Scheiber-Enslin, B. Chinamora, A. Naidoo, S-A Lee, A. Isiaka, S. Mngadi, K. Tshitlho, **A. Nyblade**, E. Emry, AfricaArray International Geophysics Field School: Diversity and training come together in Africa, *The Leading Edge*, 34, October 2015.

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- (40) Brazier, R., K. Boomer, J.P. O'Donnell, **A. Nyblade**, S. C. Myers, J. Kokosak, and S. R. Liu, From Craton to rift: Empirically based ground truth criteria for regional networks, *Proceedings of the 34th Research Review on Nuclear Explosion Monitoring*, Albuquerque, NM paper 2-03, p. 211- 220.
- (39) **Nyblade, A.**, Developing regionalized models of lithospheric thickness and velocity structure across Eurasia and the Middle East from jointly inverting P-wave and S-wave receiver functions with Rayleigh wave group and phase velocities, *Proceedings of the 34th Research Review on Nuclear Explosion Monitoring*, Albuquerque, NM paper 1-08, p. 66-74

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- (35) Julia, J., **A. Nyblade**, R. Gok, W. Walter, L. Linzer, R. Durrheim, Developing and exploiting a unique dataset from South African gold mines for source characterization and wave propagation, *Proceedings of the 32nd Research Review on Nuclear Explosion Monitoring*, Orlando, FL. Paper 4-05, p. 398-407.
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- (20) **Nyblade, A. A.**, W. Walter, R. Gok, L. Linzer and R. Durrheim, Developing and exploiting a unique seismic data set from South African gold mines for source characterization and wave propagation, *Proceedings of the 29th Seismic Research Review on Nuclear Explosion Monitoring*, Denver, CO, paper 1-19.
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- (12) Brazier, R., M. Benoit, Y. Park, **A. Nyblade**, and M. Pasyanos, Ground truth events, magnitude scale, velocity models and travel time correction surfaces for northeastern Africa, *Proceedings of the 27th Seismic Research Review on Nuclear Explosion Monitoring*, Rancho Mirage, CA 308-317.

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- (11) Brazier, R.A., Y. Park, **A.A. Nyblade**, and M. Pasyanos, Ground truth events from northeastern Africa, *Proceedings of the 26th Seismic Research Review on Nuclear Explosion Monitoring*, Orlando, FL, 227-237.
- (10) Richardson, E., **A.A. Nyblade**, W. R. Walter, and A.J. Rodgers, Seismic source characterization and energy partitioning from in-mine and regional broadband data in South Africa, *Proceedings of the 26th Seismic Research Review on Nuclear Explosion Monitoring*, Orlando, FL, 467-474.

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- (9) Brazier, R.A., Y. Park, **A.A. Nyblade**, and M. Pasyanos, Ground truth events from northeastern Africa, *Proceedings of the 25th Seismic Research Review on Nuclear Explosion Monitoring*, Tucson, AZ, 203-210.
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- (5) T.J. Owens, H.P. Crotwell, **A.A. Nyblade**, R. Brazier, and C.A. Langston, Data report for the 1994-95 Tanzania Passive-Source Seismic Experiment, *PASSCAL Data Report #97-005*, IRIS Data Management Center.

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- (4) Langston, C.A., **A.A. Nyblade**, and M. Zhao, Seismic wave propagation in southern and central Africa, *Proceedings of the 18th Annual Seismic Research Symposium on Monitoring a Comprehensive Test Ban Treaty*, 371-379.

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- (2) **Nyblade, A.A.**, K.S. Vogfjord, and C.A. Langston, Implications for lithospheric reheating beneath the African superswell from P_{nl} wave propagation in central and southern Africa,

Proceedings of the 17th Annual Seismic Research Symposium on Monitoring a Comprehensive Test Ban Treaty, Phoenix, AZ, 271-280.

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- (1) Vogfjord, K.S., **A.A. Nyblade**, C.A. Langston, Regional wave propagation in central and southern Africa, *Proceedings of the 16th Annual Seismic Research Symposium*, Thornwood, NY, 338-344.

INVITED TALKS, COLLOQUIA AND OTHER PRESENTATIONS

2019

- **IRIS/ UNAVCO SAGE/GAGE Workshop**, invited talk, Portland, OR, October
- **NSF workshop on Broadening Participation of URM in STEM Research Abroad**, invited talk, Washington D.C., May
- **Susquehanna Shale Hills Critical Zone Observatory, Annual All-Hands meeting**, invited talk, State College, PA, May

2018

- **University of Twente, International Training Center**, invited talk, Enschede, Netherlands, January
- **The Village at Penn State**, invited talk, State College, PA, April
- **Shale Network workshop**, invited talk, State College, PA, May

2017

- **Penn State University**, Symposium on Human Rights, Fracking and the Struggle for Representation, invited talk, University Park, PA, December
- **Virginia Tech University**, Department colloquium, November
- **Shale Network workshop**, invited talk, State College, PA, May
- **Geophysical Society of Pittsburgh**, invited talk, Pittsburgh, PA, April
- **Pennsylvania Department of Environmental Protection Citizens Advisory Council**, invited talk, Harrisburg, PA, April

2016

- **Montclair State University**, GeoPRISMS Distinguished Lecture, Department of Earth Sciences, February
- **University of Arkon**, GeoPRISMS Distinguished Lecture, Department of Earth Sciences, February
- **Eastern Kentucky University**, GeoPRISMS Distinguished Lecture, Department of Earth Sciences, March
- **Penn State University, Extension office Webinar**, Williamsport, PA, May
- **Pennsylvania Department of Environmental Protection**, invited talk, Harrisburg, PA, August
- **HGS-PESGB Africa conference**, Keynote Lecture, Houston, TX, September
- **Shell**, invited talk, Houston, TX, October
- **Columbia University**, Department of Earth and Environmental Sciences colloquium, December

2015

- **Southern Methodist University**, GeoPRISMS Distinguished Lecture, Department of Earth Sciences, February
- **Scripps Institution of Oceanography**, GeoPRISMS Distinguished Lecture, March
- **Utah Valley University**, GeoPRISMS Distinguished Lecture, Department of Earth Sciences, March
- **Thanksgiving Point Institute**, GeoPRISMS Distinguished Lecture, Lehi, Utah, March
- **Future Seismic and Geodetic Facility Needs in the Geosciences Workshop**, invited talk, Leesburg, VA, May

- **HGS/PESGB Conference on African Exploration and Production**, Keynote Lecture, London, September
- 2014**
- **IRIS Webinar**, February
 - **NE GSA meeting**, invited talk, Lancaster, PA, March
 - **University of Michigan**, Department of Earth and Environmental Sciences colloquium, April
 - **Penn State University**, Department of Geosciences colloquium, December
- 2013**
- **IRIS Array Seismology Workshop**, 2 invited talks, Raleigh, NC, May
- 2012**
- **U.S. State Department**, presentation on AfricaArray, Washington D.C., January
 - **University of Maryland**, Department of Geology colloquium, January
 - **University of Alabama**, Department of Geological Sciences colloquium, February
 - **GeoPRISMS planning workshop** for the East African rift system, invited talk, Morristown, NJ, October
 - **Johns Hopkins University**, invited talk, Workshop on Climate Dynamics of Tropical Africa, November
- 2011**
- **National Science Foundation**, invited talk, PIRE meeting, Washington, DC. February
 - **ExxonMobil Upstream Research Company**, invited talk, Houston, TX, March
 - **SSA annual meeting**, invited talk, Memphis, TN, April
 - **Lamont-Doherty Earth Observatory**, invited talk, Workshop on New Insights into Ice Sheets, Climate and Mountain Formation from Dome A, May
 - **Boston University**, Department of Earth Sciences colloquium, September
- 2010**
- **SAMPLE workshop**, invited talk, Kiel, Germany, June
 - **Autonomous Polar Observing Systems Workshop**, invited talk, Washington, D.C., September
 - **UNAVCO**, invited talk, Boulder, CO, October
 - **National Center for Atmospheric Research**, invited talk, Boulder, CO, October
- 2009**
- **American Association for the Advancement of Science Annual Meeting**, invited talk, Chicago, February
 - **Harvard Kennedy School of Government**, Conference on Geospatial Science for Development in Africa, invited talk, May.
 - **Margins Program Rifting Continental Lithosphere Workshop**, invited talk, Charleston, SC, May
 - **Workshop on evaluating and monitoring seismic hazards in Africa**, invited talk, Trieste, Italy, August
 - **USAID Climate Change Group**, presentation on AfricaArray, Washington D.C., October
 - **National Science Foundation**, Geosciences Directorate, presentation on AfricaArray, October
 - **ExxonMobil Upstream Research Company**, invited talk, Houston, TX, November
 - **AGU meeting**, invited talk, San Francisco, CA, December
- 2008**
- **Northwestern University**, Department of Earth and Planetary Science colloquium, January
 - **Incorporated Research Institutions for Seismology Workshop: Out of Africa**, invited talk, Boston, February
 - **Seismic Research Review on Nuclear Explosion Monitoring**, invited talk, Virginia

- Beach, VA, September
- **Southeastern Section of American Physics Society**, invited talk, Raleigh, NC, October
 - **U.S. State Department, Africa Bureau**, briefing on AfricaArray, Washington, D.C., November
- 2007**
- **IUGG meeting**, invited talk, Perugia, Italy, June
 - **National Science Foundation**, invited talk, PIRE workshop, Washington, D.C., February
 - **U.S. State Department**, briefing on AfricaArray, Washington, D.C., November
- 2006**
- **Rutgers University**, Department of Earth and Planetary Sciences colloquium, April
 - **Cornell University**, Department of Earth and Atmospheric Sciences colloquium, May
 - **Annual IRIS Workshop**, Keynote Lecture, Tucson, AZ, June
 - **Consultation session on developing the Indian Ocean Tsunami Warning System**, invited talk, **Council for Geoscience, Pretoria, South Africa**, July
 - **Penn State University**, Department of Geosciences colloquium, September
 - **North Carolina A&T University**, Department of Physics colloquium, September
 - **University of Texas, Austin**, Department of Geological Sciences colloquium, November
 - **AGU meeting**, invited talk, San Francisco, CA, December
- 2005**
- **National Science Foundation**, presentation on AfricaArray, Geosciences Directorate, January
 - **United States Geological Survey**, invited talk, International Workshop on the Utilization of Seismographic Networks within the Global Earth Observation System of Systems Washington D.C., August
- 2004**
- **ExxonMobil Upstream Research Company**, invited talk, Houston, TX, January
 - **Lamont-Doherty Earth Observatory**, invited talk, March
 - **North Carolina A&T University**, invited talk, Department of Physics, September
 - **University of Michigan**, invited talk, Department of Geological Sciences, October
- 2003**
- **Stanford University**, Department of Geophysics colloquium, February
 - **Lawrence Livermore National Lab**, invited talk, Earth Science Division, February
 - **University of Colorado**, SEAP (Structure and Evolution of the Antarctic Plate) workshop, invited talk, Boulder, CO, March
 - **University of California, Berkeley**, Department of Earth and Planetary Science colloquium, May
 - **US Geological Survey**, invited talk, Menlo Park, CA, June
 - **AGU meeting**, invited talk, San Francisco, CA, December
- 2002**
- **Princeton University**, invited talk, Department of Geosciences, September
 - **Rensselaer Polytechnic Institute**, Department of Earth and Environmental Sciences colloquium, September
- 2001**
- **University of Memphis**, Center for Earthquake Research and Information colloquium, April
 - **SUNY Stony Brook**, Department of Geosciences colloquium, April
 - **Syracuse University**, Department of Earth Sciences colloquium, May
- 2000**
- **AGU meeting**, invited talk, Washington, D.C., June
 - **International Geological Congress**, invited talk, Rio de Janeiro, Brazil, August
 - **Carnegie Institution, Division of Terrestrial Magnetism** colloquium, Washington, DC, November

1999

- **SSA Annual meeting**, invited talk, Seattle, WA May
- **Workshop on Scientific drilling in Lakes Malawi and Tanganyika**, invited talk, Club Makakola, Malawi, October
- **Washington University**, Department of Earth and Planetary Science colloquium, St. Louis, MO, November

1998

- **AGU meeting**, invited talk, Baltimore, MD, May
- **Europrobe workshop on the evolution of Paleoproterozoic and Archean lithosphere (Svekalapko)**, Keynote Lecture, St. Petersburg, Russia, November

1997

- **Dublin Institute for Advanced Studies**, invited talk, Ireland, March.
- **Cambridge University**, invited talk, Department of Earth Sciences, U.K., March
- **Annual IRIS Workshop**, Keynote Lecture, Breckenridge, Colorado, June
- **Binghamton University, invited talk**, Department of Geological Sciences and Environmental Studies, September
- **AGU meeting**, invited talk, San Francisco, CA, December

1996

- **Cornell University**, Department of Earth and Atmospheric Sciences colloquium, February
- **University of Leeds**, Department of Earth Sciences colloquium, Leeks, U.K., October
- **Penn State University**, Department of Geosciences colloquium, November

1995

- **Stanford University**, invited talk, Department of Geophysics, January
- **US Geological Survey**, invited talk, Menlo Park, CA, February
- **University of California, Santa Cruz**, Department of Earth and Planetary Science colloquium, February
- **Stanford University**, Department of Geophysics colloquium, March
- **Lawrence Livermore National Lab**, invited talk, Earth Science Division, April
- **University of Texas - El Paso**, Department of Geological Sciences colloquium, April

1994

- **University of South Carolina**, Department of Geological Sciences colloquium, April

COURSES TAUGHT

Geosc 001 Physical Geology

Geosc 002 Historical Geology

Geosc 20 Planet Earth

Earth 106 Continent Africa

Earth 109/Geosc 297/Geosc 397 Fundamentals of Shale Energy

Geosc 109H Nuclear Explosions, Earthquakes and Society

Geosc 483 Environmental Geophysics

Geosc 497C Tectonics and Solid Earth Structure

Geosc 597 Precambrian Orogenic Belts

MS THESIS COMMITTEES (current* and past)

Eliana Arias, Greg Brenn (U. Alabama), Peter Burkett, Louanne Christopher, Jacob Cipar, Joe Cominsky, Chira Endris, Dannie Hidayat, Aaron Jansen, Curtis Kennedy, Lindsey Kenyon (U. Alabama), Kelly Knight, Megan Koehane, Mike O'Driscoll, James Pippin*, John Simmons, Joseph Valenti, Rhiannon Vieceli, Daniel Wheaton

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SERVICE TO PENN STATE

Department of Geosciences:

- **Executive committee**, 2008-2010, 2012-2014, 2016-2018
- **Promotion and Tenure committee**, 2010-2011, 2015-2016, 2018-2020
- **Chair, search committee**, Associate Head for Undergraduate Programs, 2011
- **Undergraduate program committee**, 1996-2000, 2010-2012, 2018-2020
- **Chair, CO₂ faculty search committee**, 2009-2010
- **CO₂ faculty search committee**, 2007
- **Graduate program committee**, 2004-2006
- **Geophysics faculty search committee**, 2004-2005
- **Chair, Computer committee**, 2002
- **Chair, Geophysics curricular group**, 2002, 2005
- **Geophysics faculty search committee**, 2001-2002
- **Chair, Admissions committee**, 2001-2002
- **Chair, Seismology faculty search committee**, 2000-2001
- **Admissions committee**, 2000-2001
- **Geodynamics faculty search committee**, 1999-2000
- **Rover for candidacy exams**, 1997-1999; 2017-2019
- **Computer committee**, 1997-2001

Colleges:

- **Search committee**, Associate Dean for Educational Equity, College of Earth and Mineral Sciences, 2015
- **Search committee**, Program Head, Acoustics program, College of Engineering, 2015
- **Search committee**, Director of Human Resources, College of Earth and Mineral Sciences, 2014
- **Chair, search committee**, Associate Dean for Educational Equity, College of Earth and Mineral Sciences, 2011
- **Diversity Council**, College of Earth and Mineral Sciences, 2008-2018
- **Computer committee**, College of Earth and Mineral Sciences, 2001-2002
- **Task force** to create an African Research and Educational focus within the College of Earth and Mineral Sciences, 2002

SERVICE TO THE PROFESSION

AfricaArray (www.africaarray.org):

AfricaArray is a capacity building initiative for the geosciences in Africa and the U.S., with a strong emphasis on enhancing diversity in the geosciences. As a co-director, I oversee the following major activities.

- A network of 53 geophysical observatories spanning 17 countries in western, eastern and southern Africa containing seismic, GPS and weather sensors
- An educational and research program with undergraduate and graduate students at several universities in Africa and the U.S.
- A diversity program with activities in Africa and the U.S.
- Fundraising for all aspects of AfricaArray

- Organize and run an annual workshop in Johannesburg, South Africa and Houston, Texas

Incorporated Research Institutions for Seismology (IRIS):

- **Member**, Board of Directors, 2015-2017
- **Chair**, Polar Networks Science Committee, 2014-2015
- **Vice-Chair**, Polar Networks Science Committee, 2011-2013
- **Member**, International Development Seismology Committee, 2008-2011
- **Member**, International Seismology Working Group, 2006-2008
- **Member**, Planning Committee, 2006-2009
- **Member**, Board of Directors, 2005
- **Secretary**, Executive Committee, 2002-2005
- **Membership Committee**, 2002-2005

Geological Society of America:

- **Chair**, Geological Society of America, Geophysics Division, 1999-2000
- **First vice-Chair**, Geological Society of America, Geophysics Division, 1998-1999
- **Second vice-Chair**, Geological Society of America, Geophysics Division, 1997-1998

Other:

- **Member**, AGU seismology section award canvassing committee, 2020-2021
- **Member**, AGU selection committee for the Whitten medal, 2018-2019, 2020-2021
- **Member**, AGU selection committee for Africa Awards for Research Excellence in Earth and Space Science, 2016-2017, 2019
- **Member**, U.S. National Committee for Geodesy and Geophysics, National Academy of Sciences, 2011-2014
- **Member**, Special Emphasis Review Panel for IRIS, National Science Foundation, 2010
- **Member**, Review panel for grant proposals, PIRE program, National Science Foundation, 2007
- **Member** of the IGCP working group (482/489) on the East African Rift System, 2006 - 2009
- **Member**, U.S. Subglacial Antarctic Lake Environment (SALE) Program, 2005 - 2009
- **Special sessions organized at AGU meetings 1995, 1998, 2000, 2003, 2005, 2006, 2011**

Workshops organized:

- **2005-2019: Annual AfricaArray workshops (14 total)**, University of the Witwatersrand, Johannesburg, South Africa
- **2008-2018: Annual AfricaArray diversity forum (11 total)**, Houston, Texas
- **2014: Technical requirements for supporting long-term geodetic and seismological stations in Antarctica**, Washington, D.C., September
- **2011: Building a framework for facility support for polar seismic and geodetic science**, Washington, D.C., September
- **2010: Workshop on Expanding AfricaArray**, Howard University, Washington D.C.
- **2008: Out of Africa – Adapting the AfricaArray Model – Building Capacity Around the World**, Boston, February
- **2008: Workshop on Building Diversity in the Geosciences through AfricaArray**, North Carolina A&T University, February
- **2005: Antarctic Seismic and GPS Technologies, Challenges, and Opportunities Workshop**, Washington D.C., September