

CURRICULUM VITAE

KEVIN J. ANCHUKAITIS

- ADDRESS University of Arizona
School of Geography and Development
ENR2 Building, Office S514
1064 E Lowell Street, PO Box 210137
Tucson, AZ 85721-0137
orcid: 0000-0002-8509-8080
email: kanchukaitis@email.arizona.edu
internet: <http://www.u.arizona.edu/~kanchukaitis/>
- APPOINTMENTS UNIVERSITY OF ARIZONA Tucson, AZ
2015 – Associate Professor, School of Geography and Development
Chair, Graduate Interdisciplinary Program in Global Change
Associate, Center for Climate Adaptation Science and Solutions (CCASS)
Joint Appointment, Laboratory of Tree-Ring Research
Joint Appointment, Department of Geosciences
- LAMONT DOHERTY EARTH OBSERVATORY OF COLUMBIA UNIVERSITY New York, NY
2012 – Adjunct Associate Research Scientist
- WOODS HOLE OCEANOGRAPHIC INSTITUTION Woods Hole, MA
2012 – **2015** Assistant Scientist
- LAMONT DOHERTY EARTH OBSERVATORY OF COLUMBIA UNIVERSITY New York, NY
2010 – **2012** Lamont Assistant Research Professor
- LAMONT DOHERTY EARTH OBSERVATORY OF COLUMBIA UNIVERSITY New York, NY
2009 – **2010** Doherty Associate Research Scientist
- COLUMBIA UNIVERSITY New York, NY
2007 – **2009** Lamont-Doherty Postdoctoral Research Fellow
- EDUCATION UNIVERSITY OF ARIZONA Tucson, AZ
2007 Ph.D., Geosciences
Dissertation: *A stable isotope dendroclimatology approach to reconstructing climate variability from tropical montane cloud forest trees.*
- UNIVERSITY OF TENNESSEE Knoxville, TN
2002 M.S., Geography
- GEORGETOWN UNIVERSITY Washington, DC
1998 B.S., (*cum Laude*) Science, Technology, & International Affairs
Major Field: Environmental Science (with Honors)
Foreign study at University of Costa Rica, Institute for Tropical Studies (Golfito), 1996 – 1997
- PUBLICATIONS *Submitted or in Revision* († = postdoctoral author, ‡ = student author)
- Andreu-Hayles, L., M. Levesque, D. Martin-Benito, R. Harris, W. Huang, C. Leland, R. Oelkers, J. Martín-Fernández, **K.J. Anchukaitis**, G. Helle, A high yield cellulose extraction system for small whole wood samples and dual measurement of carbon and oxygen stable isotopes, submitted to *Chemical Geology*, 2017.

‡ Li, X., S. St. George, and **K.J. Anchukaitis**, Forward modeling of tree-climate relations across the Northern Hemisphere, *Forests*, in revision.

Anchukaitis, K.J., B. I. Cook, E. R. Cook, B.M. Buckley, Z. Fan, Mekong River flow reconstructed from tree rings, in revision.

Peer-Reviewed and Invited Papers († = postdoctoral author, ‡ = student author)

- [80] Esper, J., S. St. George, **K.J. Anchukaitis**, R. D'Arrigo, F. Ljungqvist, J. Luterbacher, L. Schneider, M. Stoffel, R. Wilson, U. Buntgen, Large-scale, millennial-length temperature reconstructions from tree-rings, *Dendrochronologia*, in press, 2018.
- [79] Cook, B.I., J.S. Mankin, **K.J. Anchukaitis**, Climate Change and Drought: From Past to Future, *Current Climate Change Reports*, doi:10.1007/s40641-018-0093-2, 2018
- [78] Karnauskas, K.B. C-F Schleussner, J.P. Donnelly, **K.J. Anchukaitis**, Freshwater Stress on Small Island Developing States: Population Projections and Aridity Changes at 1.5°C and 2°C, *Regional Environmental Change*, doi:10.1007/s10113-018-1331-9, 2018
- [77] ‡ Anderson, T., D. Griffin, **K.J. Anchukaitis**, D. Pons, M.J. Taylor, Tree Rings, Climate, and the Communal Forests of Totonicapán, Guatemala, *Journal of Latin American Geography*, 17(1), 222–247, 2018.
- [76] Hessler, A.E., **K.J. Anchukaitis**, C. Jelsema, B.I. Cook, O. Byambasuran, C. Leland, B. Naching, N. Pederson, H. Tian, L. Andreu-Hayles, Past and Future Drought in Mongolia, *Science Advances*, 4(3), e1701832, doi:10.1126/sciadv.1701832, 2018.
- [75] ‡ Leland, C., E.R. Cook, L. Andreu-Hayles, N. Pederson, A. Hessler, **K.J. Anchukaitis**, O. Byambasuren, B. Nachin, N. Davi, R.D. D'Arrigo, K. Griffin, D.A. Bishop, M.P. Rao, Strip-bark morphology and radial growth trends in ancient *Pinus sibirica* trees from central Mongolia, *Journal of Geophysical Research - Biogeosciences*, 123, 945D959, doi:10.1002/2017JG004196, 2018.
- [74] **Anchukaitis, K.J.**, Tree rings reveal climate change past, present, and future, *Proceedings of the American Philosophical Society*, 161, 3, 244-263, 2017
- [73] ‡ Pearl, J.K., **K.J. Anchukaitis**, N. Pederson, J. Donnelly, Reconstructing Northeastern United States temperatures using Atlantic white cedar tree rings, *Environmental Research Letters*, 2(11), 114012, doi:10.1088/1748-9326/aa8f1b, 2017.
- [72] PAGES2k Hydro2k Consortium (Smerdon, J.E., J. Luterbacher, S. Phipps, **K.J. Anchukaitis et al.**), Comparing proxy and model estimates of hydroclimate variability and change over the Common Era, *Climate of the Past*, 13, 1851-1900, doi:10.5194/cp-13-1851-2017, 2017.
- [71] † Martin-Benito, D., **K.J. Anchukaitis**, M.N. Evans, M. del Río, H. Beekman, I. Cañellas, Effects of drought on xylem anatomy and water use efficiency of two co-occurring pine species, *Forests*, 8(9), 332, doi:10.3390/f8090332, 2017.
- [70] PAGES2k Consortium (Emile-Geay, J., N. McKay, D. Kaufman, L. von Gunten, J. Wang, **K.J. Anchukaitis, et al.**), A global multiproxy database for temperature reconstructions of the Common Era, *Nature Scientific Data*, 4, 170088, doi:10.1038/sdata.2017.88, 2017.
- [69] † Coulthard, B., R. Touchan, **K.J. Anchukaitis**, D.M. Meko, F. Sivrikakaya, Tree growth and vegetation activity at the ecosystem-scale in the eastern Mediterranean, *Environmental Research Letters*, 12, 084008, doi:10.1088/1748-9326/aa7b26, 2017.
- [68] Wilson, R., R.D. D'Arrigo, L. Andreu-Hayles, R. Oelkers, G. Wiles, **K.J. Anchukaitis**, and N. Davi, Blue Intensity based experiments for reconstructing North Pacific temperatures along the Gulf of Alaska, accepted, *Climate of the Past*, 13, 1007–1022, doi:10.5194/cp-13-1007-2017, 2017.
- [67] Quade, J., E.T. Rasbury, K. Huntington, A.M. Hudson, H. Vonhof, **K.J. Anchukaitis**, J. Be-tancourt, C. Latorre, M. Pepper, Isotopic Characterization of late Neogene travertine deposits at Barrancas Blancas in the eastern Atacama Desert, Chile, *Chemical Geology*, 466, 41–56, doi:10.1016/j.chemgeo.2017.05.004, 2017.

- [66] ‡ Rao, M.P., B.I. Cook, E.R. Cook, R.D. D'Arrigo, P.J. Krusic, **K.J. Anchukaitis**, A. LeGrande, B.M. Buckley, N.K. Davi, C. Leland, K. L. Griffin, European and Mediterranean hydroclimate responses to tropical volcanic forcing over the past millennium, *Geophysical Research Letters*, doi:10.1002/2017GL073057, 2017.
- [65] **Anchukaitis, K.J.**, R. Wilson, K. Briffa, U. Büntgen, E.R. Cook, R.D. D'Arrigo, N. Davi, J. Esper, D. Frank, B. Gunnarson, G. Hegerl, S. Helama, S. Klesse, P.J. Krusic, H. Linderholm, V. Myglan, T. J. Osborn, Z. Peng, M. Rydval, L. Schneider, A. Schurer, G. Wiles and E. Zorita, Last millennium northern hemisphere summer temperatures from tree rings: Part II, spatially resolved reconstructions, *Quaternary Science Reviews*, 163, 1–22, doi: 10.1016/j.quascirev.2017.02.020, 2017.
- [64] Touchan, R, **K.J. Anchukaitis**, D Meko, D. Kerchouche, S. Slimani, R. Ilmen, F. Hasnaoui, F. Guibal, J.J. Camarero, R. Sánchez-Salguero, A Piermattei, A. Sesbou, B.I. Cook, M. Sabir, H. Touchane, Climate controls on tree growth in the Western Mediterranean, *The Holocene*, 27, 10, 1429–1442, doi:10.1177/0959683617693901, 2017.
- [63] ‡ Pons, D., M. J. Taylor, R.D. Griffin, E. Castellanos, **K.J. Anchukaitis**, On the production of climate information in the high mountain forests of Guatemala, *Annals of the Association of American Geographers*, 107, 323–335, doi: 10.1080/24694452.2016.1235481, 2017.
- [62] † Coats, S., J.E. Smerdon, B.I. Cook, R. Seager, E.R. Cook, **K.J. Anchukaitis**, Internal ocean-atmosphere variability drives megadroughts in Western North America, *Geophysical Research Letters*, 43, 9886–9894, doi:10.1002/2016GL0701052016, 2016.
- [61] Karnauskas, K.B., J.P. Donnelly, and **K.J. Anchukaitis**, Future Freshwater Stress for Island Populations, *Nature Climate Change*, 6, 720–725, doi:10.1038/nclimate2987, 2016.
- [60] ‡ Fleming, L.E. and **K.J. Anchukaitis**, North Pacific decadal variability in the CMIP5 last millennium simulations, *Climate Dynamics*, 47, 3783–3801, doi:10.1007/s00382-016-3041-7, 2016.
- [59] Cook, B.I., **K.J. Anchukaitis**, R Touchan, D.M. Meko, and E.R. Cook, Mediterranean drought variability over the last millennium, *Journal of Geophysical Research*, 121, 2060–2074, doi:10.1002/2015JD023929, 2016.
- [58] Wilson, R, **K.J. Anchukaitis**, K. Briffa, U. Büntgen, E.R. Cook, R.D. D'Arrigo, N. Davi, J. Esper, D. Frank, B. Gunnarson, G. Hegerl, S. Klesse, P.J. Krusic, H. Linderholm, V. Myglan, Z. Peng, M. Rydval, L. Schneider, A. Schurer, G. Wiles and E. Zorita, Last millennium Northern hemisphere summer temperatures from tree rings: Part I: the long term context, *Quaternary Science Reviews*, 134, 1-18, doi:10.1016/j.quascirev.2015.12.005, 2016.
- [57] ‡ Rydval, M., D. Druckenbrod, **K.J. Anchukaitis**, R. Wilson, Detection and removal of disturbance trends in tree-ring series for dendroclimatology, *Canadian Journal of Forest Research*, 46(3), 387-401, doi:10.1139/cjfr-2015-0366, 2016.
- [56] LeGrande, A. and **K.J. Anchukaitis**, Volcanic eruptions and climate, *Past Global Changes Magazine*, 23(2), 46-47, 2015.
- [55] St. George, S. and **K.J. Anchukaitis**, On the A.D. 1815 Tambora eruption and the matter of misplaced tree rings, *Past Global Changes Magazine*, 23(2): 46-47, 2015.
- [54] ‡ Hernandez, M., C. C. Ummenhofer, and **K.J. Anchukaitis**, Multi-scale drought and ocean-atmosphere variability in monsoon Asia, *Environmental Research Letters*, 10, 0740102015, doi: 10.1088/1748-9326/10/7/074010, 2015.
- [53] Davi, N., R. D'Arrigo, G.C. Jacoby, E.R. Cook, **K.J. Anchukaitis**, B. Nachin, M.P. Rao, and C. Leland, A long-term context (931–2005 C.E.) for rapid warming over central Asia, *Quaternary Science Reviews*, 14(1), 89–97, doi:10.1016/j.quascirev.2015.05.020, 2015.
- [52] Wiles, G.C., O. Solomina, R.D. D'Arrigo, **K.J. Anchukaitis**, Y. V. Gensiarovsky, N. Wiesenberg, Reconstructed summer temperatures over the last 400 years based on Larch ring widths: Sakhalin Island, Russian Far East, *Climate Dynamics*, 45(1-2), 397–405, doi:10.1007/s00382-014-2209-2, 2015.
- [51] Tierney, J.E., N.J. Abram, **K.J. Anchukaitis**, M.N. Evans, C. Giry, H. Kilbourne, C.P. Saenger, H. Wu, J. Zinke, Tropical sea-surface temperatures for the past four centuries reconstructed from coral archives, *Paleoceanography*, 30(3), 226–252, doi:10.1002/2014PA002717, 2015.

- [50] D'Arrigo, R.D., R. Wilson, G. Wiles, **K.J. Anchukaitis**, O. Solomina, N. Davi, C. Deser, V. Matskovsky, E. Dolgova, Tree-ring reconstructed temperature index for coastal northern Japan: implications for western North Pacific variability, *International Journal of Climatology*, 35, 3713–3720, doi:10.1002/joc.4230, 2015.
- [49] † Griffin, D. and **K.J. Anchukaitis**, How unusual is the 2012–2014 California drought? *Geophysical Research Letters*, 41(24): 9017–9023, doi:10.1002/2014GL062433, 2014.
- [48] **Anchukaitis, K.J.**, M. J. Taylor, C. Leland, D. Pons, J. Martin-Fernandez, E. Castellanos, Tree-ring reconstructed dry season rainfall in Guatemala, *Climate Dynamics*, 45(5), 1537–1546, doi:10.1007/s00382-014-2407-y, 2014.
- [47] Touchan, R., D. Meko, **K.J. Anchukaitis**, Dendroclimatology in the Eastern Mediterranean, *Radio-carbon*, 56(4): S61–S68, doi:10.2458/azu_rc.56.18321, 2014.
- [46] **Anchukaitis, K.J.** and N. McKay, PAGES2k: Advances in Climate Field Reconstructions, *Past Global Changes Magazine*, 22(2), 98, 2014.
- [45] PAGES2k Consortium (Kaufman, D., K.J. Anchukaitis, U. Buentgen, J. Emile-Geay, M.N. Evans, H. Goosse, J. Luterbacher, J.E. Smerdon, L. von Gunten), A framework for community-driven climate reconstructions during the past two millennia, *EOS*, 95(40): 361–362, doi: 10.1002/2014EO4000012014, 2014.
- [44] † Martin-Benito, D., N. Pederson, M. McDonald, P.J. Krusic, B.M. Buckley, **K.J. Anchukaitis**, R. D'Arrigo, L. Andreu-Hayles, and E. Cook. Dendrochronological dating of the World Trade Center ship, Lower Manhattan, New York City, *Tree-Ring Research*, 70(2), 65–77, doi: 10.3959/1536-1098-70.2.65, 2014.
- [43] Pederson, N., A. Hessel, N. Baatarbileg, **K.J. Anchukaitis**, N. DiCosmo, Pluvials, Droughts, the Mongol Empire, and Modern Mongolia, *Proceedings of the National Academy of Sciences*, 111(12):4375–4379, doi:10.1073/pnas.1318677111, 2014.
- [42] Touchan, R., **K.J. Anchukaitis**, V.V. Shishov, F. Sivrikaya, J. Attieh, M. Ketmen, J. Stephan, I. Mitsopoulos, A. Christou, D.M. Meko. Spatial Patterns of Eastern Mediterranean Climate Influence on Tree Growth, *The Holocene*, 24(4), 381–392, doi:10.1177/0959683613518594, 2014.
- [41] D'Arrigo, R.D., R. Wilson, **K.J. Anchukaitis**, Volcanic cooling signal in tree-ring temperature reconstructions for the past millennium, *Journal of Geophysical Research*, 118, 9000–9010, doi: 10.1002/jgrd.50692, 2013.
- [40] Cook, E.R., P.J. Krusic, **K.J. Anchukaitis**, B.M. Buckley, T. Nakatsuka, M. Sano and the PAGES Asia2k members, Tree-ring reconstructed summer temperature anomalies for temperate East Asia since 800 C.E., *Climate Dynamics*, 41(11), 2957–2972, doi: 10.1007/s00382-012-1611-x, 2013.
- [39] Ummenhofer, C.C., R.D. D'Arrigo, **K.J. Anchukaitis**, B.M. Buckley, E.R. Cook, Links between Indo-Pacific Climate Variability and Drought in the Monsoon Asia Drought Atlas, *Climate Dynamics*, 40(5–6), 1319–1334, doi:10.1007/s00382-012-1458-1, 2013.
- [38] † Tolwinski-Ward, S.E. **K.J. Anchukaitis**, M.N. Evans, Bayesian parameter estimation and interpretation for an intermediate model of tree-ring width, *Climate of the Past*, 9, 1481–1493, doi:10.5194/cp-9-1481-2013, 2013.
- [37] Evans, M.N., S.E. Tolwinski-Ward, D.M. Thompson, **K.J. Anchukaitis**, Applications of proxy system modeling in high resolution paleoclimatology, *Quaternary Science Reviews*, 76, 16–28, doi: 10.1016/j.quascirev.2013.05.024, 2013.
- [36] **Anchukaitis, K.J.**, R.D. D'Arrigo, L. Andreu-Hayles, D. Frank, A. Verstege, B.M. Buckley, A. Curtis, G.C. Jacoby, E.R. Cook, Tree-ring reconstructed summer temperatures from northwestern North America during the last nine centuries, *Journal of Climate*, 26(10), 3001–3012, doi:10.1175/JCLI-D-11-00139.1, 2013.
- [35] PAGES 2k Consortium (M. Ahmed, **K.J. Anchukaitis**, A. Asrat, H.P. Borgaonkar, M. Braidia, B.M. Buckley, U. Buntgen, B.M. Chase, D.A. Christie, E.R. Cook, M.A.J. Curran, H.F. Diaz, J. Esper, Z.-X. Fan, N.P. Gaire, Q. Ge, J. Gergis, J.F. González-Rouco, H. Goosse, S.W. Grab, N. Graham, R. Graham,

- M. Grosjean, S.T. Hanhijärvi, D.S. Kaufman, T. Kiefer, K. Kimura, A.A. Korhola, P.J. Krusic, A. Lara, A.-M. Lézine, F.C. Ljungqvist, A.M. Lorrey, J. Luterbacher, Va. Masson-Delmotte, D. McCarroll, J.R. McConnell, N.P. McKay, M.S. Morales, A.D. Moy, R. Mulvaney, I.A. Mundo, T. Nakatsuka, D.J. Nash, R. Neukom, S.E. Nicholson, H. Oerter, J.G. Palmer, S.J. Phipps, M.R. Prieto, A. Rivera, M. Sano, M. Severi, T.M. Shanahan, X. Shao, F. Shi, M. Sigl, J.E. Smerdon, O.N. Solomina, E.J. Steig, B. Stenni, M. Thamban, V. Trouet, C.S.M. Turney, M. Umer, T. van Ommen, D. Verschuren, A.E. Viau, R. Villalba, B.M. Vinther, L. von Gunten, S. Wagner, E.R. Wahl, H. Wanner, J.P. Werner, J.W.C. White, K. Yasue, E. Zorita), Continental-scale temperature variability during the last two millennia, *Nature Geoscience*, 6, 339–346, doi:10.1038/ngeo1797, 2013.
- [34] † Bell, A.R., D.E. Osgood, B.I. Cook, **K.J. Anchukaitis**, G.R. McCarney, A.M. Greene, B.M. Buckley, E. R. Cook, Paleoclimate histories improve access and sustainability in index insurance programs, *Global Environmental Change*, 23(4), 774–781, doi:10.1016/j.gloenvcha.2013.03.003, 2013.
- [33] **Anchukaitis, K.J.**, M. Taylor, J. Martin-Fernandez, D. Pons, M. Dell, C. Chopp, E. Castellanos, Annual chronology and climate response in *Abies guatemalensis* Rehder (Pinaceae) in Central America, *The Holocene*, 23(2), 270–277, doi:10.1177/0959683612455548, 2013.
- [32] Tierney, J.E., J.E. Smerdon, **K.J. Anchukaitis**, R. Seager, Multidecadal variability in East African hydroclimate controlled by the Indian Ocean, *Nature*, 493, 389–392, doi:10.1038/nature11785, 2013.
- [31] † Beck, P.S.A., R.D. D’Arrigo, **K.J. Anchukaitis**, C.J. Tucker, J.E. Pinzón, S.J. Goetz, A large-scale coherent signal of canopy status in maximum latewood density of tree rings at arctic treeline in North America, *Global and Planetary Change*, 100, 109–118, doi:10.1016/j.gloplacha.2012.10.005, 2013.
- [30] **Anchukaitis, K.J.**, P. Breitenmoser, K. R. Briffa, A. Buchwal, U. Büntgen, E. R. Cook, R. D. D’Arrigo, J. Esper, M.N. Evans, D. Frank, H. Grudd, B. Gunnarson, M.K. Hughes, A.V. Kirdyanov, C. Körner, P. Krusic, B. Luckman, T.M. Melvin, M.W. Salzer, A.V. Shashkin, C. Timmreck, E.A. Vaganov, R. Wilson, Tree rings and volcanic cooling, *Nature Geoscience*, 5, 836–837, doi:10.1038/ngeo1645, 2012.
- [29] **Anchukaitis, K.J.** and J.E. Tierney, Identifying coherent spatiotemporal modes in time-uncertain proxy paleoclimate records, *Climate Dynamics*, 41, 1291–1306, doi:10.1007/s00382-012-1483-0, 2013.
- [28] Cook, B.I., A.R. Bell, **K.J. Anchukaitis**, B.M. Buckley, Snow and precipitation impacts on dry season streamflow in the Lower Mekong Basin, *Journal of Geophysical Research*, 117, D16116, doi:10.1029/2012JD017708, 2012.
- [27] Cook, B.I., **K.J. Anchukaitis**, J.O. Kaplan, M. Puma, M. Kelley, D. Gueyffier, Pre-Columbian deforestation as an amplifier of drought in Mesoamerica, *Geophysical Research Letters*, 39, L16706, doi:10.1029/2012GL052565, 2012.
- [26] Pederson, N., A.R. Bell, T.A. Knight, C. Leland, N. Malcomb, **K.J. Anchukaitis**, K. Tackett, J. Scheff, A. Brice, B. Catron, W. Blozan, J. Riddle, Long-term perspective on a modern drought in the American Southeast, *Environmental Research Letters*, 7, 014034, doi:10.1088/1748-9326/7/1/014034, 2012.
- [25] † Andreu-Hayles, L., R.D. D’Arrigo, **K.J. Anchukaitis**, P. Beck, D. Frank, A. Verstege, S. Goetz, Varying boreal forest response to Arctic environmental change at the Firth River, Alaska, *Environmental Research Letters*, 6, 045503, doi:10.1088/1748-9326/6/4/045503, 2011.
- [24] D’Arrigo, R.D., **K.J. Anchukaitis**, B.M. Buckley, E.R. Cook, R. Wilson, Regional climatic and North Atlantic Oscillation signatures in West Virginia red cedar over the past millennium, *Global and Planetary Change*, doi: 10.1016/j.gloplacha.2011.07.003, 84–85, 8–13, 2011.
- [23] † Bell, A.R., B.I. Cook, **K.J. Anchukaitis**, B.M. Buckley, E.R. Cook, Repurposing climate reconstructions for drought prediction in southeast Asia, *Climatic Change*, 106(4): 691–698, doi:10.1007/s10584-011-0064-2, 2011.
- [22] † Andreu-Hayles, L., O Planells, E. Gutiérrez, E. Muntan, G. Helle, **K.J. Anchukaitis**, G. H. Schleser, Long tree-ring chronologies reveal 20th century increases in water-use efficiency but no enhancement of tree growth at five Iberian pine forests, *Global Change Biology*, 17(6), 2095–2112, doi:10.1111/j.1365-2486.2010.02373.x, 2011.

- [21] Vaganov, E.A., **K.J. Anchukaitis**, and M.N. Evans, How well understood are the processes that create dendroclimatic records? A mechanistic model of climatic control on conifer tree-ring growth dynamics, in M.K. Hughes, T.W. Swetnam, and H.F. Diaz (eds), *Dendroclimatology: Progress and Prospects*, Developments in Paleocological Research, (Springer-Verlag), 11(2), 37-75, doi:10.1007/978-1-4020-5725-0_3, 2011.
- [20] Meko, D.M, R. Touchan, and **Anchukaitis, K.J.**, SEASCORR: a MATLAB program for identifying the seasonal climate signal in an annual tree-ring time series, *Computers and Geosciences*, 37(9), 1234–1241, doi:10.1016/j.cageo.2011.01.013, 2011.
- [19] ‡ Tolwinski-Ward, S.E., M.N. Evans, M.K. Hughes, **K.J. Anchukaitis**, An efficient forward model of the climate controls on interannual variation in tree-ring width, *Climate Dynamics*, 36(11-12), 2419-2439, doi:10.1007/s00382-010-0945-5, 2010.
- [18] **Anchukaitis, K.J.**, B.M. Buckley, E.R. Cook, B.I. Cook, R.D. D’Arrigo, C.M. Ammann, The influence of volcanic eruptions on the climate of the Asian monsoon region, *Geophysical Research Letters*, 37, L22703, doi:10.1029/2010GL044843, 2010.
- [17] Cook, B.I., E.R. Cook, **K.J. Anchukaitis**, R. Seager, R. L. Miller, Forced and Unforced Variability of 20th Century North American Droughts and Pluvials, *Climate Dynamics*, 37(5), 1097–1110, doi:10.1007/s00382-010-0897-9, 2011.
- [16] Cook, E.R., **K.J. Anchukaitis**, B.M. Buckley, R.D. D’Arrigo, G.C. Jacoby, W.E. Wright, Asian monsoon failure and megadrought during the last millennium, *Science*, 328(5977), 486-489, doi:10.1126/science.1185188, 2010.
- [15] Touchan, R., **K.J. Anchukaitis**, D.M. Meko, M. Sabir, S. Attalah, A. Aloui, Spatiotemporal drought variability in northwestern Africa over the last nine centuries, *Climate Dynamics*, 37(1), 237–252, doi:10.1007/s00382-010-0804-4, 2010.
- [14] Buckley, B.M., **K.J. Anchukaitis**, D. Penny, R. Fletcher, E. R. Cook, M. Sano, Le Canh Nam, A. Wichienkeo, Ton That Minh, and Truong Mai Hong, Climate as a contributing factor in the demise of Angkor, Cambodia, *Proceedings of the National Academy of Sciences*, 107(15), 6748-6752, doi:10.1073/pnas.0910827107, 2010.
- [13] **Anchukaitis, K.J.** and M.N. Evans, Tropical cloud forest climate variability and the demise of the Monteverde Golden Toad, *Proceedings of the National Academy of Sciences*, 107(11), 5036-5040, doi:10.1073/pnas.0908572107, 2010.
- [12] Cook, B.I., E.R. Cook, **K.J. Anchukaitis**, P. Huth, J.E. Thompson, S. Smiley, A homogeneous record (1896-2006) of daily meteorology and climate at Mohonk Lake, New York, *Journal of Applied Meteorology and Climatology*, 49, 544–555, doi:10.1175/2009jame2221.1, 2010.
- [11] Shanahan, T.M., J.T. Overpeck, **K.J. Anchukaitis**, J.W. Beck, J.E. Cole, D. Dettman, J. Peck, C.A. Scholz, J. King, Atlantic forcing of persistent drought in West Africa, *Science*, 324(5925), 377-380, doi:10.1126/science.1166352, 2009.
- [10] McCarroll, D., M.H. Gagen, N.J. Loader, I. Robertson, **K.J. Anchukaitis**, S.O. Los, R. Jalkanen, A. Kirchefer, Objective correction of tree ring stable carbon isotope chronologies for changes in the carbon dioxide content of the atmosphere, *Geochimica et Cosmochimica Acta*, 73(6), 1539–1547, doi:10.1016/j.gca.2008.11.041, 2009.
- [9] D’Arrigo, R.D., G. Jacoby, B.M. Buckley, J. Sakulich, D. Frank, R. Wilson, A. Curtis, **K.J. Anchukaitis**, Tree growth and inferred temperature variability at the North American Arctic treeline, *Global and Planetary Change*, 65, 71–82, doi:10.1016/j.gloplacha.2008.10.011, 2009.
- [8] **Anchukaitis, K.J.**, M.N. Evans, N.T. Wheelwright, and D.P. Schrag, Isotope chronology and climate signal calibration in neotropical cloud forest trees, *Journal of Geophysical Research*, 113, G03030, doi:10.1029/2007JG000613, 2008.
- [7] Touchan, R., **K.J. Anchukaitis**, D.M. Meko, S. Attalah, C. Baisan, and A. Aloui, The long term context for recent drought in northwestern Africa, *Geophysical Research Letters*, 35, L13705, doi:10.1029/2008GL034264, 2008.

- [6] D'Arrigo, R.D., P. Baker, J. Palmer, **K.J. Anchukaitis** and G. Cook. Experimental reconstructions of monsoon drought variability for Australasia using tree rings and corals, *Geophysical Research Letters*, 35, L12709, doi:10.1029/2008GL034393, 2008.
- [5] **Anchukaitis, K.J.**, M.N. Evans, T. Lange, D.R. Smith., D.P. Schrag, and S.W. Leavitt, Consequences of a rapid cellulose extraction technique for oxygen isotope and radiocarbon analyses, *Analytical Chemistry*, 80(7), 2035–2041, doi:10.1021/ac7020272, 2008.
- [4] Gagen, M., D. McCarroll, N.J. Loader, I. Robertson, R. Jalkanen, and **K.J. Anchukaitis**, Exorcising the 'segment length curse': summer temperature reconstruction since AD1640 using non-detrended stable carbon isotope ratios from pine trees in Finnish Lapland, *The Holocene*, 17, 435-446, doi:10.1177/0959683607077012, 2007.
- [3] Evans, M.N., B.K. Reichert, A. Kaplan, **K.J. Anchukaitis**, E.A. Vaganov, M.K. Hughes, and M.A. Cane, A forward modeling approach to paleoclimatic interpretation of tree-ring data, *Journal of Geophysical Research*, 111, G03008, doi:10.1029/2006JG000166, 2006.
- [2] **Anchukaitis, K.J.**, M.N. Evans, A. Kaplan, E.A. Vaganov, M.K. Hughes, H.D. Grissino-Mayer, and M.A. Cane, Forward modeling of regional-scale tree-ring patterns in the southeastern United States and the recent emergence of summer drought stress, *Geophysical Research Letters*, 33(4), L04705, doi:10.1029/2005GL025050, 2006.
- [1] **Anchukaitis, K.J.** and S.P. Horn, A 2000-year reconstruction of forest disturbance from southern Pacific Costa Rica. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 221(1-2), 35-54, doi:10.1016/j.palaeo.2005.02.003, 2005.

MENTORING

Postdoctoral

- Laia Andreu-Hayles, **2009–2012**, Postdoctoral Fellow and Marie Curie Postdoctoral Fellow, Lamont Doherty Earth Observatory (co-mentor with Rosanne D'Arrigo). Currently Lamont Assistant Research Professor, Lamont-Doherty Earth Observatory of Columbia University.
- Dario Martin-Benito, **2012–2013**, Postdoctoral Scientist, Lamont Doherty Earth Observatory. Currently Associate Research Scientist at the Forest Research Center, Instituto Nacional de Investigación, Madrid, Spain
- Daniel Griffin, **2013–2014**, WHOI Postdoctoral Scholar and NOAA/UCAR Climate and Global Change Postdoctoral Fellowship, Woods Hole Oceanographic Institution. Currently Assistant Professor, University of Minnesota.
- Bethany Coulthard, **2016–**, Postdoctoral Research Scientist, Laboratory of Tree-Ring Research and School of Geography and Development, University of Arizona.

Graduate Students

- Jessie Pearl, **2014-present**, Ph.D., MIT-WHOI Joint Program in Oceanography/Applied Ocean Science & Engineering (2014-2015); University of Arizona, Department of Geosciences (2015–)
- Talia Anderson, **2017-present**, M.S., University of Arizona, School of Geography and Development (2017–)
- Gloria Jimenez, **2017-present**, Ph.D., Geosciences, University of Arizona (co-advisor with Julie Cole, 2017-2018)
- Julie Edwards, **2018-present**, M.S., University of Arizona, School of Geography and Development (2018–)
- Jonathan King, **2018-present**, Ph.D., Geosciences, University of Arizona (2018–)

Dissertation, Thesis Committee, or External Reviewer

- Petra Breitenmoser, **2013**, external referee, Ph.D., University of Bern, Switzerland
- Kristina Seftigen, **2014**, *fakultetsopponent*, Ph.D., Gothenburg University, Sweden
- Jonathan Barichivich, **2014**, external committee member, M.Sc., Ph.D University of East Anglia, UK
- Brewster Malevich, **2017**, committee member, Ph.D., Geosciences, University of Arizona

Diego Pons, **2017**, external committee member, Ph.D., University of Denver
 Patrick Murphy, **2018** committee member, M.S., Geography, University of Arizona
 Sarah Frederick, **2018** committee member, M.S., Geography, University of Arizona
 Grace Windler, **2018** committee member, M.S., Geosciences, University of Arizona
 Caroline Leland, external committee member, Ph.D., Columbia University
 Chris Zemp, committee member, M.S., Geography, University of Arizona
 Matthew Meko, committee member, Ph.D., Geosciences, University of Arizona
 Gloria Jimenez, co-advisor and committee member, Ph.D., Geosciences, University of Arizona
 Manuel Hernandez, external committee member, Ph.D., Geography, University of North Carolina
 William Tintor, committee member, Ph.D., Geography, University of Arizona

Undergraduates and Interns

Kristin Campbell, **2010**, Climate and Society Intern, Columbia University (co-mentor with Ben Cook)
 Hannah Aizenman, **2011**, Google Summer of Code, City University of New York and Columbia University (co-mentor with Julien Emile-Geay and Jason Smerdon). Currently Adjunct Lecturer and Graduate Student Researcher at the City College of New York.
 Diego Pons, **2011**, US State Department and LASPAU Global Change Professional Fellow (mentor and host). Completed his Ph.D. in 2017 at University of Denver.
 Liora Hostyk, **2012**, Lamont-Doherty Earth Observatory Summer Internship (NSF REU), Barnard College and Columbia University (co-mentor with Ben Cook and Richard Seager). Currently a graduate student at Tel Aviv University, Israel.
 Manuel Hernandez, **2013, 2014**, WHOI Summer Student Fellow and UCAR/NCAR SOARS protégé, Texas A&M University (co-mentor with Caroline Ummenhofer). Currently a graduate student, University of North Carolina Chapel Hill.
 Mariel Herzog, **2013**, Lamont-Doherty Earth Observatory Summer Internship (NSF REU), University of Colorado (co-mentor with Allegra LeGrande). Currently a geophysicist at Schlumberger, Houston, Texas.
 Laura Fleming, **2013, 2014–2015**, Northeastern University Co-op Semester, Visiting Student at Woods Hole Oceanographic Institution. Currently a graduate student, MIT-WHOI Joint Program in Oceanography/Applied Ocean Science & Engineering.
 Melissa Schwan, **2016**, University of Arizona, Department of Geosciences, Senior Honors Thesis.

TEACHING

UNIVERSITY OF ARIZONA

Tucson, AZ

School of Geography and Development

GEOG 170A1 *Introduction to Physical Geography* (Spring 2016, 2017, 2018)
 GEOG 230 *Our Changing Climate* (Autumn 2015, 2016)
 GEOG 430/530 *The Climate System* (Spring 2016, 2017, 2018)
 GEOS 599-010 *Paleoclimate Dynamics (Independent Study)* (Spring 2018)
 GEOG 696C *Spatiotemporal Data Analysis* (Autumn 2016)
 GEOG 696M *Hydroclimate: Past, Present, and Future* (Autumn 2017)
 GEOG 699-013 *Topics in Paleobiogeography (Independent Study)* (Spring 2016)
 GEOG 699-013 *Statistics for Biogeography (Independent Study)* (Spring 2017)

MIT-WHOI JOINT PROGRAM IN OCEANOGRAPHY

Cambridge and Woods Hole, MA

Marine Geology and Geophysics

12.708 *Topics in Paleoceanography* (Autumn 2013)

COLUMBIA UNIVERSITY

New York, NY

Masters in Sustainability Management Program

SUMA K4230 *The Earth's Climate System* (Spring 2011, Spring 2012)

Department of Earth and Environmental Science

EESC V2011 *Earth's Environmental Systems: The Climate System* (Spring 2012)

HONORS

Udall Center for Studies in Public Policy Fellowship, University of Arizona, Autumn 2018
George H. Davis Travel Fellowship, Office of Research, Discovery & Innovation, University of Arizona, Spring 2018
Research Professorship, College of Social and Behavioral Sciences, University of Arizona, Autumn 2017
Henry Cowles Award for Excellence in Publication, Biogeography Specialty Group, Association of American Geographers, 2015
Stephen S. Visher Lecturer in Climatology, Indiana University, February 2015
Marsico Visiting Scholar, University of Denver, Autumn 2011
Andrew Ellicott Douglass Memorial Scholarship, The University of Arizona, 2006 - 2007
Institute for the Study of Planet Earth Doctoral Dissertation Improvement Grant, 2006
Galileo Circle Scholar, The University of Arizona College of Science, 2004
Sulzer Scholarship, Department of Geosciences, 2004
GPSC Outstanding Teaching Assistant Award, The University of Arizona, 2003
Robert G. Long Outstanding Graduate Student Award, The University of Tennessee, 2002
Stewart A. McCroskey Memorial Research Grant, The University of Tennessee, 2001
Departmental Honors; First & Second Honors (Dean's List) Georgetown University, 1998

FELLOWSHIPS

Newton International Postdoctoral Fellowship at Oxford University, The Royal Society (United Kingdom), 2009-2011 (*declined*)
US Department of Energy (DOE) Global Change Education Program, Graduate Research and Education Fellowship (GCEP-GREF), 2004 – 2006; *declined* in 2007.
NSF Integrative Graduate Education Research and Training Fellowship (IGERT), The University of Arizona, 2003 – 2004, 2007.
U.S. Environmental Protection Agency (EPA) STAR Fellowship, 1999 – 2001.

GRANTS

Current and Recent

- “The global climate response to volcanic eruptions in the Last Millennium Reanalysis”, PI: J. Emile-Geay, co-PIs: **K.J. Anchukaitis** and G. Hakim. NOAA Climate Program Office, Climate Monitoring Program and Climate Variability and Predictability Program, 09/01/2018 – 08/31/2020, \$299,973 (UA Scope: \$64,004)
- “Developing Tree-Ring Based Streamflow Reconstructions for Large and Complex River Basins”, PI: **K.J. Anchukaitis**, co-PI: Bethany Coulthard, NSF Geography and Spatial Sciences, BCS-1759629, 09/01/2018 – 02/28/2022, \$279,672
- “Water Resource Relevant Hydroclimatic Reconstructions for Western North America” PI: **K.J. Anchukaitis**, Postdoctoral Researcher: Bethany Coulthard. U.S. Geological Survey (G16AC00266), 09/02/2016 – 9/01/2018, \$118,886
- “Past Ocean-Atmosphere Variability from Spatiotemporal Patterns of North Atlantic Climate During the Common Era” (with Lamont-Doherty Earth Observatory, PI: Ed Cook), coPIs: **K.J. Anchukaitis**, Rosanne D’Arrigo. NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-1501856, 05/2015 – 04/2018, (UA scope: \$93,491)
- “Spatiotemporal Variability of Northwestern North American Temperatures in Response to Climatic Forcing” (with Lamont-Doherty Earth Observatory, PI: Rosanne D’Arrigo), coPIs: **K.J. Anchukaitis**, Laia Andreu-Hayles, Greg Wiles, Rob Wilson, NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-1501834, 05/2015 – 04/2018, (UA scope: \$105,155)

- “Recent Northeastern United States Temperature Records in the Context of the Late Holocene” PIs: **K.J. Anchukaitis**, Jeff Donnelly, and Neil Pederson, NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-1304262, 08/2013 – 07/2016 (No Cost Extension to 07/2018), \$447,183
- “Reconstructing Changes in Asian Monsoon Circulation during the Last Millennium from Stable Isotopes in Tropical Tree Rings” PIs: **K.J. Anchukaitis**, B.M. Buckley, C. Ummenhofer, NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-1203818, 8/15/2012 – 8/14/2015 (No Cost Extension to 08/2017), \$688,279

Completed

- “Reconstructing Droughts in the Tropical Americas Using Tree-Ring Analysis” PIs: **K.J. Anchukaitis** and Matthew Taylor, NSF Geography and Spatial Sciences, BCS-1263609, 07/2013–12/2016, \$278,599
- “CNH: Pluvials, Droughts, Energetics, and the Mongol Empire” (with West Virginia University, PI: Amy Hessl), coPIs: Neil Pederson and **K.J. Anchukaitis**, Coupled Natural-Human Systems (CNH), BCS-1210360, 05/2012 – 04/2016 (No Cost Extension to 05/2017) , \$1,394,398; (Pederson & Anchukaitis scope = \$317,576)
- “Tree-Ring Reconstructions of Western North Pacific Climate Dynamics”, PIs: R.D. D’Arrigo, **K.J. Anchukaitis**, N. Davi. NSF Paleoclimate Perspectives on Climate Change (P2C2) AGS-1159430, 06/2012 – 05/2015 (No Cost Extension to 05/2016), \$686,982
- “Past and Future Drought Variability in the Mediterranean Basin” (with University of Arizona). PIs: **K.J. Anchukaitis** and B.I. Cook, NSF Paleoclimate Perspectives on Climate Change (P2C2) AGS-1103450, 06/2011 – 05/2014, No-cost extension to 5/2015, (Anchukaitis and Cook scope: \$70,388).
- “Paleoclimate shocks: environmental variability, human vulnerability, and societal adaptation during the last millennium in the Greater Mekong Basin”, PIs: B.M. Buckley, T. Heikkila, **K.J. Anchukaitis**, and 7 others, Coupled Natural-Human Systems (CNH), ATM-0908971, 10/2009 – 9/2013 (No Cost Extension to 09/2014), \$1,401,351
- “Shifting Seasonality of Northern Forest Response to Arctic Environmental Change ”, PIs: R.D. D’Arrigo, **K.J. Anchukaitis**, NSF ARC-0902051, 4/2009 – 3/2012, \$381,154
- “Developing multicentury drought reconstructions from Guatemala and the context for past and future hydroclimatic change”, PIs: **K.J. Anchukaitis**, M. Taylor, and E. Castellanos, Geography and Spatial Sciences, NSF BCS-0852652, 04/2009 - 03/2012 (No Cost Extension to 03/2013), \$203,351
- “Annual climate during the rise and fall of the Great Mongol Empire: Rapid collection of an ancient and endangered paleoclimate resource”, PIs: N. Pederson and **K.J. Anchukaitis**, Columbia University Climate Center, 11/2011, \$7,850.
- “Building capacity for managing climate risk from drought in Guatemala”, PI: **K.J. Anchukaitis**, Columbia University Earth Institute Cross-Cutting Initiative, 11/2010, \$24,000
- “Construction of a device for rapid cellulose extraction from wood for applications in isotope dendrochronology and organic biogeochemistry”, PI: **K.J. Anchukaitis**, Columbia University Climate Center, 05/2011, \$8,000
- “MRI-R2: Acquisition of Stable Isotope Instrumentation for High Precision Paleoclimatic and Environmental Research at the Lamont Doherty Earth Observatory”, PIs: B. Linsley, B. Yan, **K.J. Anchukaitis**, P. deMenocal, P. Schlosser, NSF AGS-0959148, 5/2010 – 4/2012, \$811,868
- “Dating the World Trade Center Ship”, PIs: B.M. Buckley, **K.J. Anchukaitis**, N. Pederson, E.R. Cook, R.D. D’Arrigo. AKRF, Inc., The Lower Manhattan Development Corporation, and The Port Authority of NY & NJ, 8/2010 – 7/2011, \$12,306
- “Establishing the stable oxygen isotope signature of precipitation in the Central Highlands of Vietnam for application to dendroclimatology”, PI: **K.J. Anchukaitis** and B.M. Buckley, Columbia University Climate Center, 11/2008, \$8,000

- “Assessing the dendrochronological potential of tree species in highland Guatemala”, PI: **K.J. Anchukaitis**, Columbia University Climate Center, 12/2007, \$5,000

PRESENTATIONS Invited or Recent (2015 to present) † = postdoctoral author, ‡ = student author

- † Alexander, R. N. Pederson, D.A. Bishop, J.K. Pearl, **K.J. Anchukaitis**, Hide and go seek with temperature signals of Northeastern US Tree Species, Abstract PP31A-1258 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 December, 2017
- Anchukaitis, K.J.**, A.N. LeGrande, Proxy system modeling tree-ring isotope chronologies over the Common Era, Abstract PP31A-1255 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 December, 2017
- Cook, B.I. **K.J. Anchukaitis**, What We Talk About When We Talk About Drought: Tree-ring Perspectives on Model-Data Comparisons in Hydroclimate Research, Abstract PP21D-03 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 December, 2017 (**Invited**)
- † Coulthard, B.L. **K.J. Anchukaitis**, G.T. Pederson, J.R. Alder, S.W. Hostetler, S. T. Gray, First gridded spatial field reconstructions of snow from tree rings, Abstract PP43D-07 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 December, 2017
- Emile-Geay, J., M.P. Erb, G.J. Hakim, **K.J. Anchukaitis**, M. Toohey, E.J. Steig, The Climate Response to Explosive Volcanism in the Last Millennium Reanalysis, Abstract A54F-01 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 December, 2017
- † Erb, M.P., J. Emile-Geay, N. McKay, G.J. Hakim, E.J. Steig, **K.J. Anchukaitis**, Is Recent Warming Unprecedented in the Common Era? Insights from PAGES2k data and the Last Millennium Reanalysis, Abstract PP43D-02 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 December, 2017
- Karnauskas, K., C-F. Schleussner, J.P. Donnelly, **K.J. Anchukaitis**, Future Freshwater Stress on Small Islands: Population, Aridity and Global Warming Targets, Abstract GC53A-0874 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 December, 2017
- ‡ Leland, C. E.R. Cook, L. Andreu-Hayles, N. Pederson, A.E. Hessler, **K.J. Anchukaitis**, O. Byambasuren, B. Nachin, N.K. Davi, R. D’Arrigo, K.L. Griffin, D.A. Bishop, M.P. Rao, A comparison of radial growth trends from strip-bark and whole-bark Siberian Pine trees and implications for climate reconstruction, Abstract PP31A-1242 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 December, 2017
- ‡ Pearl, J., **K.J. Anchukaitis**, N. Pederson, J. Donnelly, Dendroclimate evidence for extreme hydrologic events over the late Holocene in the Northeastern United States, Abstract PP42A-06 presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 December, 2017
- Anchukaitis, K.J.**, Little Ice Age climates of the Northern Hemisphere, Paper presented at ‘Collapse! What Collapse? Societal adaptations to abrupt climate changes before global warming’ Humanities Workshop, Whitney Humanities Center, Yale University, 20–22 October, 2017. (**Invited**)
- Anchukaitis, K.J.**, Patterns of forced changes in spatiotemporal climate reconstructions of the Common Era, University of California Irvine, Department of Earth System Science colloquium, October 18, 2017 (**Invited**)
- Anchukaitis, K.J.**, Patterns of forced changes in spatiotemporal climate reconstructions of the Common Era, 1st Paleoclimate Modelling Intercomparison Project - Phase 4 conference, The Swedish Museum of Natural History, Stockholm, Sweden, 25-29 September 2017 (**Invited**)
- Anchukaitis, K.J.** and coauthors, Common Era temperature reconstructions and the response of the climate system to explosive volcanic eruptions, Paper presented at the 5th PAGES Open Science Meeting, Zaragoza, Spain, 9–13 May, 2017.
- Anchukaitis, K.J.**, W.E. Wright, M.N. Evans; D. Martin-Benito, M.H. Gagen, A. LeGrande, B.M. Buckley, E.R. Cook, Past Asian Monsoon circulation from tree-ring isotopes and proxy system models, Poster presented at the 5th PAGES Open Science Meeting, Zaragoza, Spain, 9–13 May, 2017.

- ‡ Pearl, J., **K.J. Anchukaitis**, N. Pederson, J. Donnelly, D. Bishop, Common Era climate reconstructions from the northeastern United States, Poster presented at the 5th PAGES Open Science Meeting, Zaragoza, Spain, 9–13 May, 2017.
- ‡ Leland, C., E.R. Cook, L. Andreu-Hayles, N. Pederson, A. Hessler, **K.J. Anchukaitis**, B. Nachin, O. Byambasuren, N. Davi, R. D'Arrigo, M.P. Rao, Strip-bark morphology and radial growth trends: Considerations for hydroclimatic reconstructions, Poster presented at the 5th PAGES Open Science Meeting, Zaragoza, Spain, 9–13 May, 2017.
- Andreu-Hayles, L., B.V. Gaglioti, R.D. D'Arrigo, **K.J. Anchukaitis**, S. Goetz, Shrub sensitivity to recent warming across Arctic Alaska from dendrochronological and remote sensing records, Geophysical Research Abstracts, 19, EGU2017-16398, EGU General Assembly 2017.
- Wilson, R., R.D. D'Arrigo, L. Andreu-Hayles, R. Oelkers, G. Wiles, **K.J. Anchukaitis**, N. Davi, Blue Intensity based experiments for reconstructing North Pacific temperatures along the Gulf of Alaska, Geophysical Research Abstracts, 19, EGU2017-7716, EGU General Assembly 2017.
- Anchukaitis, K.J.**, Tree Rings Reveal Climate Change Past, Present, and Future, Talk given at the American Philosophical Society Annual Meeting, Philadelphia, PA, 27–29 April 2017. (**Invited**)
- Anchukaitis, K.J.**, J.O. Kaplan, D. Penny, B.I. Cook, Climate variability, societal change, and emergent behavior at Greater Angkor, Cambodia, Paper presented at the AAG Annual Meeting, Boston, MA, 5–9 April, 2017.
- Anchukaitis, K.J.**, B.I. Cook, E.R. Cook, Past, present, and future western North American drought in models and paleoclimate data, Abstract GC11E-02 presented at 2016 Fall Meeting, American Geophysical Union, San Francisco, CA, 12–16 December, 2016.
- ‡ Pearl, J., **K.J. Anchukaitis**, N. Pederson, J. Donnelly, Paleoclimate Signals and Temperature Reconstructions for the Northeastern United States using Atlantic White Cedar Tree-Rings, Abstract PP41C-2289 presented at 2016 Fall Meeting, American Geophysical Union, San Francisco, CA, 12–16 December, 2016.
- Cook, B.I., **K.J. Anchukaitis**, R. Touchan, D.M. Meko, E.R. Cook, Spatiotemporal drought variability in the Mediterranean over the last 900 years, Abstract H14E-01 presented at 2016 Fall Meeting, American Geophysical Union, San Francisco, CA, 12–16 December, 2016. (**Invited**)
- Touchan, R., **K.J. Anchukaitis**, V.V. Shishov, D. Kherchouche, S. Slimani, R. Ilmen, F. Hasnaoui, F. Guibal, J.J. Camarero, R.S. Salguero, A. Piermattei, A. Sesbou, D.M. Meko, B.I. Cook, M. Sabir, Common Era Hydroclimate and Atmospheric Circulation in the Western Mediterranean Basin, Abstract PP53D-08 presented at 2016 Fall Meeting, American Geophysical Union, San Francisco, CA, 12–16 December, 2016.
- ‡ Rao, M.P., B.I. Cook, E.R. Cook, R.D. D'Arrigo, P. Krusic, **K.J. Anchukaitis**, A.N. LeGrande, B.M. Buckley, N.K. Davi, C. Leland, European and Mediterranean hydroclimate response to tropical volcanic forcing over the past millennium, Abstract PP41C-2262 presented at 2016 Fall Meeting, American Geophysical Union, San Francisco, CA, 12–16 December, 2016.
- ‡ Schwan, M.R., C.H. Guiterman, **K.J. Anchukaitis**, Climate Controls on Tree Growth Across Species and Sites in Northeastern Arizona, Abstract GC11D-1172 presented at 2016 Fall Meeting, American Geophysical Union, San Francisco, CA, 12–16 December, 2016.
- † Coulthard, B.L., R. Touchan, D.M. Meko, **K.J. Anchukaitis**, F. Sivrikaya, S. Attalah, R. Ilmen, A. Aloui, J. Attieh, I. Mitsopoulos, M. Sabir, A. Christou, N. Bozali, M. Ketmen, J. Stephan, Reconstructing Ecosystem-Scale Vegetation Activity Across the Terrestrial Mediterranean using Tree-Ring Width Data, Abstract B33F-0686 presented at 2016 Fall Meeting, American Geophysical Union, San Francisco, CA, 12–16 December, 2016.
- Anchukaitis, K.J.**, Climate change and tree growth in semiarid regions, University of Arizona School of Natural Resources and the Environment Colloquium, September 14, 2016.
- Anchukaitis, K.J.**, Hot droughts: Past, present and future, 24th American Quaternary Association (AMQUA) Biennial Meeting, Santa Fe, NM, June 28-July 2, 2016. (**Invited**)

- Anchukaitis, K.J.**, Volcanic cooling in a new field reconstruction of Northern Hemisphere summer temperatures, PAGES2k Volcanic Impacts on Climate and Society, Lamont Doherty Earth Observatory, Palisades, NY, June 6-8, 2016.
- Anchukaitis, K.J.**, Hydroclimate Signals in Tree-Ring Chronologies Across Time and Space, PAGES2k/PMIP3 Comparing data and model estimates of hydroclimate variability and change over the Common Era, Lamont Doherty Earth Observatory, Palisades, NY, June 1-3, 2016. **(Invited)**
- Anchukaitis, K.J.**, Climate, Collapse, and Resilience: Emergent Behaviour at Greater Angkor, Cambodia, Premodern Climate Change and Resilience, Climate Change and History Research Initiative, Princeton University, May 23rd, 2016. **(Invited)**
- ‡ Pearl, J., **K.J. Anchukaitis**, N. Pederson, D. Bishop, J. Donnelly, Climate controls on the annual growth rings in Atlantic White cedar, Imperiled Ecosystems in a Shifting Climate, 2016 Atlantic White Cedar Symposium, Plymouth, MA, May 24-26, 2016.
- Touchan, R., D. Kherchouche, **K.J. Anchukaitis**, S. Slimani, J.A. Krčmaric, D. M. Meko, Evaluating the Old World Drought Atlas in North Africa, *Geophysical Research Abstracts*, EGU General Assembly, 18, EGU2016-5129-1, 2016.
- Anchukaitis, K.J.** and coauthors, Climate field reconstruction of Northern Hemisphere summer temperatures during the Common Era, 3rd American Dendrochronology Conference, Mendoza, Argentina, March 28 – April 1, 2016.
- ‡ Pearl, J., **K.J. Anchukaitis**, N. Pederson, J. Donnelly, Dendroclimatology of Atlantic White cedar in the northeastern United States, 3rd American Dendrochronology Conference, Mendoza, Argentina, March 28 – April 1, 2016.
- Andreu-Hayles, L, R.D. D'Arrigo, R. Oelkers, R. **K.J. Anchukaitis**, G. Wiles, R. Wilson, D. Frank, N. Davi, Blue Intensity (BI) and Maximum Latewood Density (MXD) tree-ring chronologies from Alaska and Yukon Territory, Canada, 3rd American Dendrochronology Conference, Mendoza, Argentina, March 28 – April 1, 2016.
- Oelkers, R.C., R.D. D'Arrigo, L. Andreu-Hayles, G. Wiles, R. Wilson, N.K. Davi, B.M. Buckley, **K.J. Anchukaitis**, The temperature signal of Blue Light Intensity (BI) tree-ring data sets from trees growing under distinct environmental conditions, 3rd American Dendrochronology Conference, Mendoza, Argentina, March 28 – April 1, 2016.
- Pederson, G.T., **K.J. Anchukaitis**, S. St. George, N. McKay, C. Routson, PAGES NAM2K Group, Progress towards a tree-ring based North American 2k summer temperature reconstruction, 3rd American Dendrochronology Conference, Mendoza, Argentina, March 28 – April 1, 2016.
- Touchan, R., **K.J. Anchukaitis**, and coauthors, Tree-ring network and climate in the Mediterranean Region, 3rd American Dendrochronology Conference, Mendoza, Argentina, March 28 – April 1, 2016.
- Wiles, G., M. Happ, R. Oelkers, L. Xiangyi, R. Wilson, R.D. D'Arrigo, O. Solomina, N. Davi, L. Andreu-Hayles, **K.J. Anchukaitis**, Development of Blue Intensity (BI) chronologies along the North Pacific Rim, 3rd American Dendrochronology Conference, Mendoza, Argentina, March 28 – April 1, 2016.
- Hessl, A.E., N. Pederson, **K.J. Anchukaitis**, Caroline Leland, O. Byambasuren, B. Nachin and L. Andreu-Hayles, Years of Drought Variability in Inner Asia from Tree Rings, Abstract PP43F-08 presented at 2015 Fall Meeting, American Geophysical Union, San Francisco, CA, 14–18 December, 2015.
- †Coats, S., J.E. Smerdon, B.I. Cook, R. Seager, E.R. Cook, **K.J. Anchukaitis**, The Dynamic State of the Ocean and Atmosphere during Megadroughts in the American West, Abstract PP44B-08 presented at 2015 Fall Meeting, American Geophysical Union, San Francisco, CA, 14–18 December, 2015.
- Touchan, R., D. Kherchouche, **K.J. Anchukaitis**, B. Oudjehih, H. Touchane, S. Slimani, D.M. Meko, Dendroagricultural Signal in Algeria, Abstract PP51A-2243 presented at 2015 Fall Meeting, American Geophysical Union, San Francisco, CA, 14 - 18 December, 2015.
- ‡Zhu, J.L., A.E. Hessl, C. Leland, O. Byambasuren, **K.J. Anchukaitis**, N. Pederson, Effects of Volcanic Eruptions on Climate in Inner Asia from 600 BCE to 2015 CE, Abstract PP51A-2276 presented at 2015 Fall Meeting, American Geophysical Union, San Francisco, CA, 14–18 December, 2015.

- Wiles, G.C., C.B. Deck, R.D. D'Arrigo, O. Solomina, Olga, **K.J. Anchukaitis**, E. Dolgova, North Pacific Decadal Climate Variability: Comparison of Tree Ring Records and Climate Reconstructions from the Eastern and Western Basins, Abstract 270240, GSA Annual Meeting, Baltimore, Maryland, USA, 1-4 November 2015.
- Kaplan, J.O, **K.J. Anchukaitis**, B.I. Cook, Resilience and Vulnerability of Southeast Asian Societies to Climate Variability in the Pre-Modern Era, AGU Chapman Conference on the Evolution of the Asian Monsoon and its Impact on Landscape, Environment and Society: Using the Past as the Key to the Future, Hong Kong, China, 14–18 June 2015.
- Hessl, A.E., N. Pederson, O. Byambasuran, **K.J. Anchukaitis**, and C. Leland, How Unusual Was the 21st Century Drought in Mongolia? Placing Recent Extremes in a 2000-Year Context, Proceedings of the Trans-disciplinary Research Conference: Building Resilience of Mongolian Rangelands, Ulaanbaatar Mongolia, 9 – 10 June 2015.
- Wilson, R., **K.J. Anchukaitis**, K. Briffa, U. Büntgen, E.R. Cook, R.D. D'Arrigo, J. Esper, D. Frank, B. Gunnarson, G. Hegerl, P.J. Krusic, H. Linderholm, M. Rydval, S. Tett, G. Wiles and E. Zorita, Are tree-ring based estimates for Northern Hemisphere medieval temperatures fit for purpose? EGU2015-14062, EGU General Assembly, Vienna, Austria, 12 – 17 April, 2015.
- Anchukaitis, K.J.**, Hot Droughts: Past, Present, and Future, Department of Geography, University of Texas, 27 March 2015. **(Invited)**
- Anchukaitis, K.J.**, Hot Droughts: Past, Present, and Future, Stephen S. Visher Lecture in Climatology, Department of Geography, Indiana University, 13 February 2015. **(Invited)**
- Anchukaitis, K.J.**, Hot Droughts: Past, Present, and Future, Department of Meteorology, Stockholm University, 29 January 2015. **(Invited)**
- Anchukaitis, K.J.**, Pan-Pacific Drought Variability during the Last Millennium, Environmental Geology & Geochemistry Seminar Lecture Series, Princeton University, New Jersey, 27 February 2014. **(Invited)**
- Anchukaitis, K.J.**, What causes Asian megadroughts during the last millennium? Lecture Series on the Southeast Asian Monsoon, Bolin Center, Stockholm University, Sweden, 20 February, 2014. **(Invited)**
- Anchukaitis, K.J.**, What causes Asian megadroughts during the last millennium? Department of Earth Sciences seminar, Gothenburg University, Sweden, 17 February 2014. **(Invited)**
- Anchukaitis, K.J.**, R.D. D'Arrigo, L. Andreu-Hayles, Statistics and modeling of divergence in northwestern North America, 9th International Conference on Dendrochronology, Melbourne, Australia, 13-17 January, 2014. **(Invited)**
- Evans, M.N., S. Tolwinski-Ward, **K.J. Anchukaitis**, G. Duke, M.K. Hughes, Applications of proxy system modeling in dendroclimatology, 9th International Conference on Dendrochronology, Melbourne, Australia, 13-17 January, 2014. **(Invited)**
- Hessl, A., N. Pederson, B. Nachin, **K.J. Anchukaitis**, C. Leland, K. DeGrauw, Pluvials, droughts, the Mongol Empire and modern Mongolia, 9th International Conference on Dendrochronology, Melbourne, Australia, 13-17 January, 2014. **(Invited)**
- Anchukaitis, K.J.**, M. Herzog, M. Hernandez, D. Martin-Benito, M.H. Gagen, A.N. LeGrande, C. Ummenhofer, B.M. Buckley, E.R. Cook, Past Asian Monsoon circulation from multiple tree-ring proxies and models, Abstract PP43C-01 presented at 2013 Fall Meeting, AGU, San Francisco, CA, 9 – 13 December, 2013. **(Invited)**
- Anchukaitis, K.J.**, Where the ocean meets the land: field research on the Earth's changing water cycle, 37th Annual Massachusetts Marine Educators Conference and Meeting, Woods Hole Oceanographic Institution, Woods Hole, MA, 2013. **(Invited)**
- C. Saenger, H. Wu, J. Zinke, the PAGES Ocean2K working group, Reconstruction of tropical ocean SST trends during the last millennium: Results from the PAGES Ocean2K project, 4th PAGES Open Science Meeting, Goa, India, 13 - 16 February, 2013.
- Anchukaitis, K.J.**, High Resolution Paleoclimate Evidence for Droughts and Pluvials During the Common Era, Woods Hole Oceanographic Institution Morss Colloquium on The Ocean and Earth's Changing Water Cycle: Past, Present, Future, Woods Hole, MA, May 2012. **(Invited)**

- Anchukaitis, K.J.**, Mega-Droughts of the Past, Morss Colloquium, Drought or Deluge? The Ocean and Earth's Changing Water Cycle, Woods Hole, MA, 17 May 2012. **(Invited)**
- Cook, B.I., M.J. Puma, J.O. Kaplan, **K.J. Anchukaitis** Pre- and Post-Columbian Land Cover Changes and Associated Climate Impacts, Abstract H24E-05 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 6 - 12 December, 2011. **(Invited)**
- Anchukaitis, K.J.**, Here be dragons: dendrochronology at the edges of the map, University of Denver, Marsico Visiting Scholar Lecture, September 2011. **(Invited)**
- Anchukaitis, K.J.**, Proxy records don't grow on trees, Bayesian Hierarchical Models for High-Resolution Climate Reconstructions Meeting, Boulder, Colorado, March 24-25, 2011. **(Invited)**
- Anchukaitis, K.J.**, B.M. Buckley, E.R. Cook, J.E. Tierney, J. Jungclauss, R.D. D'Arrigo, C. Ammann, Synchronous megadrought in Asia and North America during the last millennium, Paper presented at 2011 AGU Chapman Conference on Climates, Past Landscapes, and Civilizations, Santa Fe, NM, 21 - 25 March, 2011. **(Invited)**
- Anchukaitis, K.J.**, E.R. Cook, B.M. Buckley, R.D. D'Arrigo, G.C. Jacoby, W.E. Wright, A thousand years of human history and the Asian monsoon from tropical tree rings, University of Minnesota, Department of Geography, Minneapolis, MN, March 2011. **(Invited)**
- Anchukaitis, K.J.**, B.M. Buckley, Climate Change and the Mekong River: Implications for Regional Stability, Workshop Series on "Environmental Flashpoints on China's Frontiers", Weatherhead East Asian Institute, Columbia University, New York, NY, October 2010. **(Invited)**
- Anchukaitis, K.J.**, E.R. Cook, B.M. Buckley, R.D. D'Arrigo, G.C. Jacoby, W.E. Wright, Tree-Ring Reconstructions of Australasian Monsoon Climate Variability, University of Texas, Jackson School of Geosciences, Austin, TX October 2010. **(Invited)**
- Buckley, B.M., D. Penny, **K.J. Anchukaitis**, A. Wichienkeo and Le Canh Nam, Southeast Asian Megadroughts and Hydroclimate Extremes of the Past Millennium, Annual Meeting of the Society of American Anthropologists, St. Louis, Missouri, 2010. **(Invited)**
- Anchukaitis, K.J.**, B.M. Buckley, E.R. Cook, J.H. Jungclauss, A. Sinha, R.D. D'Arrigo, C.M. Ammann, On the cause of multidecadal Medieval megadrought in southeast Asia, *Eos Trans. AGU*, Fall Meet. Suppl., Abstract PP11G-03, 2009. **(Invited)**
- Anchukaitis, K.J.** and M.N. Evans, Toward seasonal climate reconstructions using tropical isotope dendroclimatology, Geological Society of America Abstracts with Programs, 41(7), 512, 2009. **(Invited)**
- Anchukaitis, K.J.**, B.M. Buckley, E.R. Cook, R.D. D'Arrigo, G.C. Jacoby, W.E. Wright, N. Davi, J. Li, A thousand years of human history and the Asian monsoon from tropical tree rings, Georgetown University, Washington DC, October 2009. **(Invited)**
- Anchukaitis, K.J.**, R.D. D'Arrigo, B.M. Buckley, E.R. Cook, and C.M. Ammann, Tree-ring reconstructions of Australasian monsoon climate variability, 3rd PAGES Open Science Meeting, Corvallis, Oregon, USA, 2009. **(Invited)**
- Anchukaitis, K.J.**, S.E. Tolwinski, M.N. Evans, M.K. Hughes, Toward the application of forward models of tree-ring proxies to paleoclimatology. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract PP54A-01, 2008. **(Invited)**
- Evans, M.N. **K.J. Anchukaitis**, S.R. White, T.M. Ektvedt, R.C. Penniston, M.M. Rheaume, D.M. Bowman, Prospects and challenges in tropical isotope dendroclimatology. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract PP52A-01, 2008. **(Invited)**
- Anchukaitis, K.J.** Stalking the elusive climate signal, AmeriDendro, Vancouver, Canada, 2008. **(Invited)**
- Anchukaitis, K.J.** and M.N. Evans, High Resolution Tropical Isotope Dendroclimatology: Prospects and Challenges. Goldschmidt Conference, Vancouver, Canada, 2008. **(Invited)**
- Cook, E.R., R.D. D'Arrigo, and **K.J. Anchukaitis**, ENSO Reconstructions from Long Tree-Ring Chronologies: Unifying the Differences? in *Workshop on ENSO reconstructions for the past 500 years*, edited by H. F. Diaz, MEDIAS-FRANCE/METEO-FRANCE/NOAA, Moorea, French Polynesia, 2008.

Anchukaitis, K.J., M.N. Evans, R.D D'Arrigo, J.E. Smerdon, M.K. Hughes, A. Kaplan, and E.A. Vaganov, Process model simulations of the divergence effect. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract PP54A-08, 2007 (**Invited**).

SERVICE

University of Arizona, 2015–: Graduate Admissions Committee, School of Geography and Development (2015 to present); Earth System Genomics faculty search committee (2016); Integrated Land Use Science/Human-Environment Systems faculty search committee (2016–2017); Forests, Carbon & Climate faculty search committee (2017); Paleoclimatology Faculty Search committee (2017–2018); School of Geography and Development Colloquium Committee (2017 to present); Continuing Status Promotion Guidelines Committee (2018); Chair, Global Change Graduate Interdisciplinary Program (2017 to present).

Lamont-Doherty Earth Observatory, 2007–2012: Columbia Climate Center, 2011 - 2012; Promotion and Careers Committee, 2009 - 2012; Campus Life Committee, 2008 - 2010; Volunteer and Speaker, Annual Open House, 2007, 2008, Panelist on Climate Extremes, 2011.

US Secretariat and Scientific Committee, 10th International Conference on Dendrochronology, Thimphu, Bhutan (2018)

University of Arizona Museum of Art panelist, 'Fires of Change' exhibit (2016).

Editorial Board, Quaternary Science Reviews, 2008 – present.

Organizer and co-chair, 'Climate of the Common Era' for the American Geophysical Union Annual Meeting (AGU), San Francisco, CA, 2010 – present; 'Monsoon Effects on Past Civilizations', 2012.

Member, PAGES Asia2k (2011–2014), Ocean2k (2011 – 2015), North America 2k (2015 – present) Working Groups.

Coordinator, PAGES2k Transregional Reconstruction Methods Development, 2014 – 2016.

Steering Group, PAGES Working Group on Volcanic Impacts on Climate and Society 2015 – present.

Scientific Committee, 3rd American Dendrochronology Conference, Mendoza, Argentina, March 2016

Guest editor, *PAGES Magazine*, 2015.

Founder, organizer, and lead instructor, Central American Dendroecological Fieldweek, Chancol, Cuchumatanes, Guatemala, March 2015.

Fellow, Expert Witness Training Academy, NSF Paleoclimate Program and William Mitchell College of Law, St. Paul, Minnesota, August 2015.

Chair and co-organizer, PAGES Advances in Climate Field Reconstructions, April 15-16, 2014, Woods Hole, Massachusetts.

Scientific Advisory Committee, 9th International Conference on Dendrochronology, Melbourne, Australia, January 2014.

Contributing Author, Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5; 2013)

Instructor, North American Dendroecological Fieldweek, Black Rock Forest, New York, June-July 2013.

CLIVAR-PAGES Panel (starting in 2012)

Arctic Research Consortium of the U.S. (ARCUS) PolarTREC Selection Committee, 2012–2013

International Workshop on Climate Informatics, Program Committee and Breakout Group Leader, 2012

Organizer and co-chair, 'Advances in Paleoclimatology' for the Annual Meetings of the Association of American Geographers, 2004 – 2009; 'Challenges in Dendrochronology', 2012.

Mentor, 'Google Summer of Code', Climate Code Foundation, Summer 2011.

Guest editor, *Dendrochronologia*, 2003 – 2004.

Professional reviewer of journal manuscripts for *Science*, *Nature*, *Nature Geoscience*, *Nature Climate Change*, *Science Advances*, *Proceedings of the US National Academy of Sciences*, *Journal of Climate*, *Geology*, *Journal of Geophysical Research*, *Geophysical Research Letters*, *Climate Dynamics*, *Physical Geography*, *Geochimica et Cosmochimica Acta*, *Ecology*, *Earth and Planetary Science Letters*, *Global Change Biology*, *Climate of the Past*, *Quaternary Research*, *Climatic Change*, *The Holocene*, *Paleoceanography*, *Geochemistry*, *Geophysics*, *Geosystems*, *Tellus B*, *Chemical Geology*, *Canadian Journal of Forest Research*, *Forest Ecology and Management*, *International Journal of Biometeorology*, *Canadian Water Resources Journal*, *Journal of Volcanology*, *Earth Interactions*, *Current Anthropology*, *Tree-Ring Research*, *Dendrochronologia*, and others.

Proposal reviewer for the National Science Foundation (NSF, USA), National Aeronautics and Space Administration (NASA, USA), Natural Environment Research Council (NERC, UK), Deutsche Forschungsgemeinschaft (the German Research Foundation, DFG), the Swiss National Science Foundation, and the National Geographic Society.