



# Leanne N. Phelps

## (1) Personal Information

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## (2) EDUCATION

- PhD, Sep 2015 – Aug 2019, University of Lausanne, Institute of Earth Surface Dynamics, supervision: A. Guisan & K. Manning. Thesis title: “Reconstructing land use and land cover dynamics of Holocene animal production on the African continent,” private defense May 28<sup>th</sup>, 2019 in Lausanne, Switzerland; public defense Aug 23<sup>rd</sup>, 2019 in Lausanne, Switzerland.
- Master of Science (MSc), Sep 2013 – 2014, University College London, Department of Anthropology: Anthropology, Environment & Development (merit, dissertation distinction)
- Bachelor of Arts (BA), Sep 2008 – 2011, University of Michigan: Anthropology, Screen Arts & Cultures (cumulative GPA: 3.7); German Language studies, Jan – Feb 2011, Goethe Institute, Bremen; Environmental field studies, June – July 2010, California State University in Alaska; Anthropology, film, Czech language studies, Sep – Dec 2010, Charles University, Prague; Archaeological field studies, July – Aug 2009, University of California Los Angeles in Botswana.

## (3) EMPLOYMENT HISTORY (work, research, & volunteer experience)

- *Postdoctoral research fellow*, Feb 2022 – present, Swiss National Science Foundation. University of Edinburgh, Royal Botanic Gardens Edinburgh, Columbia Climate School, Kew Madagascar Conservation Centre. Title: Reconstructing the Holocene savannas of Madagascar: implications for long-term disturbance dynamics and modern human land use. Hosts: Caroline Lehmann, Kristina Douglass, Maria Vorontsova.
- *Postdoctoral research fellow*, Nov 2019 – Oct 2021, Swiss National Science Foundation Early Postdoc.Mobility Fellowship. “Reconstructing the Holocene savannas of Madagascar”. University of Edinburgh, Royal Botanic Gardens Edinburgh.
- *Social Media Editor*, Oct 2019 – 2020, Journal of Biogeography ([Instagram](#), [Twitter](#), [Facebook](#), [ECR blog features](#))
- *Research manager & fieldworker*, July 2019, Paleo-ecology on the central Siberian Plateau. PI: B. Davis, UNIL
- *Research assistant*, Oct 2017, Pastoralist-Farmer conflict in SW Nigeria. PI: R. Blench, McDonald Institute
- *Desert Tortoise Ecology Intern*, Mar – July 2015, USGS, Mojave Desert: desert tortoise social and disease dynamics. PI: C. Aiello
- *MSc field researcher*, May – Sep 2014, UCL Dept. of Anthropology. Human-bear interaction in southcentral Alaska.
- *Paleontology Intern*, May – Sep 2013, The Mammoth Site, South Dakota: excavation, fossil preparation, educational outreach
- *Countryside Volunteer*, Feb – April 2013, National Trust for Scotland, Dumfries, UK: maintenance, outreach, monitoring
- *Organic Farmer*, July – Aug 2012, Stone Coop Farm, Michigan: planting and harvesting
- *Conservation Fellow*, May – Jun 2012, The Wild Association, Switzerland: soil biology, rock wall building, sustainability
- *Volunteer Programs Developer*, Sep 2011 – Feb 2012, Rwanda Aid, Rwanda: research and implementation of AIDS and HIV sustainability programmes; temporary co-management of NGO and educational development. CEO: D. Chaplin.
- *Archaeological field researcher*, July – Sep 2009, Khwebe Hills, Botswana: 19<sup>th</sup> c. survey, excavation, processing, mapping. UCL

## (4) INSTITUTIONAL RESPONSIBILITIES

- Lecturing (undergraduate, guest): “Environmental problems and issues”, fall semester, School of GeoSciences, University of Edinburgh. Course shared between four staff. Activities: Lecturing, assessment; CHANS guest lecturer: Newcastle University.
- Functional Biology Research group activities: weekly meetings; biweekly journal club; project & publication collaboration
- Participation in research talks, symposiums, science meetings at Royal Botanic Gardens Edinburgh & Univ. of Edinburgh
- Olo Be Taloha Lab (Penn state lab) group activities: weekly meetings; project & publication collaboration

Publications (in prep, in review, published)

- **Phelps**, L.N. et al. (2022) *Madagascar's fire regimes challenge global assumptions about landscape degradation*. *Global Change Biology*, 00, 1-17.
- **Phelps**, L.N. et al. (*in prep*) Remotely sensed reflections of land use: recent temporal change in Madagascar's vegetation and fire regimes.
- **Phelps**, L.N. et al. (*in prep*) Human land use and the Holocene grassy biomes of Madagascar. Invited book chapter, Routledge's "Malagasy World". Editors: Douglas, K. Crossland, Z., Radimilahy, C.
- **Phelps**, L.N. & Razanatosoa, E. et al. (*in prep*) Madagascar's grassy biomes reflect research gaps and opportunities for tropical ecosystems and livelihoods
- **Phelps**, L.N. et al. (2020). [Asymmetric response of forest and grassy biomes to climate variability across the African Humid Period: influenced by anthropogenic disturbance?](#), *Ecography*, 43(7). Attention score: 99<sup>th</sup> percentile. Support: UNIL, FNS.
- **Phelps**, L.N. et al. (2020). [Reconstructing the niche breadth of land use for animal production during the African Holocene](#), *Global Ecology & Biogeography*, 29(1). Attention score: 92<sup>nd</sup> percentile.
- **Phelps**, L.N. et al. (2019). [Time series animations of African vegetation change using pollen records: Asymmetric response of forest and grassy biomes to climate variability across the African Humid Period](#), PANGAEA, 42 time series animations.
- **Phelps**, L.N. et al. (2019). [Pollen dataset: Asymmetric response of forest and grassy biomes to climate variability across the African Humid Period: influenced by anthropogenic disturbance?](#), PANGAEA, Appendices 1-9.



- **Phelps, L.N. et al. (2019).** [Faunal dataset: Reconstructing the niche breadth of land use for animal production during the African Holocene](#), PANGAEA, tables 1-3.
- Lehmann, C. E. R. et al. (*in press*) The grassy ecosystems of Madagascar. In Goodman & Gautier (Eds.), Natural History of Madagascar. (FNS grant P2LAP2\_187745). Author 4/8 (FNS grant P2LAP2\_187745)
- Morrison, K. et al. (*in press*) Mapping past human land use using archaeological data: a new classification for global land use synthesis and data harmonization. PLOS ONE.
- Hackel, J., Vorontsova, M.S., Besnard, G., Solofondranohatra, C., Tiley, G.P., Yoder, A.D., Bond, W.J., Phelps, L.N., Lehmann, C.E.R. (*in review*) How expansive were Madagascar's grasslands? Reply to Joseph & Seymour. Proceedings B.
- Petitpierre, B., Arnold, C., Phelps, L., Guisan A. (*in prep*) Do vineyards threaten wild grapevine? A niche perspective. PNAS.
- Antonelli et al. (*in prep*) Saving Madagascar's Biodiversity. Science (invited review: submission by Feb 2021)
- Trotter, F. et al. (*in prep*) Mapping savannas with tree distribution and satellite data to determine biome extent and limits.
- Chevalier, M. et al. (2020) [Pollen-based climate reconstruction techniques for late Quaternary studies](#). Earth-Science Reviews, 210 (103384). Author 16/29 (FNS grant P2LAP2\_187745).
- Davis, B. et al. (2020) [The Eurasian Modern Pollen Database \(EMPD\), version 2](#). ESSD 12(4). Author 7/102.
- Morrison K.D. et al (2018). Global-scale comparisons of human land use: developing shared terminology for land-use practices for global change. Past global Changes Magazine, 26 (1), 8-9
- Marchant R.A. et al. (Jan 2018). Drivers and trajectories of land cover change in East Africa: Human and environmental interactions from 6000 years ago to present. Earth-Science Reviews, 178, 322-378. Author 11/53.
- **Phelps L.N. & Kaplan J.O. (Apr 2017).** [Land use for animal production in global change studies: Defining and characterizing a framework](#). Global Change Biology, 23 (11), 4457-4471.
- **Phelps L.N. (2015).** Human-bear conflict in the Kennicott Valley, Alaska. International Bear News, Tri-Annual Newsletter of the International Association for Bear Research and Management (IBA) & the IUCN/SSC Bear Specialist Group, 2015, 24 (1), 27-28
- **Phelps L.N. (2014).** Bears & Fear. Anthropolitan: UCL Anthropology, Winter 2014/2015, 11(8), 8-9.

#### Other research products

- **Phelps, L.N. et al. (2020)** Video abstract for "Asymmetric response of forest and grassy biomes to climate variability across the African Humid Period" (200+ retweets, 500+ likes). Link 1/2: [twitter.com/LeanneNPhelps/status/1263786520600817664](https://twitter.com/LeanneNPhelps/status/1263786520600817664)
- **Phelps, L.N. et al. (2020)** Video abstract for "Reconstructing the niche breadth of land use for animal production during the African Holocene." [youtube.com/watch?v=sd88k-cYMco](https://youtube.com/watch?v=sd88k-cYMco)
- **Phelps, L.N. et al. (2019)** Conference poster for IBS Malaga: "African vegetation change since the last glacial maximum"
- **Phelps, L.N. et al. (2018)** Poster for ProClim Swiss global change day: "Quantifying change in the land use niche: Holocene animal production expansion on the African continent"
- **Phelps, L.N. & Kaplan, J.O. (2017)** Poster for LandCover6k meeting, Zaragoza: "Animal production in global change studies: characterizing past land use and relationships with cover change"
- **Phelps, L.N. & Kaplan, J.O. (2016)** Conference poster for LAC 2016, Uppsala: "Animal production landscapes: defining and characterizing past land use and cover change"
- Aiello C.M. & **Phelps L.N. (2016)**. Desert Tortoise Health Assessment: clinical signs guide for Mycoplasma research project
- **Phelps L.N. (2014)**. Life in bear country: four-part video series on human-bear interaction, product of MSc research in southcentral Alaska (4 videos, > 23k views). *Part I: "Life in Bear Country"* [youtube.com/watch?v=uQu-2p95Ej8&t=321s](https://youtube.com/watch?v=uQu-2p95Ej8&t=321s)
- **Phelps L.N. (2014)** Bear safety posters on reading bear behaviour and bear-safety methods: produced from MSc field research Wrangell-St.Elias NPP, distributed locally in the McCarthy-Kennicott area, including local and NPS newsletters.

#### (5) APPROVED RESEARCH PROJECTS

- Early Postdoc.Mobility Fellowship, Swiss National Science Foundation: "Reconstructing the Holocene savannas of Madagascar: implications for long-term disturbance dynamics and modern human land use." Nov 2019 – Apr 2021, Scotland, UK
- (assistant to PI, B. Davis) Swiss Polar Institute, Exploratory Grant: "Paleo-ecology on the central Siberian Plateau", 2019
- MSc field research, UCL: Human-bear conflict in the Kennicott Valley, Alaska, 2014. Funding: Hauser Bears, Murie Science and Learning Center (U.S. National Park Service), The Explorer's Club, University College London.

#### (6-9) SUPERVISION, TEACHING, MEMBERSHIPS, SCIENTIFIC REVIEW & OUTREACH

- IPCC group review, Second Order Draft, Working Group II contribution to the Sixth Assessment report (AR6): 2020 - 2021
- Undergraduate instructor: Environmental problems and issues, School of GeoSciences, University of Edinburgh, Oct, 2020.
- MSc seminar: dynamics of coupled human-natural systems, M. Pfeiffer, Newcastle University, Oct, 2020.
- Supervisory assistance for PhD researchers in C. Lehmann's Functional Biology Research Lab: Felix Trotter, Elliot Fisher.
- Scientific manuscript peer review (e.g. Scientific Reports, Science of the Total Environment, Global and Planetary Change)
- Blog article: Ecography, Ecography blog, "20000 years of African vegetation change", 2020
- Blog interview: UNIL Geoblog with Amélie Dreiss: "Un pas dans la savane malagache", 2020
- Assistant for course practicals led by A. Guisan (spatial analysis, GIS): 2017-2019
- IDYST commission de manifestation, 2018-2019: career development organization
- IDYST seminar committee, 2016-2017: organization of weekly institute seminars



- IDYST Global Environmental Change reading group: 2015 – 2018
- Memberships: Society of Africanist Archaeologists; British Ecological Society; International Biogeography Society

#### (10) CONFERENCES, SEMINARS & WORKSHOPS

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- (*postponed*) Society of African Archaeologists conference, Oxford, 2021 (*session co-organizer*, oral presentation)
- British Ecological Society Festival of Ecology (virtual), Dec 2020
- African Archaeology Research Day, University of Leicester, UK (virtual), Dec 2020
- Remote sensing in Archaeology workshop (MAEASaM), London, UK (virtual), Dec 2020
- PAGES LandCover6K workshop, Nov 2020 (virtual)
- Interdisciplinary conference, SNSF Early career network, Jul 2020, online (*oral presentation*, *presider*)
- Royal Botanic Garden Edinburgh research talk: Feb 2020, Edinburgh, UK (*oral presentation*)
- University of Edinburgh Global Change Symposium, Dec 2019, Edinburgh, UK (*oral presentation*)
- Durrell capacity building for conservation: Nov 2019, Ambohitantely, Madagascar (*oral presentation*)
- PAGES LandUse6k workshop, Cambridge, Sep 2019 (*oral presentation*)
- University of Lausanne conference, Lausanne, Sep 2019, “Interdisciplinary African forest landscapes” (*oral presentation*)
- IBS 9<sup>th</sup> Biennial Conference, Malaga, Jan 2019 (*oral presentation*; *poster prize*)
- RAD-seq workshop: IBS 9<sup>th</sup> Biennial Conference, Malaga, Jan 2019
- ADE4 in R workshop – module II with S. Dray, Oct 2018
- European Modern Pollen Database Workshop, Switzerland, Oct 2018
- The African Quaternary Congress, Nairobi, July 2018 (*oral presentation*)
- Society of African Archaeologists conference, Toronto, June 2018 (*oral presentation*); Toulouse, June 2016 (*oral presentation*)
- ProClim 19<sup>th</sup> Swiss Global Change Day, Bern, April 2018 (*poster*)
- IBS: Climate Change Biogeography, Evora, March 2018 (*early-career keynote*; *session chair*)
- Niche A workshop: IBS Evora, March, 2018
- Sortie doctoral workshop: Institute of Earth Surface Dynamics, Oct 2018 (*organizer*)
- African Archaeology Research Day, York, Nov 2017
- Pollen-Climate Model Inter-comparison workshop, Caux, June 2017 (*co-organizer*)
- PAGES LandUse6k seminars & workshops, Zaragoza, May 2017 (*poster*); Utrecht, Jun 2016 (*presentation*); Nairobi, Oct 2015
- PAGES Open Science Meeting, Zaragoza, May 2017 (*oral presentation*)
- PAGES LandUse6k workshop, Stockholm, April 2017 (*short oral presentation*)
- Herbette workshop, Lausanne, Sep 2016 (*co-organizer*; *co-chair*; *oral presentation*)
- Landscape Archaeology Conference, Uppsala, Aug 2016 (*session co-chair*; *poster prize*)
- ACACIA workshop, Toulouse, June 2016 (*co-organizer*; *co-chair*; *oral presentation*);
- ACACIA workshop, Les Rasses, Nov 2015 (*oral presentation*; *sub-session chair*)

#### Short courses, fieldwork & excursions

- FNS Early Postdoc.Mobility, fieldwork on forest-savanna boundaries in central Madagascar, Nov 2019
- Swiss Polar Institute: fieldwork on Holocene paleoecology from the central Siberian plateau, July 2019
- Subsurface electrical resistivity: J. Thornton, Linde Research Team, UNIL, Vallon de Nant, 10 Sep 2018
- Pastoralist-farmer conflict fieldwork: R. Blench, MISEREOR, SW Nigeria, Oct 2017 (assistant)
- Pollen coring, Ossola Valley, June 2017: University of Bern (assistant)
- International Moor Excursion XL, Sep 2016; XXXIX, Sep 2015
- Soil sampling: M. Rowley, UNIL, Vallon de Nant, Switzerland, 20 May 2016
- Quantitative analyses of paleoecological data in R; Paleoecology in advanced plant biology. 2016: Universität Bern

#### (11) PRIZES, AWARDS & FELLOWSHIPS

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- Research grant 2020: Small Grant Fund, Univ. of Edinburgh, School of Geosciences (faunal isotope & radiocarbon analysis)
- Research Fellowship 2019-2021: Swiss National Science Foundation, Early Postdoc.mobility
- Poster prize 2019: International Biogeography Society 9<sup>th</sup> Biennial conference, Malaga
- Poster prize 2016: Landscape Archaeology Conference, Uppsala
- Research Fellowship 2014: Murie Science & Learning Center, U.S. National Park Service, for MSc on Human-bear interaction
- Research grant 2014: The Explorers Club, MSc field research on Human-bear interaction
- Research grant 2014: Hauser Bears, MSc research on human-bear interaction
- Travel Bursary 2014: University College London, MSc field research

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(12) **PERSONAL SKILLS: Certifications:** *Wilderness First responder*, Oct 2017, NOLS wilderness medicine & Western Colorado University; *Teaching English as a Foreign Language 100-hour certification*, 2012, *i-to-i Online TEFL*. **Languages:** English (*native*), French (*limited working proficiency*), German (*minimal proficiency*), Czech (*elementary*). **Technical skills:** Working proficiency in R, GIS, Photoshop, Illustrator, data management, visual arts, limited working proficiency in Google Earth Engine and Python.