**Dr Anabelle Williamson Cardoso**

Department of Geography

University at Buffalo

105 Wilkeson Quad

Ellicott Complex, North Campus

Buffalo, NY 14261

USA

**Positions Held**

2021-present **Science Team Manager for BioSCape, University at Buffalo**

Department of Geography

Postdoctoral Research Associate in the lab of Adam Wilson

2019-2021 **Postdoctoral Research Associate, Yale University (visiting researcher at University of Witwatersrand)**

Ecology and Evolutionary Biology Department

In the labs of Carla Staver (and Sally Archibald)

**Education**

2015-2019 **Ph.D., University of Oxford**

Geography and the Environment

Supervised by Yadvinder Malhi, Imma Oliveras, Kate Abernethy, and William Bond

2013-2014 **M.Sc., University of Oxford**,*distinction*

Environmental Change and Management

2012 **B.Sc. (Hons.), University of Cape Town,** *distinction*

Botany

2009-2011 **B.Sc., University of Cape Town,** *distinction*

Ecology, Biodiversity & Evolutionary Biology

**Publications in Peer Reviewed Journals and Book Chapters**

**Google Scholar profile:** <https://scholar.google.com/citations?user=-T7q0CgAAAAJ> (h-index: 10, citations: 599)

**Cardoso, A.W.**; Beckett, H.; Bond, W.J. How forests survive alongside flammable open ecosystems: conservation implications for Africa. *Frontiers in Conservation Science.*

Whytock, R.C.; Suijten, T.; van Deursen, T,; Świeżewski, J.; Mermiaghe, H.; Madamba, N.; Mouckoumou, N.; Zwerts, J.A.; Koumba Pambo, A.F.; Bahaa-el-din, L.; Brittain, S.; **Cardoso, A.W.**; Henschel, P.; Lehmann, D.; Momboua, B. R.; Makaga, L.; Orbell, C.; White, L.J.T.; Iponga, D.M.; Abernethy, K.A. 2023. Real-time alerts from AI-enabled camera traps using the Iridium satellite network: A case-study in Gabon, Central Africa. *Methods in Ecology and Evolution.* (citations: 4)

**Cardoso, A.W**.; Archibald, S.; Bond, W.J.; Coetsee, C.; Forrest, M.; Govender, N.; Lehmann, D.; Makaga, L.; Mpanza, N.; Ndong, J.E.; Koumba Pambo, A.F.; Strydom, T.; Tilman, D.; Wragg, P.D.; Staver, A.C. 2022.Quantifying the environmental limits to fire spread in grassy ecosystems. *Proceedings of the National Academy of Sciences.* (citations: 3)

Harrison, S.P; Prentice, I.C.; Bloomfield, K.J.; Dong, N.; Forkel, M.; Forrest, M.; Ningthoujam, R.K.; Pellegrini, A.; Shen, Y.; Baudena, M.; **Cardoso, A.W.**; Huss, J.C.; Joshi, J.; Oliveras, I.; Pausas, J.G.; Simpson, K.J. 2021.Understanding and modelling wildfire regimes: an ecological perspective. *Environmental Research Letters.* (citations: 19)

**Cardoso, A.W.**; Oliveras, I.; Abernethy, K.A.; Jeffery, K.J.; Glover, S.; Lehmann, D.; Edzang Ndong, J.; White, L.T.J.; Bond, W.J.; Malhi, Y. 2021. A distinct ecotonal tree community exists at central African forest-savanna transitions. *Journal of Ecology.* (citations: 22)

Whytock, R; Świeżewski, J.; Zwerts, J.A.; Bara‐Słupski, T.; Koumba Pambo, A.F.; Rogala,M.; Bahaa‐el‐din, L.; Boekee, K.; Brittain, S.; **Cardoso, A.W.**; Henschel, P.; Lehmann, D.; Momboua, B.; Opepa, C.K.; Orbell, C.; Pitman, R.T.; Robinson, H.S.; Abernethy, K.A. 2021. Robust ecological analysis of camera trap data labelled by a machine learning model. *Methods in Ecology and Evolution*. (citations: 35)

Bush, E. R.; Whytock, R. C.; Bahaa-el-din, L.; Bourgeois, S.; Bunnefeld, N.; **Cardoso, A. W.**; Dikangadissi, J. T.; Dimbonda, P.; Dimoto, E.; Edzang Ndong, J.; Jeffery K. J.; Lehmann, D.; Makaga, L.; Momboua, B.; Momont, L. R. W.; Tutin, C. E. G., White, L. T. J. W.; Whittaker, A.l Abernethy, K. A. 2020. Long-term collapse in fruit availability threatens Central African forest megafauna. *Science.* (citations: 49)

**Cardoso, A.W.**; Malhi, Y.; Oliveras, I.; Lehmann, D.; Edzang Ndong, J.; Dimoto, E.; Bush, E.; Jeffery, K.J.; Labriere, N.; Lewis, S.L.; White, L.T.J.; Bond, W.J.; Abernethy, K.A. 2019. The role of forest elephants in shaping tropical forest-savanna coexistence. *Ecosystems.* (citations: 25)

Willi, M.; Pitman, R. T**.; Cardoso, A.W**., Locke, C.; Swanson, A.; Boyer, A.; Veldthuis, M.; Fortson, L. 2019.

Identifying animal species in camera trap images using deep learning and citizen science. *Methods in Ecology and Evolution.* (citations: 254)

**Cardoso, A.W.**; Oliveras, I.; Abernethy, K.A.; Jeffery, K. J.; Lehmann, D.; Edzang Ndong, J.; McGregor, I.; Belcher, C.M.; Bond, W.J.; Malhi, Y. 2018. Grass species flammability, not biomass, drives changes in fire behavior at tropical forest-savanna transitions. *Frontiers in Forests and Climate Change.* (citations: 51)

**Cardoso, A.W.**; Midgley, J.J.; Hoffman M.T.; Geldenhuys, C.J. 2017. Temperate forest dynamics and

carbon storage: a 26-year case study from Orange Kloof Forest, Cape Peninsula, South Africa. *Southern Forests*.

Ah-Peng, C.; **Cardoso, A.W.**; Flores, O.; Wilding, N.; Strasberg, N.; Hedderson, T.A.J. 2017. The role of epiphytic bryophytes in interception, storage, and the regulated release of atmospheric moisture in tropical montane cloud forest. *Journal of Hydrology*. (citations: 70)

**Cardoso, A.W.**; Medina-Vega, J.; Malhi, Y.; Adu-Bredu, S.; Ametsitsi, G.K.D.; Djagbletey, G.; van Langevelde, F.; Veenendaal, E.; Oliveras, I. 2016. Winners and losers: tropical forest tree seedling survival across a West African forest–savanna transition. *Ecology and Evolution*. (citations: 30)

Todd, S.; Hoffman, M.T.; Henschel, J.; **Cardoso, A.W.**; Brooks, M.; Underhill, L. 2016. The potential impacts of fracking on the biodiversity of the Karoo Basin, South Africa. In: Hydraulic fracturing in the Karoo: Critical legal and environmental perspectives. Eds: Glazewski, J.; Esterhuyse, S. (citations: 19)

**Grants, Scholarships, and Awards**

2015-2018 Bruce, Julia, and Mortimer May Senior Scholar in Geography

2015-2018 Commonwealth Scholarship (doctoral scholarship to the University of Oxford).

2015-2018 Oppenheimer Scholarship (selected by the Oppenheimer Foundation as one of the top South African recipients of the Commonwealth Scholarship).

2013-2014 Santander Travel Award (to support M.Sc. research expenses).

2013-2014 Skye Foundation Scholarship (M.Sc. scholarship to the University of Oxford).

2013-2014 Commonwealth Scholarship (M.Sc. scholarship to the University of Oxford – was unable to accept due to already having secured funding).

2012 South African National Research Foundation “Freestanding” Scholarship (M.Sc. scholarship to the University of Cape Town - was unable to accept due to accepting a position at another university).

2012 South African Association of Botanists Scholarship (B.Sc. Hons. scholarship).

2011 University of Cape Town Science Faculty Scholarship (undergraduate academic merit scholarship).

2010 Dick and Dorothy Borcherd’s Prize (award for the highest achieving student in 2nd year Botany or Astronomy).

2010-2012 Class medal for achieving the highest mark in the class (B.Sc. Hons. in Botany, 3rd Year Systematics, 3rd Year Ecosystem Ecology, 2nd Year Plant Diversity, 2nd Year Principles of Evolution).

2009-2012 Dean’s Merit List (award for having a weighted average over 70% in all courses taken).

2009 University of Cape Town Entrance Scholarship (undergraduate academic merit scholarship).

**Supervision and Mentoring Experience**

2021 Co-supervised the undergraduate thesis of Annli Nakayama, Yale University.

2020  Co-supervised the senior undergraduate thesis of Krish Maypole, Yale University.

2020 Supervised the undergraduate research project of Annli Nakayama, Yale University.

2020 Co-supervised the MSc thesis of Londiwe Mokoena, University of Witwatersrand.

2020 Mentored 2 MSc and 1 PhD students as part of the Women in Science at Yale program.

2019 Co-supervised the MSc thesis of Charles Emogor, University of Oxford.

2018 Co-supervised the MSc thesis of Ian McGregor, University of Oxford.

**Teaching Experience and Training**

2021 Completed the “Mental Health First Aid” certification, Yale University.

2021 Completed the “Peer learning through technology” course, Yale University.

2020 Lectured (online) on the B.Sc. “3rd year field trip” course, module: Statistics in R, University of Witwatersrand (1 module and supervision of two field projects).

2020 Completed the 8-week “Introduction to evidence-based undergraduate STEM teaching” course, Yale University.

2020 In process of completing the 72-hour “College Teaching Preparation” certificate, Yale University.

2019 Lectured on the M.Sc. “Forestry” course, module: Tropical Forest Ecosystems, Yale University (1 lecture).

2017 Teaching assistant on the M.Sc. “Environmental Change and Management” course, module: Statistics, University of Oxford (1 module).

2015 Lectured and assisted with practicals on the M.Sc. “Conservation Biology” course, module: Community Ecology, University of Cape Town (2 lectures and 1 fieldtrip).

**Invited Seminars and Research Presentations**

2021 “Fires, plants, and ecological thresholds”, Davies Lab, Department of Organismic and Evolutionary Biology, Harvard University, USA.

2021 “Fires, plants, and ecological thresholds”, Ecosystems Lab, School of Geography and the Environment, University of Oxford, UK.

2020 “Fires, elephants, and ecotones”, Botany and Zoology Department, Stellenbosch University, South Africa.

2019 “How are forest-savanna transitions affected by fire and forest elephants?”, School of Animal, Plant, and Environmental Sciences, University of Witwatersrand, South Africa.

2016 “How fire and elephants affect forest-savanna mosaic dynamics”, School of Geosciences, University of Edinburgh, Scotland.

2016 “How relephant are elephants? Forest elephants in a forest-savanna mosaic in Central Africa”, Hertford College, University of Oxford, UK.

**Conference Presentations**

2020 “Why do fires stop spreading?”, Savanna Science Network Meeting, Skukuza, South Africa.

2019 “The role of forest elephants in shaping forest and savanna co-existence”, Savanna Science Network Meeting, Skukuza, South Africa.

2018 “Are forest-savanna transitions home to a distinct woody community?”, Savanna Science Network Meeting, Skukuza, South Africa.

2017 “How fire and forest elephants affect forest-savanna transition dynamics” (unable to attend in person, presentation given on my behalf by Dr Imma Oliveras), Association of Tropical Biologists Conference, Mérida, Mexico.

2017 “How fire and elephants affect forest-savanna coexistence”, Savanna Science Network Meeting, Skukuza, South Africa.

2016 “How fire and elephants interact to affect forest encroachment in a central African forest-savanna mosaic” (poster), Savanna Science Network Meeting, Skukuza, South Africa.

**Academic Service**

2020, 2021 The representative for postdocs on the Diversity and Inclusion committee of Yale University’s Ecology and Evolutionary Biology Department.

2016 – present Scientific reviewer: WGII contribution to the IPCC Sixth Assessment Report, Journal of Ecology, New Phytologist, African Journal of Ecology, Biotropica, and International Journal of Wildland Fire, Forest Ecology and Management, Journal of Vegetation Science, Plant Ecology.

**Student Work Experience**

January-June 2015 Research Assistant to Timm Hoffman, Plant Conservation Unit, University of Cape Town.

June-July 2015 Research Assistant to William Bond, Botany Department, University of Cape Town.

June-July 2011 Research Assistant to Nicola Bergh, South African National Biodiversity Institute.

2013 Demonstrator on the BSc field course “Ecosystems”, University of Cape Town.

2012-2013 Demonstrator on the BSc “Biology” course practicals, University of Cape Town.