



Professional Summary

Senior researcher in environmental change with more than 20 years' experience of Higher Education teaching & communications.

Specific Expertise

- Science Communication
- Public Engagement
- Environmental Change
- Landscape Evolution
- Geochronology
- African Environments
- Human Origins

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Dr Sallie L. Burrough

Employment History

- 2023: Freelance **Writer and Research Consultant**
- 2014-2022: **Trapnell Research Fellow of African Environments**, Environmental Change Institute, University of Oxford
Director Oxford Luminescence Dating Laboratory (OLDLab), University of Oxford
- 2022: **Lecturer** in Physical Geography, St Peters College, Oxford
- 2010-2014: **Leverhulme Post-Doctoral Research Fellow (Researcher Co-I)**, School of Geography and the Environment & Long-term Ecology Laboratory, Zoology, Oxford.
- 2009-2010: **Drapers Company Junior Research Fellow**, Hertford College, University of Oxford, *Palaeolithic mega-lakes & early human occupation of the Kalahari*.
- 2009: **Lecturer** Department of Geography, Kings College London, Desert Environments.

Education

- 2019-2023: **MSc, Science Communication**, UWE, Bristol. *Distinction*.
- 2015: **PGCert in Teaching & Learning in Higher Education**. Fellow of the Higher Education Academy
- 2005-2008: **D.Phil., Geography, Oxford University**. *NERC Studentship*, CC Reeves Graduate Scholarship, Royal Society Dudley Stamp Memorial Award
- 2002-2003: **MSc., Quaternary Science, University of London**. *Distinction* Elsevier prize for the best overall MSc performance; NERC MSc Scholarship, RHUL, London
- 1999-2002: **BA (Hons) Geography, Oxford University**. *1st Class* Gibbs prize for best overall degree performance; Henry Becket dissertation prize; Kaye Scholarship; Shell Prize for *outstanding field-based coursework*

Awards

2021: University of Oxford Recognition Award – for “exceptional efforts, above and beyond that required, during the COVID-19 Pandemic.”

2020: University of Oxford Award for Excellence for individual contribution to university life “having consistently demonstrated exceptional performance, significantly above that which might reasonably have been expected.”

2015: University of Oxford Award for Excellence – for “an outstanding and exceptional contribution to the University”.

National Geographic Explorer, Expedition Leader's Award, Wilderness Medical Training (RGS), Military Training Awards: Qualifications 1 & 2 (Leadership and Management)

Communication & Research Impact

Confident communicator across a diverse range of academic and public audiences in the UK and Africa. Demonstrable skills in public speaking and public listening and communication. A selection of blog posts, podcasts and interviews can be found here: www.earthindaba.com/science-stories

Industry and Public Engagement

Research Consultant/Advisor for a number of Production companies including the BBC, National Geographic, Disney, Vidalia and Earthark Productions.

Workshop leader for schools and local communities within Botswana. Following [community consultations](#), I also produced and installed Public Information Boards in local villages around the Makgadikgadi basin, northern Botswana to [enable local ownership of research outputs](#).

Radio & podcast interviews: Podcast interview (2021) for Beautiful Botswana on the Makgadikgadi Pans, southern Africa. Bristol Radio interview (2021) for *Love and Science* Programme on the topic of managing motherhood in academia; BBC Radio Oxford Interview (2017) [Environmental Change, Africa and Mothers in Science](#); National Radio South Africa, Johannesburg (2009) – What's going on with climate change in southern Africa?

My **opinions and articles** have been published in the [Times Higher Education](#), [The Conversation](#) and [Africa Geographic](#)

Institutional and Professional Responsibilities

Director, Oxford Luminescence Dating laboratory (OLD Lab), University of Oxford. Responsible for overseeing all research and commercial projects of OLD Lab. Responsibility for maintenance of machines and equipment, laboratory safety (including radiation, laser and HF use); student and laboratory technician training and management.

Lecturing and Tutorial Teaching: Broad range of courses across the undergraduate and graduate community including 'Earth System Dynamics', 'Desert Environments' 'Quaternary Environmental Change' and 'Quaternary Environmental Reconstruction'.

Supervision and Examination Assessor: Supervision of multiple DPhil, MSc and undergraduate research projects; Assessor for a suite of examinations including undergraduate final exams, dissertations and PhD transfers and confirmations.

Committee Responsibilities: Departmental Committee, Equipment and Laboratory Committee, Safety Committee, Governing Body Fellow (Hertford college), Sustainability Committee (Linacre college), Domus Committee Hertford college).

Scientific Advisory Board Member (2016-2018), Humans and the Biosphere, International Union for Quaternary Science

Chair, Early Career Researcher Committee (ECR) (2013-2015), International Union for Quaternary Science

Adjunct Fellow (2014-2021), Linacre College, Oxford.

Governing Body Fellow (2009-2013), Hertford College, Oxford

National Geographic Explorer, including training in Communicating NatGeo Science Stories (Stockholm, 2015)

Reviewer for *Nature*, *Science*, *Quaternary Science Reviews*, *Quaternary Research*, *Quaternary International*, *Palaeo Palaeo*, *Geomorphology*, *Journal of Arid Environments*, *Journal of Archaeological Science*, *Quaternary Geochronology*, *National Geographic* and many others.

Junior Dean, St Catherine's College (2004-2007) Responsible for the pastoral care, welfare and discipline of 700 students, working closely with Oxford University counselling service.

Professional and Society Memberships

Fellow of the Royal Geographical Society, London; Member of the Quaternary Research Association; Member of the British Society for Geomorphology; Member of the International Union for Quaternary Science.

Research Experience & Funding

I have led or co-led a number of international research projects, collectively raising a total of £1.8m of external funding and £28k of competitive research income from within the University resulting in more than 30 peer-reviewed outputs.

2021: Kgalagadi Human Origins **Project Partner**, Kiel university, Emmy Noether Foundation.

2019: **NERC UK Research and Innovation Capital Grant:** (£173k) OSL Single Grain Machine and Violet Stimulation Source, OLD Lab, Oxford (Co-I)

2017: **Public Engagement with Research Knowledge Exchange Grant, Oxford and British Geomorphological Society Outreach Fund (£4.6k):** Megalakes and Stone Age Humans: Telling the Story of the Makgadikgadi (PI).

2017: **National Science Foundation Grant** (£1.1m): Interactions between Incipient Continental Rifting, Fluvial Systems, and Regional Climate in Southern Africa: The Okavango-Makgadikgadi Complex, Botswana (collaborative partner with Woods Hole Oceanographic Institution, Penn State University, Coastal Carolina University, University of Botswana and ETH Zurich).

2016: **Leverhulme Trust Research Project Grant** (£235k) Landscape archaeology of the Kalahari: How did major hydrological shifts affect Stone Age mobility and landscape use in the late Quaternary? (Co-I).

2015: INQUA Project Award for International Research Collaboration (£5k) "Palaeolakes of the Arid Southern Hemisphere (PotASH)" (PI).

2015: **Oxford University Fell Fund** (£7k): Testing the asymmetry of African humid periods.

2015: **Leverhulme Trust Research Project Grant** (£145k) Testing the importance of lake-climate feedbacks for African hydroclimate variability (Co-I).

2014: **National Geographic Global Exploration Award** (£18k) "Megalake records of Kalahari climate change" (PI)

2012: **Oxford University Fell Fund** (£4.5k) "People and environment in western Zambia" (PI).

2010: **Leverhulme Trust Research Project Grant** (£140k) "Floods and droughts in the Upper Zambezi Valley" (Researcher Co-I)

2009: **Boise Fund**, Oxford University (£12k) (PI).

2009: **Royal Geographical Society Small Grant** (£3k) (PI).

Academic publications

Book Chapters

Burrough, SL (2022). The Makgadikgadi Basin. In Eckardt, F (Ed) *Landscapes and Landforms of Botswana, The World Geomorphological Landscapes series*, Springer.

Burrough SL, (2016) Late Quaternary environmental change and human occupation of the southern African interior in Jones, S & Stewart B (Eds) *Africa from MIS 6-2: Population Dynamics and Paleoenvironments*. Springer

Thomas DSG and **Burrough SL** (2011) Climatic frameworks: legacies from the past. In Thomas D.S.G. (Ed) *Arid Zone Geomorphology*. 3rd Edition. Wiley, 648 pp.

Journal articles in preparation or under review

Walsh, EV, **Burrough, SL**, Thomas, DSGT (under review) Model –data comparison of mid-Holocene and Last Glacial Maximum climates in central southwestern Africa. *Quaternary Science Reviews*.

Woor, S., Parton, A., Thomas, DSGT, Durcan, J. **Burrough, SL** (in press) The aggradation of alluvial fans in response to monsoon variability over the last 300 ka in the central and eastern Hajar Mountains, northern Oman. *Quaternary Science Reviews*

Journal articles published or in-press

- Walsh, EV, **Burrough, SL**, Thomas, DSGT (2023) A chronological database assessing the late Quaternary palaeoenvironmental record from fluvial sediments in southwestern Africa. *Earth Science Reviews* 236, 104288
- Staurset, Coulson, Mothulatshipi, Nash, Thomas, **Burrough** (2023) Post-depositional disturbance and spatial organization at open-air sites: examples from the Middle Stone Age of the Makgadikgadi Basin. *Quaternary Science Reviews Special Issue*.
- Staurset, Coulson Mothulatshipi, Nash, Thomas, **Burrough** (2023) Making points: The Middle Stone Age of the Makgadikgadi Basin, Botswana. *Quaternary Science Reviews Special Issue*.
- Thomas, **Burrough**, Mothulatshipi, Nash, Coulson, Staurset (2022) Lacustrine geoarchaeology in the central Kalahari: implications for early human engagements in dryland regions. *Quaternary Science Reviews*
- Nash, Coulson, Staurset, **Burrough**, Mothulatshipi, Thomas (2022) Mapping human mobility in the Makgadikgadi Basin during the Middle Stone Age through multi-site geochemical provenancing of silcrete artefacts. *Quaternary Science Reviews* 297, 107811
- Burrough**, Thomas, Allin, Mothulatshipi, Nash, Coulson, Staurset (2022) Lessons from a lake bed: unpicking palaeohydrological change and human landscape use in the southern African interior. *Quaternary Science Reviews Special Issue*.
- Coulson, Staurset, Mothulatshipi, Nash, Thomas, **Burrough** (2022) Thriving in the Thirstland: new Stone Age sites from the Middle Kalahari, Botswana. *Quaternary Science Reviews Special Issue*.
- Woor, S, Durcan, JA, **Burrough, SL**, Parton, A, Thomas, DSG. (2022) Evaluating the effectiveness of heavy liquid density separation in isolating K-feldspar grains using alluvial sediments from the Hajar Mountains, Oman. *Quaternary Geochronology* 72, 101368
- Walsh, E., Caracciolo, L., Ravida, D., **Burrough, SL**, Thomas, DSG (2022) Holocene fluvial depositional regimes of the Huab River, Skeleton Coast, Namibia. *Earth Surface Processes and Landforms* 47, 7, 1820-1844
- Lininger, KB, Rowan, AV, Livers, B, Kramer, N, Ruiz-Villanueva, V, Sendrowski, A, **Burrough, SL** (2021) Perspectives on being a field-based geomorphologist during pregnancy and motherhood. *Earth Surface Processes and Landforms* 46, 14, 2767-2772.
- Richards, J, **Burrough SL**, Wiggs, G, Hills, T, Thomas, DSG & Moseki, L (2021) Uneven surface moisture as a driver of dune formation on ephemeral lake beds under conditions similar to the present day: A model-based assessment from the Makgadikgadi Basin, northern Botswana. *Earth Surface Processes and Landforms* 46, 15, 3078-3095.
- DeCort, G, Chevalier, M, **Burrough, SL**, Chen, C, Harrison, SP (2021) An uncertainty-focused database approach to extract spatiotemporal trends from qualitative and discontinuous lake-status histories. *Quaternary Science Reviews*, 258, 106870
- Osypiński, P, **Burrough SL**, Skinner, A, Standzikowski, K (2021). Re-examining the age of the Affad MSA deposits in the middle Nile Valley. *Archaeometry* 63, 6, 1405-1420
- Burrough SL**, Barham, L, Thomas DSG (2019) Implications of a new chronology for the interpretation of the Middle and Later Stone Age of the upper Zambezi Valley. *Journal of Archaeological Science* 23, 376-389
- Stone, AE, Bateman, MD, **Burrough, SL**, Garzanti, E, Limonta, M, Radeff, G, Telfer, MW, (2019) Using a portable luminescence reader for rapid age assessment of aeolian sediments for reconstructing dunefield landscape evolution in southern Africa. *Quaternary Geochronology*
- Lancaster, N., Bristow, C., Bubenzer, O., **Burrough, SL**. et al (2016) The INQUA Dunes Atlas Chronologic Database. *Quaternary International*
- Singarayer JS and **Burrough SL**, (2015) Inter hemispheric dynamics of the African rainbelt during the late Quaternary. *Quaternary Science Reviews* 124, 48-67
- Burrough SL**, Willis KJ; (2015) Ecosystem resilience to late-Holocene climate change in the Upper Zambezi Valley. *The Holocene* 25, 1811-1828

- Burrough SL**, Thomas DSG, Willis KJ (2014) Landscape sensitivity and ecological change in western Zambia. The long-term perspective from a Zambian dambo. *Journal of Quaternary Science* 30 (1), 44-58
- Thomas DSG, **Burrough SL** (2014) Luminescence-based dune chronologies in southern Africa: analysis and interpretation of dune database records across the subcontinent. *Quaternary International*
- Burrough SL** and Thomas, DSG (2013) Central southern Africa at the time of the African Humid Period: A new analysis of Holocene palaeoenvironmental and palaeoclimate data. *Quaternary Science Reviews* 80, 29-46
- Willis KJ, Bennett KD, **Burrough SL**, Macias-Fauria M, Tovar C (2013) Linking long-term perspectives to 21st century management of African landscapes. *Philosophical Transactions of the Royal Society B*, 368 (1625).
- Burrough SL**, Thomas DSG, Bailey RMB, Davies L, (2012) From landform to process: Morphology and formation of lake-bed barchan dunes, Makgadikgadi, Botswana. *Geomorphology* 161-162,1-14
- Thomas DSG, **Burrough SL** (2012) Interpreting geo-proxies of late Quaternary climate change in African drylands: implications for understanding environmental and early human behaviour. *Quaternary International*, 253, 5-17
- Burrough SL**, Breman, E and Dodd, C (2012) An insight into past vegetation of the Middle Kalahari Palaeolakes during the late Quaternary. *Journal of Arid Environments* 82, 156-164
- Thomas DSG, **Burrough SL** and Parker AG (2012), Extreme events as drivers of early human behaviour in Africa? The case for variability, not catastrophic drought. *Journal of Quaternary Science* 27, 7–12
- Telfer MW, Bailey RM, **Burrough SL**, Stone AES, Thomas DSG, Wiggs GSF (2010) Understanding linear dune chronologies: Insights from a simple accumulation model. *Geomorphology*, 120 (3-4), 195-208
- Burrough SL**, Thomas DSG, Singarayer J (2009) Late Quaternary hydrological dynamics in the Middle Kalahari: Forcing and feedbacks. *Earth-Science Reviews* 96, (4), 313-326
- Burrough SL**, Thomas DSG, Bailey, RMB (2009) Mega-Lake in the Kalahari: A Late Pleistocene record of the Palaeolake Makgadikgadi system. *Quaternary Science Reviews* 28, 1392-1411
- Burrough SL**, Thomas DSG (2009) Geomorphological contributions to palaeolimnology on the African continent. *Geomorphology* 103, 285-298
- Burrough SL**, Thomas DSG (2008) Late Quaternary lake-level fluctuations in the Mababe Depression: Middle Kalahari palaeolakes and the role of Zambezi inflows. *Quaternary Research* 69 (3), 388-403
- Burrough SL**, Thomas DSG, Shaw PA, Bailey RM (2007) Multiphase Quaternary high-stands at Lake Ngami, Kalahari, northern Botswana. *Palaeogeography, Palaeoclimatology, Palaeoecology* 253, 280–299