

Mitchell J. Power – Curriculum Vitae

Curator Garrett Herbarium, Associate Professor
Natural History Museum of Utah, Department of Geography
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EDUCATION:

Post-doctoral Research, Geosciences, University of Edinburgh (2008)

Ph.D. Geography/Biogeography, University of Oregon (2006)

M.S. Quaternary Studies/Paleobotany, Northern Arizona University (1998)

B.A. Anthropology/Archaeology, University of Maine (1992)

GRADUATE ADVISORS: Dr. R. Scott Anderson (Northern Arizona), Dr. Cathy Whitlock (Montana State) Dr. Patrick Bartlein (Univ. of Oregon), Dr. Francis Mayle (Univ. of Reading),

RESEARCH AND TEACHING INTERESTS:

Botany, Vegetation History, Biogeography, Fire History, Paleoecology, Paleoclimatology

EMPLOYMENT HISTORY (last 10 years):

2020-present, *Full Professor*, Geography, University of Utah

2017-present, Executive *Steering Committee* member for Global Change and Sustainability Center, University of Utah

2013-2018, *Co-Science Director*, Rio Mesa Center Field Station, Univ. of Utah

2014-2020, *Associate Professor*, Geography, University of Utah

2008-2014, *Assistant Professor*, Geography, University of Utah

2008-present, *Curator* of the Garrett Herbarium, Utah Museum of Natural History

2006-2008, *Postdoctoral Researcher*, University of Edinburgh, Scotland

PUBLICATIONS:

53. Davies, B., **Power, M. J.**, Braun, D. R., Douglass, M. J., Mosher, S. G., Quick, L. J., & Faith, J. T. (2022). Fire and human management of late Holocene ecosystems in southern Africa. *Quaternary Science Reviews*, 289, 107600.
52. Carter, VA, Brunelle, A, **Power, MJ**, DeRose, RJ, Bekker, MF, Hart, I, Brewer, S, Spangler, J, Robinson, E, Abbott, M, Maezumi, SY and BF Codding (2021) Legacies of Indigenous land use shaped past wildfire regimes in the Basin-Plateau Region, USA. *Nature Communications Earth & Environment*, 72. <https://doi.org/10.1038/s43247-021-00137-3>

51. Butcher, KR, **Power, MJ**, Larson, M, Orr, MP, Velasquez-Franco, S, Hudson, MA, Bailey, VJ (2021). Museum leadership for engaging, equitable education: the transformation potential of digitized collections for authentic learning experiences. *The Curator*
50. Groves, M, Brunelle, AR, **Power, MJ**, Petersen, KL, and ZJ Lundeen (2020) Late-Holocene seasonal moisture variability: Range Creek Canyon, Utah, USA. *The Holocene* <https://doi.org/10.1177/0959683620972769>
49. Heyer, J, Brewer, S, Brunelle, A, Berangere, L, Lundeen, Z, Rittenour, T, and **MJ Power** (2020) Age control for the Lake Bottom oxbow in the Dolores River watershed of eastern Utah, USA. *Quaternary International* <https://doi.org/10.1016/j.quaint.2020.09.013>
48. Faith, JT, Davies, B, Douglass, M, Braun, D., **MJ Power** (2020) Ecometrics and the paleoecological implications of Pleistocene faunas from the western coastal plains of the Cape Floristic Region, South Africa. *Journal of Quaternary Science*.
47. Smith, R, Mayle, F, Maezumi, S and **MJ Power, MJ** (2020) Relating pollen representation to an evolving Amazonian landscape between the last glacial maximum and late holocene. *Quaternary Research*
46. de Souza, JG, Robinson, M, Yoshi Maezumi, MS, Capriles, J, Hoggarth, J, Lombardo, U, Novello, V, Apaestegui, J, Whitney, B, Urrego, D, Alves, DT, Rostainm S, **Power, MJ**, Mayle, F, Cruz, F, Hooghiemstra, H and J Iriarte (2019) Climate change and cultural resilience in late pre-Columbian Amazonia, *Nature: Ecology and Evolution*. NATECOLEVOL-18074873B
45. Mueller, JR, **Power, MJ** and CJ Long (2019) Climate and human influence on late-Holocene fire regimes in the British Virgin Islands. *Quaternary Research* 91(2):679-690
44. **Power, MJ**, Coddling, BF, Taylor, AH, Swetnam, TW, Magargal, KE, Bird, DW and JF O'Connell (2018) Human fire legacies on ecological landscapes. *Frontiers in Earth Science*, 6:151 <https://www.frontiersin.org/articles/10.3389/feart.2018.00151/full>
43. Heyer, JP, **Power, MJ**, Field, RD and MJE van Marle (2018) The impacts of recent drought on fire, forest loss, and regional smoke emissions in lowland Bolivia. *Biogeosciences*, 15: 4317-4331. <https://doi.org/10.5194/bg-15-4317-2018>
42. Long, CJ, **Power, MJ**, and Grigg, LD (2018) A 35,000-year fire history from the Oregon Coast Range, USA, In S. Starratt Ed. *From Saline to Freshwater: The Diversity of Western Lake in Space and Time*, GSABOOKS-D-16-00005.
41. Carter, VA, **Power, MJ**, Lundeen, ZJ, Morris, JL, Petersen, KL, Brunelle, A, Anderson, RS, Shinker, JJ, Turney, L, Koll, R and PJ Bartlein (2017). A 1500-year synthesis of wildfire activity stratified by elevation from the US Rocky Mountains. *Quaternary International*, vol. x: 1-13.

40. Hawthorne, D, Courtney Mustaphi, CJ, Aleman, JC, Blarquez, O, Colombaroli, D, Daniau A-L, Marlon, JR, **Power, MJ**, Vanniere, B et al. (2017). A modern global charcoal database (mGCD): examining proxy-fire relationships and spatial patterns of biomass burning. *Quaternary International*, 1-15.
39. **Power MJ**, Whitney BS, Mayle FE, Neves DM, de Boer E and KS Maclean (2016) Fire, climate and vegetation linkages in the Bolivian Chiquitano Seasonally Dry Tropical Forest. *Philosophical Transactions B of the Royal Society*.
<http://dx.doi.org/10.1098/rstb.2015.0165>
38. Marlon J, Kelly R, Daniau A-L, Vanniere B, **Power MJ**, Bartlein P, Higuera P, Blarquez O, Brewer S, Brucher T, Feurdean A, Gil-Romera G, Iglesias V, Maezumi SY, Magi B, Mustaphi CJC and T Zhihai et al. (2016) Reconstructions of biomass burning from sediment charcoal records to improve data-model comparisons. *Biogeosciences* doi:10.5194/bgd-12-18571-2015
37. Kehrwald N, Aleman J, Coughlan M, Courtney-Mustaphi C, Githumbi E, Magi B, Marlon J and **MJ Power** (2016) One thousand years of fires: Integrating proxy and model data. *Frontiers of Biogeography*. <https://doi.org/10.21425/F5FBG29606>
36. Bush MB, McMichael CH, Piperno DR, Silman, MR, Barlow J, Peres CA, **Power MJ** and MW Palace (2015) Anthropogenic influence on Amazonian forests in pre-history: An ecological perspective. *Journal of Biogeography* doi:10.1111/jbi.12638
35. Maezumi S, **Power MJ**, Mayle FE, McLauchlan KK and J Iriarte (2015) Effects of past climate variability on fire and vegetation in the cerrado savanna of the Huanchaca Mesetta, NE Bolivia. *Climates of the Past*, 11:835-853.
34. Blarquez O, Vanniere B, Marlon JR, Daniau A-L, **Power MJ**, Brewer S, Bartlein PJ (2014) Paleofire: an R package to analyse sedimentary charcoal records from the Global charcoal Database to reconstruct past biomass burning. *Computers and Geosciences* vol 72: 255-261.
33. Long, CJ, **Power, MJ**, Minckley, TA, and Hass, AL (2014). The impact of Mt. Mazama tephra deposition on forest vegetation in the Central Cascades, Oregon. *The Holocene* 24, 503-511; doi: 10.1177/0959683613520258
32. Brucher T, Brovkin V, Kloster S, Marlon JR, **Power MJ** (2013) Comparing modeled fire dynamics with charcoal records for the Holocene. *Climates of the Past*, 9: 6429–6458
31. Bush, MB, McMichael, CH, Raczka, MF, de Toledo, MB, **Power, MJ**, De Oliveira, PE (2013). The Holocene of Amazonia. Book Ch: *In* Paleontologia: Cenários de Vida Paleoclimas.

30. Kehrwald, NM, Whitlock, C, Barbante, C, Brovkin, V, Daniau, A-L, Kaplan, JO, Marlon JR, **Power, MJ**, Thonicke K, and GR van der Werf (2013) Recent wildfires fuel advancements in fire research. *Eos, Transactions American Geophysical Union*
29. Aleman, JC, Blarquez, O, Bentaleb, I, Bonté, P, Brossier, B, Carcaillet, C, Gond, V, Gourlet-Fleury, S, Kpolita, A, Lefèvre, I, Oslisly, R, **Power, MJ**, Yongo, O, Bremond, L, Favier, C (2013). Tracking land-cover changes with sedimentary charcoal in the Afrotropics. *The Holocene*.
28. **Power MJ**, Mayle, FE, Bartlein, PJ and co-authors (2013) 16th Century burning decline in the Americas: population collapse or climate change? *The Holocene* 23(8).
27. **Power MJ** (2013) Biomass burning in the Earth system during the last 21,000 years: A paleofire perspective (Eds. C.Belcher and G.Rein) *In Fire Phenomena and the Earth System*, Wiley-Blackwell.
26. Carter, V, Brunelle, A, Minckley, TA, Dennison, PE, and **MJ Power** (2013) Regionalization of fire regimes in the central Rocky Mountains. *Quaternary Research*.
25. Molinari, C, Lehsten, V, Bradshaw, RH, **Power MJ**, Wittwer, T, Arneth, A, and MT Sykes (2013) Exploring potential drivers of European biomass burning over the past 9000 years: a data-model comparison. *Global Ecology and Biogeography*.
24. Morris, J, Brunelle, A, Munson, AS, Bares, R, Carter, V, DeRose, RJ, Seppa, H, **Power, MJ** (2013). Using fire regimes to delineate zones in a high resolution lake sediment record. *Quaternary Research*
23. Marlon, JR, Bartlein, PJ, Daniau, A-L, Harrison, SP, **Power, MJ**, Tinner, W, Tracy S (2013) Global biomass burning: a synthesis and review of Holocene paleofire records and their controls. *Quaternary Science Reviews*
22. Brown, KJ and **Power, MJ** (2013) Charred Particle Analyses. *Invited chapter for Quaternary Science Encyclopedia*.
21. Daniau, A-L, Tinner, W, Bartlein, PJ, Harrison, SP, Prentice IC, Brewer, S, Friedlingstein, P, Harrison-Prentice, TI, Inoue, J, Marlon J, Mooney, S, **Power, MJ**, Stevenson, J and members of the Global Palaeofire Working Group (2012) Predictability of biomass burning in response to climate changes. *Global Change Biology*
20. Morris, J, Brunelle, A, Munson, AS, Spencer, J, and **Power, MJ** (2012). Holocene vegetation and fire reconstructions from the Aquarius Plateau, Utah, USA. *Quaternary International*.
19. Luterbacher, J, Roberts, N, Tinner, W, Colombaroli, D, **Power, MJ**, and Vannière B, (2012) Vegetation, land-use and fire history in Mediterranean ecosystems during the last two millennia. In: (Ed. J. Luterbacher, book chapter) *MedClimar Vegetation and Landuse*

History.

18. Whitlock C, Dean W, Fritz S, Stevens L, Stone JF, **Power, MJ**, Rosenbaum JR, Pierce KL, and Bracht-Flyer, B (2012) Holocene seasonal variability inferred from multiple proxy records from Crevice Lake, Yellowstone National Park, USA. *Palaeogeography, Palaeoclimatology, Palaeoecology*, vol 331-332: 90-103
17. Iriarte, J, **Power, MJ**, Rostain, S, Mayle, FE, Jones, H, Watling, J, Whitney, BS, McKey, D (2012) Fire-free land-use in pre-1492 Amazonian savannas. *Proceedings of the National Academy of Sciences*. doi: 10.1073/pnas.1201461109
16. Marlon, JM, Bartlein, PJ, Long, C, Gavin, DG, Anderson, RS, Briles, C, Brown, K, Colombaroli, D, Hallett, DJ, **Power, MJ**, Scharf, E, Walsh, MK (2012) Natural versus human causes of fire in the western U.S. *Proceedings of the National Academy of Sciences*. doi/10.1073/pnas.1112839109
15. **Power MJ**, Whitlock C, Bartlein PJ (2011) Postglacial fire, vegetation, and climate history across an elevational gradient in the Northern Rocky Mountains, USA. *Quaternary Science Reviews*, 30: 2520-2533.
14. Long, C and **Power, MJ**, McDonald, B (2011) Millennial-scale fire and vegetation history from a mesic hardwood forest of southeastern Wisconsin, USA. *Journal of Quaternary Science*, 26:318-325.
13. Long, CJ, **Power, MJ**, Bartlein, PJ (2011) The effects of fire and tephra deposition on forest vegetation in the Central Cascades, Oregon. *Quaternary Research* 75:151-158.
12. Vannière B, **Power MJ**, Roberts N, Tinner W, Carrión J, Magny M, Bartlein P (2011) Circum-Mediterranean fire activity and climate changes during the mid Holocene environmental transition (8500-2500 cal yr BP). *The Holocene*, 21:53-73.
11. **Power, MJ**, Bush, M.B., Behling, H., Horn, S.P., Mayle, F.E., and D.H. Urrego (2010) Paleofire activity in tropical America during the last 21 ka. *PAGES Special Edition*: (Eds.) C. Whitlock and W. Tinner, "Fire in the Earth System: A Paleoperspective", 18 (2): 73-75.
10. **Power, MJ**, Marlon, JR, Bartlein, PJ, Harrison, S (2010) Fire history and the global charcoal database: a new tool for hypothesis testing and data exploration. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 291(1-2):52-59.
9. Mayle, FE, Burn, MJ, **Power MJ**, and Urrego, D (2010) Vegetation and fire at the LGM in tropical South America. Chapter in, (eds.) F. Sylvestre and F. Vimeux, Springer Pub.
8. Shuman, B, Henderson, A, Colman, SM, Stone, JR, Fritz, SC, Stevens, LR, **Power, MJ**, Whitlock, C. (2009) Holocene lake-level trends in the Rocky Mountains, U.S.A. *Quaternary Science Reviews*, 28(19-20):1861-1879.

7. Marlon, JR, Bartlein, PJ, Walsh, MK, Harrison, SP, Brown, KJ, Edwards, ME, Higuera, PE, **Power, MJ**, Anderson, RS, Briles, C, Brunelle A, Carcaillet, C, Daniels, M, Hu, FS, Lavoie, M, Long, C, Minkley, T, Richard, PJH, Shafer, DS, Tinner, W, Umbanhowar, CE Jr, Whitlock, C (2009) Wildfire responses to abrupt climate change in North America. *Proceedings of the National Academy of Sciences*, 106(8): 2519-1524.
6. Marlon, JR, Bartlein, PJ, Carcaillet, C, Gavin, DG, Harrison, SP, Higuera, PE, Joos, F, **Power, MJ**, Prentice, IC (2008) A Climate-Driven Decline in Global Biomass Burning During the Past Two Millennia, *Nature Geosciences*, vol 1, October, p.697-702.
5. Mayle FE, and **Power MJ** (2008) Impact of a drier early-mid Holocene climate upon Amazonian forests. *Philosophical Transactions of the Royal Society*, 363:1829-1838.
4. **Power MJ** et al. (84 co-authors) (2008) Changes in fire regime since the Last Glacial Maximum: an assessment based on a global synthesis and analysis of charcoal data. *Climate Dynamics*, 30 (7-8):887-907.
3. Whitlock C, Dean W, Rosenbaum J, Stevens L, Fritz S, Bracht B, **Power MJ** (2008) A 2650-year-long record of environmental change from northern Yellowstone National Park based on a comparison of multiple proxy data. *Quaternary International*, 188:126-138.
2. **Power MJ**, Whitlock C, Bartlein PJ, Stevens L (2006). Fire and vegetation history during the last 3800 years in northwestern Montana. *Geomorphology*, 75:420-436.
1. Anderson RS, **Power, MJ**, Smith SJ, Springer K, Scott E (2002). Paleoecology of MIS-3 Pond Deposits from Riverside County, Southwestern California. *Quaternary Research*, vol. 58(3):310-317.

PUBLISHED REPORTS/NEWSLETTERS:

- Vanniere B, Blarquez O, Marlon J, Daniau A-L, and **MJ Power** (2014) Multi-scale Analyses of Fire-Climate-Vegetation interactions on millennial scales. PAGES Workshop Report, GPWG Frasné, France 2-6 October 2013
- Power MJ**, (2009). Workshop Report: The Global Palaeofire Working Group: African Paleofire workshop solicitation 2009. *iLEAPS Newsletter*
- Power MJ**, Marlon J, Bartlein PJ, Harrison SH (2008). Fire in the Earth System: The Global Palaeofire Working Group. *PAGES Newsletter*.
- Harrison SP, **Power MJ**, Bond W (2007) Palaeofires in the Earth system. *iLEAPS Newsletter* 4:8-11. [<http://www.atm.helsinki.fi/ILEAPS/index.php?page=default>]

MEDIA EXPOSURE:

- 2020 July Sydney Glen from Fox 13 News on Invasive Seeds arriving in the mail
<https://www.fox13now.com/news/local-news/udaf-more-than-100-utahns-have-received-mystery-seeds-in-the-mail>
- 2020 January U of U perspective article on Australia fires:
<https://attheu.utah.edu/facultystaff/australia-on-fire-what-are-the-impacts/>
- 2019 *Nature* publication: Past Climate Change: a warning for the future

<https://www.sciencedaily.com/releases/2019/06/190617164652.htm>
<https://www.climatechange.ie/past-climate-change-a-warning-for-the-future/>
<https://unews.utah.edu/past-climate-change-a-warning-for-the-future/>

- 2016 Natural History Museum of Utah – interview for new Poison exhibit & events
Daily Utah Chronicle: <http://dailyutahchronicle.com/2016/11/10/nhmu-celebrates-anniversary-behind-scenes-view/>
Park City Television: <https://youtu.be/oV8HHKyqJF0>
Radio Interview at KRCL: <http://www.krcl.org/blog/radioactive-november-4-2016/>
- 2016 Wildfires in Utah: YouTube by the living planet Aquarium
<https://www.youtube.com/watch?v=aGzLaT92638>
- 2013 Mitchell Power testifies at Utah Capital for House Bill 77: Climate Change Legislation for wildfire bill: <http://geog.utah.edu/news/WildfireBill.php>
http://utahlegislature.granicus.com/MediaPlayer.php?clip_id=2355&meta_id=69573
- 2012 Media coverage of research on French Guiana 800-year old farmers (Itiarte & Power et al. 2012 *Proceedings of the National Academy of Science*)
<http://newsdesk.nhmu.utah.edu/?q=newsdesk/releases/800-year-old-farmers-could-teach-us-how-protect-amazon>
<http://www.voanews.com/english/news/environment/Centuries-old-Farming-Methods-Hold-Key-to-Conservation-146857755.html>
<http://news.discovery.com/earth/sustainable-farming-precolumbian-120409.html>
<http://www.sciencedaily.com/releases/2012/04/120409175919.htm>
<http://www.abc.net.au/science/articles/2012/04/10/3474208.htm>
http://www.exeter.ac.uk/news/featurednews/title_201236_en.html#maincontent
<http://newsdesk.nhmu.utah.edu/?q=newsdesk/releases/800-year-old-farmers-could-teach-us-how-protect-amazon#main-menu>
http://www.msnbc.msn.com/id/46996153/ns/technology_and_science-science/
<http://io9.com/5900467/1000+year+old-farming-secrets-could-save-the-amazon-rainforest>
<http://frenchtribune.com/teneur/1210586-ancient-farming-methods-can-help-save-amazon>
<http://popular-archaeology.com/issue/march-2012/article/achaeologists-say-ancient-south-american-farmers-provide-example-of-sustainability>
<http://esciencenews.com/articles/2012/04/09/800.year.old.farmers.could.teach.us.how.protect.amazon>
http://www.sciencecodex.com/800yearold_farmers_could_teach_us_how_to_protect_the_amazon-89438
<http://www.sci-news.com/archaeology/article00254.html>
<http://www.thecuttingedgegenews.com/index.php?article=72820&pageid=24&pagename=Society>
<http://www.tehrantimes.com/science/96761-1000-year-old-farming-secrets-could-save-the-amazon-rainforest>
- 2012 Voice of America radio interview on raised-field farming research in French Guiana
<http://www.voanews.com/content/centuries-old-farming-methods-hold-key-to-conservation-146857755/179122.html>
- 2012 Media coverage on research on Little Ice Age climate cooling and wildfires (Power et al. 2012, *The Holocene*)

- <http://www.sltrib.com/sltrib/news/54576379-78/power-fire-charcoal-dull.html.csp>
http://unews.utah.edu/news_releases/when-the-world-burned-less/
<http://www.deseretnews.com/article/865559760/New-study-links-wildfires-and-climate-change.html?pg=all>
<http://www.indybay.org/newsitems/2012/08/22/18720040.php>
http://www.nsf.gov/news/news_summ.jsp?cntn_id=125036
- 2012 NPR Radio interview with Dan Bammes, at KUED station, University of Utah on Little Ice Age cooling and wildfire (Power et al 2012, *The Holocene*)
- 2012 Interview at KPCW Radio, Park City for the *This Green Earth* weekly broadcast on Little Ice Age cooling and wildfire (Power et al 2012, *The Holocene*)
<http://kpcw.org/tag/this-green-earth>
- 2012 Channel 5 KSL news interview on climate change linkages to wildfires
<http://www.ksl.com/?nid=148&sid=21489564>
- 2009 The Nature of Things lecture series: Sustainability and fire
<http://centralpt.com/pageview.aspx?edit=1&id=21243>
- 2008 Salt Lake Tribune article on research on global decrease in wildfires (Marlon et al. 2008 *Proceedings of the National Academy of Science*)
http://www.sltrib.com/news/ci_10588063
- 2008 Salt Lake City NPR Station KCPW interview on research about global wildfires (Marlon et al 2008)
<http://kcpw.org/blog/local-news/2008-09-24/umnh-scientists-finds-history-of-fires-climate-change-in-lakes/>

FUNDED PROPOSALS (Total funding: ~\$2.7 million):

- 2023 Fire History of Northern Ethiopia (\$15,000)
- 2021 NSF- P2C2 Collaborative Research: A Continuous 60,000 Year Sediment Record Documenting Abrupt to Precession-Scale Climate Change and Ecosystem Response at Fish Lake UT, Upper CO River Basin (\$294,788 awarded to Morris, Brunelle & Power)
- 2020 Paleoenvironment of the Tigray Plateau, Ethiopia (\$5375)
- 2019-2020 Utah Lake Commission: Paleocology of Utah Lake (\$55,053)
- 2019 Center for Latin America Studies Program (\$1500) research travel to Colombia
- 2018-2021 NSF CNH-S: One million years of human-environment interaction in the Cape Floristic Region (\$741,821 awarded to Faith & Power)
- 2018-2021 NSF EPIC Bioscience: A Practice-Based Online Learning Environment for Scientific Inquiry with Digitized Museum Collections in Middle School Classrooms (\$1,313,939 awarded to Butcher & Power)
- 2018-2021 NSF Digitization TCN: Collaborative Research: The Pteridological Collections Consortium: An integrative approach to pteridophyte diversity over the last 420 million years (\$6204)
- 2017 Paleoenvironment of the Tigray Plateau, Ethiopia (\$10,660)
- 2017 University of Utah *Society Water and Climate* Seed Grant (\$5900)
- 2016-2019 Ashley National Forest, USFS, USDA, Vernal, Utah: Fire history in the eastern Uinta Mountains. (\$42,025).
- 2014-15 University of Utah Seed Grant: Past Hurricanes in the Caribbean Basin (\$33,000)
- 2013 Past Global Changes Program (PAGES), Funding toward the Global Palaeofire Working Group workshop, Besancon, France (\$6000)
- 2012-14 USDA Ashley National Forest Service, Uinta Mountains Biogeography (\$31,000)

2011-13 Jonah Paleoecology Project: Wind River Range, Wyoming (\$30,000)
 2010 UMNH funding for moving the Garrett Herbarium Collection (\$14,000)
 2010 BLM funding: Milford Flat, Utah: Vegetation survey and fire history (\$58,970)
 2010 J. Itiarte/Univ. of Exeter funding: French Guiana Fire History (\$2450)
 2010 UMNH funding for Computerization of the Garrett Herbarium Collection (\$7800)
 2009 D. Metcalf/Range Creek Canyon funding: Vegetation survey project (\$2000)
 2009 University of Utah Project Initiation Grant Program (\$4000)
 2007 Quantifying and Understanding the Earth System (QUEST) Funding for the Global Palaeofire Working Group activities (£10,000)
 2007 Past Global Changes Program (PAGES), Funding toward the Global Palaeofire Working Group activities (\$6000)
 2007 Integrated Land Ecosystem – Atmosphere Processes Study (iLEAPS), a core project of the IGBP, Funding for Global Palaeofire Working Group activities (€1500)
 2006 United States Geological Survey (USGS) Fire History investigations in Yellowstone National Park (\$2516)

INVITED LECTURES & WORKSHOPS (last 10 years):

University of Utah, Department of Anthropology: *invited speaker* (December 2022) Fire, climate and civilizations in the Horn of Africa during the last ~3500 years
 University of Caldas, Manizales, Colombia: *invited speaker* (January 2021) The long-term role of fire, climate, vegetation and humans in shaping the disturbance regimes in the Neotropics
 Global Paleofire Working Group 2: *invited speaker* (July 2019) Dublin teaching workshop on using the global charcoal database
 EcoRe3 PAGES workshop: *invited participant* (May 2019) Resilience, disturbance and functional traits Salt Lake City, Utah
 Salt Lake City Rotary Club: *invited speaker* (April 2019) Mega-fires in the West: exploring the history (and causes) of wildfires since the last ice age
 Utah Wildfire Panel Discussion, Provo, Utah: *invited expert* (April 2019) Are Utah Wildfires the New Normal?
 Utah Native Plant Society Guest Lecture: *invited speaker* (Nov 2018) History of Fire in the Uinta Mountains, Utah
 Global Palaeofire Working Group 2: *invited participant* (Jan 2018) Montreal Workshop II strategic planning and database development
 Royal Holloway University, London Diverse-K meeting *invited participant* (Sept 2018) Diverse Knowledge Systems for fire policy and conservation
 Global Palaeofire Working Group 2: *invited speaker* (Oct 2017) Montreal Workshop on ecosystem management and wildfires
 NSF-sponsored NOVUS Workshop, Hubbard Brook Research Station *invited speaker* (Sep 2017)
 Utah Field House of Natural History, Vernal: *invited speaker* (Sep 2017) The Evolving Landscapes of the Uinta Mountains since the Ice Age
 Ashley National Forest: *invited speaker* (Mar 2016) Wildfires in the Uinta Mountains
 Royal Society Meeting, London: *invited speaker* (Oct 2015) Tribute to Andrew Scott
 Univ. of Franche-Comte, Besancon, France: *invited speaker* (Oct 2014) Megafires in the Americas
 LOTRED-2014 3rd International Symposium: “Climate Change and Human Impact in

Central & South America, Medellin, Colombia (July 2014) *invited speaker*
 Utah Valley University, *invited speaker* (April 2014)
 Brazil Quaternary Association, *invited speaker* (August 2013)
 Wildfire Lecture Series: Natural History Museum of Utah (July 2013)
 Utah Rare Plant Conference: *invited speaker* (Mar 2013)
 INQUA/PAGES Workshop: Past tropical climate variability, Bogota, Colombia (Nov 2012)
 Alta Club Lecture Series, Salt Lake City, Utah (Oct 2012) *Invited Speaker*
 Hill Air Force Base/American Indian Meeting, Salt Lake City (Sept 2012) *Invited Speaker*
 Gyerongson Natural History Museum, South Korea, (Sept 2012) *Invited Speaker*
 Biomass burning and Ice Core Records, PAGES workshop, Venice, Italy (June 2012)
 Missoula Fire Lab, Missoula Montana (Feb 2012) *Invited Speaker*

PROFESSIONAL SERVICE (last 10 years):

2006-present: Scientific Steering Committee GPWG: Global Paleofire Working Group
 2012-present: International Thesis committee reviewer, University of Montpellier, France
 2010-present: proposal reviews: NSF, Swiss National Science Foundation, and National Geographic Society
 2009-present: Consortium of Intermountain Regional Herbaria founding member
 2009-2011: Co-Leader QUESTING International Summer School
 2009-present: Co-Chair International Multiproxy Paleofire Database
 2009-2011 WODAN database Scientific Steering Committee, Dublin, Ireland
 2008-2011: Scientific Steering Committee, International Anthracology Association
 2008-present: Organizing member of the University of Utah Science Day
 2007-present manuscript reviews: *Science*, *PlosOne*, *Proceedings of the National Academy of Sciences*, *The Holocene*, *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology*, *Quaternary Science Review*, *Quaternary International*, *Climates of the Past*, *Quaternary Research*, *Geophysical Research Letters*, *The Holocene*, *Global Change Biology*, *Anthropocene*
 2007-present Member of International Union for Quaternary Research (INQUA)
 Palaeoclimate Commission (PALCOMM)
 2007-present Report writing for PAGES: Past Global Changes
 2006-2010 QUEST-Deglaciation: Climate and biogeochemical cycles during the last Deglaciation, University of Bristol & University of Edinburgh, UK

POST-DOCTORAL STUDENT ADVISING (*Serving as primary advisor):

- Benjamin Davies, CNH-NSF project South Africa, Sep 2020-Jun 2022
- *Vachel Carter, Utah Lake Project Jan 2020 – present
- *Andrea Miebach, Sea of Galilee Project, Jan 2020 – 2021

GRADUATE STUDENT ADVISING (*Serving as primary advisor):

- *Stella Mosher, Ph.D. candidate, Geography, University of Utah 2019-
- *Susana Velasquez-Franco, Ph.D. candidate, Geography University of Utah 2018-
- *Michael Broughton, M.S. candidate, Geography, Univ. of Utah 2022-
- *Epiphany Pecchia-Bechum, M.S. candidate, Geography, Univ of Utah 2021-
- *Andrew Kennedy, M.S. candidate, Geography, University of Utah 2018-2021

- Josh Krahulec, M.S., Geography Univ. of Utah 2019-
- Maria Groves, Ph.D. Geography, University of Utah 2013-2019
- *Blake Wellard, M.S. Geography, University of Utah 2011-2016
- *Josh Mueller, Ph.D., Geography, University of Utah 2013-2018
- *Lovina Turney, M.S. candidate, Geography, University of Utah 2011-2014
- *Shira Maezumi, Ph.D., Geography, University of Utah 2010-2015
- *Anthony Macharia, Ph.D. Geography, University of Utah, 2009-12
- *Rebecca Koll, M.S., Geography, University of Utah, 2009-2012
- Jessica Spencer, M.S., Geography, University of Utah, 2011-2012
- Shizuo Nishizawa Ph.D. graduated from Geography, University of Utah 2010
- Brett Wolfe, Ph.D. candidate, Biology, University of Utah, 2010-present
- Jesse Morris, Ph.D. graduated from Geography, University of Utah, 2008-2011
- Jennifer Watt, Ph.D. candidate, Geography, University of Utah 2009-2013
- Abigail Guess, M.S. graduated from Geography, University of Utah, 2008-2010
- Naomi Kisen, M.S. candidate, Geography, University of Utah, 2008-
- Julie Miller, M.S. candidate, Geography, University of Utah, 2011-2012
- Julie Miller, Ph.D. candidate, Geography, University of Utah 2012-
- Marissa Taddie, Ph.D. candidate, Geography, University of Utah 2013
- Ashley Powell, M.S. candidate, Geography, University of Utah, 2012-2013
- Chris Balzotti, Ph.D. candidate, Geography, University of Utah, 2012-2014
- Allison Chan, Ph.D. candidate, Biology, University of Utah, 2012-
- James Arnold, M.S. candidate, Geography University of Utah 2011-12
- Berengere Leys, Ph.D. graduated, University of Montpellier, France 2012
- Dave Love, Ph.D. candidate, Biology, University of Utah 2013-

UNDERGRADUATE STUDENT RESEARCH MENTORING (*paid positions):

- *Corinna McMurtrey– 2022-present
- *Talon Roberts– 2022-present
- *Miranda Clow – 2022-present
- *Lauren Page – 2022-present
- *Andrew Kennedy – research assistant May 2017-2018
- *Hannah Stevens
- *Leota Coyne
- *Joshua Kahulec 2018-2020
- *Rachel Struhs 2019-2021
- *Sydney Hurd – herbarium assistant 2018-present
- Daniel Neilson – research assistant Jan 2017-2018
- Lila Leatherman
- *Cassandra Oliveira – Research assistant Jan 2016 - 2018
- *Jolene Ness – Research assistant Feb 2015-2017
- *Liz Looby - Research assistant Sept 2014-present
- *Austin Prince – UROP research assistant January-August 2014
- *Daniel Harris – UROP research assistant January 2014-present
- *Nicole Talbot –UROP research assistant January 2013-present

- *Kyle Stayer – UROP lab assistant February-May 2013
- Chris Sprecher – lab/field research assistant August – September 2013-2014
- *Cameron McIntire – UROP-funded student - Caribbean research, Aug 2011-2012
- *Melanie Cooke – Range Creek dendro research intern, Aug 2011-present
- Kenneth Dudley – Range Creek dendro research intern, Aug 2011-May 2012
- *Danielle Frohn – herbarium assistant collection manager, May 2010- present
- Hattie Gardner – lab research assistant/student intern May-Sep 2010
- *Alex Gilvarry – lab work study assistant July 2010 – May 2012
- *Trent Hamada – herbarium collections assistant Jan 2009 - May 2010
- Danika Holmes – lab research intern/volunteer June 2010 – Dec 2010
- Sean Meyers – lab research intern/volunteer May 2010- Dec 2010
- Shannon Wegesser – lab researcher intern/volunteer May-June 2010
- Jake Olson – herbarium intern/volunteer Sep 2009 – May 2010
- *Jessica Spencer – lab research assistant Sep-Dec 2009
- *Ryan Swan – lab research assistant Sep 2008-Aug 2009
- *Hannah Wilson – herbarium research assistant May-Aug 2009

RECENT COLLABORATORS:

P. Bartlein, D. Bird, K. Brown, T. Bruecher, M. Bush, K. Butcher, B. Coddling, D. Colombaroli, R. Ford, J. Itiarte, C. Long, S. Maezumi, J. Marlon, F. Mayle, J. O’Connell, T. Swetnam, A. Taylor, B. Vannière, C. Whitlock

INTERNATIONAL STUDENT RESEARCH MENTORING:

- Andrea Miebach, Post-Doctoral Researcher, in residence at the University of Utah Feb-May 2020, German Academic Exchange Service fellowship
- Berengere Leys, PhD candidate University of Montpellier(advisor Christopher Carcaillet)
- Chiara Molinari, Post-Doctoral Researcher, Lund University (advisor Martin Sykes)
- Claire Jones, M.S., University of Liverpool (advisor Richard Bradshaw)
- Nicola J. Baird, M.S., University of York (advisor Robert Marchant)
- Kirsty Maclean, M.S., University of Edinburgh (advisor Francis Mayle)
- Erik de Boer, M.S., University of Edinburgh (advisor Francis Mayle)

SUBMITTED PROPOSALS (Jan 2009-Aug 2019):

- **2009 Jan:** University of Utah Research Foundation: The Intermountain Region Virtual Herbarium (\$35,140) *declined*
- **2009 May:** College of Social and Behavioral Sciences, University of Utah Project Initiation Grant Program (\$4000) Paleoenvironmental research in the western U.S. *awarded*
- **2009 June:** D.Metcalf/Range Creek Canyon funding: Vegetation survey project (\$2000) *awarded*
- **2009 July:** NSF BRC:”Rehousing & Computerization of the Garrett Herbarium Collection at the University of Utah Museum of Natural History” (\$423,418) *declined*
- **2010 March:** J.Itiarte/University of Exeter funding: French Guiana Fire History (\$2450) *awarded*

- **2010 April:** BLM: Milford Flat- Vegetation survey and fire history (\$58,970) *awarded*
- **2010 May:** UMNH funding for Computerization of the Garrett Herbarium Collection (\$7800) *awarded*
- **2010 July:** NSF BRC: “Rehousing & Computerization of the Garrett Herbarium at the University of Utah Museum of Natural History” (\$423,400) *declined*
- **2010 August:** NSF Geog & Spatial Science: Collaborative Research: Paleoenvironmental changes at regional and local scales during the rise and fall of the kingdoms of northern Ethiopia (\$240,406) *declined*
- **2010 September:** Institute of Museum and Library Services: “Rehousing the Garrett Herbarium at the Utah Museum of Natural History (\$143,812) *declined*
- **2010 November:** Jonah Paleoecology Project: Diatom Analysis of Soda Lake in the Wind River Range, Wyoming (\$30,000) *awarded*
- **2011 January:** NSF Geography & Spatial Science: Collaborative Research: Assessing influences of regional and local scale changes in paleoenvironment on the rise and fall of the kingdoms of northern Ethiopia (\$244,008) *declined*
- **2011 June:** UMNH funding for moving the Garrett Herbarium Collection (\$14,000) *awarded*
- **2011 August:** USDA Ashley National Forest Service, Uinta Mountains Biogeography (\$31,000) *awarded*
- **2011 October:** NSF Water, Climate and Sustainability – Category 1: Long-term Hydroclimatic variability in Utah Lake, Utah (\$141,243). *declined*
- **2012 January:** NSF Geography & Spatial Science: Collaborative Research: Evaluating the importance of paleoenvironmental change on the rise and fall of civilizations in the highlands of the northern Horn of Africa (\$216,657). *declined*
- **2012 June:** NSF CAREER Proposal: Paleofire activity across the Amazon Basin (\$399,140). *declined*
- **2013 March:** Department of Defense: Guam Research (\$2.1 million) *declined*
- **2013 August:** NSF Geography & Spatial Science: Collaborative Research: Linkages between environmental change and the development of complex ancient sub-Saharan African polities? (\$201,833) *declined*
- **2013 November:** NSF Collaborative Research: Digitization TCN: Human activity and its impact on plants of the plains and basins of the western US. (\$97, 559) *declined*
- **2014 February:** University of Utah Funding Incentive Seed Grant: Past Climate-Hurricane Linkages in the Caribbean (\$34,580) *Awarded*
- **2015 January:** NSF: Numic Fires: Ethnoecology, biogeography and paleoecology of Anthropogenic fire in the American West. Submitted as Co-PI with Brian Coddling (PI). (\$399, 000) *declined*
- **2016 May:** NSF Collaborative Research: The influence of Lake Bonneville on glacial processes in the Wasatch and Uinta Ranges: Linking glacier and climate models. (\$320,108) *declined*
- **2016 May:** USDA Ashley National Forest Service: Long-term vegetation change and fire history in the Uinta Mountains, Utah. (\$20,000) *Awarded*
- **2017 May:** NSF-NERC Collaborative Research: Hydrology, climate, and agricultural dynamics of early societies in northern Ethiopia (\$715,865) *declined*
- **2017 Sep:** University of Utah Seed grant, Society Water & Climate, Uinta Research (Power PI with co-PIs B, Coddling & S, Rupper) (\$6900) *awarded*

- **2017 Nov:** NSF EPIC Bioscience: A Practice-Based Online Learning Environment for Scientific Inquiry with Digitized Museum Collections in Middle School Classrooms (Power Co-PI with K. Butcher (PI)) (\$1,313,939) *awarded*
- **2017 Oct:** NSF Digitization TCN: Collaborative Research: The Pteridological Collections Consortium: An integrative approach to pteridophyte diversity over the last 420 million years (multi-institution collaboration) (\$6204) *awarded*
- **2017 Nov:** NSF RAPID application to study Island Ecosystem Resiliency and Recovery; the impacts of hurricane Irma on Caribbean islands (\$155,000) *declined*
- **2018 Jan** NSF CNH-S: One million years of human-environment interaction in the Cape Floristic Region, (Power Co-PI with T. Faith (PI)) (\$741,821) *awarded*
- **2019 Jun** Utah Lake Commission: Paleoecology of Utah Lake, Collaboration with J. Brahney, Utah State University (Power co-PI with J Brahney) (\$55,053) *awarded*
- **2019 May:** University of Utah Center for Latin America Studies Program research travel to Colombia for fieldwork (\$1500) *awarded*
- **2020 March:** *Historical Ecology and Early Social Complexity in the Horn of Africa.* Sponsored by Simon Fraser University, sub-award to Power paleoecology lab (\$5,375) *awarded*

PROPOSALS SUBMITTED AS NON-PI (editorial, intellectual and research contributions):

- 2010 British Academy, PI Jose Itarte, paleoenvironmental research on prehistoric raised field farming in French Guiana (\$7000). *Awarded*
- 2011 NSF IGERT: PI Andrea Brunelle, University of Utah (\$3,407,270) *declined*
- 2011 NSF GSS Collaborative Research, PI Evan Larsen (University of Wisconsin – Platteville) GLIMPSE – Geographic Landscape Inquiry through Multi-proxy studies in Ecology (\$628,992) *declined*
- 2012 National Geographic Society Research in Bolivia PI Francis Mayle, University of Edinburgh, (\$15,000) *Awarded*
- 2012 NSF GSS Collaborative Research, PI Evan Larsen (University of Wisconsin – Platteville) GLIMPSE – Geographic Landscape Inquiry through Multi-proxy studies in Ecology (\$595,525) *declined*
- 2014 NSF Archaeology BCS- Numic Fires: ethnoecology, biogeography and paleoecology of anthropogenic fire in the American west (Power Co-PI with Brian Coddling (PI) Univ of Utah, \$399,833) *declined*
- 2015 NSF Archaeology BCS- Numic Fires: ethnoecology, biogeography and paleoecology of anthropogenic fire in the American west (Power Co-PI with Brian Coddling (PI)) *declined*
- 2018 NRT-INFIEWS: Interdisciplinary Training at the Nexus of Food, Energy, and Water Systems to Predict and Adapt to Global Change (U-Adapt) -NADAPT (\$595,261) PI B. Bowen, *declined*