

Kimberly J. (La Pierre) Komatsu

Curriculum Vitae

Smithsonian Environmental Research Center

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*last name changed from La Pierre to Komatsu in 2019

Education

- 2013 Ph.D., Ecology and Evolutionary Biology, Yale University
Advisor: Melinda Smith; *Committee:* David Post, Os Schmitz, Kay Gross
- 2007 B.S., Ecology and Evolutionary Biology, University of California, Irvine

Positions Held

- 2017- Senior Scientist, Smithsonian Environmental Research Center (SERC),
Edgewater, Maryland
- 2013-2017 Post-Doctoral Fellow, Berkeley Initiative for Global Change Biology (BiGCB),
University of California, Berkeley

Competitive Grants (*totals:* \$4,274,927 research [\$2,317,822 to home institution]; \$343,499 synthesis working groups)

- 2021 NSF DEB - Population and Community Ecology. *Collaborative Research: Microbiome mediation of multi-trophic interactions in a tree diversity experiment.* \$972,971 [\$448,388 to home institution]. PIs: M McCormick, **KJ Komatsu**, JD Parker, KT Burghardt, E Griffin
- 2021 Working Land and Seascapes Amplification and Innovation Fund. *Bridging Smithsonian science with community partners to enhance conservation opportunities for native biodiversity — a case for grassland birds.* \$55,000. PIs: AE Johnson, **KJ Komatsu**, M Ogburn, R Bennett, G Connette
- 2020 Working Land and Seascapes Amplification and Innovation Fund. *Bridging the land-sea interface: Chesapeake Bay as a model ecosystem for conservation science, partnerships, and actions.* \$96,219. PIs: **KJ Komatsu**, AE Johnson, I Lacher, M Ogburn
- 2020 USDA AFRI Bioenergy, Natural Resources, and Environment. *Assessing impacts of patch-burn grazing management on sustainability of multiple agroecosystem services.* \$499,388 [\$78,661 to home institution]. PIs: SE Koerner, ML Avolio, **KJ Komatsu**, KR Wilcox, L Zeglin
- 2020 NSF Long-Term Ecological Research. *Konza Prairie LTER VIII.* \$35,985 to home institution. PI: J Nippert, Senior Scientist: **KJ Komatsu**, et al
- 2019 sDiv. *sCoRRE: Assessing functional consequences of community changes with global change using trait-based and phylogenetic approaches* (synthesis working group). \$239,870. PIs: ML Avolio, **KJ La Pierre**

- 2019 USDA AFRI Foundational Knowledge of Agricultural Production Systems. *Safeguarding Soybeans Against Climate Change: Identifying the Role of Rhizobial Diversity in Moderating Drought and Herbivore Stress*. \$500,000. PIs: **KJ La Pierre**, KT Burghardt, JD Parker
- 2019 Working Land and Seascapes Amplification and Innovation Fund. *Chesapeake Bay Working Land and Seascapes*. \$120,000. PIs: **KJ La Pierre**, M Ogburn
- 2018 USDA AFRI Resilient Agroecosystems in a Changing Climate. *Identifying mechanisms of rangeland drought resilience: Management strategies for sustainable ecosystem health*. \$1,186,000 [\$174,205 to home institution]. PIs: SE Koerner, **KJ La Pierre**, L Porensky, K Reinhart, M Van Emon, KR Wilcox
- 2016 NSF LTER Network Office/NCEAS. *Integrating plant community and ecosystem responses to chronic global change drivers: Toward an explanation of patterns and improved global predictions* (synthesis working group). \$78,000. PIs: **KJ La Pierre**, ML Avolio, KR Wilcox
- 2015 Marin County Parks. *Unlocking the drivers of sustainable invasive legume management: Are rhizobial mutualists the key?* \$10,000. PIs: **KJ La Pierre**, EL Simms
- 2015 NSF DEB - Population and Community Ecology. *Mutualism theory predicts how legumes influence biodiversity-ecosystem function relationships under global change*. \$799,364. PI: EL Simms, Senior Scientist: **KJ La Pierre**
- 2012 NSF LTER Network Office. *Mechanisms of convergence and divergence: understanding the variability of plant community responses to multiple resource manipulations* (synthesis working group). \$13,744. PIs: ML Avolio, **KJ La Pierre**
- 2010 NSF LTER Network Office. *The impacts of within season rainfall variability across ecosystems* (synthesis working group). \$11,885. PIs: TMP Robinson, **KJ La Pierre**, ML Thomey

Peer-Reviewed Publications

65. Hruska, A, Cawood, A, Pagenkopp Lohan, KM, Ogburn, MB, **Komatsu, KJ**. *in press*. Going remote: Recommendations for normalizing virtual internships to promote diversity and inclusivity. *Ecosphere*.
64. Arnillas, CA and 21 others (including **KJ Komatsu**). *in press*. Opposing community assembly patterns for dominant and non-dominant plant species in herbaceous ecosystems globally. *Ecology and Evolution*.
63. Ebling, A and 27 others (including **KJ Komatsu**). *in press*. Nutrient enrichment increases invertebrate herbivory and pathogen damage in grasslands. *Journal of Ecology*.
62. Wilfahrt, PA and 34 others including (**KJ Komatsu**). 2021. Temporal rarity is a better predictor of local extinction risk than spatial rarity. *Ecology*. e03504.
<https://doi.org/10.1002/ecy.3504>
61. Avolio, MA, **Komatsu, KJ** and 26 others. Determinants of community compositional change are equally affected by global change. *Ecology Letters*. 24 (9): 1892-1904.
<https://doi.org/10.1111/ele.13824>

60. Tognetti, PM and 28 others (including **KJ Komatsu**). 2021. Negative effects of nitrogen override positive effects of phosphorus on grassland legumes worldwide. *Proceedings of the National Academy of Sciences*. 118 (28): e2023718118. <https://doi.org/10.1073/pnas.2023718118>
59. Gray, J, **Komatsu, KJ**, Smith, MD. 2021. Defining codominance in plant communities. *New Phytologist*. 230 (5): 1716-1730. <https://doi.org/10.1111/nph.17253>
58. Wilcox, KR, **Komatsu, KJ**, Avolio ML, and the C2E Consortium. 2021. Improving collaborations between empiricists and modelers to advance grassland community dynamics in ecosystem models. *New Phytologist*. 228 (5): 1467-1471. <https://doi.org/10.1111/nph.16900>
57. Avolio, MA, Wilcox, KR, **Komatsu, KJ**, Lemoine, N, Bowman, WD, Collins, SL, Knapp, A, Koerner, SE, Smith, MD, Baer, S, Gross, KL, Isbell, F, McLaren, J, Reich, P, Suding, KN, Suttle, KB, Tilman, D, Xu, Z, Yu, Q. 2021. Temporal variability in production is not consistently affected by global change drivers across herbaceous-dominated ecosystems. *Oecologia*. 194 (4): 735-744. <https://doi.org/10.1007/s00442-020-04787-6>
56. Seabloom, E and 28 others (including **KJ Komatsu**). 2021. Increasing effects of chronic nutrient enrichment on plant diversity loss and ecosystem productivity over time. *Ecology*. 102 (2): e03218. <https://doi.org/10.1002/ecy.3218>
55. **Komatsu, KJ**, Simms, EL. 2020. Invasive legume management strategies differentially impact mutualist abundance and benefit to native and invasive hosts. *Restoration Ecology*. 28 (2): 378-386. <https://doi.org/10.1111/rec.13081>
54. Bloodworth, KJ, Ritchie, ME, **Komatsu, KJ**. 2020. Effects of white-tailed deer exclusion on the plant community composition of an upland tallgrass prairie ecosystem. *Journal of Vegetation Science*. 31 (5): 899-907. <https://doi.org/10.1111/jvs.12910>
53. Taylor, BN, Simms, EL, **Komatsu, KJ**. 2020. More Than a Functional Group: Diversity within the Legume–Rhizobia Mutualism and Its Relationship with Ecosystem Function. *Diversity*. 12 (2): 50. <https://doi.org/10.3390/d12020050> (in Special Issue: *Symbioses and the Biodiversity-Ecosystem Function Relationship*)
52. Borer, E and 34 others (including **KJ Komatsu**). 2020. Nutrients cause grassland biomass to outpace herbivory. *Nature Communications*. 11 (6036). <https://doi.org/10.1038/s41467-020-19870-y>
51. Hautier, Y and 51 others (including **KJ Komatsu**). 2020. General destabilizing effects of eutrophication on grassland productivity at multiple spatial scales. *Nature Communications*. 11 (5375). <https://doi.org/10.1038/s41467-020-19252-4>
50. Smith, MD, Koerner, SE, Knapp, AK, Avolio, MA, Chaves, FA, Denton, EM, Dietrich, J, Gibson, DJ, Gray, J, Hoffman, AM, Hoover, DL, **Komatsu, KJ**, Silletti, A, Wilcox, KR, Yu, Q, Blair, M. 2020. Mass ratio effects underlie ecosystem responses to environmental change. *Journal of Ecology*. 108 (3): 855-864. <https://doi.org/10.1111/1365-2745.13330>
49. Broadbent, AAD and 23 others (including **KJ Komatsu**). 2020. Dominant native and non-native graminoids differ in key leaf traits irrespective of nutrient availability. *Global Ecology and Biogeography*. 29 (7): 1126-1138. <https://doi.org/10.1111/geb.13092>
48. Kattge, J and 728 others (including **KJ Komatsu**). 2020. TRY plant trait database – enhanced coverage and open access. *Global Change Biology*. 26: 119-188. <https://doi.org/10.1111/gcb.14904>

47. Avolio, ML, Carroll, IT, Collins, SL, Houseman, GR, Hallett, LM, Isbell, F, Koerner, SE, **Komatsu, KJ**, Smith, MD, Wilcox, KR. 2019. A comprehensive approach to analyzing community dynamics using rank abundance curves. *Ecosphere*. 10 (10): e02881. <https://doi.org/10.1002/ecs2.2881>
46. **Komatsu, KJ** and 75 others. 2019. Global change effects on plant communities are magnified by time and the number of global change factors imposed. *Proceeding of the National Academy of Sciences*. 116 (36): 17867-17873. <https://doi.org/10.1073/pnas.1819027116>
45. Seabloom, EW, Condon, B, Kinkel, L, **Komatsu, KJ**, Lumibao, CY, May, G, McCulley, RL, Borer, ET. 2019. Effects of nutrient supply, herbivory, and host community on fungal endophyte diversity. *Ecology*. 100 (9): e02758. <https://doi.org/10.1002/ecs2.2758>
44. Borer, E, Lind, E, Firn, J, Seabloom, E, Anderson, TM, Bakker, E, Biederman, L, **La Pierre, KJ**, MacDougall, A, Moore, J, Risch, A, Schuetz, M, Stevens, C. 2019. More salt, please: global patterns, responses, and impacts of foliar sodium in grasslands. *Ecology Letters*. 22 (7): 1136-1144. <https://doi.org/10.1111/ele.13270>
43. Avolio, ML, Forrester, EJ, Chang, CC, **La Pierre, KJ**, Burghardt, KT, Smith, MD. 2019. Tansley review: Demystifying dominant species. *New Phytologist*. 223 (3): 1106-1126. <https://doi.org/10.1111/nph.15789>
42. Cleland, EE and 34 others (including **KJ La Pierre**). 2019. Belowground biomass response to nutrient enrichment depends on light limitation across globally distributed grasslands. *Ecosystems*. 22 (7): 1466-1477. <https://doi.org/10.1007/s10021-019-00350-4>
41. Firn, J and 42 others (including **KJ La Pierre**). 2019. Leaf nutrients, not specific leaf area, are consistent indicators of elevated nutrient inputs. *Nature Ecology and Evolution*. 3: 400-406. <https://doi.org/10.1038/s41559-018-0790-1>
40. Langley, JA, Chapman, SK, **La Pierre, KJ**, Avolio, ML, Bowman, WD, Johnson, DS, Isbell, F, Wilcox, KR, Foster, BL, Hovenden, MJ, Knapp, AK, Koerner, SE, Lortie, CJ, Magonigal, JP, Newton, PCD, Reich, PB, Smith, MD, Suttle, KB, Tilman, D. 2018. Ambient changes exceed treatment effects on plant species abundance in global change experiments. *Global Change Biology*. 24 (12): 5668-5679. <https://doi.org/10.1111/gcb.14442>
39. Hodapp, D and 30 others (including **KJ La Pierre**). 2018. Spatial heterogeneity in species composition constrains plant community responses to herbivory and fertilization. *Ecology Letters*. <https://doi.org/10.1111/ele.13102>
38. Collins, SL, Avolio, ML, Gries, C, Hallett, LM, Koerner, SE, **La Pierre, KJ**, Rypel, AL, Sokol, ER, Fey, SB, Flynn, DFB, Jones, SK, Ladwig, LM, Ripplinger, J, Jones, MB. 2018. Temporal heterogeneity increases with spatial heterogeneity in ecological communities. *Ecology*. 99 (4): 858-865. <https://doi.org/10.1002/ecs2.2154>
37. Hautier, Y and 37 others (including **KJ La Pierre**). 2018. Local loss and spatial homogenization of plant diversity reduce ecosystem multifunctionality. *Nature Ecology and Evolution*. 2: 50-56. <https://doi.org/10.1038/s41559-017-0395-0>
36. **La Pierre, KJ**, Simms, EL, Tariq, M, Zafar, M, Porter, SS. 2018. Invasive legumes can associate with many mutualists of native legumes, but usually do not. *Ecology and Evolution*. 7 (20): 8599-8611. <https://doi.org/10.1002/ece3.3310>

35. Wilcox, KR and 44 others (including **KJ La Pierre**). 2017. Asynchrony among local communities stabilizes ecosystem function of metacommunities. *Ecology Letters*. 20 (12): 1534-1545. <https://doi.org/10.1111/ele.12861>
34. Lind, EL, **La Pierre, KJ**, Seabloom, EW, Alberti, J, Iribarne, O, Firn, J, Gruner, DS, Kay, AD, Pascal, J, Wright, JP, Yang, L, Borer, ET. 2017. Increased grassland arthropod production with mammalian herbivory and eutrophication: A test of mediation pathways. *Ecology*. 98 (12): 3022-3033. <https://doi.org/10.1002/ecs.2029>
33. Harpole, WS and 25 others (including **KJ La Pierre**). 2017. Out of the shadows: multiple nutrient limitations drive relationships among biomass, light, and plant diversity. *Functional Ecology*. 31: 1839-1846. <https://doi.org/10.1111/1365-2435.12967>
32. Biederman, L, Mortensen, B, Fay, P, Hagenah, N, Knops, J, **La Pierre, KJ**, Laungani, R, Lind, E, McCulley, R, Power, S, Seabloom, EW, Tognetti, P. 2017. Nutrient addition shifts plant community composition towards earlier flowering species in some prairie ecoregions in the US Central Plains. *PloS One*. 12 (5): e0178440. <https://doi.org/10.1371/journal.pone.0178440>
31. **La Pierre, KJ**, Blumenthal, DM, Brown, CS, Klein, JA, Smith, MD. 2016. Drivers of variation in ANPP and plant community composition differ across a broad precipitation gradient. *Ecosystems*. 19 (3): 521-533. <https://dx.doi.org/10.1007/s10021-015-9949-7>
30. **La Pierre, KJ**, Smith, MD. 2016. Soil nutrient additions increase invertebrate herbivore abundances, but not herbivory across three grassland systems. *Oecologia*. 180 (2): 485-497. <https://dx.doi.org/10.1007/s00442-015-3471-7>
29. Harpole, WS and 32 others (including **KJ La Pierre**). 2016. Addition of multiple limiting resources reduces grassland diversity. *Nature*. 537 (7618): 93-96. <https://dx.doi.org/10.1038/nature19324>
28. Zhu, C, Ma, Y, Wu, H, Sun, T, **La Pierre, KJ**, Sun, Z, Yu, Q. 2016. Divergent effects of nitrogen addition on soil respiration in a semiarid grassland. *Scientific Reports*. 6: 33541. <https://dx.doi.org/10.1038/srep33541>
27. Long, M, Wu, H, Smith, MD, **La Pierre, KJ**, Lu, X, Zhang, H, Han, X, Yu, Q. 2016. Nitrogen deposition promotes phosphorus uptake of plants in a semi-arid temperate grassland. *Plant and Soil*. 408: 475-484. <https://doi.org/10.1007/s11104-016-3022-y>
26. Koerner, SK, Avolio, ML, **La Pierre, KJ**, Wilcox, KR, Smith, MD, Collins, SL. 2016. Nutrient additions cause divergence of tallgrass prairie plant communities resulting in loss of ecosystem stability. *Journal of Ecology*. 104: 1478-1487. <https://dx.doi.org/10.1111/1365-2745.12610>
25. Flores-Moreno, H and 28 others (including **KJ La Pierre**). 2016. Climate modifies response of non-native and native species richness to nutrient enrichment. *Philosophical Transactions of the Royal Society B*. 371: 20150273. <https://dx.doi.org/10.1098/rstb.2015.0273>
24. Avolio, ML, **La Pierre, KJ**, Houseman, GR, Koerner, SE, Grman, E, Isbell, F, Johnson, DS, Wilcox, KR. 2015. A framework for quantifying the magnitude and variability of community responses to global change drivers. *Ecosphere*. 6 (12): 1-14. <https://dx.doi.org/10.1890/ES15-00317.1>
23. **La Pierre, KJ**, Smith, MD. 2015. Functional trait expression of grassland species shift with short- and long-term nutrient additions. *Plant Ecology*. 216 (2): 307-318. <https://dx.doi.org/10.1007/s11258-014-0438-4>

22. **La Pierre, KJ**, Joern, A, Smith, MD. 2015. Invertebrate, not small vertebrate, herbivory interacts with nutrient availability to impact tallgrass prairie community composition and forb biomass. *Oikos*. 124 (7): 842-850. <https://dx.doi.org/10.1111/oik.01869>
21. Yu, Q, Wilcox, KR, **La Pierre, KJ**, Knapp, AK, Han, X, Smith, MD. 2015. Stoichiometric homeostasis predicts plant species dominance, temporal stability and responses to global change. *Ecology*. 96 (9): 2328-2335. <https://dx.doi.org/10.1890/14-1897.1>
20. Leff, JW and 19 others (including **KJ La Pierre**). 2015. Consistent responses of soil microbial communities to elevated nutrient inputs in grasslands across the globe. *Proceedings of the National Academy of Sciences*. 112 (35): 10967-10972. <https://dx.doi.org/10.1073/pnas.1508382112>
19. Seabloom, EW and 64 others (including **KJ La Pierre**). 2015. Plant species' origin predicts dominance and response to nutrient enrichment and herbivores in global grasslands. *Nature Communications*. 6: 7710. <https://dx.doi.org/10.1038/ncomms8710>
18. Stevens, CJ and 23 others (including **KJ La Pierre**). 2015. Anthropogenic nitrogen deposition predicts local grassland primary production worldwide. *Ecology*. 96: 1459-1465. <https://doi.org/10.1890/14-1902.1>
17. Knapp, AK, Hoover, DL, Wilcox, KR, Avolio, ML, Koerner, SE, **La Pierre, KJ**, Loik, ME, Luo, Y, Sala, OE, Smith, MD. 2015. Characterizing differences in precipitation regimes of extreme wet and dry years: Implications for climate change experiments. *Global Change Biology*. 21 (7): 2624-2633. <https://dx.doi.org/10.1111/gcb.12888>
16. Smith, MD, **La Pierre, KJ**, Collins, SL, Knapp, AK, Gross, KL, Barrett, JE, Frey, SD, Gough, L, Miller, RJ, Morris, JT, Rustad, LE, Yarie, J. 2015. Global environmental change and the nature of aboveground net primary productivity responses: Insights from long-term experiments. *Oecologia*. 177 (4): 935-947. <https://dx.doi.org/10.1007/s00442-015-3230-9>
15. Knapp, AK, Carroll, CJW, Denton, EM, **La Pierre, KJ**, Collins, SL, Smith, MD. 2015. Differential sensitivity to regional-scale drought in six central U.S. grasslands. *Oecologia*. 177 (4): 949-957. <https://dx.doi.org/10.1007/s00442-015-3233-6>
14. Prober, SM and 26 others (including **KJ La Pierre**). 2015. Plant diversity predicts beta but not alpha diversity of soil microbes across grasslands worldwide. *Ecology Letters*. 18 (1): 85-95. <https://dx.doi.org/10.1111/ele.12381>
13. Avolio, ML, Koerner, SE, **La Pierre, KJ**, Wilcox, KR, Wilson, GWT, Smith, MD, Collins, SL. 2014. Changes in plant community composition, not diversity, during a decade of nitrogen and phosphorus additions drive aboveground productivity in a tallgrass prairie. *Journal of Ecology*. 102 (6): 1649-1660. <https://dx.doi.org/10.1111/1365-2745.12312>
12. Walsh, MR, **La Pierre, KJ**, Post, DM. 2014. Interactions between predation and resource quality drive life history evolution in natural populations of *Daphnia*. *Evolutionary Ecology*. 28 (2): 397-411. <https://dx.doi.org/10.1007/s10682-013-9666-7>
11. Hautier and 32 others (including **KJ La Pierre**). 2014. Eutrophication weakens stabilizing effects of diversity in natural grasslands. *Nature*. 508: 521-525. <https://dx.doi.org/10.1038/nature13014>
10. Borer, ET and 54 others (including **KJ La Pierre**). 2014. Herbivores and nutrients control grassland plant diversity via light limitation. *Nature*. 508: 517-520. <https://dx.doi.org/10.1038/nature13144>

9. MacDougall, AS and 21 others (including **KJ La Pierre**). 2014. Anthropogenic-based regional-scale factors most consistently explain plot-level exotic diversity in grasslands on two continents. *Global Ecology and Biogeography*. 23 (7): 802-810. <https://dx.doi.org/10.1111/geb.12157>
8. Seabloom, ES and 72 others (including **KJ La Pierre**). 2013. Predicting invasion in grassland ecosystems: is exotic dominance the real embarrassment of richness? *Global Change Biology*. 19 (12): 3677-3687. <https://dx.doi.org/10.1111/gcb.12370>
7. Robinson, TMP, **La Pierre, KJ**, Vadeboncoeur, MA, Byrne, KM, Thomey, ML, Colby, SE. 2012. Seasonal, not annual precipitation drives community productivity across ecosystems. *Oikos*. 122:727-738. <https://dx.doi.org/10.1111/j.1600-0706.2012.20655.x>
6. Knapp, AK, Smith, MD, Hobbie, SE, Collins, SL, Fahey, TJ, Hansen, GJA, Landis, DA, **La Pierre, KJ**, Melillo, JM, Seastedt, TR, Shaver, GR, Webster, JR. 2012. Past, present, and future roles of long-term experiments in the LTER network. *Bioscience*. 62 (4): 377-389. <https://dx.doi.org/10.1525/bio.2012.62.4.9>
5. Grace, JB and 36 others (including **KJ La Pierre**). 2012. Response to comments on "Productivity is a poor predictor of plant species richness". *Science*. 335 (6075): 1441-1441. <https://dx.doi.org/10.1126/science.1214939>
4. **La Pierre, KJ**, Yuan, S, Chang, CC, Avolio, MA, Hallett, LM, Schreck, T, Smith, MD. 2011. Explaining temporal variation in aboveground productivity in a mesic grassland: the role of climate and flowering. *Journal of Ecology*. 99 (5): 1250-1262. <https://dx.doi.org/10.1111/j.1365-2745.2011.01844.x>
3. Adler, PB and 54 others (including **KJ La Pierre**). 2011. Productivity is a poor predictor of plant species richness. *Science*. 333 (6050): 1750-1753. <https://dx.doi.org/10.1126/science.1204498>
2. Firn, J and 36 others (including **KJ La Pierre**). 2011. Abundance of introduced species at home predicts abundance away in herbaceous communities. *Ecology Letters*. 14:274-281. <https://dx.doi.org/10.1111/j.1461-0248.2010.01584.x>
1. **La Pierre, KJ**, Harpole, WS, Suding, KN. 2010. Strong feeding preference of an exotic generalist herbivore for an exotic forb: a case of invasional antagonism. *Biological Invasions*. 12 (9): 3025-3031. <https://doi.org/10.1007/s10530-010-9693-z>

Edited Books and Chapters, Special Issues

Komatsu, KJ, Taylor, BN, eds. Special Issue: Symbioses and the Biodiversity-Ecosystem Function Relationship. 2020. *Diversity*.

Hanley, TC, **La Pierre, KJ**, eds. *Trophic Ecology: Bottom-Up and Top-Down Interactions Across Aquatic and Terrestrial Systems*. 2015. Cambridge University Press. <https://www.worldcat.org/isbn/9781316309735>

La Pierre, KJ, Hanley, TC. 2015. Bottom-up and top-down interactions across ecosystems in an era of global change. in TC Hanley and **KJ La Pierre** (eds): *Trophic Ecology: Bottom-Up and Top-Down Interactions Across Aquatic and Terrestrial Systems*. Cambridge University Press.

Datasets

Komatsu, KJ, Avolio, MA, Hope, A, Koerner, SE, Louthan, A, Wilcox, KR. The Consumer Size Manipulation Experiment (conSME) at Konza Prairie.

<https://doi.org/10.6073/pasta/5e27751f4a453aa7f57ffcb073740bbd>

La Pierre, KJ, Joern, A, Smith, MD. Effects of invertebrate and vertebrate herbivory on tallgrass prairie plant community composition and biomass, Konza Prairie LTER.

<https://doi.org/10.5072/FK2/41fd4cdc6d30cdcae7c4ffb27ba9d586>

La Pierre, KJ, Smith, MD. Nutrient Network: Investigating the roles of nutrient availability and vertebrate herbivory on grassland structure and function at Konza Prairie.

<https://doi.org/10.6073/pasta/32f60e91bfeb5fc6d198d05f56ac7ee1>

La Pierre, KJ. Dataset 309: Plant traits of grassland species. *in* TRY Plant Database version 4.

La Pierre, KJ, Simms, EL, Tariq, M, Zafar, M, Porter, SS. 2017. Data from: Invasive legumes can associate with many mutualists of native legumes, but usually do not. Dryad Digital Repository. <https://doi.org/10.5061/dryad.m86s6>

La Pierre, KJ, Simms, EL, Tariq, M, Zafar, M, Porter, SS. 2017. Data from: Invasive legumes can associate with many mutualists of native legumes, but usually do not. GenBank. Accession Numbers: MF477238-MF477834.

Collins, S, Avolio, ML, Gries, C, Hallett, L, Koerner, SE, **La Pierre, KJ**, Rypel, A, Sokol, E, Fey, S, Flynn, D, Jones, S, Ladwig, L, Ripplinger, J, Jones, M. Compiled long-term community composition datasets of primary producers and consumers in both freshwater and terrestrial communities. <https://doi.org/10.6073/pasta/210ddb261095a820dea0a4f9eb0a6f4a>

Hodapp, D and 30 others (including **KJ La Pierre**). Plant species composition and environmental parameters from the Nutrient Network.

<https://doi.org/10.5061/dryad.8vs569h/1> and <https://doi.org/10.5061/dryad.8vs569h/2>

Fellowships and Awards

2012 G. Evelyn Hutchinson Memorial Award for Outstanding Oral Presentation

2008 National Science Foundation, Graduate Research Fellowship

2006 Joseph H. Stevens Memorial Award for Outstanding Research in Ecology and Conservation

2006 West Coast Biological Sciences Award for Outstanding Poster Presentation

2006 aBetterEarth Environmental Essay, Third Prize

Organized Symposia and Workshops

2021 Ecological Society of America. Collaborative networks: Building thriving research communities vital to ecosystem science. (*Inspire Session*; organizers: AP Walker, C Iversen, **KJ Komatsu**, SD Wullschlegler)

2020 Ecological Society of America. Moving beyond single metrics toward an integrated understanding of ecological communities and their effects on ecosystem function. (*Organized Oral Session*; organizers: **KJ Komatsu**, ML Avolio, K Kimmel)

- 2019 American Association for the Advancement of Science (AAAS). Public engagement in sustainability science: Getting land owners involved in research, and results in the hands of land owners. (*Symposium*; organizers: **KJ La Pierre**, SE Koerner)
- 2018 LTER All Scientists Meeting. Context-dependency of herbivore effects on ecosystem function: Roles of body size, productivity, and biome (*Workshop*; organizers: SE Koerner, **KJ La Pierre**, D Burkepile)
- 2016 Ecological Society of America. Generalities and contingencies with multiple global change drivers: Diminishing effects or amplified consequences? (*Organized Oral Session*; organizers: SE Koerner, **KJ La Pierre**, ML Avolio)
- 2016 Ecological Society of America. Navigating NSF: The who, what, and when of the National Science Foundation (*Workshop*; organizers: **KJ La Pierre**, SE Koerner)
- 2015 LTER All Scientists Meeting. Community convergence or divergence in response to global change (*Workshop*; organizers: **KJ La Pierre**, SE Koerner, KR Wilcox)
- 2013 Ecological Society of America. The effects of climate change on community and ecosystem processes: lessons learned from the long-term ecological research (LTER) network (*Organized Oral Session*; organizer: **KJ La Pierre**)
- 2012 LTER All Scientists Meeting. Community convergence or divergence in resource manipulation experiments (*Workshop*; organizers: **KJ La Pierre**, SE Koerner, KR Wilcox)
- 2012 LTER All Scientists Meeting. Thinking outside the box: Integrating additional sciences into ecological research within the LTER network (*Graduate Student Symposium*; organizers: **KJ La Pierre**, SE Koerner)
- 2012 Ecological Society of America. Nutrient additions alter community and ecosystem processes: lessons learned from the long-term ecological research (LTER) network (*Organized Oral Session*; organizers: **KJ La Pierre**, SE Koerner)
- 2011 Ecological Society of America. Examining bottom-up and top-down forces: bringing together aquatic and terrestrial perspectives (*Organized Oral Session*; organizers: **KJ La Pierre**, TC Hanley)

Invited Seminars and Public Lectures

- 2021 Smithsonian Science to Go (*public*)
- 2021 University of California, Berkeley
- 2021 Aaniiih Nakoda College
- 2021 San Francisco State University
- 2020 Syracuse University
- 2020 Smithsonian Environmental Research Center, Evening Lecture Series (*public*)
- 2019 German Center for Integrative Biodiversity Research (iDiv)
- 2019 University of Maryland
- 2019 Davidsonville Green Expo
- 2018 University of North Carolina, Greensboro
- 2018 Duke University

- 2018 Tulane University (*graduate student invited speaker*)
 2018 Virginia Commonwealth University
 2018 Smithsonian Conservation Biology Institute
 2016 Smithsonian Environmental Research Center
 2016 Cedar Creek Ecosystem Science Reserve
 2015 Washington State University, Vancouver
 2015 University of California, Berkeley
 2009 Kansas State University

Selected Presentations

- Komatsu, KJ**, Wilcox, KR, Avolio, ML. *Ecological Society of America* (2021). Building transdisciplinary partnerships for data synthesis to advance ecological understanding. (in Inspire, *Collaborative networks: Building thriving research communities vital to ecosystem science*)
- Komatsu, KJ**, Avolio, ML, Koerner, SE, Wilcox, KR, Smith, MD, Collins, SL, Isbell, F. *Ecological Society of America* (2020). Linking community and ecosystem responses to global change drivers to identify emergent macro-scale patterns. (in OOS, *Leveraging Ecoinformatics and Expert-Curated Databases to Understand Macro-Scale Community Dynamics in Time and Space*)
- Komatsu, KJ**, Porensky, L, Reinhart, K, van Emon, M, Wilcox, KR, Koerner, SE. *North American Congress of Conservation Biology* (2020). Integrating science and stakeholder perspectives in promoting rangeland resilience to multi-year droughts. (in OOS, *Boundary-spanning Science in North America, Highlighting Interdisciplinary Conservation Research at the Smithsonian Institution*)
- La Pierre, KJ**, Bloodworth, KJ, Esch, N, Pullen, J, Parker, JD. *Ecological Society of America* (2019). Consequences of rhizobial diversity for legume resistance and resilience to herbivory in the context of climate change. (in OOS, *Not a Quick Fix: The Ecology and Evolution of Symbiotic Nitrogen Fixation in a Complex World*)
- La Pierre, KJ**, Avolio, M, Koerner, S, Ratajczak, Z, Welti, E, Wilcox, KR, Zeglin, L, Blair, J. *LTER All Scientists Meeting* (2018). Trajectories of plant community change with chronic nitrogen addition.
- La Pierre, KJ**, Simms, EL. *Ecological Society of America* (2018). Effects of invasive legumes on soil rhizobial communities and strategies for restoration.
- La Pierre, KJ**, Lind, E, Borer, E, Seabloom, E, the Nutrient Network. *Ecological Society of America* (2017). Increasing spatial and temporal replication through grassroots science: Examples from the Nutrient Network (NutNet). (in Ignite, *Replication in Ecology*)
- La Pierre, KJ**, Simms, EL. *Ecological Society of America* (2017). Effects of the legume-rhizobia mutualism on biodiversity-ecosystem function relationships. (in OOS, *Linking Terrestrial Nitrogen Fixation, Element Cycling, and Biodiversity in a Changing World*)
- La Pierre, KJ**, Avolio, ML, Isbell, FI, Lemoine, NP, Grman, E, Houseman, GR, Johnson, DS, Koerner, SK, Wilcox, KR. *Ecological Society of America* (2016). Plant community responses to multiple global change drivers: A synthesis examining the magnitude and variance of

responses. (in OOS, *Generalities and Contingencies with Multiple Global Change Drivers: Diminishing Effects or Amplified Consequences?*)

- La Pierre, KJ**, Porter, SS, Simms, EL. *Yosemite Symbiosis Symposium* (2016), *Joint Genome Institute Plant-Microbe Interaction Symposium* (2016). Are rhizobial mutualists the key to legume invasions?
- La Pierre, KJ**, Reich, PB, Hobbie, SE, Simms, EL. *LTERR All Scientists Meeting* (2015). Effects of the legume-rhizobia mutualism on biodiversity-ecosystem function relationships under global change.
- La Pierre, KJ**, Avolio, ML, Isbell, FI, Grman, E, Houseman, GR, Johnson, DS, Koerner, SK, Wilcox, KR. *Ecological Society of America* (2015). Patterns of convergence and divergence: A meta-analysis of the variability of community responses to global change drivers.
- La Pierre, KJ**, Porter, SS, Simms, EL. *California Invasive Plant Council* (2014). Invasive legume symbioses: Do California invasions follow worldwide trends?
- La Pierre, KJ**, Porter, SS, Simms, EL. *Ecological Society of America* (2014). Unlocking the mechanisms behind legume invasions: Are rhizobial mutualists the key?
- La Pierre, KJ**, Smith, MD. *Ecological Society of America* (2013), *LTERR All Scientists Meeting* (2012). Drivers of grassland invertebrate community structure: effects of soil nutrient availability on invertebrate resource limitation.
- La Pierre, KJ**, Smith, MD. *Ecological Society of America* (2012), *Grasslands in a Global Context* (2011). The role of plant traits and their plasticity in determining community and ecosystem responses to alteration in nutrient availability.
- La Pierre, KJ**, Smith, MD. *Ecological Society of America* (2011). The interactive effects of bottom-up and top-down forces vary across a broad grassland productivity gradient (in OOS, *Examining bottom-up and top-down forces: bringing together aquatic and terrestrial perspectives*)
- La Pierre, KJ**, Blumenthal, D, Brown, CS, Klein, J, Smith, MD. *Ecological Society of America* (2010), *Konza Prairie Biological Station LTER Workshop* (2010). Dominant plant species determine ecosystem response to multiple resource additions across a precipitation gradient.
- La Pierre, KJ**, Blumenthal, D, Brown, CS, Klein, J, Smith, MD. *LTERR All Scientists Meeting* (2009). Drivers of grassland community structure: an assessment of the strength of bottom-up and top-down controls.
- Komatsu, KJ**, Yuan, S, Chang, CC, Avolio, ML, Smith, MD. *Ecological Society of America* (2009). Climate and flower production determine above-ground net primary production in a C₄ grassland.
- Komatsu, KJ**, McGray, HG, Suding, KN. *Ecological Society of America* (2008). Invasion increases activities of soil microbial extracellular enzymes involved in carbon and nitrogen processing in Coastal Sage Scrub.
- Komatsu, KJ**, Harpole, WS, Suding, KN. *Ecological Society of America* (2006). The role of an exotic herbivore in determining the invasion success of *Brassica nigra* to southern California grasslands.

Service

2020-present Editorial Board, *Climate Change Ecology*

2020-present Programs Subcommittee Member, Ecological Society of America
 2019-present Science Steering Committee, Konza Prairie LTER
 2016-present Advisory Board Member and Opt-In Project Coordinator, The Nutrient Network
 2015-present Meeting Mentor, ESA, SEEDS Program
 2014-present Judge ESA Buell-Braun Awards
 2019-2020 Anne Arundel County High Schools, Senior Capstone Projects, Advisory Panelist
 2016 Fellowship Mentor, UC Berkeley Biology Scholars Program
 2016 Fellowship Mentor, ESA, Strategies for Ecology Education, Development, and Sustainability (SEEDS) Program
 2014-2016 Scientist Participant, Oakland Unified School District, Dinner with a Scientist
 2010-2013 Graduate Student Co-Chair, Long-Term Ecological Research (LTER) Network
 2008-2009 Honors Science Curriculum Development, Wilbur Cross High School, New Haven, CT

Grant Reviews for US Department of Agriculture (panel and ad hoc reviewer); National Science Foundation (ad hoc and panel reviewer); Smithsonian Scholarly Studies (panel reviewer); Working Land and Seascapes Amplification and Innovation (panel reviewer); ESA SEEDS (panel reviewer); Lewis and Clark Fund for Exploration and Field Research (panel reviewer); UK Research and Innovation (ad hoc reviewer); Dutch Research Council (ad hoc reviewer)

Fellowship Reviews for UC Berkeley Miller Fellowship; Smithsonian Institution Research Fellowship

Journal Reviews (100+ manuscripts) for Ecological Applications, Ecology, Ecology Letters, Ecosphere, Ecosystems, Frontiers, Functional Ecology, Global Change Biology, Journal of Applied Ecology, Journal of Ecology, Nature, Nature Communications, Nature Ecology and Evolution, New Phytologist, Oecologia, Oikos, Proceedings of the National Academy of Science, Proceedings of the Royal Society: Biology, Science, among others

Mentoring Experience

Postdoctoral Fellows

Amy Hruska (2019-present)
 Benton Taylor (2018-2020)

Technicians

Shelley Bennett (2021-present)
 Sarah Alley (2020-present)
 Kathryn Bloodworth (2017-2019)

Graduate Fellows – Smithsonian Institution Fellowship Program

Tim Ohlert (2021)
 Alyssa Young (2020-2021)

Graduate Committees

Morgan Frost (UNC Greensboro)
 Alyssa Young (UNC Greensboro)

Undergraduate and High School Students

Marcela Morassi, SERC REU (2021)

Elizabeth Blake, SERC REU (2021)

Annika Munson, University of Chicago-SERC Intern (2021)

Skye Austin, SERC REU (2020-2021)

Rachael Brenneman, SERC REU (2020-2021), Post-Baccalaureate Fellow (2021-2022)

Julia Smith, University of Chicago-SERC Intern (2020)

Abigail Cannon, high school student (2017-2019)

Ashley Boyette, Bryn Mawr-SERC Intern (2019)

Alitzel Villanueva, SERC Research Experience for Undergraduates (REU) (2019)

Nicole Esch, SERC REU (2018)

Brian Pfau, SERC REU (2017)

Anthony Pham, UC Berkeley Biology Scholars Program, Biology Fellows Program fellow

(2016-2017); UC Berkeley Integrative Biology undergraduate honors thesis (2016-2017)

Huy Ha, UC Berkeley Biology Scholars Program, Program for Early Researchers fellow (2016-2017)

Chelsea Hazlett, ESA Strategies for Ecology Education, Development, and Sustainability (SEEDS) fellow (2016)

Michael Paap, UC Berkeley Integrative Biology undergraduate honors thesis (2014-2015)

Sryia Maram, high school student (2014)

Arjun Potter, REU (2011)

Professional Affiliations and Activities

Memberships Ecological Society of America

Working Groups

- ongoing Functional consequences of community changes with global change (sCoRRE), sDiv (*organizer*)
- ongoing International Grazing Consortium (GEx), USDA (*participant*)
- ongoing Manipulation Experiment Synthesis Initiative (MESI), Auckland University of Technology (*participant*)
- ongoing Biodiversity and Productivity across Scales, LTER (*participant*)
- ongoing The Nutrient Network, NSF (*advisory board member, site coordinator*)
- 2015-2019 Linking community and ecosystem responses to global change drivers (CoRRE C2E), LTER (*organizer*)
- 2014-2017 Community Dynamics: Toolkits for Analysis and Workflow, NCEAS (*participant*)
- 2013-2016 Species Interactions and Global Change (SIGC), BiGCB (*participant*)
- 2013 Ecosystem Sensitivity to Rainfall Experiments, LTER (*participant*)
- 2012-2015 Community Responses to Resource Experiments (CoRRE), LTER (*organizer*)
- 2011-2012 Ecosystem Responses to Chronic Resource Manipulations, LTER (*participant*)
- 2011-2012 Community Responses to Extreme Climatic Events, LTER (*participant*)
- 2009-2011 Seasonal Rainfall Variability across Ecosystems, LTER (*organizer*)