Zak Ratajczak, Curriculum Vitae
Division of Biology, Kansas State University
218 Bushnell Hall, Manhattan K.S. 66505, U.S.A.
Phone: +1 518-424-8354
Skype: zaratajczak
Email: zarata@ksu.edu
Website: http://zaratajczak.wix.com/zak-ratajczak
Google scholar: click here

Appointments

2020-present **Assistant Professor**
Division of Biology, Kansas State University

2017-now **Post-doctoral research associate**, **funded by Joint Fire Science Program**
Department of Integrative Biology, University of Wisconsin-Madison
advised by Monica Turner

2014-2017 **NSF Post-doctoral fellow in math and biology**
Department of Environmental Sciences, University of Virginia
Grantham Research Institute on Climate Change and the Environ., London School of Economics
Department of Zoology, University of Wisconsin-Madison
advised by Paolo D'Odorico, Alessandro Tavoni, and Monica Turner (respectively)

Education

2010-2014 **Kansas State University, PhD in Biology**
Advisor: Jesse B. Nippert
"Ecological thresholds and abrupt transitions of tallgrass prairie to shrublands and woodlands"

2006-2010 **Vassar College, Bachelor of Arts in Earth Science** (w/honors) and Biology (w/honors)
Advisors: David P. Gillikin (Earth Science) & A. Marshall Pregnall (Biology)
"Dendrochronology and dendrochemistry ($\delta^{13}C$) of coastal loblolly pine (*Pinus taeda*) in relation to climate, hurricanes, and soil salinity"

Research interests

Biodiversity, climate change, community ecology, complex systems, disturbance, ecological feedbacks and non-linear dynamics, long-term experiments, nonequillibrium dynamics, spatial dynamics, theoretical ecology

Fellowships

2014-2017 Post-doctoral fellowship in Biology and Mathematics
Awarded to ZR by the National Science Foundation (U.S.A)

2010-2014 Graduates Addressing Areas of National Need (GAANN) Fellowship,
Awarded by the U.S. Department of Education and Kansas State University Division of Biology

2009 Research Experience for Undergraduates, at the Konza Prairie LTER
Awarded by the National Science Foundation (U.S.A)

Grants

2014	**NSF Post-Doc in Biology: Combining Math and Biology, DBI #1402033** $236K “Does economic connectedness undermine environmental stability?” (PI-Zak Ratajczak)
2013	**Cross-site Synthesis Grant**, Long Term Ecological Research Network, $20K “Sensitivity of ecosystem properties to winter climate anomalies” (PI-Laura Ladwig, CO-PIs Zak Ratajczak, Amber Churchill, Troy Ocheltree) **Green Action Fund**, Kansas State University, $9K **“**The Meadow: Informal Learning through Experiences of Landscape and Art” (PI- Katie Kingery Page, CO-PIs Linda Duke, Zak Ratajczak)
2012	**Cross-site Synthesis Grant**, Long Term Ecological Research Network, $12K “Bi-stability in grasslands and shrublands” (PI-Zak Ratajczak, CO-PIs Jesse Nippert, Scott Collins)
2011	**Weaver Competitive Grant**, Nature Conservancy Nebraska Chapter, $1K
2009	**Collins Student Research Grant**, Environmental Research Institute, $1K

Graduate student advising

2021	Brynn Ritchey, MS Student, expected graduation date of spring 2023
2020	Sidney Noble, PhD Student, expected graduation date of spring 2024 Bess Bookout, MS Student, expected graduation date of fall 2022

Teaching experience

2021	**Instructor for “Fundamentals of Ecology”, Spring Semester** **Division of Biology at Kansas State University** This upper level course covers the breadth of ecology, with a focus on core concepts of evolution, ecophysiology, ecosystem ecology, population biology, community ecology, landscape ecology, and global change biology. Enrollment ranges from 55 to 80 students per semester.
2017	**Helped develop and deliver “Fire and Social-Ecology Resilience” with Monica G. Turner** **Dept. of Integrative Biology at University of Wisconsin Madison** This upper level seminar focused on discussion of primary literature related to fires in social ecological systems around the world.
2014	**Volunteer teacher and research consultant, “EPA Rainworks challenge”** **Dept. of Landscape architecture at Kansas State University** Duties included meeting with teams of final-year undergraduate students. I one-on-one with students, as they developed grant proposals for the EPA Rainworks Challenge. EPA Rainworks is a competition to integrate rain gardens into college campuses. As their projects developed, I gave extensive feedback on their writing. In 2014 one of our teams won first prize at the national level (click here).
2013	**Teaching assistant for “Plant Physiology”** **Division of Biology at Kansas State University** Duties included guiding students through greenhouse and field-based research projects, including study design, statistical analyses, and writing. **Volunteer teacher and research consultant, “EPA Rainworks challenge”** **Division of Landscape architecture at Kansas State University** Duties included meeting with teams of final-year undergraduate students. I one-on-one with students, as they developed grant proposals for the EPA Rainworks Challenge. EPA Rainworks is a competition to integrate rain gardens into college campuses. As their projects developed, I gave extensive feedback on their writing. In 2013, one of our teams received a runner-up award (click here).
2012, fall	**Teaching assistant, “Principles of Biology”** **Division of Biology at Kansas State University** This semester I had a double teaching load.

Duties included developing delivering lectures, developed quizzes, hands on help with wet-lab activities and computer simulations, and leading review sessions. This class frequently included non-traditional students.

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Peer-reviewed publications (published or in press)

32. Turner, M.G., Braziunas, K.H, Hansen, W.D., Hoecker, T.J., Rammer, W., **Ratajczak, Z.**, Westerling, A.L., and Seidl, R. (*in press*) The magnitude, direction and tempo of forest change in Greater Yellowstone in a warmer world with more fire. *Ecological Monographs*.

31. W., Rammer, Braziunas, K.H., Hansen, W.D., **Ratajczak, Z.**, Westerling, A.L., Turner, M.G., and Seidl, R. (2021) Widespread regeneration failure in forests of Greater Yellowstone under scenarios of future climate and fire. *Global Change Biology* 27: 4339-4351.

30. Ma M., Collins, S.L., **Ratajczak, Z**. (*In press*) Soil seed banks, alternative stable state theory and ecosystem resilience. *Bioscience* 71: 697-707.

29. Collins, S.L., Nippert, J., Blair, J.B., Briggs, J.B., Blackmore, P, and **Ratajczak, Z**. (2021) Fire frequency, state change and hysteresis in tallgrass prairie. *Ecology Letters* 24: 636-647.

28. Albrich, K., Braziunas K.B., Hansen W., Rammer W., **Ratajczak Z.**, Turner M.G., and Seidl R. (2020) Simulating forest resilience: a review. *Global Ecology and Biogeography* 29: 2082-2096.

27. Turner, M.G., Calder W.J., Cumming G.S., Hughes T.P., Jentsch A., LaDeau S.L., Lenton T.M., Shuman B.N., Turetsky M.R., **Ratajczak Z.**, Williams J.W., Williams A.P., and Carpenter S.C. (2019) Climate Change, Ecosystems, and Abrupt Change: A Science Agenda. *Proceedings of the Royal Society B Biological Sciences* 375: 20190105.

26. McWethy D.B., Schoennagel T., Higuera P.E., Krawchuk M., Harvey B.J., Metcalf E.C., Schultz C., Miller C., Metcalf A.L., Buma B., Vorapongse A., Kulif J.C., Stedman R.C., **Ratajczak Z.**, Nelson C.R., and Kolden C. (2019) Rethinking resilience to wildfire. *Nature Sustainability* 2: 797-804.

25. **Ratajczak Z.**, Churchill A., Ladwig L, Taylor J.H. and Collins S.L. (2019) The combined effects of an extreme heatwave and wildfire on tallgrass prairie vegetation. *Journal of Vegetation Science* 30: 687-697.

24. Ning C., Yu K., and **Ratajczak Z.** (2019) A dryland re-vegetation in northern China: Success or failure? Quick transitions or long lags? *Ecosphere* 10: e02678.

23. Higuera P.E., Metcalf A.L., Miller C., Buma B., McWethy D.B., Metcalf E.C., **Ratajczak Z.**, Nelson C.B., Chaffin B.C., Stedman R.C., McCaffrey S., Schoennagel T., Harvey B.J., Hood S.H., Schultz C.A., Black A.E., Campbell D., Haggerty J.H., Keane R.E., Krawchuk M.A., Kulig J.C.,

Rafferty R., and Virapongse A. (2019) Integrating subjective and objective dimensions of resilience in fire-prone landscapes. *BioScience* 68: 379-388.

22. **Ratajczak Z.** and Ladwig L. (2019) Will climate change push grasslands past critical thresholds? Book chapter for "*Grasslands and Climate Change*" Gibson D. and Newman J. (eds) British Ecological Society and Cambridge University Press, Cambridge UK. Pages 98-114.

21. Stegner, A.M., **Ratajczak Z.**, Carpenter S., and Williams J, (2019) Inferring critical transitions in paleoecological time series with irregular sampling and variable time-averaging. *Quaternary Science Reviews* 207, 49-63.

20. **Ratajczak Z.**, Carpenter S., Ives A., Kucharik K., Ramiadantsoa T., Stegner A.M., Williams J., Zhang J., and Turner M.G. (2018) Abrupt change in ecological systems: diagnosis and inference. *Trends in Ecology and Evolution* 33: 513-526.

19. Miller J.E.D., Damschen E.I., **Ratajczak Z.** and Özdoğan M. (2017) Holding the line: prescribed fire halts but does not reverse 75 years of woody encroachment. *Landscape Ecology* 32: 2297-2230.

18. **Ratajczak Z.**, D'Odorico P. and Yu K. (2017) The enemy of my enemy: why coexisting with grasses might be an adaptive strategy for savanna trees. *Ecosystems* 20: 1278-1295.

17. Brunsell N., Van Vleck E.S., Nosshi M., **Ratajczak Z.**, Nippert J.B. (2017) Assessing the roles of fire frequency and precipitation in determining woody plant expansion in central U.S. grassland. *Journal of Geophysical Research Biogeosciences* 112: https://doi.org/10.1002/2017JG004046

16. **Ratajczak Z.**, D'Odorico P., Collins S.L, Bestelmeyer B., Isbell F. and Nippert J.B. (2017) The interactive effects of press/pulse intensity and duration on regime shifts at multiple scales. *Ecological Monographs* 87: 198-218.

15. Seakell D. Carr J., Dell'Angelo J., Gephart J., Kummu M., Magliocca N., Porkka M., Prell P., Puma M.J., **Ratajczak Z.**, Rulli M.C., Seekell D.A., Suweis S., Tavoni A., D'Odorico P. (2017) Conceptualizing and quantifying resilience in the global food system. *Environmental Research Letters* 12: 025010.

14. Jing G., Wei L.I., Yu K., **Ratajczak Z.**, Kallenbach R.L. and Cheng J. (2017) Effects of fertilization, burning, and grazing on plant community in the long-term fenced grasslands. *Plant, Soil and the Environment* 4: 171-176.

13. **Ratajczak Z.**, D'Odorico P.D., Nippert J.B., Collins S.L., Brunsell N. and Ravi S. (2017) Changes in spatial variance during a grassland to shrubland state transition. *Journal Ecology* 105: 750-760.

12. Klodd A.E, Nippert J.B., **Ratajczak Z.**, Waring H. and Phoenix G. (2016) Tight coupling of leaf area index to canopy nitrogen and phosphorus indicate co-limitation across heterogeneous tallgrass prairie communities. *Oecologia* 182: 889-898.

11. Marchand P., Carr J., Dell'Angelo J., Gephart J., Kummu M., Magliocca N., Porkka M., Prell P., Puma M.J., **Ratajczak Z.**, Rulli M.C., Seekell D.A., Suweis S., Tavoni A., D'Odorico P. (2016) Reserves and trade jointly determine exposure to food supply shocks. *Environmental Research Letters* 11: 095009.

10. Honglin L., Kailiang Y., **Ratajczak Z.**, Nippert J.B. and Guozhen D. (2016) When variability outperforms the mean: trait plasticity predicts plant performance in an alpine wetland. *Plant and Soil* 407: 401-415.

9. Fader, M., Rulli M.C., Carr J., Dell'Angelo J., D'Odorico P., Gephart J., Kummu M., Magliocca N., Porkka M., Prell P., Puma M.J., **Ratajczak Z.**, Seekell D.A., Suweis S., Tavoni A. (2016) Past and present biophysical redundancy of countries as a buffer to changes in food supply. *Environmental Research Letters* 11: 055008.

8. **Ratajczak Z.**, Briggs J.M., Goodin D.G., Luo L., Mohler R.L., Nippert J.B. and Obermeyer B. (2016) Assessing the potential for transitions from tallgrass prairie to woodlands: are we operating beyond critical fire thresholds?. *Journal of Rangeland Ecology and Management* 69: 280-287.

7. Ladwig L.M., **Ratajczak Z.**, Ocheltree T.W., Hafich K., Churchill A.C., Frey S.J.K., Fuss C.B., Kazanski C.E., Muñoz J.D., Petrie M., Reinmann A.B. and Smith J.G. (2016) Beyond arctic and alpine: the influence of winter climate on temperate ecosystems. *Ecology* 92: 372-382.

6. **Ratajczak Z.**, Blair J.B., Nippert J.B. and Briggs J.M. (2014) Fire dynamics distinguish grasslands, shrublands, and woodlands as alternative attractors in the Central Plains. *Journal of Ecology* 102: 1374-1385.

5. **Ratajczak Z.**, Nippert J.B. and Ocheltree T.W. (2014) Abrupt shift of mesic grassland to shrubland: multiple lines of evidence for thresholds, alternative attractors, and regime shifts. *Ecology* 95: 2633-2645.

4. Nippert J.B., Ocheltree T.W., Orozco G., **Ratajczak Z.,** Ling B., and Skibbe A. (2013) Evidence of physiological decoupling from grassland ecosystem drivers by an encroaching woody shrub. *PLoS ONE* 8: e81630.

3. **Ratajczak Z.** and Nippert J.B. (2012) Technical Comment 'Global Resilience of Tropical Forest and Savanna to Critical Transitions'. *Science* 336: 541-c.

2. **Ratajczak Z.**, Nippert J.B., and Collins S.L. (2012) Woody encroachment decreases diversity across North American grasslands and savannas. *Ecology* 93: 697-703. **Featured Article of Volume 93 of Ecology*

1. **Ratajczak Z.**, Nippert J.B., Hartman J.C. and Ocheltree T.W. (2011) Positive feedbacks amplify rates of woody encroachment in tallgrass prairie. *Ecosphere* 2: art121. **Covered in an ESA blog and podcast*

Presentations, first authored only

* denotes invited talks

2021 **University of Kansas, Department of Geography and Meteorology**
"Impacts of great plains bison on tipping points between fire and grassland vegetation"
***Kansas Biological Survey & Center for Ecological Research**
"Effects of bison on tallgrass prairie resilience to changing fire and climate"
Available at: https://www.youtube.com/watch?v=OcoSKVVbr4c
***University of Houston, Department of Biology and Biochemistry**
"Impacts of a long-term megagrazer rewilding on grassland diversity and resilience"
***Beach Museum of Art**
"Mapping prairie futures"
Available at: https://www.youtube.com/watch?v=9hc0fsewxqA
Ecological Society of America Annual Meeting
"Megagrazer rewilding results in long-running and resilient biodiversity gains in a Great Plains grassland"

2020 **Ecological Society of America Annual Meeting, Organized oral session**

“Tipping points in Greater Yellowstone forests with increasing wildfire activity”

2018 ***Kansas State University, Division of Biology**

“Advancing how we understand, monitor, and manage resilience in fire-prone ecosystems”

***Ecological Society of America Annual Meeting, Organized oral session**

Abrupt change in ecological systems: inference and diagnosis

Organized “inspire” session, Ecological Society of America Annual Meeting

Does functional diversity increase the resilience to more extreme wildfires in subalpine forests?

***University of Wyoming, Department Ecosystem Sciences and Management**

“Rangeland resilience: non-equilibrium and spatial interactions”

2017 ***University of Wisconsin Madison, Nelson Institute: Center for Climatic Research**

"Avoiding abrupt losses of central plains grasslands: the roles of local fire management and a changing climate"

University of Wisconsin Madison, Department of Integrative Biology

“Making sense of abrupt ecological change”

***University of Wisconsin Madison, Department of Physics, Chaos and Complexity Series**

“Resilience of complex systems driver pulses: the role of spatial heterogeneity and connectivity”

2016 ***Ecological Society of America Annual Meeting, Organized oral session,**

“Spatial properties and ecological resilience to extreme driver pulses”

Konza Prairie LTER Annual Meeting

“Relationships between grassland resilience, diversity, and heterogeneity”

2015 ***Global Forum on Urban and Regional Resilience**

“Can we learn to recognize when ecosystem are in the middle of a slow motion collapse?”

Americas Grasslands, World Wildlife Foundation and others

“Mapping the potential for fire induced transitions of tallgrass prairie to shrubland and woodland: are we near a tipping point?”

Ecological Society of America Annual Meeting

“The temporal dimension of regime shifts: How long can ecosystems operate beyond critical thresholds before transitions become irreversible?”

2014 ***Jones Research Center**

“Fire Frequency Tipping Points in Grasslands, Shrublands, and Woodlands: a long term, large-scale assessment”; Ignite Talk

Ecological Society of America Annual Meeting

“Quantifying strength and scale of feedback mechanisms to prevent terrestrial regime shifts”

2013 ***University of Kansas, Biology Department**

"Catastrophic shift of grasslands to shrublands: ecological and social resilience of the Central Great Plains"

***University of Missouri, Biology Department**

“Catastrophic shift of grassland to shrubland: merging ecological theory and conservation”

***Organized oral session, Ecological Society of America Annual Meeting**

“Leading—and misleading—indicators of grassland-shrubland transitions”

Annual Savanna Science Networking Meetings, South Africa National Parks

“Abrupt shifts from grasslands to woodlands: understanding their causes and developing warning signs”

2012 **LTER All Scientists Meeting, Dormant Season Ecology Working Group**

“The Critical Climate Period Approach”

***Organized oral session, Ecological Society of America Annual Meeting**

“Bi-stability, compromised resilience, and state-shift indicators: abrupt shift of tallgrass prairie to degraded shrubland”

Konza Prairie LTER Annual Meeting

“Grasslands and shrublands as alternative stable states: mechanisms and multi-scale evidence”

Kansas State University BioForum

"The effects of woody encroachment on global biodiversity: a meta-analysis"

2011 ***Sheffield University Plant Ecology and Arctic Research group**
"Positive feedbacks, demographic bottlenecks and the transformation of tallgrass prairie to savanna/forest"

Posters (only those presented by ZR)

2016 **After the extreme—what happens when thresholds are crossed? INTERFACE/CLIMANI Workshop, Florence Italy**
"Tripping ecosystem thresholds: the role of extreme event duration versus magnitude"

2015 **All Scientists Meeting, LTER Network Meeting**
"Are critical ecosystem thresholds defined by the magnitude or duration of exogenous forcing?"

2013 **America's Grasslands Conference**
*"*Indicators that tallgrass prairie is becoming susceptible to rapid expansion by native shrubs"
Annual Savanna Science Networking Meetings, South Africa National Parks
"The effect of woody encroachment on plant diversity in global grasslands and savannas: a meta-analysis"

2012 **LTER All Scientists Meeting**
"Widespread abrupt shifts of grasslands to a wooded state: woody encroachment in a stable state and socio-economic framework"
Konza Prairie LTER Annual Meeting
"Woody encroachment decreases diversity across North American grasslands"

2011 **Grasslands in a global context, Institute for Grassland Studies**
"Woody encroachment decreases diversity across North American grasslands"
Konza Prairie LTER Site Review and Annual Meeting
"Biological feedbacks and the transformation of tallgrass prairie to savanna/forest"
Role of Stable isotopes in water cycle research
"Biological feedbacks and the transformation of tallgrass prairie to savanna/forest"

2010 **Geological Society of America Northeast Chapter Meeting**
"The direct and interactive effects of precipitation, salinity and hurricanes on tree-ring $\delta^{13}C$ of coastal pine"

Awards

2014 **Michael Scott Watkins Award for Excellent Graduate Student Teaching**
Kansas State University, Division of Biology
H. Henley Haymaker Award for outstanding presentation by a Graduate Student
Kansas State University, Division of Biology
Chris Edler Award for Outstanding Research on Konza Prairie
Kansas State University, Division of Biology

2013 **Best Short Talk**
Kansas State University, Division of Biology

2012 **John C. Frazer Award for Excellence in Graduate Research in Plant Biology**
Kansas State University, Division of Biology

2010 **Virginia Swinburne Brownell Prize for excellence in Biology**
Outstanding Thesis in Biology, Vassar College
Erminie Smith Prize for excellence in Geology
Earth Science Thesis Award, Vassar College
Sigma XI, Honorary Vassar Chapter Membership
Vassar College
Young Botanist Award

Botanical Society of America

2008 **Harriet Van Gurnee Allen Award**
Outstanding Sophomore Biology student, Vassar College

Professional activities

2018 **Ecological Society of America, 2018 Annual Meeting**
Co-organized the inspire session entitled "Understanding Extreme Events: Linking Empirical Observation to Concepts and Theory"

2017 **Social-ecological resilience of forests, University of Montana.** Attended a workshop funded by the Joint Fire Science Program, that brought together social scientists and natural scientists to refine the definition and criteria for managing for resilience in forest ecosystems.

2016 **Participated in "After the extreme—what happens when thresholds are crossed?"**
A workshop hosted by INTERFACE/CLIMANI in Florence Italy, organized around measuring responses to climate extremes across a diverse set of ecosystems.
Ecological Society of America, 2016 Annual Meeting
Co-organized the inspire session entitled "Extreme Climate Events Across Diverse Ecosystems"

2015 **Participated in the "Frequent Fire Conifer Ecosystems" Synthesis Workshop** involving private sector, government researchers, and academics, addressing evolving ecological and social issues in frequent fire forests (hosted by Jones Research Center and USFS).

2014-2015 **Participated in three syntheses workshops on the topic of "The effects of international trade and land grabbing on food security"** at the NSF funded synthesis center for synthesis in social-ecological systems (SESYNC). I contributed to the analysis of large data-sets and study design (see three resulting papers in "Environmental Research Letters").

2013 to 2015 **Student Site Representative for Konza Prairie LTER Prairie Studies Institute**
Acted as the point of contact for Konza Prairie LTER.
Prairie Research Institute, Steering Committee and Founding Member
Trans-disciplinary graduate and faculty course in Art, Architecture, Performing Arts, Humanities, and Science. Click here for website.

2013 **Co-organized a 4-day synthesis workshop at the Sevilleta LTER** on the topic of "Sensitivity of ecosystem structure/function to winter climatic variation".

2013 **Organized a 4-day synthesis workshop at the Konza LTER** on the topic of "Early warning signs for grassland to woodland transitions".

2012 **Participated in the South American Resilience and Sustainability (SARAS^2) Workshop** on "Causes and Consequences of Grassland-Woodland Transitions", a merging of the arts, humanities, and science to address abrupt transitions between grasslands and woodlands (hosted by SARAS).

2012 **Co-organized a graduate Student Working group for the LTER** "All Scientists Meeting" on the topic of "Dormant Season Ecology and Critical Climate Periods".

2012 **Organized a 4-day synthesis workshop at the Sevilleta LTER** on the topic of "Woody Encroachment and Bi-Stability".

Outreach

2017 **Organized workshops attended by federal/state land managers and scientists, in Bozeman and Missoula Montana.** These workshops provided updates on "state of the science", an annotated bibliography, and solicited manager input for model development. These meetings were used to gather information on scenarios to include in our modelling of forests in the Northern Rocky Mountains. We also identified output variables that are of greatest need to managers, such as the spatial distribution of deciduous forests, as a key wildlife habitat.

2016 **Collaborating with Brian Obermeyer at the Nature Conservancy,** we produced an assessment of the potential for transitions from tallgrass prairie to shrubland/woodland based on current fire management. We disseminated this knowledge by publishing this work in a journal frequently stocked by rangeland managers, the Journal of Rangeland Ecology (formerly the "Journal or Rangeland Ecology and Management") (see Ratajczak et al. 2016 in "Publications") and presenting the results at conference attended by private, NGO, and governmental stakeholders (see "America's Grasslands" in presentations).

2015 **Participated in the "America's Grasslands" Conference and Symposium** a meeting that brought together farmers, ranchers, policy advocates, industry, and scientists (Hosted by World Wildlife Foundation, Colorado State University and USDA-ARS).

2013 **Participated in the "America's Grasslands" Conference and Symposium** a meeting that brought together farmers, ranchers, policy advocates, industry, and scientists (Hosted by World Wildlife Foundation and Kansas State University).

2011 to 2014 **"Prairie Restoration on Campus," Kansas State University, Beach Museum of Art and Department of Architecture and Urban Planning:** The goal of this project is to expose students and citizens to ecological restoration, by starting a restoration right at one of the entrances to Kansas State University. Juxtaposed with the campus Art museum, the meadow also serves as a source of merging STEM and Art programs. This was a risky project, because we were afraid that a failed restoration attempt could create a very public example of the possible downsides of deviating from usual landscaping techniques. Therefore, we carefully designed this restoration project, using long-term studies from Konza Prairie LTER and citizen-science data on flowering times in nearby tallgrass prairie. These data sources helped us identify species that would have a higher establishment rate and flowering times that span spring and fall semesters. I helped design and install a restored prairie. Now in its 4 years, there has been high establishment and the campus restoration is frequently used in K-12 education and by undergraduate students taking Plant Physiology. These education opportunities have been enhanced by a grant we obtained to add a large touch-screen interface that allows students to explore tallgrass prairie throughout the region (see grant above with Kinger-Page as PI). Click here for website and see picture below (photo-credit: Katie Kinger-Page).

2010-2014 **"Konza Prairie Educational Tour Guide" Konza Prairie Biological Station** give educational and interactive tours to college students, GK-12 teachers, and the public. I led or co-led 10+ tours at least 2 hours in length.

2011-2013 **Stillwater Elementary School, Stillwater NY** lead reoccurring lectures & activities in two 6th grade classrooms, helping them with 'Model Unite Nations' exercises. I also act as in a more in depth mentor for students working in Africa and Russia.

Journals reviewed for

Advances in Water Resources, Agricultural and Forest Meteorology, Austral Ecology, Bioscience, Bulletin of Mathematical Biology, Cambridge University Press, Carbon Balance and Management, Crop and Pasture Science, Earth's Future, Ecological Applications, Ecology, Ecology Letters, Ecosphere, Ecosystems, Fire Ecology, Geophysical Research Letters, Global Change Biology, Journal of Applied Ecology, Journal of Arid Environments, Journal of Ecology, Journal of Vegetation Science, International Journal of Climatology, Oecologia, Oikos, Nature Climate Change, PLoS ONE, PNAS, Proceedings of the Royal Society B, Remote Sensing, Scientific Reports

Professional references

Prof. Scott L. Collins
Professor, Division of Biology
University of New Mexico
3586 Castetter Hall
Albuquerque NM, 87131
Phone: (502) 277-6306
Email: scollins@unm.edu

Prof. Jesse B. Nippert
Associate Professor, Division of Biology
Kansas State University
209 Bushnell Hall
Manhattan KS, 66506
Phone: (785) 532-0114
Email: nippert@ksu.edu

Prof. Monica G. Turner
Professor, Department of Integrative Biology (iBio)
University of Wisconsin, Madison
430 Lincoln Drive
Madison WI, 53706
Phone: (608) 262-2592
Email: turnermg@wisc.edu

Prof. Paolo D'Odorico
Professor, Ecosystem Sciences
Department of Environmental Science, Policy, & Management
University of California, Berkeley
130 Mulford Hall #3114
Berkeley CA, 94720

Phone: (434) 924-7241
Email: paolododo@berkeley.edu