

## John A. Gamon

### Expertise:

Dr. Gamon's experience covers plant ecophysiology and remote sensing, with over 25 years in optical detection of plant physiology and functional diversity. Methods include lab studies, fieldwork and remote sensing, with projects ranging from tropical to arctic biomes, including participation in the NASA BOREAS and ABoVE projects and NSF/NASA-sponsored "Dimensions of Biodiversity" project. Recent work has focused on fostering technologies and collaborations for optical sampling of vegetation via "SpecNet" (<http://specnet.info>), exploring biodiversity through spectral diversity, and monitoring ecosystem productivity with remote sensing and eddy covariance.

### Education:

Yale University	Biology	B.S. 1979
U.C. Davis	Botany	M.S. 1986
U.C. Davis	Botany	Ph.D. 1989

### Work Experience:

2016-Present	Professor, University of Nebraska, Lincoln
2008-Present	Professor, Departments of Earth & Atmospheric Sciences & Biological Sciences, University of Alberta, Canada
2001-2008	Professor, Dept. of Biological Sciences, California State U., Los Angeles
1996-2001	Assoc. Professor, Dept. of Biological Sciences, California State U., Los Angeles
1991-1996	Assistant Prof., Dept. of Biological Sciences, California State U., Los Angeles
1989-1991	Postdoctoral Research Fellow, Carnegie Institution, Stanford, California

### Recent Publications (\*indicates student authors):

- Gholizadeh H, Gamon JA, Zygielbaum AI, \*Wang R, Schweiger AK, Cavender-Bares J. (2018) Remote sensing of biodiversity: data dimension reduction and soil correction methods to improve assessment of  $\alpha$ -diversity (species richness) in prairie ecosystems. *Remote Sensing of Environment*, 206: 240–253.
- \*Kothari, S, Cavender-Bares, J, Bitan, K, Verhoeven AS, \*Wang R, Montgomery RA, Gamon JA, (2018) Community-wide consequences of variation in photoprotective physiology in prairie plants. *Photosynthetica*. 56: xx-xx.
- \*Wang R, Gamon JA, Cavender-Bares J, Townsend PA, Zygielbaum AI (2018) The spatial sensitivity of optical diversity-biodiversity relationship: an experimental test in a prairie grassland (Cedar Creek). *Ecological Applications*. DOI: [10.1002/eap.1669](https://doi.org/10.1002/eap.1669)
- \*Springer K, \*Wang R, Gamon J (2017) Parallel Seasonal Patterns of Photosynthesis, Fluorescence, and Reflectance Indices in Boreal Trees. *Remote Sensing* 9:691, doi:10.3390/rs9070691 (FLEX Special Issue).
- Cavender-Bares J, Gamon JA, Hobbie S, Madritch M, Meireles J, Schweiger A, Townsend P (2017) Harnessing plant spectra to integrate the biodiversity sciences across biological and spatial scales. *American Journal of Botany*.
- Gitelson A, Gamon JA, Solovchenko A (2017) Multiple drivers of seasonal change in PRI: Implications for photosynthesis. 1. Leaf level *Remote Sensing of Environment*. 191:110-116. <http://dx.doi.org/10.1016/j.rse.2016.12.014>
- Gitelson A, Gamon JA, Solovchenko A (2017) Multiple drivers of seasonal change in PRI: Implications for photosynthesis. 2. Stand level *Remote Sensing of Environment*. 190:198-206. <http://dx.doi.org/10.1016/j.rse.2016.12.015>

- \*Williamson SN, Hik DS, Gamon JA, Jarosch AH, Anslow FS, Clarke G, Rupp, S (2017) Spring and summer monthly MODIS LST is inherently biased compared to air temperature in snow covered sub-Arctic mountains. *Remote Sensing of Environment*, 189 (2017) 14–24. <http://dx.doi.org/10.1016/j.rse.2016.11.009>.
- \*Wehlage DC, Gamon JA, Thayer DR, Hildebrand D (2016) Interannual variability in dry mixed-grass prairie yield: a comparison of MODIS, SPOT, and field measurements. *Remote Sensing*. 8, 872; [doi:10.3390/rs8100872](https://doi.org/10.3390/rs8100872).
- Gamon JA, Huemmrich KF, \*Wong CYS, Ensminger I, Garrity S, Hollinger DY, Noormets A, Peñuelas J (2016) A remotely sensed pigment index reveals photosynthetic phenology in evergreen conifers. *Proceedings of the National Academy of Sciences*. [doi:10.1073/pnas.1606162113](https://doi.org/10.1073/pnas.1606162113)
- \*Williamson SN, Barrio IC, Hik DS, Gamon JA (2016) Phenology and species determine growing season albedo increase at the altitudinal limit of shrub growth in the sub-Arctic. *Global Change Biology*. [doi: 10.1111/gcb.13297](https://doi.org/10.1111/gcb.13297).
- \*Nestola E, Calfapietra C, \*Emmerton CA, \*Wong CY, \*Thayer DR, Gamon JA (2016), Monitoring grassland seasonal carbon dynamics, by integrating MODIS NDVI, proximal optical sampling, and eddy covariance measurements. *Remote Sensing*. 8:260, [doi:10.3390/rs8030260](https://doi.org/10.3390/rs8030260).
- \*Wang R, Gamon JA, \*Emmerton CE, Hitao L., \*Nestola E., Pastorello G, \*Menzer O (2016). Integrated analysis of productivity and biodiversity in a Southern Alberta prairie. *Remote Sensing*. 8:214, [doi:10.3390/rs8030214](https://doi.org/10.3390/rs8030214).
- \*Wang R, Gamon JA, Townsend P, Zygielbaum A, Montgomery R, \*Bitan, K, Tilman D., Cavender-Bares J, (2016) Seasonal variation in the NDVI-species richness relationship in a prairie grassland experiment (Cedar Creek). *Remote Sensing*. 8:128 [doi:10.3390/rs8020128](https://doi.org/10.3390/rs8020128)
- \*Emmerton CA, St. Louis VL, Humphreys ER, Barker JD, Gamon JA, Pastorello GZ (2016) The net ecosystem exchange of rapidly changing high Arctic landscapes and potential for upscaling. *Global Change Biology*. 22:1185-1200. [doi: 10.1111/gcb.13064](https://doi.org/10.1111/gcb.13064).
- Gamon JA (2015) Optical sampling of the flux tower footprint. *Biogeosciences* 12: 4509-4523. [doi:10.5194/bg-12-4509-2015](https://doi.org/10.5194/bg-12-4509-2015) (First published in *Biogeosciences Discussions*. [doi:10.5194/bgd-12-4973-2015](https://doi.org/10.5194/bgd-12-4973-2015)). EuroSpec Special Issue.

### **Synergistic Activities:**

- *Mentoring*: Mentored over 70 undergraduates, 14 Masters students, 2 Ph.D. student, 7 visiting Ph.D. students, and 12 postdocs over the last 20 years
- iCORE Visiting Professor, Dept. of Earth & Atmospheric Sciences, U. Alberta (2006-2007), with a focus on “ecoinformatics.”
- TROPI-DRY Science Steering Committee Member (2005-2010)
- Review Board Member, Cybershare Program, U Texas, El Paso (2008-present)
- Co-Founder & CEO, SpecNet (Spectral Network) (2003) and leader of NCEAS “SpecNet” working group (2003-2006).
- Served on multiple review panels (mostly NASA & NSF) and editor for *Remote Sensing of Environment*
- Member of Board of Directors, North East Trees, a non-profit community organization dedicated to urban forestry, restoration, and parkland construction in Los Angeles. (2005-2008)
- Provided two series of public lectures on Global Change as part of a public lecture series on science and religion, Neighborhood Church, Pasadena, CA. (2005 & 2008)
- Developed a "leaf reflectometer," (Gamon and Surfus, 1999), which led to a commercial version (UniSpecSC) sold by PP Systems (Amesbury, MA, USA) and allows rapid field sampling of leaf reflectance spectra.
- Associate Editor, *Remote Sensing of Environment*, 2018-present.