

Jeremy Scott Johnson, Ph.D.

Michigan State University
Department of Forestry
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@TreelineScience



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<https://github.com/Pine-Forest-Health>

Academic Appointments:

- | | |
|----------------|---|
| 2022 ~ Present | Assistant Professor
Department of Forestry
Michigan State University, East Lansing, MI |
| 2019 ~ Present | Affiliate Professor
School of Forestry
Northern Arizona University, Flagstaff, AZ |
| 2019 ~ Present | Affiliate Researcher
USDA Forest Service - Dorena Genetic Resource Center, Cottage Grove, OR |
| 2019 ~ 2022 | Assistant Professor
Department of Environmental Studies
Prescott College, Prescott, AZ |
| 2017– 2019 | Postdoctoral Research Associate
School of Forestry
Northern Arizona University, Flagstaff, AZ/
USDA Dorena Genetic Resource Center, Cottage Grove, OR
Postdoc Advisors: Kristen Waring (NAU) and Richard Sniezko (USDA) |
| 2016 – 2017 | Assistant Professor (Visiting)
Department of Geography
Texas A&M University, College Station, TX |

Education:

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|-------------|---|
| 2011 - 2016 | Ph.D., Texas A&M University (Geography)
College Station, TX
Dissertation Advisor: David M. Cairns |
|-------------|---|

2009 - 2011 M.S., Texas A&M University (Geography)
College Station, TX
Thesis Advisor: David M. Cairns

2000 - 2004 B.S., Colorado State University (Natural Resource Recreation and Tourism)
Fort Collins, CO

Publications: Citations: 381h-index: 10 |i10-index 12 ([Google Scholar](#))

Peer Reviewed

22. Hoban S, Archer FI, Bertola L, Bragg J, Breed M, Bruford M, Coleman M, Ekblom R, Funk C, Hand BK, Grueber C, Jaffé R, Jensen E, **Johnson JS**, Kershaw F, Liggins L, MacDonald A, Mergeay J, Miller J, Muller-Karger F, O'Brien D, Paz Vinas I, Pearson S, Potter K, Razgour O, Vernesi C, Hunter ME. 2022. Global genetic diversity status and trends: Towards a suite of Essential Biodiversity Variables (EBVs) for genetic composition. *Biological Reviews* doi: 10.1111/brv.12852
21. Liu JJ, Schoettle AW, Sniezko RA, Waring KM, Williams H, Zamany A, **Johnson JS**, Kegley A. 2022. Comparative association mapping reveals conservation of major gene resistance to white pine blister rust in southwestern white pine (*Pinus strobiformis*) and limber pine (*P. flexilis*). *Phytopathology*. <https://doi.org/10.1094/PHYTO-09-21-0382-R>
20. Haagsma M., Page GFM., **Johnson JS**, Still C, Waring KM, Sniezko RA, and Selker JS. 2021. Model selection and timing of acquisition date impacts classification accuracy: A case study using hyperspectral imaging to detect white pine blister rust over time. *Computers and Electronics in Agriculture* **191**:106555. <https://doi.org/10.1016/j.compag.2021.106555>
19. **Johnson JS**, Sniezko RA. 2021. Quantitative disease resistance to white pine blister rust at southwestern white pine's (*Pinus strobiformis*) northern range. *Frontiers in Forests and Global Change*. 4:765871. doi: 10.3389/ffgc.2021.765871
18. Bista R, Chhetri PK, **Johnson JS**, Sinha A, Shrestha KB. 2021. Climate-driven differences in growth performance of cohabitant fir and birch in a subalpine forest in Dhorpatan Nepal. *Forests*. 12. <https://doi.org/10.3390/f12091137>
17. LaRue EA, Dodds W, Rohr J, Dahlin K, Thorp JH, **Johnson JS**, Hardiman BS, Rodriguez-Gonzalez MI, Keller M, Fahey R, Knott J, SanClements M, Atkins JW, Tromboni F, Chandra S, Parker G, Rose K, Liu J, Fei S. 2021. The evolution of macrosystems biology. *Frontiers in Ecology and the Environment*. 19: 11-19. <https://doi.org/10.1002/fee.2288>
16. Haagsma M, Page GFM, **Johnson JS**, Still C, Waring KM, Sniezko RA, Selker J. 2020. Using hyperspectral imagery to detect an invasive fungal pathogen and symptom severity in *Pinus strobiformis* seedlings of different genotypes. *Remote Sensing*. <https://doi.org/10.3390/rs12244041>
15. Sniezko RA, **Johnson JS**, Reeser P, Kegley A, Hansen E, Sutton W, Savin DP. 2020. Genetic resistance to *Phytophthora lateralis* in Port-Orford-cedar (*Chamaecyparis lawsoniana*) – Basic building blocks for a resistance program. *Plants, People, Planet*. DOI: 10.1002/ppp3.10081

14. Snieszko RA, **Johnson JS**, Savin DP. 2020. Assessing the durability, stability, and usability of genetic resistance to a non-native fungal pathogen in two pine species. *Plants, People, Planet*. DOI: 10.1002/ppp3.49
13. Rogers H, Beckman N, Hartig F, **Johnson JS**, Pufal G, Shea K, Zurell D, Bullock JM, Cantrell S, Loiselle B, Pejchar L, Razafindratsmia O, Sandor M, Schupp E, Strickland C, Zambrano J. 2019. The total dispersal kernel: A review and future directions. *AoB Plants*. DOI: 10.1093/aobpla/plz042 **Editor's Choice**
12. Beckman NG, Aslan C, Rogers H, Kogan O, Bronstein J, Bullock JM, Hartig F, HilleRisLambers J, Zhou J, Zurell D, Brodie JF, Bruna E, Cantrell S, Decker R, Effiom E, Fricke E, Gurski K, Hastings A, **Johnson JS**, Loiselle BA, Miriti M, Neubert MG, Pejchar L, Poulsen JR, Powell JA, Pufal G, Razafindratsima OH, Sandor M, Shea K, Schupp EW, Snell RS, Strickland C, Zambrano J. 2019. Advancing an interdisciplinary framework to study seed dispersal ecology. *AoB Plants*.
11. **Johnson JS**, Cantrell S, Cosner C, Hartig F, Hastings A, Rogers H, Schupp EW, Shea K, Yu X, Zurell D, Pufal G. 2019. Rapid changes in seed dispersal traits may modify plant responses to global change. *AoB Plants*. DOI: 10.1093/aobpla/plz020 **Editor's Choice**
10. Aslan C, Beckman NG, Rogers H, Bronstein J, Zurell D, Hartig F, Shea K, Pejchar L, Neubert MG, HilleRisLambers J, Miriti M, Loiselle BA, Effiom E, Zambrano J, Schupp EW, Pufal G, **Johnson JS**, Bullock JM, Brodie JF, Bruna E, Cantrell S, Decker R, Fricke E, Gurski K, Hastings A, Kogan O, Powell JA, Razafindratsima OH, Sandor M, Schreiber SJ, Snell RS, Strickland C, Zhou J. 2019. Employing plant functional groups to advance seed dispersal ecology and conservation. *AoB Plants*. DOI: 10.1093/aobpla/plz006 **Editor's Choice**
9. **Johnson JS**, Chhetri PK, Krutovsky KV, Cairns DM. 2017. Growth and its relationship to individual genetic diversity of mountain hemlock (*Tsuga mertensiana*) at alpine treeline in Alaska: Combining dendrochronology and genomics. *Forests*, 8: 418. DOI:10.3390/f8110418
8. **Johnson JS**, Gaddis KD, Cairns DM, Konganti K, Krutovsky KV. 2017. Landscape genomic insights into the historic migration of mountain hemlock in response to Holocene climate change. *American Journal of Botany*, 104: 439-450. DOI 10.3732/ajb.1600262 **Cover Photo**
7. **JS**, Gaddis KD, Cairns DM, Krutovsky KV. 2017. Seed dispersal at alpine treeline: An assessment of seed movement within the alpine treeline ecotone. *Ecosphere*, 8: e01649. DOI: 10.1002/ecs2.1649 (*Winner of the Henry Cowles Award from the American Association of Geographers*)
6. **Johnson JS**, Gaddis KD, Cairns DM, Lafon CW, Krutovsky KV. 2016. Plant responses to global change: Next generation biogeography. *Physical Geography*, 37: 93-119. DOI: 10.1080/02723646.2016.1162597
5. **Johnson JS**, Cairns DM, Houser C. 2013. Coastal Marsh Vegetation Assemblages of Galveston Bay: Insights for the East Texas Chenier Plain. *Wetlands*, 33: 861-870. DOI: 10.1007/s13157-013-0443-8

Book Chapters

4. Liu J-J, Sniezko RA, **Johnson JS**. 2022. Genomic advances in research on *Strobilus* genetic resistance to white pine blister rust. *Invited book chapter* in the *Springer Nature* book “*Pine Genome*” ed. De La Torre A.
3. Moler EV, Abakir A, Eleftheriou M, **Johnson JS**, Krutovsky KV, Lewis L, Ruzov A, Whipple AV, Rajora OP. 2018. Population Epigenomics: Advancing Understanding of Phenotypic Plasticity, Acclimation, Adaptation, and Diseases. In: Rajora OP, ed. *Population Genomics: Concepts, Approaches and Applications*: Springer. DOI:10.1007/13836_2018_59
2. **Johnson JS**, Krutovsky KV, Rajora OP, Gaddis KD, Cairns DM. 2018. Advancing biogeography through population genomics. In: Rajora OP, ed. *Population Genomics: Concepts, Approaches and Applications*: Springer. DOI:10.1007/13836_2018_39
1. Balkenhol N, Dudaniec RY, Krutovsky KV, **Johnson JS**, Cairns DM, Segelbacher G, Selkoe KA, von der Heyden S, Wang IJ, Selmoni O, Joost S. 2017. Landscape Genomics: Understanding relationships between environmental heterogeneity and genomic characteristics of populations. In: Rajora OP, ed. *Population Genomics Concepts, Strategies and Applications*: Springer. DOI: 10.1007/13836_2017_2

Other publications

Johnson JS, Cushman S, Eckert A, Flores-Renteria L, Sniezko R, Still C, Wehenkel C, Whipple A, Wing M, Bagley J, Boes E, Bucholz E, Burnett J, Castilla A, DaBell J, Garms C, Haagsma M, Heck E, Landguth E, Leal Saenz A, Swenson J, McTeague B, Menon M, Moler E, Page G, Shirk A, Waring K. 2020. New frontiers in forestry: Combining phenomics, common gardens, and landscape genomics to address disease resistance and climate change. In: General Technical Report SRS-252, Asheville , NC: U.S. Department of Agriculture Forest Service. Southern Research Station.

Waring, K, Cushman S, Eckert A, Flores-Renteria L, Sniezko R, Still C, Wehenkel C, Whipple A, Wing M, Bagley J, Boes E, Bucholz E, Burnett J, Castilla A, DaBell J, Garms C, Haagsma M, Heck E, **Johnson JS**, Landguth E, Leal Saenz A, Swenson J, McTeague B, Menon M, Moler E, Page G, Shirk A. 2020. Collaborative research for sustainable management of southwestern white pine. In: General Technical Report SRS-252, Asheville , NC: U.S. Department of Agriculture Forest Service. Southern Research Station.

Grants and Fellowships:

Pending

2023-2025 USDA Great Lakes Restoration Initiative - *Beech Bark Disease Progeny Trial* (PI with Co-PI ML Sakalidis, P Bloese, J Hartman, DL Price, S Wright, and J Wieferich) (\$191,879.00)

- 2023- 2026
Awarded USDA Landscape Scale Restoration – *Michigan Seed Orchard* (sub-award **PI** with Michigan DNR) (Johnson portion \$175,429)
- 2021-2022 USDA Forest Service–*Efficacy of Major Gene Resistance in a warming climate for five needle pines.* (**Co-PI** with PI R Sniezko) (\$35,000)
- 2019-2022 USDA Forest Health Protection: Special Technology Development Project – *Early identification of white pine blister rust disease symptoms through the development of a low-cost high-throughput phenotyping platform* (**PI**, with Co-PIs K Waring, G Page, C Still, M Haagsma, J Selkor, R Sniezko) *STDP R6-2019-01WPBRHyperspectral* (\$349,077)
- 2018 National Science Foundation – Research Experience for Undergraduates Supplement – *Macrosystems Biology: Blending ecology and evolution using emerging technologies to determine species distributions with a non-native pathogen in a changing climate: southwestern white pine (Pinus strobiformis)* (**Co-PI** with PI C Still) (\$6,750)
- 2015 National Science Foundation - East Asia and Pacific Summer Institute Fellowship, New Zealand *EAPSI: Assessing seed dispersal limitation as a cause of abrupt treelines in New Zealand* (**PI**) (\$9000)
- 2013-2015 National Science Foundation Doctoral Dissertation Research Improvement Grant - Geography and Spatial Sciences *DDRI: A genetic approach to dispersal at the alpine treeline ecotone* (**Co-PI**, with DM Cairns) (\$15,987)
- 2013-2014 Texas A&M Institute of Genome Sciences and Society Fellowship. Texas A&M University *A genomics approach to seed dispersal at the alpine treeline ecotone and its implications for a changing climate* (\$22,000)

Not Recommended for Funding

- 2022 US Fish and Wildlife Foundation – ATBC: *Michigan and Wisconsin Assisted Migration* (**PI**) (\$2,255,176)
- 2022 National Science Foundation (BIO) – BoCP-Implementation: *Functional biodiversity for building forest resiliency integrating climate adaptation, disease resistance, and endophytic microbiomes* (**Co-PI**, with PI KM Waring, and Co-PIs AV Whipple, A Eckert, RA Sniezko, C Whenkal) (\$2,424,261)
- 2020 USDA National Institute of Food and Agriculture (EGP): *An integrated sensor to address structural and environmental controls in agricultural and forest systems.* (**PI**, with Co-PI R Currey) (\$107,425)
- 2020 National Science Foundation (DEB PCE): *Collaborative Research: Biotic and abiotic dimensions of the tree regeneration niche at elevational and latitudinal boundaries* (**Co-PI**, with PI, D Tomback, and Co-PIs G Malanson, L Resler, JJ Liu, A Moser, and RA Sniezko) (\$928,398)

- 2020 USDA Evaluation Monitoring Program - *Trends in Sugar Pine Health in the Presence of White Pine Blister Rust (WPBR) and a Changing Climate over >35 years*. (Co-PI with PI RA Sniezko, and Co-PIs A Kegley, S Kolpak, M Lewien, and J Brimble) (\$60,200)
- 2019 National Science Foundation/National Institutes of Health – Ecology and Evolution of Infectious Disease (EEID): *Combining spatial and molecular epidemiology with adaptive landscape genomics for predicting disease outcomes in spatio-temporal complex environments* (Co-PI, with PI, E Landguth and Co-PIs, AV Whipple, S Cushman, KM Waring, A Eckert, A Shirk, RA Sniezko) (\$2,499,923)
- 2017 Parrot Climate Innovation Grant – *Combining high-throughput phenotyping and high-throughput genome sequencing to investigate patterns of growth and stability at the alpine treeline*. (PI) (\$6500)
- 2017 National Science Foundation - Geography and Spatial Sciences *Variability of dispersal distances at treeline with geographic and phenotypic differences* (PI, with Co-PI DM Cairns) (\$348,782)

Awards:

- 2018 **Henry Cowles Award** from the American Association of Geographers, given annually to a researcher for excellence in a recently published research paper in biogeography: *for* Seed dispersal at alpine treeline: an assessment of seed movement within the alpine treeline ecotone. *Ecosphere*

Courses Taught:

Prescott College *indicates taught as a block course † indicates taught in a HyFlex mode ‡ indicates online

- Spring 2022 Intro and Advanced Geographic Information Science (ENV24753/44753)
Concepts in Ecology (ENV22725)
Research Methods (ENV42741)
- Fall 2021 †Natural History and Ecology of the Southwest (ENV22730 & ENV22731)
Fire Ecology (IS ENV400000)
- Spring 2021 *‡Intro and Advanced Geographic Information Science (ENV24753/44753)
*Concepts in Ecology (ENV22725)
*Gulf of California Botanical Research Methods – Kino Bay Mexico (ENV42741)
- Fall 2020 *‡Natural History and Ecology of the Southwest (ENV22730 & ENV22731)
*‡Earth Science – An introduction to physical geography (ENV24752)
- Spring 2020 Intro and Advanced Geographic Information Science (ENV24753/44753)
Concepts in Ecology (ENV22725)
*Field Methods for Plant Ecology (ENV42741)

Fall 2019	Natural History and Ecology of the Southwest (ENV22730 & ENV22731)
Texas A&M University	
Fall 2016-Spring 2017	Planet Earth: An Introduction to Physical Geography (GEOG 203)
Fall 2016-Spring 2017	Pattern and Process in Biogeography (GEOG 335)
Summer 2016-Summer 2017 Spring 2014	Physical Geography Online Lab Course (GEOG 213) Genomics, Ethics, and Society Online Texas A&M University Philosophy (Phil 489/689) http://www.onlineethics.org/Resources/30931.aspx
Summer 2012	Principles of GIS (GEOG 390)

Presentations: (14 invited talks, 30 conference presentations, 21 poster presentations)

Invited Talks:

Johnson JS. “Forest Health: Blending genetics and phenomics to combat a non-native disease in a changing climate”. September 20, 2022. *Whitebark Pine Ecosystem Foundation Seminar Series, Virtual*

Johnson JS. “Forest Health: Blending genetics and phenomics to combat a non-native disease in a changing climate”. April 20, 2022. *Prescott College Meet the Faculty Seminar Series*. Prescott, AZ

Johnson JS. “Forest Health: Blending genetics and phenomics to combat a non-native disease in a changing climate”. March 21, 2022. *Michigan State University Department of Forestry Seminar*. East Lansing, MI

Johnson JS. “Hyperspectral approaches for monitoring disease progression and resistance in southwestern white pine” August 3, 2021. *Special Session: Advances in point-of-care detection of forest diseases*. America Phytopathological Society plant health meeting

Johnson JS. “Hyperspectral imagery for detecting trees infected with white pine blister rust” August 7, 2020. *USDA Forest Service -Forest Health Protection workshop on Special Technology Development Program*. Virtual

Johnson JS. “What are the chances? – Unraveling the interaction and impact of disease and climate change on southwestern white pine” May 1, 2019. *Northern Arizona University School of Forestry Seminar Series*. Flagstaff, AZ

Johnson JS. “Forest health and genetics: Research design considerations” March 20, 2019. *California State University, Dominguez Hills, Department of Geography*, Carson, CA

Johnson JS. “Blending ecology and evolution: An interdisciplinary approach to determine species distributions under dual threats of climate change and an invasive pathogen” February 27, 2019. *Prescott College*, Prescott, AZ

Johnson JS. “New frontiers in forestry: Combining phenomics, common gardens, and landscape genomics to address disease resistance and climate change” August 7, 2018. *IUFRO International Workshop: Tree Resistance to Insects and Diseases: Putting Promise into Practice*, Mt. Sterling, OH

Johnson JS. “A multi-scale assessment of seed dispersal using landscape genetics” October 5, 2017. *Oregon State University College of Forestry, Department of Forest Ecosystems and Society*, Corvallis, OR

Johnson JS. “Forests on the move: A landscape genetics perspective” September 15, 2017. *University of North Texas Department of Geography and the Environment “Crosscurrents” seminar series*, Denton, TX

Johnson JS. “Forests on the move”. March 3, 2017. *Texas A&M University Department of Geography Spring Colloquium Series*, College Station, TX

Johnson JS. “Forests on the move”. February 6, 2017. *California State University, Fullerton, Department of Geography Seminar Series*, Fullerton, CA

Johnson JS. “Unraveling dispersal limitation and genome variation in three forest species using a landscape genomics approach” July 24, 2015. *Landcare Research - Seminar Series*, Landcare Research, Lincoln, New Zealand

Johnson JS. “Geography on the periphery: A case of interdisciplinary research in the age of genomics.” Lecture presented at the Texas A&M University Geography Society meeting, April 8, 2014, College Station, TX.

Conference Presentations:

Johnson JS, Sniezko RA, Kegley A. 2022. Examining the Stability of White Pine Blister Rust Resistance – Influence of Temperature. Paper presented at the *American Association of Geographers Annual Conference*, 25-27 February, Virtual

Waring KW, Cushman S, Eckert A, Flores-Renteria L, Sniezko R, Still C, Wehenkel C, Whipple A, Wing M, Bagley J, Bucholz E, Haagsma M, Hartsell J, Garms C, **Johnson JS,** Landguth E, Leal Saenz A, Menon M, Moler E Page G, Shirk A, Swenson J. 2021. Interdisciplinary Research in Southwestern White Pine: Results and Management Implications. Paper Presented at The Second Conference on the Research and Management of High Elevation Five Needle Pines in Western North America, 5-7 October

Waring KW, Sniezko RA, Wilhelmi N, Reynolds GJ, **Johnson JS,** Wehenkel C. 2021. Using Genetic Field Trials to Guide Management and Restoration of a Tree Species Under Threat by a Non-Native Pathogen and Climate Change. Paper presented at the 9th World Conference on Ecological Restoration, 21-24 June, Virtual

Johnson JS, Haagsma M, Page GMF, Still C, Waring KW, Sniezko RA, Selker J. 2021. New approaches for monitoring disease progression in southwestern white pine. Paper presented at the *American Association of Geographers Annual Conference*, 7-11 April, Virtual (Covid-19)

Hunter ME, Archer FI, Bertola L, Bragg J, Breed M, Bruford M, Coleman M, Ekblom R, Funk C, Hand BK, Grueber C, Jaffé R, Jensen E, **Johnson JS,** Kershaw F, Liggins L, MacDonald A, Mergeay J, Miller J, Muller-Karger F, O'Brien D, Paz Vinas I, Pearson S, Potter K, Razgour O, Vernesi C, Hoban S. 2020. Developing essential biodiversity variables (EBVs) for the GEO BON Genetic Composition working group. Paper presented at *GEO BON Open Science Conference* 6-10 July Online (Covid-19)

- Johnson JS**, Sniezko RA, Mackin H, Heck, E, Lewien M, Brons D, McCoy S, Fraser S, Kegley A, Savin D, Page GMF, Haagsma M, Still C, and Waring KW. 2020. Identifying range-wide patterns of genetic resistance to save a species threatened by a non-native disease and climate change. Paper presented at the *American Association of Geographers Annual Conference*, 6-10 April, Online (Covid-19)
- Johnson JS**, Sniezko RA, Waring KM. 2019. Assessing the durability, stability, and usability of genetic resistance to a non-native fungal pathogen in five-needle Pines. Paper presented at the *15th Biennial Conference of Science and Management on the Colorado Plateau and Southwest Region* 9 – 12 September, Flagstaff, AZ
- LaRue EA, Dodds WK, Rohr JR, Dahlin KM, Thorp JH, **Johnson JS**, Hardiman BS, Rodriguez-Gonzalez M, Keller M, Fahey RT, Knott J, SanClements MD, Atkins J, Tromboni F, Parker GG, Liu J, Fei S. 2019. The evolution of macrosystems biology. Paper presented at the *Ecological Society of America* annual meeting. 11-16 August, Louisville, KY
- Johnson JS**, Sniezko RA, Waring KM. 2019. Characterizing genetic resistance to white pine blister rust in southwestern white pine. Paper presented at the *2019 IUFRO Genetics of Five Needle Pines and Rusts of Trees* 22 – 26 July, Invermere, BC Canada
- Johnson JS** Range wide spatial patterns of major gene resistance in southwestern white pine to white pine blister rust. Paper presented at the *2019 North American Forest Ecology Workshop* 23-27 June, Flagstaff, AZ
- Johnson JS**, Waring KM, Wehenkel C, Leal Saenz A, Jacobs JJ, Sniezko RA. 2018. It's in their genes – Identifying patterns of genetic resistance to blister rust in southwestern white pine. Paper presented at the *Society of American Foresters National Convention* 3-7 October, Portland, OR
- Johnson JS**. 2017. Range wide frequency and geographic pattern of white pine blister rust resistance in southwestern white pine. Paper presented at SWWP CO-PI meeting 8-12 September, Cottage Grove, OR.
- Johnson JS**, Gaddis KD, Cairns DM, and Krutovsky KV. 2017. Does long-distance dispersal maintain alpine treeline? Paper presented at *American Association of Geographers Annual Conference*, 5-9 April, Boston, MA.
- Johnson JS**, Gaddis KD, Cairns DM, and Krutovsky KV. 2016. Seed dispersal at alpine treeline: Long distance dispersal maintains alpine treelines. Paper presented at *American Geophysical Union Annual Conference*, 12-16 December, San Francisco, CA.
- Johnson JS**, Gaddis KD, Cairns DM, Krutovsky KV. 2016. Historic response of mountain hemlock to Pleistocene glaciations at its range limit in Alaska, USA. Paper presented at *IUFRO Genomics and Forest Tree Genetics Conference*, 30 May -4 June., Arcachon, France
- Johnson JS**, Gaddis KD, Cairns DM, Konganti K, Krutovsky KV. 2016. Untangling Holocene migration processes of mountain hemlock onto the Alaskan Kenai Peninsula. 1st Place: Biogeography Specialty Group Paper Competition. Paper presented at the *American Association of Geographers Annual Conference*, 29 March -2 April., San Francisco, CA
- Johnson JS**, Gaddis, KD, and Cairns DM. 2015. Landscape resistance or isolation by distance: Forest response to Pleistocene glaciations in Alaska. 2nd Place: Paper Competition. Paper presented at *TAMU GIS Day*, 17 November., College Station, TX

- Johnson JS**, Cairns DM, and Gaddis, KD. 2015. Cast your fate to the wind: Long-distance-dispersal in Mountain Hemlock. Paper presented at the *South West Association of American Geographers Annual Conference*, 4-7 November., San Antonio, TX
- Johnson JS**, Cairns DM, Gaddis KD, Krutovsky KV. 2015. Who's your daddy? Genomics demystifies dispersal at an Alaskan treeline. Paper presented at *Peth III: Mountains of Our Future*, 4-8 October., Perth Scotland
- Johnson JS**, Cairns DM, Gaddis KD, Krutovsky KV, Konganti K. 2015. Genomics of Long-Distance Dispersal in Mountain Hemlock. Paper presented at the *Association of American Geographers Annual Conference*, 21-25 April., Chicago, IL
- Johnson JS**, Konganti K, Cairns DM, Gaddis KD, Krutovsky KV. 2015. Mountain Hemlock Genomics: A ddRADseq Approach. *1st Place: Paper Competition*. Paper presented at the *Second Annual Geography Graduate Student Research Symposium*, 6 March., College Station, TX
- Johnson JS**, Cairns DM, Gaddis KD, and Krutovsky KV 2014. Landscape genetic tools in Arc GIS help reveal historic gene flow in Coastal Douglas-Fir. *1st Place: Paper Competition*. Paper presented at *TAMU GIS Day*, 18 November., College Station, TX
- Johnson JS**, Cairns DM, Krutovsky KV, and Goldberg DW. 2014. Landscape genetics approaches in ecological biogeography: A case study using Douglas Fir (*Pseudotsuga menziesii*) in the Pacific North West. Paper presented at the *Association of American Geographers Annual Conference*, 8-12 April., Tampa, FL
- Johnson JS**, Cairns DM, Krutovsky KV, and Goldberg DW. 2014. Landscape genetics reveals dispersal barriers in Coastal Douglas Fir (*Pseudotsuga menziesii*). Paper presented at the *First Annual Geography Graduate Student Research Symposium*, 22 March., College Station, TX
- Johnson JS**, Cairns DM, Krutovsky KV, and Goldberg, DW. 2013. Integrating genetics and genomics into ecological biogeography: A case study using Douglas Fir (*Pseudotsuga menziesii*) in the Pacific North West. Paper presented at the *South West Association of American Geographers Annual Conference*, 24-26 October., Nacogdoches, TX
- Washington-Allen RA, Thompson SM, Hays DB, Delgado A, Li J, Brademan WT, Popescu S, Martínez Peña RM, Huber-Sannwald E, Brademan C, March RG, **Johnson JS**, Modala NR, Reeves MC, Mitchell JE, and Kulawardhana RW. 2013. An Overview of the Use of Remote Sensing Technologies to Assess Dryland Production and Degradation at Local to Global Scales. Paper presented at the *Mexican Society of Ecology Conference*, 18-22 March., Villahermosa, Tobasco Mexico
- Washington-Allen RA, **Johnson JS**, van Riper C, Modala N, Barnes M, Brademan C, Bruton R, Delgado A, Kim J, March R, Saenz N, Srinivasan S, Reeves MC. 2012. Monitoring and Assessment of US Drylands. Paper presented at the *American Geophysical Union Annual Conference*, 3-7 December., San Francisco, CA
- Johnson JS**, Cairns DM, and Houser C. 2012. Marsh vegetation assemblages of the East Bay of Galveston Bay: a hierarchical classification. Paper presented at the *Association of American Geographers Annual Conference*, 24-28 February., New York, NY
- Johnson JS**, Cairns DM, and Houser C. 2012. Marsh vegetation assemblages of the East Bay of Galveston Bay: a hierarchical classification. Paper presented at the *Department of Geography Texas A&M University spring colloquium*, 10 February., College Station, TX

Johnson JS, and Cairns DM. 2011. Changing Vegetation Dynamics of a Coastal Marsh: Galveston Bay, Texas. Paper presented at the *Association of American Geographers Annual Conference*, 12-16 April., Seattle, WA

Poster Presentations (* undergraduate student author):

Johnson JS. 2022. Blending genetics and phenomics to combat a non-native disease in a changing climate. Poster presented at the *USGS Climate Adaptation Science Centers Early Career Workshop*, 10-14 October Albuquerque, NM

Johnson JS, Haagsma M, Page GMF, Waring KW, Selker J, Still C, Sniezko RA. 2021. New frontiers in forestry: Combining new technologies to address a non-native disease in southwestern white pine. Poster presented at the *Arizona Native Plant Society Meeting*, 8-10 November, Virtual (Covid-19)

Johnson JS, Sniezko R, Wehenkel C, Waring M. 2021. Identifying patterns of blister rust resistance in southwestern white pine. Poster presented at The Second Conference on the Research and Management of High Elevation Five Needle Pines in Western North America, 5-7 October

Johnson JS, Sniezko R, Page G, Haagsma M, Still C, Selker J, Waring M. 2021. Genetic and remote sensing approaches to identify white pine blister rust infection in southwestern white pine. Poster presented at The Second Conference on the Research and Management of High Elevation Five Needle Pines in Western North America, 5-7 October

Waring KM, Sniezko RA, Willhelmi N, Reynolds GJ, **Johnson JS**. 2021. Maintaining *Pinus strobiformis* a tree species threatened by climate change and white pine blister rust. Poster presented at The Second Conference on the Research and Management of High Elevation Five Needle Pines in Western North America, 5-7 October

Haagsma M, Page, GFM, **Johnson JS**, Still C, Waring KM, Sniezko RA, Selkor J. 2020. Is more data better: A comparison of multi- and hyperspectral imaging in phenotyping. Poster presented at *European Geoscience Union*, 4-8 May Online (Covid-19)

Haagsma M, Page, GFM, **Johnson JS**, Still C, Waring KM, Sniezko RA, Selkor J. 2019. Objective identification of diseased plants from hyperspectral images using machine learning. Poster presented at *American Geophysical Union*, 9-13 December, San Francisco, CA

Waring K, Cushman S, Eckert A, Flores Renteria L, Sniezko R, Still C, Wehenkel C, Whipple A, Wing M, Justin Bagley, Boes E, Bucholz E, Burnett J, Castilla A, DaBell J, Friedline C, Garms C, Heck E, Haagsma M, **Johnson J**, Page, G, Leal Saenz A, McTeague B, Menon M, and Moler E. 2019. Adaptation and acclimation of a tree to disease and aridity. Poster presented at *NSF Macrosystems Biology PI-Meeting*, 15-17 May, Boulder, CO

Haagsma M, Page, GFM, **Johnson JS**, Still C, Selkor J. 2018. Using hyperspectral imagery to detect an invasion fungal pathogen and determine symptom severity in *Pinus strobiformis* seedlings. Poster presented at *American Geophysical Union*, 10-14 December, Washington, D.C.

Johnson J, Cushman S, Eckert A, Flores Renteria L, Sniezko R, Still C, Wehenkel C, Whipple A, Wing M, Justin Bagley, Boes E, Bucholz E, Burnett J, Castilla A, DaBell J, Haagsma M, Heck E, Leal Saenz A, McTeague B, Menon M, Moler E, Page G, and Waring K. 2018. Adaptation and acclimation of a tree to disease and aridity. Poster presented at IUFRO 6th International Workshop on the Genetics of Tree-Parasite Interactions: Tree Resistance to Insects and Diseases: Putting Promise into Practice, 05-10 August, Mt. Sterling, OH

- Waring K, Cushman S, Eckert A, Flores Renteria L, Sniezko R, Still C, Wehenkel C, Whipple A, Wing M, Justin Bagley, Boes E, Bucholz E, Burnett J, Castilla A, DaBell J, Friedline C, Garms C, Heck E, **Johnson J[†]**, Leal Saenz A, McTeague B, Menon M, and Moler E. 2018. Adaptation and acclimation of a tree to disease and aridity. Poster presented at *NSF Macrosystems Biology PI-Meeting*, 08-10 January, Alexandria, VA
- Waring K, Cushman S, Eckert A, Flores Renteria L, Sniezko R, Still C, Wehenkel C, Whipple A, Wing M, Boes E, Bucholz E, Burnett J, Castilla A, DaBell J, Friedline C, Garms C, Heck E, **Johnson J**, Leal Saenz A, McTeague B[†], Menon M, and Moler E. 2017. Blending ecology and evolution using emerging technologies to determine species distributions with a non-native pathogen in a changing climate. Poster presented at *IUFRO: Forest regeneration in changing environments*, 11-13 July, Corvallis, OR
- Gaur K*, Brandon Mann W*, Hou D*, Nolasco C*, McAfee L*, Hingrajiya K*, **Johnson JS**, and Chhetri PK. 2016. Tree ring growth pattern of *Abies spectabilis* from sub-alpine forest of Dhorpatan Hunting Reserve, Western Nepal. Poster presented at *South West Division of the American Association of Geography* annual conference, 20-22 October, Denton, TX
- Johnson JS**, Cairns DM, Gaddis and Konganti K. 2015. Gene flow at alpine treeline: Where do those seeds come from? *Winner: 1st place (category: Genetics and Genomics)*. Poster presented at *Texas A&M Institute for Genome Sciences and Society Symposium*, 8-9 October., College Station, TX
- Johnson JS**, Cairns DM, Gaddis, KD, and Krutovsky KV. 2014. Landscape Genetics Reveals Historic Gene Flow in Coastal Douglas-Fir. Poster presented at *TAMU GIS Day*, 19 November., College Station, TX
- Johnson JS**, Cairns DM[†], and Krutovsky KV. 2014. Landscape genetics and gene-flow in Coastal Douglas-Fir (*Pseudotsuga menziesii* (Mirb.) Franco var. *menziesii*). Poster presented at *MtnClim*, 15-18 September., Midway, UT
- Johnson JS**, Krutovsky KV, Cairns DM, and Goldberg, DW. 2014. Characterizing and visualizing gene-flow in Coastal Douglas-Fir (*Pseudotsuga menziesii* (Mirb.) Franco var. *menziesii*): A landscape genetics approach. Poster presented at *Ecological Society of America National Conference*, 10-15 August., Sacramento, CA
- Johnson JS**, Krutovsky KV, Cairns DM, and Goldberg DW. 2013. Characterizing population genetic variation of Coastal Douglas-Fir: Can a genetic surface identify environmental controls? Poster presented at *TAMU GIS Day*, 20 November., College Station, TX
- Brademan C, Bruton R, **Johnson JS**, Kim JM, Modaa NR, van Riper, CJ, and Washington-Allen R. 2012. Analyzing landcover change using MODIS and Landsat imagery of US drylands at different levels of resolution. Poster presented at *TAMU GIS Day*, 14 November., College Station, TX
- Johnson JS**, Houser C. and Cairns DM. 2011. Salt Marsh Tidal Network Identification from LiDAR and its Relationship to Hydrological Connectivity at Anahuac NWR. Poster presented at *TAMU GIS Day*, 16 November., College Station, TX
- Johnson JS**, Houser C, and Cairns DM. 2011. Inundation frequency and marsh connectivity at Anahuac NWR. Poster presented at the *9th Annual Pathways Student Research Symposium*, 11 November., College Station, TX

Johnson JS, and Cairns DM. 2010 Vegetation Classification of a Coastal Salt Marsh: Galveston Bay, Texas. Poster presented at the *South West Division of the Association of American Geographers Conference*, 14-16 October., Tahlequah, OK

Graduate Students:

Michigan State University

1. Raju Bista, Ph.D. 2023-
2. Mitchell Calvin, M.S. 2023-

California State University Dominguez Hills

1. Raju Bista, M.S. 2019-2021 (Co-advisor with Parveen Chhetri)
2. Michelle Mohr, M.S. 2021-2023 (Co-advisor with Parveen Chhetri)
3. Gabriel Angulo, M.S. 2021-2023 (Co-advisor with Parveen Chhetri)

Undergraduate Research Projects Mentored:

Prescott College

1. Anne Mitzak, Summer 2022
2. Dane Hoover, Summer 2022
3. Jamie Alter, Summer 2022
4. Angel Carrillo, Spring 2022
5. Ryan Diamondstone-Jones, Spring 2022
6. Peter Debelius, Spring 2022
7. Justine Kennedy, Fall 2022
8. Amber Fairman, Fall 2022
9. Kenneth Johnson, Spring 2020
10. Seth Heirs, Fall 2019
11. Zhuba Goldenlamb Fall 2019

USDA Dorena Genetic Resource Center/ Oregon State University

12. Lillian Brod, Fall 2018 – Spring 2019 (with Page G)
13. Hunter Mackin, Summer 2018 (NSF REU)

Texas A&M University

14. Aaron Bogart, Spring 2017
 15. Olivia Wolford, Spring 2017
 16. Channing Shephard, Spring 2017
 17. Cynthia Nolasco, Fall 2016 (Aggie Research Leadership Program)
 18. William Mann, Fall 2016 (Aggie Research Leadership Program)
 19. Lillian McAfee, 2016 – 2017 (Aggie Research Leadership Program)
 20. Daniel Hou, 2016 – 2017 (Aggie Research Leadership Program)
 21. Trey Murphy, Summer 2013 (Alaska Field Season)
-

Service:

Institutional Service:

Jeremy S. Johnson

MSU – University Level 2022 – Present	Greenhouse Faculty User's Committee Member
2022 – Present	Growth Chamber Faculty User's Committee Member
Prescott College 2022 – 2022	Learning Management System Steering Committee
2020 – 2022	Prescott College Faculty Leadership Council
2019 – 2022	Prescott College Technical Representative to the Colorado Plateau Cooperative Ecosystem Science Unit
2021 – 2022	Prescott College Degree Plan Review and Approval Committee
2020 – 2021	Member of the Prescott College Systems and Technology Working Group
2019 – 2022	Member of the Prescott College Institutional Review Board
Disciplinary Service:	
2018-Present	Member of GEOBON Genetic Composition Essential Biodiversity Variables (EBV) Working Group
2020-2022	Board member –Biogeography Specialty Group of the American Association of Geographers
2013-2014	Graduate Student Board Member - Biogeography Specialty Group of the American Association of Geographers
Funding Agency Panels:	
2021	NASA (Biological Diversity, Ad Hoc Reviewer)
2020	NASA (Biological Diversity, Panel)
2018-2020	American Association of Geographers <i>Biogeography Specialty Group (Graduate Student Research Award)</i>
2018	Genome BC
Workshops, Conference Sessions and Panels Organized/Chaired:	
2022	Organizer/Co-chair Vegetation Dynamics I-III at <i>American Association of Geographers Annual Conference</i> , to be held Feb25- March 1, 2022 at New York, NY. With Parveen Chhetri
2021	Organizer/Co-chair Vegetation Dynamics I-II at <i>American Association of Geographers Annual Conference</i> , April 7- 11, 2021 Virtual. With Parveen Chhetri

- 2020 Organizer/Co-chair Vegetation Dynamics I-II at *American Association of Geographers Annual Conference*, April 6 - 10, 2020 at Denver, CO. With Parveen Chhetri – Virtual due to covid-19
- 2019 Co-Chair White Pine Blister Rust Resistance sessions I &II at *IUFRO Joint Conference: Genetics of Five-needle Pines & Rusts of Forest Trees* July 22-26, 2019 at Invermere, British Columbia. With Richard Sniezko
- 2019 Co-Organizer/Co-Chair Forest Macrosystems Ecology Symposium at *North America Forest Ecology Workshop* June 23-27, 2019 at Flagstaff, AZ. With Gerald Page
- 2018 Co-Organizer/Co-Chair Forest Health and Genetics tract at *Society of American Foresters National Convention* October 3-7, 2018 at Portland, OR. With Kristen Waring and Richard Sniezko
- 2018 Co-Organizer/Speaker – Workshop “Southwestern White Pine Workshop: Integration of ecological and genomic data” August 13 – 15, 2018 at Durango, Mexico
- 2016 Organizer/Co-chair Vegetation Dynamics I-III at *American Association of Geographers Annual Conference*, March 29 - April 2, 2016 at San Francisco, CA. With Parveen Chhetri, and Matthew Goslin
- 2015 Chair Biogeography session at *South West Association of American Geographers Annual Conference*, November 4-7, 2015 at San Antonio, TX.
- 2015 Co-organizer/Co-chair Vegetation Dynamics I-V at *Association of American Geographers Annual Conference*, April 21-25, 2015 at Chicago, IL. With Parveen Chhetri, David Cairns, Carissa Brown, and Jesse Minor
- 2015 Chair Biogeography II session at *Association of Geography Graduate Students Research Symposium*, March 6, 2015 at College Station, TX.
- 2014 Organizer/Chair Panel on Interdisciplinary Research in Biogeography at *Association of American Geographers Annual Conference*, April 8-12, 2014 at Tampa, FL.
- 2013 Co-organizer Vegetation Dynamics I, and II at *Association of American Geographers Annual Conference*, April 9-13, 2013 at Los Angeles, CA. With Adam T. Naito
- 2012 Co-organizer/Co-chair Vegetation Dynamics I- III at *Association of American Geographers Annual Conference*, February 24-28, 2012 at New York, NY. With Adam T. Naito and William T. Flatly

Workshop Participant:

United States Geological Survey, Climate Adaptation Science Center early career workshop. October 10-14, 2022 Albuquerque, NM

Integrating large ecological datasets into undergraduate research and teaching with EREN, NEON, and Project EDDIE. July 20-21, 2021

NSF *Forest Structural Diversity* workshop (NSF Funded participant). May 18-20, 2020. NEON, Boulder, CO (Online Covid-19)

NSF Macrosystems Biology: January 8-10, 2018 Alexandria, VA.

CoDisperse 2016: (NSF Funded workshop participant) Seed dispersal in plant populations. May 9-13, 2016 SESYNC, Annapolis, MD (Resulted in 5 Publications in the journal *AoB Plants*.)

ConGen 2015: Population Genomic Data Analysis Course. August 31- September 6, 2015. Flathead Lake Biological Station, Polson, MT.

Next Generation of Methods and Techniques to Address Global Change Problems. Ecological Society of America. August 10, 2014. Sacramento, CA

Whole Systems Genomics Initiative Bioinformatics. August 5-19, 2014 College Station, TX
Open Source for Open Science – Ecology and Evolutionary Biology. July 10 – 12, 2014. College Station, TX

Manuscript Reviewer:

Agricultural and Forest Meteorology
Applied Geography
Ecography
Ecology and Evolution
Ecology Letters
Forests
Forest Ecology and Management
Forest Pathology
New Phytologist
Physical Geography
PLOS One

Professional Affiliations:

American Association for the Advancement of Science
American Association of Geographers
Ecological Society of America