

Joseph R. Stinziano

Twitter: @JosephStinziano
ORCID: 0000-0002-7628-4201

Department of Biology
University of New Mexico
Albuquerque, NM, USA
e: jstinziano@unm.edu

Education & Work Experience

University of New Mexico

2018 – Present

Post-Doctoral Researcher, Hanson Lab (Physiology)

2016 – 2017

Visiting Fulbright Researcher, Hanson Lab (Physiology)

University of Western Ontario

2013 – 2018

Ph. D., Way Lab (Physiological Ecology)

2009 – 2013

Honors Bachelor of Science (Biology)

2012

Undergraduate Researcher, Hüner Lab (Physiology)

2010, 2011

Undergraduate Researcher, Sinclair Lab (Physiology)

Colorado State University

2016

Visiting Researcher, Bauerle Lab (Vegetation Modeling)

Publications

Citations: 208, h-index: 6; i10-index: 6 (Google Scholar, October 10th, 2018)

Underlined authors indicated mentored students; Asterisk (*) indicates authors contributed equally

Peer-reviewed

1. Lawrence EH*, Stinziano JR*, Hanson DT. (2018) Using the rapid A-C_i response (RACiR) in the Li-Cor 6400 to measure developmental gradients of photosynthetic capacity in poplar. *Plant, Cell & Environment* in production. doi: 10.1111/pce.13436
2. Stinziano JR, Hanson DT, McDermitt DK, Lynch DJ, Saathoff AJ, Morgan PB. (2018) The rapid A/C_i response (RACiR): a guide to best practices. *New Phytologist* in press. doi: 10.1111/nph.15383
3. Stinziano JR. (2018) Effects of elevated temperature, elevated CO₂ and photoperiod on conifer carbon fluxes. *Electronic Thesis and Dissertation Repository*. 5279. <https://ir.lib.uwo.ca/etd/5279>
4. Des Marteaux LE, Stinziano JR, Sinclair BJ. (2017) Effects of cold acclimation on rectal micromorphology, ultrastructure, and cytoskeletal stability in *Gryllus pennsylvanicus* crickets. *Journal of Insect Physiology* in press. doi:10.1016/j.jinsphys.2017.11.004
5. Stinziano JR, Way DA, Bauerle WL. (2017) Improving models of photosynthetic thermal acclimation: which parameters are most important and how many should be modified? *Global Change Biology* in press. doi:10.1111/gcb.13924
6. Way DA, Stinziano JR, Berghoff H, Oren R. (2017) How well do seasonal dynamics of photosynthetic capacity correlate with leaf proxies and climate fluctuations? *Tree Physiology* 37:879-888. doi:10.1093/treephys/tpx086
7. Stinziano JR, Morgan PB, Lynch DJ, Saathoff AJ, McDermitt DK, Hanson DT. (2017) The rapid A/C_i response (RACiR): photosynthesis in the phenomic era. *Plant, Cell and Environment* 40:1256-1262. doi:10.1111/pce.12911
8. Stinziano JR, Way DA. (2017) Autumn photosynthetic decline and growth cessation are decoupled under warming and photoperiod manipulations. *Plant, Cell and Environment* 40:1296-1316. doi:10.1111/pce.12917 (issue cover)
9. Stinziano JR, Hüner NPA, Way DA. (2015) Warming delays autumn declines in photosynthetic capacity in a boreal conifer, Norway spruce (*Picea abies*). *Tree Physiology* 35:1303-1313. doi: 10.1093/treephys/tpv118 (issue cover)
10. Quentin AG, Pinkard EA, Ryan MG, Tissue DT, ... Stinziano JR (52nd author of 60), et al. (2015) Non-structural carbohydrates in woody plants compared among laboratories. *Tree Physiology* 35:1146-1165. doi: 10.1093/treephys/tpv073 (issue cover, subject of commentary, featured on Annals of Botany Blog)

11. **Stinziano JR**, Sové RJ, Rundle HD, Sinclair BJ. (2015) Rapid desiccation hardening changes the cuticular hydrocarbon profile of *Drosophila melanogaster*. *Comparative Biochemistry and Physiology: Part A* 180:38-42. doi:10.1016/j.cbpa.2014.11.004
12. **Stinziano JR**, Way DA. (2014) Combined effects of rising CO₂ and temperature on Canada's boreal forest: growth, physiology and limitations. *Botany* 92:425-436. doi: 10.1139/cjb-2013-0314
13. Sinclair BJ, **Stinziano JR**, Williams CM, MacMillan HA, Marshall KE, Storey KB. (2013) Real-time measurement of metabolic rate during freezing and thawing of the wood frog, *Rana sylvatica*: implications for overwinter energy use. *Journal of Experimental Biology* 216:292-302. doi: 10.1242/jeb.076331

In Revision (Confidential drafts available upon request)

1. **Stinziano JR**, Winter A, Read KJH, Hanson DT. A test of the assumptions for using steady states in modeling photosynthesis.
2. **Stinziano JR**, Harjoe MA, Roback C, Toliver N, Rogers A, Hanson DT. Photosynthetic capacity exhibits diurnal variation, implications for terrestrial biosphere models.
3. **Stinziano JR**, Cavanagh A, Hudson PJ, Hanson DT. *In planta* measurements of Rubisco activation state and estimates of Rubisco activase activity using the rapid A/C_i response (RACiR): the RACiR ratio technique.
4. **Stinziano JR**, Bauerle WL, Way DA. Variation in photosynthetic physiology among boreal trees leads to divergent modelled carbon gain responses to climate change.

In Review (Confidential drafts available upon request)

1. **Stinziano JR**, Roesgen JM, Adamson R, Hanson DT. Using rapid A/C_i responses as a tool to explore new questions in photosynthetic physiology of plants and algae.

In Preparation (Confidential drafts available upon request)

1. **Stinziano JR**, Tominaga J, Hanson DT. Where in the leaf is intercellular CO₂ (C_i)? Considerations and recommendations for assessing gaseous diffusion in leaves. (invited review)
2. **Stinziano JR**, Bui V, Crous KY, Way DA. Robust estimates of light respiration using the photorespiratory CO₂ compensation point and a single A-C_i curve: the reduced Laik method.
3. Tominaga J, **Stinziano JR**, Hanson DT, Kawamitsu Y. Direct measurement of internal CO₂ in leaves: apparent response of mesophyll conductance to stomatal closure.

Non-Peer Reviewed Contributions

1. **Stinziano JR**. (2018) Rapid A/C_i response analysis with {racir}. R Package version 1.0.0. doi: 10.5281/zenodo.1420513. url: <https://github.com/jstinzi/racir>

Presentations

Presented Papers (6 selected from 11)

1. **Stinziano JR**, Cavanagh A, Hudson PJ, Hanson DT. *In planta* measurements of Rubisco activation state and estimates of Rubisco activase activity using the rapid A/C_i response (RACiR): the RACiR ratio technique. *American Society of Plant Biologists – Plant Biology 2018*, Montréal, QC
2. **Stinziano JR**, Way DA, Bauerle WL. (2017) Improving models of photosynthetic thermal acclimation: which parameters are most important and how many should be modified? *American Geophysical Union*, New Orleans, LA
3. **Stinziano JR**, Way DA. (2016) Temperature controls timing of autumn decline in photosynthetic capacity but photoperiod controls timing of growth in a boreal conifer. *The International Society for Photosynthesis Research – The 17th International Congress on Photosynthesis Research*, Maastricht, The Netherlands
4. **Stinziano JR**, Way DA. (2014) Temperature has a stronger effect than photoperiod on photosynthetic capacity in white spruce (*Picea glauca*). *2014 Canadian Society of Plant Biologists Eastern Regional Meeting*, Guelph, ON, Canada

5. **Stinziano JR**, Way DA. (2013) Combined effects of rising CO₂ and temperature on Canada's boreal forest: growth, physiology and limitations. *Canadian Society of Plant Biologists – Eastern Regional Meeting*, Mississauga, ON, Canada
6. **Stinziano JR**, Kurepin L, Way DA, Hurry V, Öquist G, Hüner NPA. (2013) Elevated temperatures prevent photosynthetic decline in Norway Spruce (*Picea abies*) during a simulated autumn. *2013 Canadian Society of Plant Biologists – Annual Meeting*, Quebec, QC, Canada

Poster Presentations (5 selected from 11)

1. **Stinziano JR**, Harjoe MA, Rogers A, Hanson DT. (2018) Photosynthetic capacity exhibits diurnal variation, implications for terrestrial biosphere models. *International Society for Photosynthesis Research – Light to Life*, Montréal, QC
2. **Stinziano JR**, Morgan PB, Lynch DJ, Saathoff AJ, McDermitt DK, Hanson DT. (2017) The rapid A/C_i response (RAC_iR): photosynthesis in the phenomic era. *Gordon Research Seminar and Conference on CO₂ Assimilation in Plants: from Genome to Biome*, Barga, Italy
3. **Stinziano JR**, Way DA. (2015) Temperature has a stronger effect than photoperiod on photosynthetic capacity in white spruce (*Picea glauca*). *2015 American Society of Plant Biologists – Plant Biology 2015*, Minneapolis, MN, USA
4. **Stinziano JR**, Way DA, Hüner NPA. (2014) How does photosynthetic capacity vary with temperature and photoperiod in white spruce (*Picea glauca*)? *2014 Gordon Research Conference and Seminar on CO₂ Assimilation in Plants: from Genome to Biome*, Waterville Valley, NH, USA
5. **Stinziano JR**, Way DA, Hüner NPA. (2014) Autumn warming extends the carbon uptake period in white spruce (*Picea glauca*) without increasing biomass. *Fallona Family Interdisciplinary Research Showcase*, London, ON, Canada

Other Presentations

1. **Stinziano JR**. (2018) How old is that maple syrup? *Diversity Day*, University of New Mexico, Albuquerque, NM, USA
2. **Stinziano JR**. (2016) Boreal forest responses to climate change. University of New Mexico, Albuquerque, NM, USA
3. **Stinziano JR**, Way DA. (2015) Physiological responses of white spruce (*Picea glauca*) to day length and warming. Northern Forestry Centre, Canadian Forest Service, Edmonton, AB, Canada
4. **Stinziano JR**, Way DA. (2015) Photosynthetic responses of white spruce to autumn warming. *2015 Boreal Responses to a Changing Climate: Integrating Responses from Genomes to Ecosystems*, Vindeln, Sweden
5. **Stinziano JR**, Way DA. (2015) Warming enhances photosynthesis, not growth, in white spruce. *Western University Faculty of Science Three Minute Thesis*, London, ON, Canada
6. **Stinziano JR**. (2015) Should I do a Ph. D.? *M. Sc. Career Workshop*, London, ON, Canada
7. **Stinziano JR**, Way DA, Hüner NPA. (2014) How does photosynthetic capacity vary with temperature and photoperiod in white spruce (*Picea glauca*)? *2014 11th Annual Earth Day Colloquium*, London, ON, Canada
8. **Stinziano JR**. (2014) Should I do a Ph. D.? *M. Sc. Career Workshop*, London, ON, Canada

Grants, Scholarships, and Awards

Grants (Pending)

National Science Foundation. Diurnal regulation of photosynthetic capacity. 2019 – 2020. Hanson DT (PI), Stinziano JR (Senior Personnel). (\$445,343 Requested).

Research Awards

Fulbright Traditional Student Award, 2016 – 2017	\$15,000 USD
NSERC Michael Smith Foreign Study Supplement, 2016	\$5,900 CAD
NSERC Doctoral Research Scholarship, 2014 – 2017	\$105,000 CAD
Julie Payette NSERC Research Scholarship, 2013 – 2014	\$25,000 CAD

Scholarships

Ontario Graduate Scholarship, 2017 – 2018	\$15,000 CAD
J. D. Detwiler Award, 2015	\$1,500 CAD
Biology Graduate Student Entrance Scholarship, 2013	\$2,500 CAD
Florence Bucke Graduate Scholarship, 2013	\$1,000 CAD

Travel Grants

American Society of Plant Biologists, 2018	\$795 USD
UWO Biology Department Travel Grant, 2016	\$500 CAD
International Society for Photosynthesis Research, 2016	\$390 EUR
American Society of Plant Biologists, 2015	\$795 USD
UWO Biology Department Travel Grant, 2014	\$500 CAD
CSPB George H. Duff Travel Grant, 2013	\$400 CAD

Awards

Interdisciplinary Research Showcase – Best Poster, 2014	\$0 CAD
UWO Biology Graduate Research Forum – Best Talk, 2014	\$30 CAD
J. B. Bancroft Science Prize and Medal, 2014	\$150 CAD
Terence Laverty Memorial Gold Medal, 2013	\$0 CAD

Teaching Experience

Teaching

Techniques in Field Research, University of Western Ontario, Teaching Assistant (2017)
Environmental Plant Physiology, University of Western Ontario, Guest Lecturer (2015)
Ecophysiology of Plants, University of Western Ontario, Teaching Assistant, Guest Lecturer (2013, 2014, 2015)
Physiology Seminar, University of Western Ontario, Guest Lecturer (2014)

Professional Development

Plant Science Training in 2035, American Society of Plant Biologists (2018)
Too Creative for Science?, American Society of Plant Biologists (2018)
Sustainable Solutions to Societal Issues: Teach Earth Literacy Across the Undergraduate Curriculum, American Geophysical Union (2017)
Teaching Assistant Training Program Certificate, University of Western Ontario (2013)

Mentorship

Graduate Students (x 2), UNM (2018 – Present) (One co-author on manuscript in revision, one co-author on manuscript in review)
Graduate Students (x 2), UWO (2017 – Present) (Ongoing mentorship on two independent projects)
High School Student (x 1), UNM (2018) (Co-author on one manuscript in review)
Graduate Student (x 1), University of Pennsylvania (2017 – 2018) (Lead author on published manuscript)
Undergraduate Students (x 3), UNM (2017 – Present) (Two students co-authors on one manuscript in revision)
Undergraduate Students (x 4), UWO (2012 – 2014)

Tutoring

Wize Instructor, Wizedemy.com (2017)
Statistics Tutor, Private (2013 – 2015)
Biology & Chemistry Tutor, Private (2015)

Professional Affiliations and Service

Editorial and Reviewing Services

Social Media Coordinator, *Tree Physiology*, August 2016 – Present (responsible for highlighting papers on Facebook and Annals of Botany Blogs)

Ad hoc reviewer (**26 manuscripts since 2015**) for *Journal of Experimental Botany*, *Plant, Cell & Environment*, *Global Change Biology*, *Botany*, *Journal of European Forest Research*, *New Phytologist*, *Photosynthesis Research*, *Oecologia*, *Nordic Journal of Botany*, *Urban Forestry and Urban Greening*, *PLoS ONE*, *Tree Physiology*, *The Journal of Horticultural Science and Biotechnology*, *Scandinavian Journal of Forest Research*.

Committees & Elected Positions

Member-at-large, Environmental and Ecological Planning Advisory Committee, City of London (2014 – 2018)

Treasury Committee, Biology Graduate Research Forum Organizing Committee, UWO (2017)

Logistics Coordinator, Biology Careers Workshop, UWO (2015 – 2016)

Chairperson, Society of Biology Graduate Students, UWO (2014 – 2015)

Faculty of Science Decanal Search Committee, UWO (2015)

National Scholarship Review Board, UWO (2015)

Panel Member, Volunteering and Work Study Workshop, Biology Undergraduate Student Society, UWO (2014)

Sponsorship Committee, Biology Graduate Research Forum Organizing Committee, UWO (2014)

Seminar Committee, Society of Biology Graduate Students, UWO (2013 – 2014)

Honors Thesis Advisor, UWO (2014 – 2015, 2017 – 2018)

Community Outreach

ABQ BioPark Botanic Gardens, Albuquerque, NM, USA (2018)

Interaction with >100 people over 2 days while performing research

Volunteer, Bug Day! London, London Children's Museum (2014, 2015, 2016)

Student Ambassador, Research Matters Campaign, Council of Ontario Universities (2013 – 2015)

Presenter, UWO Retiring with Strong Minds (2015)

Media Features

Experience Western in 360°: the Biotron Greenhouse, UWO (2017)

url: <http://welcome.uwo.ca/360/biotron.html>

Fulbright award turns up heat on plant study, Talbot A, Western News (2016)

url: <http://news.westernu.ca/2016/09/fulbright-award-turns-heat-plant-study/>

Career Profile: Joseph Stinziano, Curiosity: Where Science Matters, Let's Talk Science, (2015)

url: <http://explorecuriocity.org/Explore/ArticleId/3525>

Curiosity fuels exclusive scholarship winner, Talbot A, Western News (2013)

url: <http://news.westernu.ca/2013/06/curiosity-fuels-exclusive-scholarship-winner/>

Membership

American Geophysical Union

American Society of Plant Biologists

Canadian Society of Plant Biologists

International Society for Photosynthesis Research
