

**Curriculum Vitae**  
**Barry A. Logan**

Biology Department  
Bowdoin College  
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**Education**

- 1997 Ph.D., Biology, University of Colorado, Dissertation title: "Ecophysiology of antioxidation and the xanthophyll cycle in plants"  
1990 B.A., Biology, Cornell University, Concentration: Animal Physiology and Anatomy

**Academic Positions**

- 2010-Present Professor, Biology Department, Bowdoin College  
2017-2020 Chair, Biology Department, Bowdoin College  
2016-2019 Visiting Scientist, Arnold Arboretum, Harvard University  
2012-2016 Associate Dean for Academic Affairs, Bowdoin College  
2010-2012 Eminent Researcher, Centre for Plants and the Environment, University of Western Sydney, Australia  
2010-2011 Director, Biochemistry Program, Bowdoin College [also 2006-2009]  
2010 Visiting Fellow, School of Biological Sciences, Victoria University of Wellington, New Zealand  
2004-2010 Associate Professor, Biology Department, Bowdoin College  
1998-2004 Assistant Professor, Biology Department, Bowdoin College  
1998 Professional Research Associate (University title for Postdoctoral Fellow). Biochemistry and physiology of foliar isoprene production. (Advisor: Professor Russell Monson) University of Colorado  
1997 Instructor, Department of E.P.O. Biology, University of Colorado – Plant Physiology  
1997 Professional Research Associate. Acclimation of *Monstera deliciosa* to high light. (Advisors: Professors William W. Adams III and Barbara Demmig-Adams) University of Colorado

**Grants Awarded**

**Federal/Extramural**

- National Institute of Standards and Technology, Special Programs, Greenhouse Gas Measurements, "Quantifying spatial and temporal variations in urban biogenic carbon fluxes: measurements, models and remote sensing from the leaf to the forest scale" 2020-2023, (\$126,536 sub-award to Bowdoin) (one of four co-investigators).  
National Science Foundation, Division of Environmental Biology, "Collaborative Proposal: MRA: Seasonality of Photosynthesis of Temperate and Boreal Conifer Forests Across North America" 2020-2022 (\$1.25 million; Bowdoin portion: \$123,206)  
National Aeronautics and Space Administration, Terrestrial Ecology: Arctic-Boreal Vulnerability Experiment – Phase 2, "Ecophysiological and Physical Mechanisms Linking Solar-Induced Fluorescence and Vegetation Reflectance to Boreal Forest Productivity" 2019-2022 (Bowdoin portion: \$64,552)  
National Institute of Standards and Technology, Special Programs, Greenhouse Gas Measurements, "Urban Net Ecosystem Productivity: Solar Induce Fluorescence as a Tool for Productivity Assessment?" 2017-

2020, \$726,134 (\$150,992 sub-award to Bowdoin) (one of three co-investigators).

University of Western Sydney, Australia, Eminent Researcher Visitors Scheme, “Impact of Environmental Stress on Terrestrial Vegetation and Marine Algae,” 2010-2012, \$29,950 (AUD)

Royal Society of New Zealand, International Science and Technology Linkage Fund, “The Evolution of Virulence in Parasitic Plants,” 2009-2010, \$3630 (NZD).

Australian Research Council, “Productivity of *Eucalyptus* in Past and Future Climates – a Novel Approach to Understanding Environmental Impacts on Tree Growth,” 2007-2010, \$300,000 (AUD) (one of four co-investigators).

USDA Equipment Grant, “Acquisition of a Licor 6400 Gas Exchange Analyzer to Examine the Differential Susceptibility of White and Red Spruce to Eastern Dwarf Mistletoe Infection,” 2004-2007, \$17,900.

NSF CCLI A&I, “Bringing Chromatography and Spectroscopy into the Undergraduate Curriculum,” 2001-2003, \$23,879.

USDA Standard Research Grant, “Testing Transgenic Cotton with Elevated Anti-oxidants,” 1999-2002, \$200,000 (one of three co-investigators).

### ***Bowdoin College***

Faculty Research Fund, “A Request for Support to Attend the Annual Meeting of the Ecological Society of America,” 2010, \$500.

Bowdoin Faculty Research Fellowship, “The Evolution of Virulence in Parasitic Plants,” 2009-2010, \$10,000.

Rusack Coastal Studies Fellowship, “Physiological Effects of Eastern Dwarf Mistletoe on Host Water Relations in Coastal Red and White Spruce,” (with Jaret Reblin) 2007, \$7000.

Faculty Development Fund, “Photosynthesis and Photoprotection in Loblolly Pine Exposed to Elevated Atmospheric Carbon Dioxide,” 2004, \$3,500.

Faculty Research Fund, “A Request for Support to Attend the 13<sup>th</sup> Western Photosynthesis Conference (Retroactive) and the Northeastern Sectional Meeting of the American Society for Plant Biologists,” 2004, \$500.

Faculty Research Fund, “A Genetic Exploration into the Mechanisms of Light Tolerance in Plants,” 2003, \$1190.

Rusack Coastal Studies Fellowship, “Physiological Effects and Distribution of Eastern Dwarf Mistletoe Parasitizing Coastal Red and White Spruce,” (with Jaret Reblin) 2002, \$5315.

Fletcher Award, “Physiological Ecology of Tropical Trees: Effect of Sex, Age, and Reproductive History on Growth and Photosynthesis,” (with Nat Wheelwright) 2002, \$1885.

CBB Andrew W. Mellon Project for Library and Information Technology, “Enhancing Instruction in Plant Biology with Information Technology,” (with collaborators) 1999, ca. \$15,000.

Faculty Research Fund, “Physiological Effects of Eastern Dwarf Mistletoe Infestation,” 1999, \$778.

### **Service**

Editor for the *International Journal of Plant Sciences* (University of Chicago Press) (2014-present)

Grant review panel member for the Plant Organism-Environment-Interaction program (2012) and the Integrated Ecological Physiology program (2015 & 2020) within the Physiological and Structural Systems cluster of Integrative Organismal Systems at the *National Science Foundation*; Beckman Foundation Scholars Program (2018 & 2020), FINESST program at the National Aeronautics and Space Administration (2020)

Grant proposal reviewer for the *National Science Foundation*, *National Fish & Wildlife Foundation*, the *Binational Agricultural Research and Development Fund*, the *Biotechnology and Biological Sciences Research Council*, the *Civilian Research and Development Foundation*, *Netherlands Organization for Scientific Research* and the *University of New Hampshire Agricultural Experiment Station*

Faculty Fellow, Joseph P. McKeen Center for the Common Good, Bowdoin College (2007-2009; 2019-present)

*Ad hoc* reviewer of more than 160 manuscripts for more than 31 journals

Co-Founder, Cornerstones of Science <[cornerstonesofscience.org](http://cornerstonesofscience.org)>, 2000-2011

Faculty Appeals and Grievances, (2018-present; Chair), Return to Campus Committee (2020), Institutional Biosafety Committee (2016; Chair), Institutional Animal Care and Use Committee (2016), Curriculum Implementation Committee (2012-2015; Chair), Committee on Education Policy (2012-2015), Faculty Development Committee (2010-2012; Chair), Student Fellowships and Research Committee (2008-2009), Financial Priorities Committee (2006-2008), Recording Committee (2002-2006; Chair, 2004-2005), Committee on Biochemistry (2000-present; Chair, 2006-2009 & 2010-2011), Lectures and Concerts Committee (1999-2001)

### **Undergraduate Mentees (\* denotes Honors student)**

#### ***Bowdoin College***

Anneka Williams\*, 2020/2021 Conifer forest photosynthetic seasonality: exploring the effect of winter severity and the efficacy of different remote sensing methodologies

Sara Nelson, 2020 Explorations of the phenomenon of solar-induced fluorescence and its relationship to photosynthesis at the whole-forest scale. 2021 Solar-induced fluorescence and its relationship to photosynthesis at diurnal and seasonal time scales

Coleman Komishane, 2020 Explorations of the phenomenon of solar-induced fluorescence and its relationship to photosynthesis at the whole-forest scale

Jeremy Grosvenor, 2020 The metabolic role of reactive oxygen species

David Bombard, 2019 Solar-induced fluorescence (SIF) as an indicator of photosynthesis. 2018/2020 Exploring taxonomic variation in the wintertime photosynthetic strategies of Rocky Mountain conifers

Elena Sparrow, 2019 Remote sensing of Boreal forest productivity. 2019/2020 Exploring taxonomic variation in the wintertime photosynthetic strategies of Rocky Mountain conifers

Dalia Tabachnik, 2019 Solar-induced fluorescence (SIF) as an indicator of photosynthesis

Mikayla Kifer, 2019 A reading- and interview-based independent study of contemporary alternative agriculture

Anna Blaustein\*, 2018/2019 Analysis of nitrogen and protein content in *Brachypodium* seeds grown at elevated CO<sub>2</sub> can support nutritious grain production in the face of climate change

Julian Garrison\*, 2018/2019 Plastic stomatal response of common reed (*Phragmites australis*) to simulated anthropogenic disturbance

Andrew Walter-McNeill, 2018/2019 Exploring taxonomic variation in the wintertime photosynthetic strategies of Rocky Mountain conifers

Charlotte Nash, 2018/2019 Impacts of tidal restrictions on carbon sequestration in Maine tidal marshes

Trevor Kenkel, 2016/2019 Photosynthetic responses of aquaponics-grown leafy crops to measurement conditions

Hanna Baldecchi\*, 2017/2018 The impact of eastern dwarf mistletoe on red spruce vs. white spruce tree vigor

Sophia Lopez\*, 2017/2018 Shifts in needle pigments as a photoprotective mechanism during winter downregulation of photosynthetic activity in subalpine coniferous trees

Nora Hefner, 2016 Photosynthetic responses of different accessions of *Brachypodium sylvaticum* exposed to water stress

Benjamin West\*, 2015/2016 Examining functional roles for anthocyanins in plant leaves

Sara Hamilton, 2015 Photosynthetic responses of different accessions of *Brachypodium sylvaticum*

Michael Walsh\*, 2013/2014 Functional implications of the reddening of the fruit-bearing stalks (peduncles) of elderberry (*Sambucus* sp.)

- John de Villier\*, 2013/2014 Progressive effects of eastern dwarf mistletoe (*Arceuthobium pusillum*) parasitism on white spruce (*Picea glauca*) physiology (co-advised with Jaret Reblin)
- Nneka Nnatabeugo, Fall 2013 Energy dissipation as an alternative energy conversion pathway in elderberry peduncles
- Antigone Mitchell\*, 2012/2013 Branching out: photosynthetic properties of *Prumnopitys taxifolia*, a divaricate New Zealand shrub
- Spencer Eusden\*, 2011/2012 Examining the usefulness of a green laser for remote sensing of plant physiological status
- La'Shaye Ervin\*, 2011/2012 Examining the extent of eastern dwarf mistletoe endophytic proliferation in two different host spruce species using PCR
- Peter Murphy, 2011/2012 *In situ* photosynthesis of entire dwarf-mistletoe infected white spruce branches
- Colin Ogilvie\*, 2011/2012 Examining the extent of eastern dwarf mistletoe endophytic proliferation in two different host spruce species using PCR
- Elizabeth Tarr\*, 2011/2012 *In situ* photosynthesis of entire dwarf-mistletoe infected white spruce branches
- William Stafstrom\*, 2011/2012 Testing the photoprotective effect of adaxial anthocyanins in *Coleus*
- Allison Chan\*, 2010/2011 White spruce physiology, growth and reproduction across its geographic range. 2009 Light capture efficiency of shade- and sun-acclimated balsam fir needles
- Ouda Baxter, 2010 Examining the superoxide scavenging capacity of stemmed and stemless maté
- Danielle Marias\*, 2009/2010 Assessing light capture and photosynthesis in mistletoe-induced witches' brooms using a three-dimensional canopy model
- Shem Dixon, 2009 Construction and use of a gas exchange chamber for the analysis of gas exchange of whole witches' brooms
- Stephanie Schmiede, 2009 Empirical quantification of the effect of witches' brooms on white spruce light interception
- Cody Desjardins\*, 2008/2009 The effect the hemlock woolly adelgid on forest soil biogeochemistry and soil microbial community
- Marie Sears\*, 2008/2009 The effect of past and future predicted climate on photosynthetic acclimation and drought tolerance of eucalypts
- David Zonana\*, 2008/2009 The effect of eastern dwarf mistletoe on host white spruce radial growth
- Nicolas Norton, 2009 Winter acclimation in eastern dwarf mistletoe-infected white spruce
- Benjamin Stormo\*, 2007/2008 The influence of eastern dwarf mistletoe on the expression of senescence-related genes in host spruce foliage
- Nate Krah\*, 2007/2008 Photoinactivation, photosynthesis, growth, and reproduction in an *Arabidopsis* genotype that cannot perform energy dissipation
- Carolyn Hricko\*, 2007/2008 The impact of elevated CO<sub>2</sub> and warming on the gas exchange and leaf pigment composition of *Eucalyptus*. 2006 Physiological and genetic studies of eastern dwarf mistletoe and its spruce hosts
- Ryan Dunlavy, 2006/2007 The influence of eastern dwarf mistletoe infection on the hydraulic conductivity of white spruce stems. 2005 Effects of eastern dwarf mistletoe on the water status of host spruce
- Adam Hall, 2006 Physiological and genetic studies of eastern dwarf mistletoe and its spruce hosts
- Ross Butschek\*, 2005/2006 Does water stress explain the contrasting effects of eastern dwarf mistletoe on red versus white spruce?
- Andrew Combs\*, 2005/2006 Examining signal transduction pathways influencing ultrastructural acclimation in *Arabidopsis*. 2004 Acclimation of photosynthetic electron transport in loblolly pine exposed to elevated CO<sub>2</sub> at the Duke Forest FACE site
- Alla Lescure Smith\*, 2005/2006. A molecular genetic examination of the role of ascorbate in chilling tolerance. 2005 Phylogeography of eastern dwarf mistletoe

- Jonathan Harris\*, 2004. Effects of brown-tailed moth herbivory on the physiology and morphology of apple leaves (co-advised with Lindsay Whitlow). 2004/2005 Seasonal acclimation of cryoprotectants in two local red algae with differing freezing tolerance
- Ethan Galloway, 2004. The response of wild rice to nutrient amendment in Merrymeeting Bay
- Rose Kent, 2004. Acclimation of photoprotection in loblolly pine exposed to elevated CO<sub>2</sub> at the Duke Forest FACE site
- Lela Stanley\*, 2003/2004. Host-specific genetic differentiation in eastern dwarf mistletoe
- Evangeline White\*, 2003/2004. Characterization of *Arabidopsis thaliana* mutants lacking thylakoid-associated kinase activity (co-advised with Bruce Kohorn)
- Samuel Terry\*, 2002. Identification of an unknown carotenoid from the parasitic plant eastern dwarf mistletoe. 2003/2004 A physiological examination of energy dissipation deficient *Arabidopsis thaliana* mutants under variable light environments
- Justin Hardison\*, 2002/2003. Whole plant responses to chilling in transgenic cotton overexpressing ascorbate peroxidase
- Andrew Larson\*, 2002/2003. Characterization of *Arabidopsis thaliana* mutants lacking thylakoid-associated kinase activity (co-advised with Bruce Kohorn)
- Bradley Graustein, 2002. Temperature effects on the reduction state of photosystem II in transgenic cotton overexpressing ascorbate peroxidase
- Matthew Hammond, 2002. Collaboration on a manuscript describing a laboratory exercise examining the antioxidant capacity of red wine and other common beverages
- Mary Miner\*, 2001/2002. An examination of foliar antioxidant systems in *Arabidopsis thaliana* mutants lacking energy dissipation
- Nissa Lohrmann\*, 2001-2003. Seasonal acclimation of antioxidants in two local red algae with differing stress tolerance
- Matthew Clark\*, 2000/2001. Effect of glutathione reductase overexpression on free radical damage in transgenic and wild type cotton
- Gary Monteiro\*, 2000/2001. Whole plant responses in transgenic cotton overexpressing glutathione reductase
- Molly Perencevich\*, 2000/2001. Acclimatory effects on the catalytic properties of glutathione reductase from eastern white pine needles
- Kristin Shedd, 2000/2001. Chilling-induced changes to the reduction state of photosystem II in transgenic cotton overexpressing glutathione reductase
- Jessica Brooks, 2000. A floristic analysis of the Coastal Studies Center
- Laura Burkle\*, 1999/2000. Effects of light environment and seasonally colder temperatures on photosynthesis in a native coniferous and a broad-leafed evergreen
- Emily Huhn\*, 1999/2000. Physiology of eastern dwarf mistletoe and its effects on infested spruce
- Akane Uesugi\*, 1999/2000. Seasonal variation in sunfleck utilization in an evergreen understory fern and an angiosperm
- Kristin Sigmond, 1999. Acclimation of photosynthesis to growth temperature in spring and winter wheat varieties
- University of Colorado**
- Brynn Orwig, 1997. Research on the response of sun- and shade-acclimated rainforest plants to exposure to high light
- Brian Albrecht, 1995. Developed an assay to quantify oxidative damage to proteins and lipids
- Dan Moeller, 1995. Research on the response of shade leaves to exposure to high light
- John Carradine, 1994. Developed an assay to quantify foliar ascorbate content

### Invited Seminars

- “Forests in a changing world: as viewed from near and far” Bowdoin College Faculty Seminar Series, Brunswick, Maine, November, 2018
- “The splendor of the autumn foliage explained (or at least explored)” Central Maine Community College, Auburn, Maine, March, 2018
- “Leaf-scale pulse amplitude modulated (PAM) chlorophyll fluorescence emission: A primer on its measurement, interpretation, and potential relationship to remotely-sensed solar-induced fluorescence (SIF)” Remote Sensing Group, National Institute of Standards and Technology, Gaithersburg, Maryland, May, 2017
- “What’s killing white spruce along the Maine coast? Parasitic dwarf mistletoe and the legacy of pastureland formation and abandonment” Central Maine Community College, Auburn, Maine, May, 2017
- “Leaf-scale pulse amplitude modulated (PAM) chlorophyll fluorescence emission: A primer on its measurement, interpretation, and potential relationship to remotely-sensed solar-induced fluorescence (SIF)” Department of Biology, University of Utah, Salt Lake City, Utah, April, 2017
- “Highly conserved yet remarkably flexible: Leaf pigments, their roles in photoprotection, and their detection at multiple scales” Harvard Herbaria, Harvard University, Cambridge, Massachusetts, February, 2017
- “Leaf-scale pulse amplitude modulated (PAM) chlorophyll fluorescence emission: A primer on its measurement, interpretation, and potential relationship to remotely-sensed solar-induced fluorescence (SIF)” Wofsy Group, Earth and Planetary Sciences, Harvard University, Cambridge, Massachusetts, November, 2016
- “Mechanisms of mortality and the legacy of land use in dwarf mistletoe-infected spruce forests along the Maine coast” Middlebury College, Middlebury, Vermont, November, 2016
- “Decline of dwarf mistletoe-infected white spruce forests along the Maine coast: mechanisms of mortality and the legacy of land use” Arnold Arboretum – Harvard University, Boston, Massachusetts, 2015
- “Dual roles and death dealing: parasitic manipulation by dwarf mistletoe contributes to spruce mortality” Franklin & Marshall College, Lancaster, Pennsylvania, October, 2011
- “The same thing that makes you live can kill you in the end: photosynthetic compromises in dynamic light environments” Sydney Basin Ecophysiology Group, Macquarie University, Macquarie Park, Australia, March, 2011
- “Decline of mistletoe-infected white spruce forests along the New England coast: mechanisms of mortality and the legacy of land use” Massey University, Palmerston North, New Zealand, May, 2010
- “Decline of mistletoe-infected white spruce forests along the New England coast: mechanisms of mortality and the legacy of land use” Victoria University, Wellington, New Zealand, March, 2010
- “Decline of mistletoe-infected white spruce forests along the New England coast: mechanisms of mortality and the legacy of land use” University of Waikato, Hamilton, New Zealand, March, 2010
- “The same thing that makes you live can kill you in the end. Plants and light” University of New Mexico, Albuquerque, New Mexico, March, 2009
- “The same thing that makes you live can kill you in the end. Plants and light” University of Southern Maine, Portland, Maine, February, 2009
- “Light stress, energy dissipation & fruitful synergies among botanical subdisciplines” Bates College, Lewiston, Maine, February, 2007
- “Light stress, energy dissipation & fruitful synergies among botanical subdisciplines” University of Southern Maine, Portland, Maine, December, 2005
- “Light stress, energy dissipation & fruitful synergies among botanical subdisciplines” Texas Tech University, Lubbock, Texas, November, 2004
- “Can crop stress tolerance be enhanced via genetic engineering? Some results from cotton.” Norwich University, Norwich, Vermont. October, 2004

- “Can chilling tolerance be improved via genetic engineering? Some results from cotton.” Willamette University, Salem, Oregon. April, 2003
- “Can chilling tolerance be improved via transgenic overproduction of chloroplastic antioxidants? Some results from cotton.” University of California at Berkeley, Berkeley, California. February, 2003
- “Can chilling tolerance be improved via genetic modification of antioxidant systems? Results from cotton.” University of New Hampshire, Durham, New Hampshire. October 2002
- “Can stress tolerance be improved via genetic modification? Results from cotton.” Colby College, Waterville, Maine. November, 2001
- “Photosynthetic regulation during stress” Wellesley College, Wellesley, Massachusetts. June, 2000
- “Plant photoprotection: coping with too much of a good thing” Bates College, Lewiston, Maine. November, 1999
- “Photoprotection in plants” University of Southern Maine, Portland, Maine. March, 1999.
- “Plants and light: dealing with too much of a good thing” Western State College, Gunnison, Colorado. September, 1998

### **Professional Meetings Attended**

- FAST [*Fluorescence Across Space and Time*] Workshop, 2019
- American Geophysical Union, 2018
- Ecological Society of America, 1996, 1999, 2000, 2005, 2010, 2013, 2015, 2017
- 12<sup>th</sup> Harvard University Plant Biology Symposium: Stomata, 2017
- International Union of Forest Research Organizations: Mistletoes: Pathogens, Keystone Resources, and Medicinal Wonder, 2016
- Gordon Research Conference: Multiscale Plant Vascular Biology, 2016
- American Society of Plant Biologists, 2001, 2002, 2006, 2011, 2014
- International Workshop on Anthocyanins, 2011
- 5<sup>th</sup> International Canopy Conference, 2009
- Gordon Research Conference: CO<sub>2</sub> assimilation in plants: Genome to Biome, 2008
- International Congress on Photosynthesis, 2001, 2004, 2007
- International Union of Forest Research Organizations, 2006
- Maine Biological and Medical Sciences Symposium, 2006
- Northeast Section of the American Society of Plant Physiologists, 1999, 2002, 2004
- Western Photosynthesis Conference, 1994, 1997, 2004
- Northeast Section of the American Society of Plant Biologists, 2002
- Gordon Conference on Biogenic Hydrocarbons and the Atmosphere, 2000
- Guild of Rocky Mountain Population Biologists, 1992, 1997
- American Society of Plant Physiologists, 1995
- Gordon Conference on Carotenoids, 1995
- Robertson Symposium on Chlorophyll Fluorescence, 1994
- Society for the Study of Evolution, 1993

### **Oral and Poster Presentations (\* indicates undergraduate)**

#### ***Sole (or Lead) Presenter***

- The molecular mechanisms of NPQ, the involvement of leaf pigments, and the fates of absorbed photons in summer and winter. FAST [*Fluorescence Across Space and Time*] Workshop. Hyttiala, Finland, February, 2019. (Oral)
- Divergent responses of white spruce and red spruce to eastern dwarf mistletoe infection along the coast of Maine. International Union of Forest Research Organizations: Mistletoes: Pathogens, Keystone Resources, and Medicinal Wonder. Ashland, OR. July, 2016. (Oral)
- Situating foliar anthocyanin accumulation among photoprotective mechanisms employed by plants in response to abiotic stress. American Society for Plant Biologists. Portland, OR. July, 2014. (Poster – with Bowdoin undergraduate co-authors)

- Testing the photoprotection hypothesis for foliar anthocyanin accumulation. Ecological Society of America. Minneapolis, MN. August, 2013. (Poster – with Bowdoin undergraduate co-authors)
- Situating foliar anthocyanin accumulation among photoprotective mechanisms employed by plants. International Workshop on Anthocyanins. Charlotte, NC. September, 2011. (Oral – with Bowdoin undergraduate co-author)
- Parasitic manipulation of host white spruce (*Picea glauca*) by eastern dwarf mistletoe (*Arceuthobium pusillum*). American Society of Plant Biologists. Minneapolis, MN. August, 2011. (Poster – with six Bowdoin undergraduate co-authors)
- Responses of two *Eucalyptus* species to industrial-age changes in atmospheric [CO<sub>2</sub>] and temperature. Ecological Society of America. Pittsburgh, PA. August 2010 – (Poster – presenter, third author)
- Scaling the impacts of eastern dwarf mistletoe infection from hormone metabolism to whole-tree growth. 5<sup>th</sup> International Canopy Conference. Bangalore, India. October, 2009 - (Oral – with co-authors including R Dunlavey\*, D Zonana\*, R Butschek\*, C Hricko\* and A Hall\*)
- The impacts of eastern dwarf mistletoe infection on host white spruce. Gordon Research Conference: CO<sub>2</sub> assimilation in plants: Genome to Biome. Biddeford, ME. August, 2008 (Poster – with co-authors including R Dunlavey\*, R Butschek\*, C Hricko\* and A Hall\*)
- Physiological impacts of eastern dwarf infection and developmental responses of host white spruce. International Congress on Photosynthesis, Glasgow, Scotland. July/August, 2007 (Poster – with co-authors including Ryan Dunlavey\*, Ross Butschek\*, Carolyn Hricko\*, and Adam Hall\*)
- Physiological impacts of eastern dwarf infection and developmental responses of host white spruce. International Union of Forest Research Organizations (IUFRO) Canopy Processes Workshop, New England. October, 2006 (Poster – with co-authors including Carolyn Hricko\*, Adam Hall\*, and Ross Butschek\*)
- Electron transport and photoprotection in loblolly pine exposed to free-air CO<sub>2</sub> enrichment. American Society for Plant Biologists, Boston MA. August, 2006 (Poster – with co-authors including Andrew Combs\*, Kalisa Myers\*, Rose Kent\*, and Lela Stanley\*)
- Student-led investigative laboratories designed to examine the acclimation of photosynthesis and energy dissipation. American Society for Plant Biologists, Boston MA. August, 2006 (Poster – with Jaret Reblin as co-author)
- The role of proline in the freezing tolerances of two competing species of red algae. Maine Biological and Medical Sciences Symposium, Salisbury Cove, ME. April, 2006 (Oral – with Jonathon Harris\* as co-author)
- The effects of land use history on forest responses to a native parasitic plant. USDA Managed Ecosystems Project Director's Meeting, Washington D.C. October/November, 2005 (Poster – with co-authors including R Dunlavey\*)
- Photoprotection: From chloroplast biochemistry to plant form. Ecological Society of America. Montreal, Canada. August, 2005 (Invited oral session)
- Photoprotection, photosynthesis and growth in *Arabidopsis* genotypes with differing levels of PsbS expression. International Congress on Photosynthesis. Montreal, Canada. August/September, 2004 (Poster – with co-authors including S Terry\*)
- Student-led investigative laboratories designed to examine the acclimation of photosynthesis and energy dissipation. International Congress on Photosynthesis. Montreal, Canada. August/September, 2004 (Poster – with Jaret Reblin as co-author)
- Recent reproductive costs reduce photosynthesis and lifetime growth in females of a dioecious neotropical tree. American Society of Plant Biologists – Northeast Section. Providence, RI. June, 2004 (Oral – with Nat Wheelwright as co-author)
- Student-led investigative laboratories designed to examine the acclimation of photosynthesis and energy dissipation. American Society of Plant Biologists – Northeast Section. Providence, RI. June, 2004 (Poster – with Jaret Reblin as co-author)

- Recent reproductive costs reduce photosynthesis and lifetime growth in females of a dioecious neotropical tree. Western Photosynthesis Conference. Pacific Grove, CA. January, 2004 (Oral – with Nat Wheelwright as co-author)
- Effects of dwarf mistletoe, a native parasitic plant, on host spruce growth and survival. Faculty Seminar Series, Bowdoin College. December, 2002. (Oral - presented with Jaret Reblin)
- Seasonal changes in the response of photosynthesis and energy dissipation to lightflecks in *Mitchella repens* and *Dryopteris intermedia*. American Society of Plant Biologists. Denver, CO. August, 2002. (Poster - with co-authors including A Uesugi\*)
- The response of transgenic cotton with elevated glutathione reductase activities to growth under chilling conditions. American Society of Plant Biologists – Northeast Section. Wellesley, MA. May, 2002. (Oral – with co-authors including G Monteiro\*)
- Regulation of photosynthetic activity during chilling in cotton plants overproducing key antioxidant enzymes. International Congress on Photosynthesis. Brisbane, Australia. August, 2001. (Poster – with coauthors including G Monteiro\* [second author & sole presenter])
- The effects of glutathione reductase overproduction during growth under chilling. American Society of Plant Biologists. Providence, Rhode Island. July, 2001 (Poster - with co-authors including G Monteiro\*)
- Explorations into the effect of isoprene on membrane function: a search for the mechanism underlying isoprene thermoprotection. Gordon Conference on Biogenic Hydrocarbons and the Atmosphere. Ventura, California. February, 2000. (Oral - with co-authors)
- Investigating the biochemical effects of isoprene in relation to its role as a leaf thermoprotectant. Ecological Society of America. Spokane, Washington. August, 1999. (Poster – with co-authors)
- A search for the biochemical mechanism underlying the thermoprotective effect of isoprene. Northeast Section of the American Society of Plant Physiologists. Durham, New Hampshire. April, 1999. (Poster - with co-authors)
- Seasonal effects on antioxidant systems of *Mahonia repens* growing in three different light environments in the Colorado Rocky Mountains. Guild of Rocky Mountain Population Biologists. Crestone, Colorado. September, 1997. (Oral - with co-authors)
- The response of antioxidation and the xanthophyll cycle in *Vinca major* and *Cucurbita pepo* to long-term acclimation to different growth irradiances versus a sudden transfer from low to high irradiance. Sixth Western Photosynthesis Conference. Pacific Grove, California. January, 1997. (Oral - with co-authors)
- The photoprotective role of the xanthophyll cycle during exposure of understory plants to sunflecks in a subtropical rainforest and an open *Eucalypt* forest in Australia. Annual Meeting of the Ecological Society of America. Providence, Rhode Island. August, 1996. (Oral - with co-authors)
- Sunflecks and xanthophyll cycle-dependent energy dissipation in *Alocasia* in a subtropical rainforest. Annual Meeting of the American Society of Plant Physiologists. Charlotte, North Carolina. July/August, 1995. (Poster - with co-authors)
- Acclimation of xanthophyll cycle and ascorbate (Vitamin C) levels in leaves of a variety of plant species growing in different light environments. Gordon Conference on Carotenoids. Ventura, California. February, 1995. (Poster - with co-authors)
- Photoprotection and light acclimation in a subtropical rainforest. E.P.O. Biology Departmental Brown Bag Seminar. University of Colorado at Boulder. October, 1994. (Oral)

### **Others**

- Characterizing measurement and interpretation challenges for tower-based solar-induced fluorescence data. American Geophysical Union. Online. December, 2020. (Presentation – J. Marrs et al.)
- Decomposing reflectance spectra to track the seasonality of evergreen forest function. NASA ABoVE Science Team Meeting. Online. June 2020. (iPoster – Magney et al.)
- The physiological meaning of tower-based solar-induced fluorescence: Coupling *in situ* physiological and remote sensing measurements. Ecological Society of America. Louisville, KY. August, 2020. (Poster – J. Marrs et al.)

- Disconnect between SIF and tree-level physiology: Limitations of SIF as a proxy for GPP? American Geophysical Union. San Francisco CA. December, 2019. (*eLightning* narrated poster – L. Hutyra et al.)
- Seasonal pigment changes allow detection of activity and dormancy of evergreen photosynthesis in cold-climate conifer forests. American Geophysical Union. San Francisco CA. December, 2019. (Poster – D. Bowling et al.)
- Linkage between SIF and GPP in a seasonally-dormant high-elevation subalpine forest. American Geophysical Union. Washington D.C. December, 2018. (Poster – D. Bowling et al.)
- Assessing physiological, environmental, and hardware-based sources of uncertainty in the measurement of solar-induced fluorescence at leaf to canopy scales. American Geophysical Union. Washington D.C. December, 2018. (Poster – J. Marrs et al.)
- On the joint use of solar-induced fluorescence (SIF) and spectrally resolved reflectance to track light use efficiency at a subalpine evergreen forest. American Geophysical Union. Washington D.C. December, 2018. (Oral – R. Cheng et al.)
- Sustained non-photochemical quenching shapes the seasonal pattern of solar-induced fluorescence at a high-elevation evergreen forest. American Geophysical Union. Washington D.C. December, 2018. (Poster – B. Raczka et al.)
- Seasonality of photosynthesis of a Rocky Mountain subalpine forest: implications for SIF as a metric for GPP. American Geophysical Union. New Orleans, LA. December, 2017. (Poster – D. Bowling et al.)
- Establishment of a sensor testbed at NIST for plant productivity monitoring. American Geophysical Union. New Orleans, LA. December, 2017. (Poster – D. Allen et al.)
- Evaluating the roles of foliar anthocyanins in photosynthesis and photoprotection in an herbaceous plant with different leaf pigmentation patterns. Ecological Society of America. Portland, OR. August, 2017. (Poster – Reblin, West\* & Logan).
- Limitations to winter photosynthesis of a subalpine coniferous forest in the Colorado Rocky Mountains. Ecological Society of America. Portland, OR. August, 2017. (Poster – second author [sole presenter]).
- Mechanisms of divergent responses of white and red spruce to eastern dwarf mistletoe infection. Harvard University Plant Biology Symposium: Stomata. Boston, MA. May, 2017. (Poster - Barnett, Des Marias & Logan)
- Impacts of eastern dwarf mistletoe on the stem hydraulics of red spruce and white spruce, two host species with different drought tolerances and responses to infection. Gordon Research Conference: Multiscale Plant Vascular Biology. Newry, ME. June, 2016. (Poster – Reblin & Logan [sole presenter])
- The impacts of the parasitic plant eastern dwarf mistletoe (*Arceuthobium pusillum*) on host photosynthesis and branch biomass partitioning in white spruce (*Picea glauca*). Ecological Society of America. Baltimore, MD. August, 2015. (Poster – Reblin, Logan, DeVillier\*, Tarr\* & Murphy\*)
- Ground based remote sensing and physiological measurements provide insights into canopy optimization in arctic shrubs. American Geophysical Union. San Francisco, CA. December, 2014. (Oral – T. Magney et al.)
- Do asymmetric physiological responses to stress influence the effects of a parasitic plant on two host conifers with different ecophysologies? American Society for Plant Biologists. Portland, OR. July, 2014. (Oral – Reblin & Logan).
- Progressive impacts of parasitism by eastern dwarf mistletoe (*Arceuthobium pusillum*) on the physiology of white spruce (*Picea glauca*). American Society for Plant Biologists. Portland, OR. July, 2014. (Poster – J. DeVillier\*, Logan & Reblin).
- Impacts of a parasitic dwarf mistletoe on the water relations of two host conifers with different drought tolerances. Ecological Society of America. Minneapolis, MN. August, 2013. (Poster – Reblin & Logan).
- Examining the photoprotective role of anthocyanins in *Coleus spp.* International Workshop on Anthocyanins. Charlotte, NC. September, 2011. (Poster – W. Stafstrom\*, Logan & Gould)
- Industrial-age changes in atmospheric [CO<sub>2</sub>] and temperature alter drought sensitivity of photosynthesis in *Eucalyptus*. Ecological Society of America. Austin, TX. August, 2011 (Poster – Lewis et al.)

- Linkages among diel carbon and water fluxes in six *Eucalyptus* species. XVIII International Botanical Congress. Melbourne, Australia. July, 2011 (Oral – Lewis et al. including C Hricko\*)
- Photosynthesis of two eucalypts acclimates to growth temperature but not CO<sub>2</sub>. Gordon Research Conference: CO<sub>2</sub> assimilation in plants: Genome to Biome. Biddeford, ME. August, 2008 (Poster – Ghannoum et al. including C Hricko\*)
- The influence of *Arceuthobium pusillum* infection on the hydraulic architecture of white spruce stems. World Congress on Parasitic Plants, Charlottesville, VA. June, 2007 (Poster – R Dunlavey\*, B Logan, J Reblin).
- Ascorbate's role as an antioxidant in *Arabidopsis thaliana*. Maine Biological and Medical Sciences Symposium, Salisbury Cove, ME. April, 2006 (Poster – A Lescure-Smith\*, B Logan)
- The effects of eastern dwarf mistletoe on the water relations of its hosts. Maine Biological and Medical Sciences Symposium, Salisbury Cove, ME. April, 2006 (Poster – R Butschek\* and B Logan)
- Stress-induced ultra-structural cellular modifications in *Arabidopsis*. Maine Biological and Medical Sciences Symposium, Salisbury Cove, ME. April, 2006 (Oral – A Combs\*, B Logan, B Demmig-Adams)
- Impact of eastern dwarf mistletoe infection (*Arceuthobium pusillum*) on the needles of red (*Picea rubens*) and white spruce (*P. glauca*): Photosynthesis, biochemistry and morphology. Ecological Society of America. Montreal, Canada. August, 2005 (Poster – J Reblin, B Logan, D Tissue)
- The role of cryoprotectants in the freezing tolerances of two competing species of red algae. Ecological Society of America. Montreal, Canada. August, 2005 (Poster – J Harris\*, B Logan)
- Does photodamage to Photosystem II complexes control electron transport during photoinhibition and recovery? International Congress on Photosynthesis. Montreal, Canada. August/September, 2004 (Poster - D Kornyejev, B Logan, A Holaday)
- Previous-year reproduction reduces photosynthetic capacity and slows lifetime growth in females of a neotropical tree. Ecological Society of America. Portland, OR. August, 2004 (Oral – N Wheelwright and B Logan)
- Photosynthesis and photoprotection in *Agave americana* subjected to water stress at ambient and elevated CO<sub>2</sub> concentrations. American Society of Plant Physiologists – Northeast Section. Providence, RI. June, 2004 (S Terry\*, B Logan, S Smith)
- Photosynthesis and photoprotection in *Agave americana* subjected to water stress at ambient and elevated CO<sub>2</sub> concentrations. Western Photosynthesis Conference. January, 2004 (S Terry\*, B Logan, S Smith)
- Enhanced electron transport in cotton overproducing chloroplast-targeted glutathione reductase is not associated with enhanced CO<sub>2</sub> assimilation. Gordon Research Conference on CO<sub>2</sub> Fixation and Metabolism in Green Plants. Mt. Holyoke, MA. August, 2002. (D Kornyejev, B Logan, R Allen, A Holaday)
- Seasonal acclimation of antioxidants in two co-occurring red algae with differing cold tolerances. American Society of Plant Biologists. Denver, CO. August, 2002 (N Lohrmann\*, B Logan)
- Temperature sensitivity of photosystem II (PSII) photoinhibition in cotton. American Society of Plant Biologists. Denver, CO. August, 2002 (D Kornyejev, B Logan, A Holaday)
- The mechanism of enhanced chilling tolerance in transgenic plants with elevated antioxidant enzyme activities. American Society of Plant Biologists. Providence, Rhode Island. July, 2001 (D Kornyejev, B Logan, P Payson, R Allen, A Holaday)
- Photosynthetic characteristics of eastern dwarf mistletoe (*Arceuthobium pusillum*) and its effects on the needles of host white spruce (*Picea glauca*). Ecological Society of America. Snowbird, Utah. August, 2000 (E Huhn\*, B Logan)
- Energy dissipation and radical scavenging by the plant phenylpropanoid pathway. Royal Society Discussion Meeting. London, England. April, 2000 (S Grace, B Logan)
- Acclimation of leaf antioxidant systems to light stress. Annual Meeting of the American Society of Plant Physiologists. Charlotte, North Carolina. July/August, 1995. (S Grace, B Logan, A Keller\*, B Demmig-Adams, W Adams III)

The xanthophyll cycle and acclimation of leaves to different levels of light stress in their natural environment. Robertson Symposium on Chlorophyll Fluorescence. Canberra, Australia. May, 1994. (B Demmig-Adams, B Logan, A Verhoeven, W Adams III)

**Peer Reviewed Publications** (\* denotes Bowdoin undergraduate)

- Garrison JR\*, Caplan JS, Douhovnikoff V, Mozdzer TJ, **Logan BA** (2021) Responses of stomatal features and photosynthesis to porewater N enrichment and elevated atmospheric CO<sub>2</sub> in *Phragmites australis*, the common reed. *American Journal of Botany in press*
- Syednasrollah B, Bowling DR, Cheng R, **Logan BA**, Magney TS, Frankenberg C, Yang JC, Young AM, Hufkens K, Arain MA, Black TA, Blanken PD, Bracho R, Jassal R, Hollinger DY, Law BE, Nestic Z, Richardson AD (2021) Seasonal variation in the canopy color of temperate evergreen conifer forests. *New Phytologist* 229: 2586-2600
- Marrs JK, Reblin JS, **Logan BA**, Allen DW, Reinmann AB, Bombard DM\*, Tabachnik D\*, Hutyrá LR (2020) Solar-induced fluorescence does not track photosynthetic carbon assimilation following induced stomatal closure. *Geophysical Research Letters* 47, e2020GL087956. <https://doi.org/10.1029/2020GL087956>
- Cheng R, Magney TS, Dutta D, Bowling DR, **Logan BA**, Burns SP, Blanken PD, Grossmann K, Lopez S\*, Richardson AD, Stutz J, Frankenberg C (2020) Decomposing reflectance spectra to track gross primary production in a subalpine evergreen forest. *Biogeosciences* 17: 4523–4544
- Mitchell AET\*, **Logan BA**, Reblin JS, Burns KC, Gould KS (2020) Photosynthetic properties of juvenile *Prumnopitys taxifolia* (Podocarpaceae), a divaricate and heteroblastic conifer. *New Zealand Journal of Botany* 58: 19-29
- Magney TS, Bowling DR, **Logan BA**, Grossmann K, Stutz J, Blanken PD, Burns SP, Cheng R, Garcia MA, Köhler P, Lopez S\*, Parazoo N, Rackza B, Schimel D, Frankenberg C (2019) Mechanistic evidence for tracking the precise seasonality of photosynthesis with remotely sensed solar-induced fluorescence. *The Proceedings of the National Academy of Science* 116: 11640-11645
- Brett Raczka BA, Porcar-Castell A, Magney T, Lee JE, Köhler P, Frankenberg C, Grossmann K, **Logan BA**, Stutz J, Blanken PD, Burns SP, Duarte H, Yang X, Lin JC, Bowling DR (2019) Sustained Nonphotochemical Quenching Shapes the Seasonal Pattern of Solar-Induced Fluorescence at a High-Elevation Evergreen Forest. *Journal of Geophysical Research: Biogeosciences* 124: 2005-2020
- Gould KS, Jay-Allemand, C, **Logan BA**, Baissac Y, Bidel LPR (2018) When are foliar anthocyanins useful to plants? Re-evaluation of the photoprotective hypothesis using *Arabidopsis thaliana*. *Environmental and Experimental Botany* 154: 11-22
- Cooney LJ, **Logan BA**, Walsh\* MJL, Nnatabeugo\* NB, Reblin JS, Gould KS (2018) Photoprotection from anthocyanins and thermal energy dissipation in senescing red and green *Sambucus canadensis* peduncles. *Environmental and Experimental Botany* 148: 27-34
- Harris\* JP, **Logan BA** (2018) Seasonal acclimatization of thallus proline contents of *Mastocarpus stellatus* and *Chondrus crispus*: Intertidal Rhodophytes that differ in freezing tolerance. *Journal of Phycology* 54: 419-422
- Bowling DR, **Logan BA**, Hufkens K, Aubrecht DM, Richardson AD, Burns SP, Anderegg, WRL, Blanken PD, Eiriksson D (2018) Limitations to winter and spring photosynthesis of a Rocky Mountain subalpine forest. *Agricultural and Forest Meteorology* 252: 241-255
- Magney TS, **Logan BA**, Reblin JS, Boelman NT, Eitel JUH, Greaves HE, Griffin KL, Prager CM, Vierling LA (2017) Xanthophyll cycle and photosynthetic activity in two prominent Arctic shrub species. *Arctic, Antarctic, and Alpine Research* 49: 277-289
- de Villier\* JA, Reblin JS, **Logan BA** (2017) Needle properties of host white spruce (*Picea glauca* [Moench] Voss) experiencing eastern dwarf mistletoe (*Arceuthobium pusillum* Peck) infections of differing severity. *Botany* 95: 295-305

- Boelman NT, Magney TS, **Logan BA**, Griffin KL, Eitel JUH, Greaves H, Prager CM, Vierling LA (2016) Spectral determination of concentrations of functionally diverse pigments in increasingly complex arctic tundra canopies. *Oecologia* 182: 85-97
- Magney TS, Eitel JUH, Griffin KL, Boelman NT, Greaves HE, Prager CM, **Logan BA**, Zheng G, Ma L, Fortin EA, Oliver RY, Vierling LA (2016) LiDAR canopy radiation model reveals patterns of photosynthetic partitioning in an Arctic shrub. *Agricultural and Forest Meteorology* 221: 78-93
- Logan BA**, Stafstrom\* WC, Walsh\* MJL, Reblin JS, Gould KS (2015) Examining the photoprotection hypothesis for adaxial foliar anthocyanin accumulation by revisiting comparisons of green- and red-leafed varieties of coleus (*Solenostemon scutellarioides*). *Photosynthesis Research* 124: 267-274
- Reblin JS, **Logan BA** (2015) Impacts of eastern dwarf mistletoe on the stem hydraulics of red spruce and white spruce, two host species with different drought tolerances and responses to infection. *Trees – Structure and Function* 29: 475-486
- Lewis JD, Phillips NG, **Logan BA**, Smith RA, Aranjuelo I, Clarke S, Offord CA, Frith A, Barbour M, Huxman T, Tissue DT (2015) Rising temperature may negate the stimulatory effect of rising CO<sub>2</sub> on growth and physiology of Wollemi pine (*Wollemia nobilis*). *Functional Plant Biology* 42: 836-850
- Cooney LJ, Schaefer HM, **Logan BA**, Cox B, Gould KS (2015) Functional significance of anthocyanins in peduncles of *Sambucus nigra*. *Environmental and Experimental Botany* 119: 18-26
- Medeiros JS, Begaye A, Hanson DT, **Logan B**, Pockman WT (2015) Photoprotective response to chilling differs among high and low latitude *Larrea divaricata* grown in a common garden. *Journal of Arid Environments* 120: 51-54
- Magney TS, Eusden\* SA, Eitel JUH, **Logan BA**, Jiang J, Vierling LA (2014) Assessing leaf photoprotective mechanisms using terrestrial LiDAR: towards mapping canopy photosynthetic performance in three dimensions. *New Phytologist* 201: 344-356
- Lewis, D, Smith RA, Ghanoum O, **Logan BA**, Phillips NG, Tissue DT (2013) Industrial-age changes in atmospheric [CO<sub>2</sub>] and temperature differentially alter responses of faster- and slower-growing *Eucalyptus* seedlings to short-term drought. *Tree Physiology* 33: 475-488
- Logan BA**, Reblin JS, Zonana\* DM, Dunlavey\* RF, Hricko\* CR, Hall\* AW, Schmiede\* SC, Butschek\* RA, Duran KL, Emery RJN, Kurepin LV, Lewis JD, Pharis RP, Phillips NP, Tissue DT (2013) Impact of eastern dwarf mistletoe (*Arceuthobium pusillum*) on host white spruce (*Picea glauca*) development, growth and performance across multiple scales. *Physiologia Plantarum* 147: 502-513
- Lewis JD, Phillips NG, **Logan BA**, Hricko\* CR, Tissue DT (2011) Leaf photosynthesis, respiration and stomatal conductance in six *Eucalyptus* species native to mesic and xeric environments growing in a common garden. *Tree Physiology* 31: 997-1006
- Phillips NG, Lewis JD, **Logan BA**, Tissue DT (2011) Impact of variable [CO<sub>2</sub>] and temperature on water transport structure-function relationships in Eucalyptus. *Tree Physiology* 31: 945-952
- Logan BA**, Hricko\* CR, Lewis JD, Ghannoum O, Phillips NG, Smith RA, Conroy JP, Tissue DT (2010) Examination of pre-industrial and future [CO<sub>2</sub>] reveals the temperature-dependent CO<sub>2</sub> sensitivity of light energy partitioning at PSII in eucalypts. *Functional Plant Biology* 37: 1041-1049
- Kornyeyev D, **Logan BA**, Holaday AS (2010) Excitation pressure as a measure of the sensitivity of photosystem II to photoinactivation. *Functional Plant Biology* 37: 943-951
- Ghannoum O, Phillips NG, Sears\* MA, **Logan BA**, Lewis JD, Conroy JP, Tissue DT (2010) Photosynthetic responses of two eucalypts to industrial-age changes in atmospheric [CO<sub>2</sub>] and temperature. *Plant, Cell & Environment* 33: 1671-1681
- Phillips NG, Lewis JD, **Logan BA**, Tissue DT (2010) Inter- and intra-specific variation in nocturnal water transport in Eucalyptus. *Tree Physiology* 30: 586-596
- Krah\* NM, **Logan BA** (2010) Loss of *psbS* expression reduces vegetative growth, reproductive output, and light-limited, but not light-saturated, photosynthesis in *Arabidopsis thaliana* (Brassicaceae) grown in temperate light environments. *American Journal of Botany* 97: 644-649

- Ghannoum O, Phillips NG, Conroy JP, Smith RA, Attard RD, Woodfield R, **Logan BA**, Lewis JD, Tissue DT (2009) Exposure to pre-industrial, current and future atmospheric [CO<sub>2</sub>] and temperature differentially affects growth and photosynthesis in *Eucalyptus*. *Global Change Biology* 16: 303-319
- Logan BA**, Combs\* AF, Myers K, Kent\* R, Stanley\* L, Tissue DT (2009) Seasonal response of photosynthetic electron transport and energy dissipation in the eighth year of exposure to elevated atmospheric CO<sub>2</sub> (FACE) in *Pinus taeda* (loblolly pine). *Tree Physiology* 29: 789-797
- Logan BA**, Terry\* SG, Niyogi KK (2008) *Arabidopsis* genotypes with differing levels of *psbS* expression differ in photosystem II quantum yield, xanthophyll cycle pool size, and above-ground growth. *International Journal of Plant Science* 169: 597-604
- Logan BA**, Hammond\* MP, Stormo\* BM (2008) The French paradox: determining the superoxide scavenging capacity of red wine and other beverages. *Biochemistry and Molecular Biology Education* 36: 39-42
- Logan BA**, Adams, WW, Demmig-Adams B (2007) Avoiding common pitfalls of chlorophyll fluorescence analysis under field conditions. *Functional Plant Biology* 34: 853-859
- Reblin JS, **Logan BA**, Tissue DT (2006) Impact of eastern dwarf mistletoe (*Arceuthobium pusillum*) infection on the needles of red (*Picea rubens*) and white spruce (*P. glauca*): oxygen exchange, morphology, and composition. *Tree Physiology* 26: 1325-1332
- Kornyeyev D, **Logan BA**, Tissue DT, Allen RD, Holaday AS (2006) Compensation for photosystem II photoinactivation by regulated non-photochemical dissipation influences the impact of photoinactivation on electron transport and CO<sub>2</sub> assimilation. *Plant and Cell Physiology* 47: 437-446
- Kornyeyev D, **Logan BA**, Allen RD, Holaday AS (2005) Field-grown cotton plants with elevated activity of chloroplastic glutathione reductase exhibit no significant alteration of diurnal or seasonal patterns of excitation energy partitioning and CO<sub>2</sub> fixation. *Field Crops Research* 94: 165-175
- Kornyeyev D, **Logan BA**, Allen RD, Holaday AS (2005) Estimation of the Photosystem II repair rate in the field. *Physiology and Biochemistry of Cultivated Plants* 37: 17-23 [in Russian]
- Lohrmann\* NL, **Logan BA**, Johnson AS (2004) Seasonal acclimatization of antioxidants in *Chondrus crispus* and *Mastocarpus stellatus*, two co-occurring red algae with differing winter tolerances. *Biological Bulletin* 207: 225-232
- Kornyeyev D, Holaday A, **Logan BA** (2004) Minimization of the light energy absorbed by 'closed' reaction centers of photosystem II as a photoprotective strategy in higher plants. *Photosynthetica* 42: 377-386
- Bachmann KM, Ebbert V, Adams WW III, Verhoeven AS, **Logan BA**, B Demmig-Adams (2004) Effects of lincomycin on PSII efficiency, non-photochemical quenching, D1 protein and xanthophyll cycle during photoinhibition and recovery. *Functional Plant Biology* 31: 803-813
- Wheelwright NT, **Logan BA** (2004) Previous-year reproduction reduces photosynthetic capacity and slows lifetime growth in females of a neotropical tree. *Proceedings of the National Academy of Sciences U.S.A.* 101: 8051-8055
- Kornyeyev D, Holaday A, **Logan BA** (2003) Predicting the extent of photosystem II photoinactivation using chlorophyll *a* fluorescence parameters measured during illumination. *Plant and Cell Physiology* 44: 1064-1070
- Kornyeyev D, **Logan BA**, Allen RD, Holaday A (2003) Effect of chloroplastic overproduction of ascorbate peroxidase on photosynthesis and photoprotection in cotton leaves subjected to low temperature photoinhibition. *Plant Science* 165: 1033-1041
- Logan BA**, Monteiro\* G, Kornyeyev D, Payton P, Allen R, Holaday A (2003) Transgenic overproduction of glutathione reductase does not protect cotton, *Gossypium hirsutum* (Malvaceae), from photoinhibition during growth under chilling conditions. *American Journal of Botany* 90: 1400-1403
- Burkle\* LA, **Logan BA** (2003) Seasonal acclimation of photosynthesis in eastern hemlock and partridgeberry growing in different light environments. *Northeastern Naturalist* 10: 1-16
- Kornyeyev D, **Logan BA**, Payton PR, Allen RD, Holaday AS (2003) Elevated chloroplastic glutathione reductase activities decrease chilling-induced photoinhibition by increasing rates of photochemistry, but not thermal energy dissipation, in transgenic cotton. *Functional Plant Biology* 30: 101-110

- Logan BA**, Huhn\* ER, Tissue DT (2002) Photosynthetic characteristics of eastern dwarf mistletoe (*Arceuthobium pusillum* Peck) and its effects on the needles of host white spruce (*Picea glauca* (Moench) Voss). *Plant Biology* 4: 740-745
- Kornyeyev D, **Logan BA**, Holaday AS (2002) A fluorescence analysis of the allocation of light energy absorbed in photosystem II antennae of cotton leaves during exposure to chilling. *Photosynthetica* 40: 77-84
- Barker DH, Adams WW III, Demmig-Adams B, **Logan BA**, Verhoeven AS, Smith SD (2002) Nocturnally retained zeaxanthin does not remain engaged in a state primed for energy dissipation during the summer in two *Yucca* species growing in the Mojave Desert. *Plant, Cell and Environment* 25: 95-104
- Kornyeyev D, **Logan BA**, Payton P, Allen RD, Holaday AS (2001) Enhanced photochemical light utilization and decreased chilling-induced photoinhibition of photosystem II in cotton overexpressing genes encoding chloroplast-targeted antioxidant enzymes. *Physiologia Plantarum* 113: 323-331
- Logan BA**, Anchordoquy TJ, Monson RK, Pan RS (1999) The effect of isoprene on the properties of spinach thylakoids and phosphatidylcholine liposomes. *Plant Biology* 1: 602-606
- Logan BA**, Demmig-Adams B, Adams WW III, Rosenstiel TN (1999) Effect of nitrogen limitation on foliar antioxidants in relationship to other metabolic characteristics. *Planta* 209: 213-220
- Logan BA**, Monson RK (1999) Thermotolerance of leaf-discs from four isoprene-emitting species is not enhanced by exposure to exogenous isoprene. *Plant Physiology* 120: 821-825
- Adams WW III, Demmig-Adams B, **Logan BA**, Barker DH (1999) Rapid changes in xanthophyll cycle-dependent energy dissipation and photosystem II efficiency in two vines, *Stephania japonica* and *Smilax australis*, growing in the understory of an open *Eucalyptus* forest. *Plant, Cell and Environment* 22: 125-136
- Logan BA**, Demmig-Adams B, Adams WW III, Grace SC (1998) Antioxidation and xanthophyll cycle-dependent energy dissipation in *Cucurbita pepo* and *Vinca major* acclimated to four growth irradiances in the field. *Journal of Experimental Botany* 49: 1869-1879
- Logan BA**, Demmig-Adams B, Adams WW III (1998) Antioxidation and xanthophyll cycle dependent energy dissipation in *Cucurbita pepo* and *Vinca major* upon a sudden increase in growth PPFD in the field. *Journal of Experimental Botany* 49: 1881-1888
- Logan BA**, Grace SC, Adams WW III, Demmig-Adams B (1998) Seasonal differences in xanthophyll cycle characteristics and antioxidants in *Mahonia repens* growing in different light environments. *Oecologia* 116: 9-17
- Grace SC, **Logan BA**, Adams WW III (1998) Seasonal differences in the foliar content of chlorogenic acid, a phenylpropanoid antioxidant, in *Mahonia repens*. *Plant, Cell and Environment* 21: 513-521
- Barker DH, Adams WW III, **Logan BA**, Demmig-Adams B (1998) Photochemistry and xanthophyll cycle-dependent energy dissipation in differently oriented cladodes of *Opuntia stricta* during the winter. *Australian Journal of Plant Physiology* 25: 94-104
- Demmig-Adams B, Moeller DL, **Logan BA**, Adams WW III (1998) Positive correlation between levels of retained zeaxanthin + antheraxanthin and degree of photoinhibition in shade leaves of *Schefflera arboricola*. *Planta* 205: 367-374
- Logan BA**, Barker DH, Demmig-Adams B, Adams WW III (1997) The response of xanthophyll cycle-dependent energy dissipation in *Alocasia brisbanensis* to sunflecks in a subtropical rainforest. *Australian Journal of Plant Physiology* 24: 27-33
- Logan BA**, Barker DH, Demmig-Adams B, Adams WW III (1996) Acclimation of leaf carotenoid composition and ascorbate levels to gradients in the light environment within an Australian rainforest. *Plant, Cell and Environment* 19: 1083-1090
- Grace SC, **Logan BA** (1996) Acclimation of foliar antioxidant systems to growth irradiance in three broad-leaved evergreen species. *Plant Physiology* 112: 1631-1640
- Demmig-Adams B, Adams WW III, Barker DH, **Logan BA**, Bowling DR, Verhoeven AS (1996) Using chlorophyll fluorescence to assess the fraction of absorbed light allocated to thermal dissipation of excess excitation. *Physiologia Plantarum* 98:253-264

- Demmig-Adams B, Adams WW III, **Logan BA**, Verhoeven AS (1995) Xanthophyll cycle-dependent energy dissipation and flexible PSII efficiency in plants acclimated to light stress. *Australian Journal of Plant Physiology* 22: 249-260
- Brown LF, Dubin D, Lavigne L, **Logan B**, Dvorak HF, Van De Water L (1993) Macrophages and fibroblasts express "embryonic" fibronectins during cutaneous wound healing. *American Journal of Pathology* 142: 793-801
- Dubin D, Peters JH, Brown LF, **Logan B**, Kent KC, Berse B, Berven S, Cercek B, Sharifi BG, Pratt RE, Dzau VJ, Van De Water L (1995) Balloon catheterization induces arterial expression of embryonic fibronectins. *Arteriosclerosis, Thrombosis, and Vascular Biology* 15: 1958-1967

**Invited Reviews (peer reviewed)**

- Logan BA**, Demmig-Adams B, Adams III, WW, Bilger W (2014) Context, quantification, and measurement guide for non-photochemical quenching of chlorophyll fluorescence. *In: Non-Photochemical Fluorescence Quenching and Energy Dissipation in Plants, Algae, and Cyanobacteria* (Demmig-Adams B, Garab G, Adams WW III, Govindjee eds). *Advances in Photosynthesis and Respiration*, Volume 40. Springer, Dordrecht, 187-201
- Adams WW, Watson AM, Mueh KE, Amiard V, Turgeon R, Ebbert V, **Logan BA**, Combs\* AF, Demmig-Adams B (2007) Photosynthetic acclimation in the context of structural constraints to carbon export from leaves. *Photosynthesis Research* 94: 455-466
- Logan BA**, Korniyev D, Hardison\* J, Holaday AS (2006) The role of antioxidant enzymes in photoprotection. *Photosynthesis Research* 88: 119-132
- Logan BA** (2006) Oxygen Metabolism and Stress Physiology. *In: The Structure and Function of Plastids* (RR Wise, JK Hooper eds.) Kluwer Academic Publishers, Dordrecht, 539-553
- Logan BA** (2005) ROS and Photosynthesis. *In: Antioxidants and Reactive Oxygen Species in Plants* (N Smirnoff ed.) Blackwell Scientific Publishing, London, 250-267
- Logan BA**, Monson RK, Potosnak MJ (2000) Biochemistry and physiology of foliar isoprene emission. *Trends in Plant Science*. 5: 477-481
- Grace SC, **Logan BA** (2000) Energy dissipation and radical scavenging by the plant phenylpropanoid pathway. *Philosophical Transactions of the Royal Society. Biological Sciences* 355: 1499-1510
- Logan BA**, Demmig-Adams B, Adams WW III (1999) Acclimation of photosynthesis to the environment. *In: Concepts in Photobiology: Photosynthesis and Photomorphogenesis* (GS Singhal, G Renger, SK Sopory, K-D Irrgang, Govindjee eds.) Narosa Publishing House, New Dehli, pp. 477-512
- Demmig-Adams B, Adams WW III, Ebbert V, **Logan BA** (1999) Ecophysiology of the xanthophyll cycle. *In: The Photochemistry of Carotenoids: Applications in Biology. Advances in Photosynthesis Series* (HA Frank, AJ Young, G Britton, RJ Cogdell eds.) Kluwer Academic Publishers, Dordrecht, pp 245-269

**Book Reviews**

- Logan BA** (2006) Review of: Chlorophyll *a* Fluorescence: a Signature of Photosynthesis (GC Papageorgiou and Govindjee, eds.) Springer, Dordrecht. *Journal of the Torrey Botanical Society* 132: 650
- Monson RK, **Logan BA** (1998) Review of: Photosynthesis and the Environment (NR Baker, ed.) Kluwer Academic Publishers, Dordrecht. *Quarterly Review of Biology* 73: 510