

Curriculum Vitae
Barry A. Logan

Biology Department
Bowdoin College
Brunswick, Maine 04011
phone: (207) 725-3944
fax: (207) 725- 3405
e-mail: blogan@bowdoin.edu

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

- 2006-Present Director, Biochemistry Program, Bowdoin College
- 2004-Present 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

- Australian Research Council, "Productivity of *Eucalyptus* in past and future climates – a novel approach to understanding environmental impacts on tree growth," 2007, \$269,000 (with collaborators).
- 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, \$17,900.
- NSF CCLI A&I, "Bringing Chromatography and Spectroscopy into the Undergraduate Curriculum," 2001, \$23,879.
- USDA Standard Research Grant, "Testing Transgenic Cotton With Elevated Anti-oxidants," 1999, \$200,000 (with collaborators).

Bowdoin College

- 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 13th 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

Manuscript reviewer for *Annals of Botany*, *Australian Journal of Plant Physiology*, *Canadian Journal of Botany*, *Ecology*, *Environmental and Experimental Botany*, *Field Crops Research*, *Functional Ecology*, *Functional Plant Biology*, *Journal of Biological Chemistry*, *Journal of the American Society for Horticultural Science*, *New Phytologist*, *Oecologia*, *Physiologia Plantarum*, *Plant, Cell & Environment*, *Plant Physiology*, *Planta*, *Tree Physiology* and *Trends in Plant Science*

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

Chair and Founding Member of the Management Committee, Cornerstones of Science
<cornerstonesofscience.org>

Faculty Fellow, Joseph P. McKeen Center for the Common Good

Lectures and Concerts Committee (1999-2001), Committee on Biochemistry (2000-present; Chair, 2006-present), Recording Committee (2002-2006; Chair, 2004-2005), Bowdoin College, Financial Priorities Committee (2006-present)

Undergraduate Advisees (* Honors students)

Bowdoin College

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 CO₂ 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 CO₂ 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 CO₂ 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 (see Demmig-Adams et al. (1998) in the list of publications)

John Carradine, 1994. Developed an assay to quantify foliar ascorbate content

Invited Seminars

“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.

Panel Discussions

GM Food: Biology, Health, Economics and Politics, Sponsored by Citizens Offering New Alternatives, Damariscotta, Maine, February 2000.

Genetically Modified Foods, Brunswick High School, November 1999.

Genetic Engineering in Agriculture, Sponsored by Environmental Science 101, Bowdoin College, October 1999.

Teaching Workshops Attended

“CBB Mellon Faculty Symposium”, 2000, 2001

“The Future of Plant Biology” Project Kaleidoscope, 2000

Pedagogical media

“Botany Database” < <http://ssad.bowdoin.edu:9780/cbb99/Plants/cgi-bin/intro.pls?>> (Collaborators: R. Thomas [Bates College], Education Technology Center, [Bowdoin College])

Professional Meetings Attended

International Congress on Photosynthesis, 2001, 2004, 2007
International Union of Forest Research Organizations, 2006
American Society of Plant Biologists, 2001, 2002, 2006
Maine Biological and Medical Sciences Symposium, 2006
Ecological Society of America, 1996, 1999, 2000, 2005
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

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 Dunlavy*, 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 CO₂ 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 Dunlavy*)

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

- 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 Dunlavy*, 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 (*Areuthobium 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 CO₂ 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 CO₂ 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 CO₂ assimilation. Gordon Research Conference on CO₂ 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 (* indicates Bowdoin undergraduate)

- Logan BA**, Terry* SG, Niyogi KK *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* in press
- 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 CO₂ 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 CO₂ 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)

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, Kornyejev 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