

CURRICULUM VITAE OF PETER B. REICH

December 2016

BUSINESS ADDRESS

Department of Forest Resources
1530 Cleveland Ave. No., University of Minnesota
St. Paul, MN 55108 (612-624-4270, FAX 625-5212)
preich@umn.edu

HOME ADDRESS

751 Pine Cone Trail (POB 145)
Marine on St. Croix, MN 55047
651-433-1341

EDUCATION

Ph.D. (1983) Department of Natural Resources
Cornell University, Ithaca, New York
Major in environmental biology and plant ecology
M.S. (1977) School of Forestry, Fisheries and Wildlife
University of Missouri, Columbia, Missouri
Major in forest ecology
B.A. (1974) Goddard College, Plainfield, Vermont
Majors in creative writing and physics

PROFESSIONAL EXPERIENCE (post-Ph.D.)

Professor and F.B. Hubachek, Sr. Chair, University of Minnesota (1991- present)
Distinguished McKnight University Professor, University of Minnesota (2003- present)
Regents Professor, University of Minnesota (2007- present)
Resident Fellow, University of Minnesota Institute on the Environment (2009-present)
Foundation Director (2011-13), Chief Scientist (2013- present), Hawkesbury Institute for the Environment,
University of Western Sydney, Richmond, NSW, Australia (joint affiliation with U. of Minnesota)
Member, Graduate Faculties: Ecology, Evolution and Behavior; Forest Ecology and Management; Plant
Biological Sciences; and Conservation Biology Programs; University of Minnesota (1991- present)
Visiting Research Fellow, Laboratorio Ecotono, Universidad Nacional de Comahue, Bariloche, Argentina, 2005
Distinguished Visiting Fellow, Dept. Biological Sciences, Macquarie University, Sydney, Australia, (1998-99)
Associate Professor (1989-91), Assistant Professor (1985-89)
Department of Forestry, University of Wisconsin, Madison, WI
Postdoctoral Associate (1983-85), Boyce Thompson Institute; Cornell University, Ithaca, NY

UNIVERSITY SERVICE (selected, since 2004)

Grand Challenges Exploratory Research Grants Review Panel (Member): Evaluate and prioritize 82 research proposals, 2016
Grand Challenges Research Strategies Team (Member): Identify areas of exceptional cross-disciplinary research strength at the University of Minnesota to harness to more powerfully address society's most complex and consequential problems; Office of the Senior Vice President for Academic Affairs and Provost, 2015-2016
Cornerstone Team (Co-Chair): Accelerate Transfer of Knowledge for the Public Good (one of four bases of Five-Year Strategic Plan, Office of the Vice-President for Research), University of Minnesota, 2014-2015
Distinguished McKnight Professorship Selection Committee (Member), University of Minnesota, 2008-2010
Biosphere-Atmosphere Science Search Committee (Member), Department of Soil, Water, and Climate and Department of Forest Resources, 2007
Silviculture Search Committee (Member), Department of Forest Resources, 2006-07
Dean Search Committee (Member), College of Food, Agriculture, and Natural Resources Sciences, 2006
University of Minnesota Committee to Develop a Blueprint for the Institute on the Environment (Member), 2006
Forest Ecology Search Committee (Chair), Department of Forest Resources, 2004
Vice-President for Research Search Committee (Member), University of Minnesota, 2004

Cedar Creek Natural History Area Executive Committee (Member), 2001- 2008

HONORS, PROFESSIONAL RECOGNITION, SYNERGISTIC ACTIVITIES, AND SERVICE (selected)

American Academy of Arts and Sciences, Member (elected in 2011)

BBVA Prize Laureate (BBVA Foundation Frontiers of Knowledge Award in Ecology and Conservation Biology; Madrid, June 2010)

Citation Indices: Google Scholar (1 June, 2016), total = 58,094 from >480 articles, 30,754 since 2011; h-index = 120; Web of Science Citation Index (March 2016): total = 44,763 from >480 articles; h-index = 114.

According to Thompson Reuters Web of Science, among Most Highly Cited 20 Ecologists and Environmental Scientists in the World (out of \approx 500,000), every 10-year period 1991-2001 to 2005-2015

Invited speaker, plenary and keynote addresses, >180 national/international symposium, research conferences, government, agency, and university seminars; e.g., selected, Australian National Univ. (2011), BIOGEMON 2014 International Conference, Keynote Speaker, Univ. of Bayreuth, Germany (2014), Carleton College (2014), Centre d'étude de la forêt, Annual Conference, Keynote Address, Port Orford, Quebec, March (2010); Chicago Botanic Garden (2012); Cornell Univ. (1997, 2006); DOE Terrestrial Ecosystem Science Annual Meeting, Potomac, MD (2014); DOE Office of Biological and Environmental Research Workshop, "Trait Methods for Representing Ecosystem Change", Rockville, MD (2015); Duke Univ. (1999, 2003, 2008); Fundación BBVA, Biodiversity and Global Change Lecture Series, Madrid and Barcelona, Spain (2007); Gordon Research Conference, Metabolic Basis of Ecology (2004, 2006); Harvard Univ., Biodiversity, Ecology, and Global Change Lecture Series (2007); Harvard Univ. 6th Symposium on Plant Biology (2010); Hokkaido Univ. (1993); Indiana Univ. (2009); Kyoto Univ. (1993); Korea University and Korea National Institute of Forest Science (2016); Lakehead Univ., Ontario, Canada (2010); Lanzhou Univ., (2014); Macquarie Univ., Sydney, Australia (1999, 2007, 2013); McGill Univ. (1999, 2005, 2007); University of Montana (2016); Nanjing Univ. (2014); Nanjing Univ. of Information, Science and Technology (2014); Northern Arizona U. (2010); 24th New Phytologist Symposium - Plant respiration and Climate Change, Oxford Univ. (2010); Peking Univ. (2014); Pennsylvania State Univ., Invited Speaker, 7th Plant Biology Symposium (2009); Princeton Univ. (The John Bonner Lecture)(2006); Stanford Univ. (Inaugural Global Change Series, 2004); SUNY-ESF (2012); SUNY Stony Brook (2006); Texas A& M Univ. (2004, 2008); Vrije Universiteit, Amsterdam; Universitat Autònoma de Barcelona (2007); Univ. of Colorado (2001); Univ. of Connecticut (2010), Univ. of Georgia (2008); Univ. of Illinois (2001); Univ. of Massachusetts Symposium on Plant Biology (2004); Univ. of Melbourne (2013), Univ. of Missouri (2008); Univ. of Nebraska (2012); U. of Nevada (2009); Univ. of Quebec at Montreal (2011); Univ. of Washington (1988); Univ. of Wisconsin-Madison (2013); Univ. of Wisconsin-Milwaukee (2013); Washington Univ. (2003); West Virginia U (2012).
Co-founder, Writer, Editor, MinuteEarth <https://www.youtube.com/user/minuteearth>; YouTube (and Facebook, iTunes, Vessel platforms) video channel dedicated to advancing scientific understanding and interest in earth and environmental science, global change science, and ecology (>85 videos released; >1,300,000 subscribers and > 80 million views since March 2013).

Editorial Board, Topics in Statistical Ecology, Springer (2011-)

Co-chair, Physiological Ecology Section, Faculty of 1000 (2010-)

Scientific Advisory Board, FunDivEUROPE (FUNctional significance of forest bioDIVERSity in EUROPE) Project, 2010 - present

Climate Science Rapid Response Team (charter member, 2010-), scientist network providing rapid, high-quality information to media and government

Minnesota Forest Resources Council, Research Advisory Committee (2008- present)

Commissioner, Mahtomedi City Environmental Commission (2007-2010)

Nature Research Highlight. Our experiment (*B4Warmed: Boreal Forest Warming at an Ecotone in Danger*) featured in *Nature*, 30 July 2009 "Forest growth studies begin to turn up the heat", Vol. 460, p. 559.

Commencement Speaker, Univ. of Minnesota Graduate School commencement, "Dancing on Thin Ice", May 9, 2008

Nature Research Highlight. Our paper (Holdsworth *et al.* 2007, *Conserv. Biol.*) featured in *Nature*, 23 August 2007 "Worm Wood", Vol. 448, p. 843.

Co-initiator of the "Minnesota 2050: Pathways to a Sustainable Future" Project, partnership with >100 citizens from multiple stake-holder groups, working towards a public policy and education-relevant vision of an environmentally and economically sustainable regional future.

Nature Research Highlight. Our papers (*Wright, Reich, Westoby & GLOPNET 2004, Nature; Shipley et al. 2006, Ecology*, and two others) featured in *Nature*, 30 November 2006 “The costs of leafing”, Vol. 444, p. 539-541.

Founding Member, Mahtomedi Area Green Initiative (2007), Mahtomedi, MN

U.S. GAO/National Academy of Sciences Workshop on Climate Change Effects on Federal Lands, November 2006, Washington, D.C.

The ARC-NZ Research Network for Vegetation Function, 2005-2010, M. Westoby, I. Wright, co-conveners (Reich is a Core Participant)

Nature Research Highlight. Our paper (*Reich et al. 2006, Nature*) featured in *Nature News & Views*, by L. Hedin, 26 January 2006, “Plants on a different scale”, Vol. 439, pp. 399-400.

Department of Energy, National Institute on Climate Change Research, Midwestern Regional Panel, 2006-07

Institute for Scientific Information (ISI) Science Citation Index, One of Top 3 Papers in “Environment and Ecology” in the World, 2004-2006 (Wright, Reich, Westoby and Glopnet 2004, *Nature*).

Australian Journal of Botany, Editorial Board 2006-

Oecologia, Editorial Board, 2006 – 2013

Science, *Editor’s Choice* and *PNAS* Commentary. Our paper *Reich & Oleksyn 2004, PNAS* featured in *Science*, 16 July 2004 “Limits from Leaf Litter”, Vol. 305, p. 311, and in *PNAS* Commentary by L. Hedin, “Global organization of terrestrial plant-nutrient interactions”, 27 July 2004, 101, 10849-10850.

Science, *Editor’s Choice*. Our paper *Reich et al. 2004, Ecol Monogr* featured in *Science*, 26 March 2004 “*The demographics of leaves*” Vol. 303, p.1949.

Australian Journal of Botany, Editorial Advisory Committee, 2003- 2006

Faculty of 1000 Biology, 2006-

Tree Physiology, Editorial Review Board, 2004-2007

Eurasian Journal of Forest Research, Editorial Advisory Board, 2004 -

National Science Foundation (USA), Biocomplexity and the Environment Program, Coupled Biogeochemical Cycles Panel Member, 2004

Distinguished Ecologist Lecture, Michigan Technological Univ., 2003

Chair of External Review Committee, for the Intercollegiate Ecology Graduate Program at Penn State Univ., University Park, PA, 2003

Lecturer, Intensive International Graduate Student Course, Functional Diversity in Ecosystems, University of Chile and University of Concepción; Concepción Chile, January 2001

Organizer, North American Forest Ecology Workshop, 2001, Duluth, MN

Environment 2000 Lecture, University of Illinois, Champaign-Urbana, 2000

Barnett Endowed Lecture, University of Michigan Biological Station, 1999

Distinguished Lectureship, University of Western Australia, Perth, Australia, 1999

Distinguished Visiting Fellow, Macquarie University, Sydney, Australia, 1998-99

Subject Editor, *Ecology* and *Ecological Monographs*, 1995-98

National Science Foundation (USA), Ecological and Evolutionary Physiology Panel Member, 1994-97

National Science Foundation (USA), LTER Program Coordinating Committee 1994-96

Associate Editor, *Canadian Journal of Forest Research* (Forestry Canada), 1992- 98

Member, Editorial Board, *Trees* (Springer-Verlag), 1991-1996

National Research Council Panel, NAS; Future of Atmospheric Chemistry Research, August 1995

Presidential Young Investigator Award, National Science Foundation (USA), 1988-1993

Japan Science Board, Visiting Professor Research Exchange Fellowship, 1993

National Academy of Science Scientific Exchange Award, 1991

Member, Editorial Review Board *Tree Physiology* (Heron Publishing), 1987-88, 1993-95

USDA National Research Initiative Grants Program, Plant Response to the Environment Panel member, Washington, D.C., 1991

USDA Competitive Grants Program, Forest Biology Panel member, Washington, D.C., July 1990

Center for Forest Environment Studies, U.S. Forest Service, Macon, GA, member of Technical Steering Committee, 1990-1994

Pound Award for Excellence in Research, University of Wisconsin, 1989

U.S. Forest Service, Forest Response Program - Served on Review Panel for Southern Commercial Forest Response Cooperative Research Program, Raleigh, NC, March 1986

Andrew D. White Fellowship, Cornell University, Ithaca, NY, 1978-1981

UNIVERSITY COURSES TAUGHT

Forest Ecology	Tree Physiology
Plant Physiological Ecology	Tropical Forest Ecology
Dynamics of Global Change: Plant Ecology	Plant Nutrition, Species Ecology and Nutrient Cycling
Plant Responses to Air Pollution	Patch Dynamics
Climate Change Seminar	Ecophysiology of Managed & Natural Ecosystems
Scaling Seminar	Science & Policy of Global Environmental Change
Landscape Ecology	

MENTORING

Formal advisor of 35 students who have received MS or PhD degrees and mentor to an additional \approx 30 scientists (grad students/postdocs) from 20 countries (*co-advised).

PhD: *Rachel Putnam (2015), *Alex Roth (2015), Alexandra Lodge (2015), *Kerrie Sendall (2012), *Nick Fisichelli (2012), *Christel Kern (2011), *Kris Johnson (2010), *Nick Danz (2008), Mark Norris (2007), Ann Pierce (2006), *Andy Holdsworth (2006), Kathleen Knight (2006), *Roy Rich (2005), *Cindy Hale (2003), Kim Chapman (2001), *Martin Dovciak (2001), Steve Friedman (2001), Tali Lee (2001), Mike Tobin (2001), *Meredith Cornett (2000), Jose-Luis Machado (1999), Dave Peterson (1998), Mark Tjoelker (1997), Dirk Vanderklein (1995), Mike Walters (1994), John Volin (1993), Eric Kruger (1992) David Ellsworth (1991)

MS: *Chris Pinahs (2012), *Brian Pelc (2008), Autumn Sabo (2003), Daren Carlson (2001), *Scott Weyenberg (2001), *Meredith Cornett (1996), Janet Eckhoff (1994), Leonora Ko (1989)

Postdoctoral Research Associates: *Adair C, *Aspinwall M, Butler E, *Dijkstra F, Boyden S, Butler E, Chen M, *Dee L, *Delgado-Baquerizo M, Dickie I, *Drake J, Eisenhauer N, * Flores-Moreno H, Frelich L, Heskell, M, *Lebrija E, Lee T, Milla R, Montgomery R, *Mueller K, Oleksyn J, Peters E, *Pfausch S, Rich R, Schnitzer S, *Schrodt F, Schuster M, Strengbom J, Tjoelker M, *West J, Whitfield T. Wragg P

GRANTS RECEIVED (since 1986)

- National Science Foundation (USA), Computer Science Program, "Mapping plant metabolic traits across the globe", A Banerjee and PB Reich, \$1,080,000, 2016-2019
- Minnesota Invasive Terrestrial Plants and Pests Center, Cover It Up! Using Plants to control Buckthorn", 2016-2018, \$327,000
- Department of Energy, Earth System Modeling Program, "Global land model development: time to shift from a plant functional type to a plant functional trait approach", 2014-2017 [P Reich PI, A Banerjee co-PI], \$1,347,500
- National Science Foundation (USA), Long-Term Ecological Research Program, "LTER: Biodiversity, multiple drivers of environmental change, and ecosystem functioning at the prairie forest border", 2013-2018 [D Tilman, S Hobbie, P Reich, E Seabloom], \$5,880,000.
- National Science Foundation (USA), Long-Term Research in Environmental Biology: "LTREB: Longterm Interactions among Biodiversity, CO₂, and N in a Perennial Grassland Ecosystem", 2012-2017, [P. Reich, S. Hobbie, T. Lee, PIs], \$450,000
- Institute on the Environment, University of Minnesota, The Boreal Forest and Community Resilience Project, 2009-2016 [P. Reich, PI], \$800,000
- National Science Foundation (USA), Ecosystem Studies Program, "The Complexity of Global Change - Interactive Effects of Warming, Water Availability, CO₂ and N on Grassland Ecosystem Function ", 2011-2015 [P. Reich, PI; R Montgomery, S Hobbie, co-PIs], \$985,000.
- U.S. Department of Energy Program for Ecosystem Research. "Warming-induced biome change at the temperate-boreal ecotone: an experimental test of key regeneration processes", 2011-2015 [P Reich, PI; R Montgomery, S Hobbie, R Rich, co-PIs], \$2,520,000
- USDA AFRI, "Climate warming of the southern boreal forest: consequences for tree-insect interactions", University of Wisconsin-Madison and University of Minnesota, 2011-2014 [R. Lindroth, K Raffa, P Reich, PIs], \$500,000
- Institute on the Environment, University of Minnesota, Transformational Steps in Synthesis Science, 2011-2016 [P. Reich, PI], \$300,000

- DOE NICCR, “Experimental warming effects on soil organic matter dynamics at the temperate-boreal forest ecotone”, 2010-2011 [S Hobbie, PB Reich, R Montgomery, PIs] \$117,500
- U.S. Department of Energy Program for Ecosystem Research. “Warming-induced biome change at the temperate-boreal ecotone: an experimental test of key regeneration processes”, 2010-2011 [P Reich, PI; R Rich, S Hobbie, R Montgomery, J Oleksyn, co-PIs], \$278,000
- Minnesota LCCMR (Legislative and Citizens Commission for Minnesota Resources), “Healthy Forests to Resist Invasion”, 2010-2013 [P. Reich, PI; A. Pierce, co-PI], \$359,000
- Minnesota LCCMR (Legislative and Citizens Commission for Minnesota Resources), “Adaptive management of black ash in light of emerald ash borer invasion”, 2010-2012 [A. D’Amato, PI; P. Reich, and others, co-PIs], \$650,000
- Wilderness Research Foundation, "Ecological Health and Change in Quetico-Superior forests", 2007-2013 [P. Reich, PI], \$690,000.
- Minnesota LCCMR (Legislative and Citizens Commission for Minnesota Resources), Projecting Environmental Trajectories for Energy-Water-Habitat Planning, 2009-2011 [P. Reich, PI; C Lehman, and others, co-PIs], \$180,000
- Minnesota Department of Natural Resources, Will an exotic woody invader be more aggressive under climate warming? 2008-2010, [P. Reich, PI], \$75,000
- Department of Energy (USA), Sustainable pathways to achieving biofuel policy goals, 2008-2010, [S. Suh, PI; S Taff, P Reich, co-PIs], \$715,340
- National Science Foundation (USA), Advancing Theory in Biology: “Combining Theories for Plant Architecture, Allometry, and Traits to Develop the Next Generation of Scaling Theory”, 2008-2010, [B. Enquist, P. Reich, V. Savage, J. Sperry, PIs], \$737,521
- MN Power, Assessment of carbon flows associated with forest management and biomass procurement for the Laskin biomass facility. [A.R. Ek, D.R. Becker, C.R. Blinn, D. Current, T.E. Burk, A.W. D’Amato, M.A. Kilgore, H.M. Hoganson, P.B. Reich, G.M. Domke, and S. Suh, PIs], 4/2008-12/2008, \$49,428
- Minnesota LCCMR (Legislative and Citizens Commission for Minnesota Resources), Climate change and CO₂ affect prairie/forest production, 2008-2010 [P. Reich, PI; C Lehman, and others, co-PIs], \$330,000, 2008-2010
- Minnesota LCCMR (Legislative and Citizens Commission for Minnesota Resources), Future of Minnesota’s Energy and Water Resources, 2008-2010 [S. Suh, PI; P Reich, A Kapuscinski, and others, co-PIs], \$270,000, 2008-2010
- Australia Research Council, Plant ecological strategies across species and an evolutionary-ecology vegetation model, 2008-2010, [M. Westoby, PI; U. Dieckmann, C. Prentice, P. Reich, cooperating investigators), \$AU 968,000
- Australia Research Council, The physiological ecology of forest succession: explaining shade tolerance variation in evergreen and deciduous trees, 2008-2010, [C. Lusk, U. Niinemets, P. Reich, PIs], \$AU 180,000
- National Science Foundation (USA), Long-Term Ecological Research Program, “Biodiversity, Environmental Change and Ecosystem Functioning at the Prairie-Forest Border”, 2007-2012 [D. Tilman, P. Reich and other co-PIs], \$4,920,000.
- U.S. Department of Agriculture. Microbial Observatory: A Genomics-enabled FACE Microbial Observatory: Changes in Microbial Diversity and Functions in responding to elevated CO, Nitrogen Deposition and Plant Diversity, \$859,000, 2008-2010 [J. Zhou, L. Kellogg, Z. He, PIs, U. of Oklahoma; Reich is a collaborator and sub-contractor]
- U.S. Department of Energy Program for Ecosystem Research. “Warming-induced biome change at the temperate-boreal ecotone: an experimental test of key regeneration processes”, 2007-2011 [P Reich, PI; R Rich, S Hobbie, R Montgomery, J Oleksyn, co-PIs], \$1,806,000
- National Science Foundation (USA), Long-Term Research in Environmental Biology: “LTREB: Longterm Interactions among Biodiversity, CO₂, and N in a Perennial Grassland Ecosystem”, 2007-2012, [P. Reich, S. Hobbie, T. Lee, PIs], \$450,000
- National Institute for Climate Change Research, “Interactions of water, CO₂ and N in an experimental model system”, 2006-11 [P. Reich PI], \$620,000.
- College of Food, Agricultural, and Natural Resources Sciences, University of Minnesota, “An Integrated Initiative on Climate Change in Northern Forests”, 2007-2009, [P. Reich, R. Rich, R. Montgomery, S. Hobbie, T. Lee, and others PIs], \$200,000

- National Science Foundation (USA), TraitNet: Research Coordination Network for Species Traits, 2007-2012 [S. Naeem, D. Bunker, lead PIs] (Reich is a Core Participant), \$500,000.
- National Science Foundation (USA), LTER (\$10,000) and NESCent-NCEAS Working Group, pending (\$20,000), Synthesis Working Group: "Linking phylogenetic history, plant traits, and environmental gradients to understand community organization at local and continental scales", [J. Cavender-Bares, D. Ackerly, G. Burleigh, M. Mack, R. Ree, P. Reich, PIs]
- USDA National Research Institute, "Managing for complex structure and wood productivity in Great Lakes pine ecosystems", 2006-2009 [B. Palik, P. Reich, R. Montgomery, PIs], \$400,000.
- USDA Forest Service, "Climate change and forest productivity in the Lakes States", 2006-2008 [P. Reich, PI], \$50,000.
- ARC Discovery Australia Research Council. Plant species economics and strategy-dimensions of plant ecology, 2006-2007, [M. Westoby, D. Ackerly, H. Cornelissen, S. Diaz, D. Ellsworth, P. Reich, PIs], \$AU 400,000
- Bush Foundation, "University of Minnesota Ecosystem Science and Sustainability Initiative", 2006-2008 [A. Kapuscinski, P. Reich, D. Tilman, PIs], (\$600,000)
- National Science Foundation (USA), Biocomplexity Program, "Interacting responses of C and N cycles to altered biodiversity, elevated CO₂, and N enrichment", 2003-2007 [P. Reich, S. Hobbie and others], \$1,800,000.
- U.S. Forest Service, "Functional responses to overstory retention and understory competition in red pine ecosystems", 2003-2007 [P. Reich], \$169,000.
- National Science Foundation (USA), Ecological and Evolutionary Physiology Program, "Natural Selection and Evolutionary Constraints in an Elevated CO₂ Environment", 2004-2006 [P. Tiffin, P. Reich, R. Shaw, PIs], \$237,000.
- National Science Foundation (USA), Major Research Instrumentation Program, "Development of the Minnesota Terrestrial Integrated Mesocosms for Biophysical and Ecophysiological Research," 2004-2006 [T.J. Griffis, J.M. Cavender-Bares, J.Y. King, M.P. Russelle, P.B. Reich, PIs] \$927,418.
- Bush Foundation, "University of Minnesota Ecosystem Science and Sustainability Initiative", 2004-2006 [A. Kapuscinski, P. Reich, D. Tilman, PIs], \$300,000
- National Science Foundation (USA), Ecosystem Program, "Linking leaf and root traits to ecosystem structure and function in a common garden study of 14 temperate tree species", 2002-2007 [P. Reich, D. Eissenstat, S. Hobbie and others], \$1,080,000.
- National Science Foundation (USA), Long-Term Ecological Research Program, "Biodiversity, disturbance and ecosystem functioning at the prairie-forest border", 2000-2006 [D. Tilman, P. Reich and other co-PIs], \$4,200,000.
- Wilderness Research Foundation, "Ecological Health and Change in Quetico-Superior forests", 2002-2007 [P. Reich, PI], \$530,000.
- National Science Foundation (USA), Ecology Program, "Ecological Consequences of Exotic Invaders: Interactions Involving European Earthworms and Native Plant Communities in Hardwood Forests", 2000-2004 [L. Frelich, P. Reich, PIs], \$318,000.
- National Science Foundation (USA), Long-Term Ecological Research Program, "Schoolyard LTER Program", 1999-2004 [P. Reich and other co-PIs], \$60,000.
- Department of Energy, Terrestrial Ecology Program, "Interaction of biodiversity, CO₂ and soil nitrogen on ecosystem functioning", 2002-2003 [P. Reich, D. Tilman, PIs], \$228,000.
- U.S. Forest Service, "Links between multiple disturbance events: blow-down and fire interactions", 2001-2002 [P. Reich, L. Frelich, R. Rich, PIs] \$20,000.
- Wilderness Research Foundation, "Ecological Health and Change in Quetico-Superior forests", 1999-2002 [P. Reich, PI], \$325,000.
- National Science Foundation (USA), Ecology Program, "Temperature acclimation and adaptation of respiration in eastern deciduous forests", 1998-2001 [P. Bolstad, P. Reich, J. Vose, PIs], \$375,000.
- National Science Foundation (USA), Ecosystem Program, "Biodiversity and the Productivity, Stability and Sustainability of Prairie Ecosystems", 1996-2001 [D. Tilman, P. Reich, J. Knops, PIs], \$507,000.
- Minnesota Department of Natural Resources, "Natural Regeneration of White Pine", 1999-2002 [L. Frelich, P. Reich, PIs], \$120,000.
- NASA, "Bigfoot: An Approach to Validation of EOS NPP Products", 1998-2001, [W. Cohen, T. Gower, P. Reich, D. Turner, PIs], \$1,500,000 (\$230,000 Minnesota portion of budget).

- Department of Energy, Terrestrial Ecology Program, "Interaction of biodiversity, CO₂ and soil nitrogen on ecosystem functioning", 1999-2002 (P. Reich, D. Tilman, PIs), \$1,596,000.
- USDA McIntire-Stennis, Agricultural Experiment Station, "Forest Response to Environmental Change", 2000-2004 [P. Reich, PI], \$80,000.
- National Science Foundation (USA), Ecosystem Program, "Linking leaf and root traits to ecosystem structure and function in a common garden study of 14 temperate tree species", 2001-2002 [P. Reich, J. Oleksyn, D. Eissenstat, S. Hobbie, PIs], \$49,000.
- National Science Foundation (USA), Doctoral Dissertation Improvement Grants Program, "Restoration of upland white cedar in northeastern Minnesota, 1996-1998 [P. Reich, M. Cornett, L. Frelich, PIs], \$9,500.
- NASA, "Local Validation of Global Estimates of Biosphere Properties: A Synthesis of Scaling Methods and Results Across Several Major Biomes", 1996-97 [a multiple site/investigator project, P. Reich, P. Bolstad, PIs for Minnesota site], \$27,500 (Minnesota portion of budget).
- Department of Energy, Terrestrial Ecology and Global Change Program, "Interaction of biodiversity, CO₂ and soil nitrogen on ecosystem functioning", 1996-1999 (P. Reich, D. Tilman, S. Naeem, J Knops, PIs), \$1,560,000.
- Minnesota Department of Natural Resources, "Natural Regeneration of White Pine", 1997-1999 [L. Frelich, P. Reich, PIs], \$80,000.
- Wilderness Research Foundation, "Ecological Health and Change in Quetico-Superior forests", 1996-1999 [P. Reich, PI], \$255,000.
- National Institute for Global Environmental Change, "Measuring and Modeling Component and Whole-system CO₂ Flux at Local to Regional Scales", 1997-2000 [P. Bolstad, P. Reich, K. Davis], \$390,000.
- National Science Foundation (USA), Ecological and Evolutionary Physiology Program, "Biogeographic adaptation to temperature, photoperiod and CO₂ in boreal conifers", 1996-2001 [P. Reich, J. Oleksyn, M. Tjoelker, PIs], \$316,000.
- National Science Foundation (USA), International Programs, "Convergence and divergence in leaf traits", 1999-2000 [P. Reich, PI], \$29,700.
- National Council for Air and Stream Improvement, "Ecosystem management of Minnesota forests: a stand-to-landscape approach to sustainability and biodiversity in harvested and undisturbed forests", 1995-2000 [P. Reich, D. Grigal, L. Frelich, M. Bauer, PIs], \$200,000.
- National Science Foundation (USA), Long-Term Ecological Research Program, "Succession, biodiversity and ecosystem functioning at the prairie-forest border", 1994-2000 [D. Tilman, P. Reich and other co-PIs], \$3,380,000.
- National Science Foundation (USA), Ecology Program, "Mechanisms of patch maintenance in old-growth hemlock-hardwood forest ecosystems", 1995-98 [P. Reich, M. Walters, L. Frelich, K. Puettmann, PIs], \$297,000.
- USDA McIntire-Stennis, Agricultural Experiment Station, "Ecosystem management of Minnesota forests: an integrated stand-to-landscape approach to succession, biodiversity, structure and function in harvested and unharvested northern forests", 1995-1999 [P. Reich, M Bauer, D. Grigal, PIs], \$241,000.
- National Science Foundation (USA), Terrestrial Ecology and Global Change Program, "Forest change in a boreal transition region: productivity, nutrient cycling and biodiversity at multiple scales", 1995-1998 [P. Reich, D. Grigal, P. Bolstad, M. Bauer, PIs], \$428,000.
- Minnesota Department of Natural Resources, "Restoration Ecology of White Cedar", 1994-1998 [L. Frelich, P. Reich, PIs], \$40,000.
- Minnesota Legislative Commission on Minnesota Resources, "Developing Quality Hardwood Forests", 1993-1995 [M. Baughman, T. Burk, P. Reich, co-PIs], \$210,000.
- National Academy of Sciences Scientific Exchange Program, "Air Pollution and Scots pine physiology", 1993, [P. Reich, PI], \$12,100.
- Wilderness Research Foundation, "Ecological Health and Change in Quetico-Superior forests", 1992-1996 [P. Reich, PI], \$172,000.
- National Science Foundation (USA), Presidential Young Investigator Award, "Plant ecophysiology of temperate and tropical forest systems", 1988-1994 [P. Reich, PI], \$312,500.
- USDA Competitive Grants, Forest Biology Program, "Post-fire ecology of red oak and competing hardwood regeneration", 1990-1993 [P. Reich, E. Kruger, S. Gower, M. Abrams, co-PIs], \$129,000.

- National Science Foundation (USA), "Synergistic effects of elevated CO₂ and O₃: role of interspecific differences in stomatal conductance and photosynthetic pathway", 1991-92 [P. Reich, T Givnish, J Volin, co-PIs], \$80,000.
- National Geographic Society, "Air Pollution in Eastern Europe: Problems and Perspectives," 1991-1992 [P. Reich, J. Oleksyn co-PIs], \$24,150.
- National Science Foundation (USA), Ecology Program, "Production and resource use efficiency of larch and sympatric evergreen conifers," 1991-1994 [S. Gower, P. Reich, co-PIs], \$200,000.
- USDA Competitive Grants, Forest Biology Program, "Seasonal carbon, water, and nitrogen relations in pine and oak forests", 1986-1989 [P. Reich, J. Fownes, co-PIs], \$111,000.
- USDA Competitive Grants, Forest Biology Program, "Physiological responses of conifers to sawfly attack", 1987-1990 [K. Raffa, P. Reich, co-PIs], \$150,894.
- National Science Foundation (USA), "Carbon and nutrient relations among oligotrophic forest communities in the north central Amazon basin", 1989-1991 [P. Reich, C. Uhl, co-PIs], \$127,500.
- National Council of the Paper Industry for Air and Stream Improvement, "Integrated studies of the effects of ozone pollution on forests", 1989-1993 [P. Reich, PI], \$112,500.
- McIntire-Stennis Program, USDA, "Effects of acid rain and heavy metal pollution on the physiology of north central forest tree species", 1986-1990 [P. Reich, PI], \$77,000.
- Academy of Finland, National Research Council for Agriculture and Forestry, "Factors affecting cold hardiness in forest trees", 1987-1989 [M. Sutinen, P. Reich, co-PIs], \$20,000.
- Graduate School, University of Wisconsin and C.W. Nave Fund for Latin American Research, "Rain forest ecophysiology in the northern Amazon Basin", 1986-1988 [P. Reich, PI], \$20,465.
- University-Industry Research Program, University of Wisconsin, "Physiological response of red pine trees to fertilizer and sludge treatment", 1986-1988 [P. Reich, PI], \$17,465.
- Graduate School, University of Wisconsin, "Photosynthesis, stomatal control of water loss, and water use efficiency during leaf aging in several tree species", 1986-1987 [P. Reich, PI], \$14,682.

REVIEWER FOR

Agencies:

Ministry of the Environment (Denmark)
 Environmental Protection Agency (USA)
 National Aeronautics and Space Administration (USA)
 Department of Energy- Terrestrial Ecology Program (USA)
 Department of Energy- Carbon Cycling Program (USA)
 NSF- Biocomplexity Program (USA)
 NSF- Ecology Program (USA)
 NSF- Ecosystems Program (USA)
 NSF- Ecological and Evolutionary Physiology Program (USA)
 NSF- International Program (USA)
 Natural Environment Research Council (UK)
 Smithsonian Institution (USA)
 USDA Competitive Grants Research- Forest Biology (USA)
 USDA/NRI- Plant Response to the Environment (USA)
 USDA/NRI- Ecosystems Program(USA)
 U.S. Forest Service (USA)
 U.S. National Park Service (USA)
 Simbiota (International)
 Wisconsin Department of Natural Resources (USA)

Journals (ad hoc referee):

Agronomy Journal; American Naturalist; American Journal of Botany; American Midland Naturalist; Annals of Botany; Biogeochemistry; Biotropica; Can Journal of Botany; Can J of Forest Research; Climatic Change; Crop Science; Ecological Applications; Ecological Monographs; Ecology; Ecology Letters; Ecosystems; Environmental Pollution; Forest Ecology and Management, Forest Science; Functional Ecology; Global Change Biology; HortScience; Journal of Ecology; Journal of Environmental Quality; J Experimental Biology; Nature; Nature Climate Change; Nature Geoscience; Nature Plants; New Phytologist; Oecologia; Oecologia Plantarum; Oikos; Physiologia

Plantarum; Plant, Cell and Environment; Plant Ecology; Plant Physiology; Proc National Academy Sciences; PLOS Biology; Remote Sensing of Environment; Science; Tree Physiology; Trees; Trends in Ecology and Evolution; Water, Air, and Soil Pollution

PRESENTATIONS AT CONFERENCES, CONGRESSES, AND RELATED (as author or co-author)

Approximately 275 (with published abstracts), 400 (in total), 1980-2016

PUBLICATIONS (Refereed, ≈525 total; ≈ 500 journal articles, ≈25 book chapters and other)

2017

- Cornwell, W. K., Wright, I., Turner, J., Maire, V., Barbour, M., Cernusak, L., et al. (in press). A global dataset of leaf delta 13C values. *Scientific Data*.
- Cornwell, W *et al.* Climate and soils together regulate photosynthetic carbon isotope discrimination within C3 plants worldwide. *Ecology* (in press).
- Delgado-Baquerizo, M., Reich, P. B., Khachane, A. N., Campbell, C. D., Thomas, N., Freitag, T. E., Abu Al-Soud, W., Sørensen, S., Bardgett, R. D. and Singh, B. K. (2016), It is elemental: Soil nutrient stoichiometry drives bacterial diversity. *Environmental Microbiology*. Accepted Author Manuscript. doi:10.1111/1462-2920.13642
- Fernandez, C. W., Nguyen, Nhu. H., Stefanski, A., Han, Y., Hobbie, S. E., Montgomery, R.A., Reich, P.B., Kennedy, P. G. 2016. Ectomycorrhizal fungal response to warming is linked to poor host performance at the boreal-temperate ecotone. *Global Change Biol.* doi:10.1111/gcb.13510
- Jewell, M.D., Shipley, B., Low-Décarie, E., Tobner, C.M., Paquette, A., Messier, C., Reich, P.B. 2016. Partitioning the effect of composition and diversity of tree communities on leaf litter decomposition and soil respiration. *Oikos*. Accepted Author Manuscript. doi:10.1111/oik.03868
- Lee, M.R., E.S. Bernhardt, P.M. van Bodegom, J.H.C. Cornelissen, J. Kattge, D.C. Laughlin, U. Niinemets, J. Penuelas, P.B. Reich, B. Yguel, J.P. Wright. 2016. Invasive species' leaf traits and dissimilarity from natives shape their impact on nitrogen cycling: a meta-analysis. *New Phytologist* doi: 10.1111/nph.14115
- Lu, X., Wang, Y.-P., Wright, I. J., Reich, P. B., Shi, Z. and Dai, Y. 2016. Incorporation of plant traits in a land surface model helps explain the global biogeographical distribution of major forest functional types. *Global Ecol. Biogeogr.* doi:10.1111/geb.12535
- O'Sullivan OS, MA Heskell, Reich PB, MG Tjoelker, KW Lasantha, K Weerasinghe, A. Penillard, L Zhu, J.J.G. Egerton, K.J. Bloomfield, D. Creek, NHA Bahar, K.L. Griffin, V. Hurry, P. Meir, M.H. Turnbull, O.K. Atkin. Thermal limits of leaf metabolism across biomes. *Glob Change Biol.* doi:10.1111/gcb.13477
- Pierce, S, D Negreiros, BEL Cerabolini, J Kattge, S Díaz, *et al.* A global view of plant ecological strategies from leaf size and economics trait spectra. *Funct Ecol* (in press)
- Putnam, R, PB Reich. 2017. Climate and competition affect growth and survival of transplanted sugar maple seedlings along a 1,700 km gradient. *Ecological Monographs* doi: 10.1002/ecm.1237
- Scafaro, A. P., Xiang, S., Long, B. M., Bahar, N. H.A., Weerasinghe, L. K., Creek, D., Evans, J. R., Reich, P. B. and Atkin, O. K. 2017. Strong thermal acclimation of photosynthesis in tropical and temperate wet-forest tree species: the importance of altered Rubisco content. *Global Change Biol.* doi:10.1111/gcb.13566
- Thakur, M.P., P.B. Reich, C. Wagg, N.A. Fisichelli, M. Ciobanu, S.E. Hobbie, R.L. Rich, A. Stefanski, N. Eisenhauer. 2017. Effects of soil warming history on the performances of congeneric temperate and boreal herbaceous plant species and their associations with soil biota. *J Plant Ecology* doi: 10.1093/jpe/rtw066
- Wei, X, KM Sendall, A Stefanski, C Zhao, J Hou, RL Rich, RA Montgomery, PB Reich. 2016. Consistent leaf respiratory response to experimental warming of three North American deciduous trees: a comparison across seasons, years, habitats, and sites. *Tree Physiology*, doi:10.1093/treephys/tpw112

2016

- Ali, A. A., Xu, C., Rogers, A., Fisher, R. A., Wullschleger, S.D., McDowell, N.G., Massoud, E.C., Vrugt, J.A., Muss, J.D., Fisher, J.B., Reich, P.B., Wilson, C.J. 2016. A global scale mechanistic model of photosynthetic capacity (LUNA V.1.0), *Geosci. Model Dev.* 9: 587-606, doi:10.5194/gmd-9-587-2016
- Andresen LC, Müller C, De Dato G, Dukes JS, Emmett BA, Estiarte M, Jentsch A, Kröel-Dulay G, Lüscher A, Niu S, Peñuelas J, Reich PB, Reinsch S, Ogaya R, Schmidt IK, Schneider MK, Sternberg M, Tietema A, Zhu K, Bilton MC. 2016. Chapter Nine – Shifting Impacts Of Climate Change: Long-Term Patterns Of Plant

- Response To Elevated CO₂, Drought, And Warming Across Ecosystems. *Advances In Ecological Research* 55:437–473. [Http://Dx.Doi.Org/10.1016/Bs.Aecr.2016.07.001](http://dx.doi.org/10.1016/Bs.Aecr.2016.07.001)
- Aspinwall, M. J., Drake, J. E., Company, C., Vårhammar, A., Ghannoum, O., Tissue, D. T., Reich, P. B. and Tjoelker, M. G. 2016. Convergent acclimation of leaf photosynthesis and respiration to prevailing ambient temperatures under current and warmer climates in *Eucalyptus tereticornis*. *New Phytol*, 212: 354–367. doi:10.1111/nph.14035
- Barrett CB, M Zhou, PB Reich, TW Crowther, J Liang. 2016 Forest value: More than commercial—Response. *Science* 354:1541-1542
- Carey, J.C., J. Tang, P.H. Templer, K.D. Kroeger, T.W. Crowther, A.J. Burton, J.S. Dukes, B. Emmett, S.D. Frey, M.A. Heskell, L. Jiang, M.B. Machmuller, J. Mohan, A.M. Panetta, P.B. Reich, S. Reinsch, X. Wang, S.D. Allison, C. Bamminger, S. Bridgman, S.L. Collins, G. de Dato, W.C. Eddy, B.J. Enquist, M. Estiarte, J. Harte, A. Henderson, B. R. Johnson, K. Steenberg Larsen, Y. Luo, S. Marhan, J.M. Melillo, J. Peñuelas, L. Pfeifer-Meister, C. Poll, E. Rastetter, A.B. Reinmann, L.L. Reynolds, I.K. Schmidt, G.R. Shaver, A.L. Strongh, V. Suseela, A. Tietema. 2016. Temperature response of soil respiration largely unaltered with experimental warming. *Proceedings of the National Academy of Sciences* 113 13797-13802 www.pnas.org/cgi/doi/10.1073/pnas.1605365113
- Chen, HYH, Y Luo, PB Reich, EB Searle, SR Biswas. 2016. Temporal trends of net biomass change are age-dependent in western boreal forests of Canada. *Ecology Letters* 19:1150-1158.
- Craven, D., F. Isbell, P. Manning, J. Connolly, H. Bruelheide, A. Ebeling, C. Roscher, J. van Ruijven, A. Weigelt, B. Wilsey, C. Beierkuhnlein, E. de Luca, J. N. Griffin, Y. Hautier, A. Hector, A. Jentsch, J. Kreyling, V. Lanta, M. Loreau, S. T. Meyer, A. S. Mori, S. Naeem, C. Palmborg, H. W. Polley, P. B. Reich, B. Schmid, A. Siebenkas, E. Seabloom, M. P. Thakur, D. Tilman, A. Vogel, N. Eisenhauer. 2016. Plant diversity effects on grassland productivity are robust to both nutrient enrichment and drought. *Philos Trans Roy Soc B* 371:20150277.
- Crowther, T.W., K. E. O. Todd-Brown, C. W. Rowe, W. R. Wieder, J. C. Carey, M. B. Machmuller, B. L. Snoek, S. Fang, G. Zhou, S. D. Allison, J. M. Blair, S. D. Bridgman, A. J. Burton, Y. Carrillo, P. B. Reich, J. S. Clark, A. T. Classen, F. A. Dijkstra, B. Elberling, B. A. Emmett, M. Estiarte, S. D. Frey, J. Guo, J. Harte, L. Jiang, B. R. Johnson, G. Kröel-Dulay, K. S. Larsen, H. Laudon, J. M. Lavelle, Y. Luo, M. Lupascu, L. N. Ma, S. Marhan, A. Michelsen, J. Mohan, S. Niu, E. Pendall, J. Peñuelas, L. Pfeifer-Meister, C. Poll, S. Reinsch, L. L. Reynolds, I. K. Schmidt, S. Sistla, N. W. Sokol, P. H. Templer, K. K. Treseder, J. M. Welker & M. A. Bradford. 2016. Quantifying global soil carbon losses in response to warming. 2016. *Nature* 540:104-108. doi:10.1038/nature20150
- Delgado-Baquerizo M, J. Grinyer, P.B. Reich, B.K. Singh. 2016. Relative importance of soil properties and microbial community for soil functionality: insights from a microbial swap experiment. *Functional Ecology* 30: 1862-1873 doi:10.1111/1365-2435.12674.
- Delgado-Baquerizo, M, FT Maestre, PB Reich, TC Jeffries, JJ Gaitan, D Encinar, M Berdugo, CD Campbell and BK Singh. 2016. Microbial diversity drives multifunctionality in terrestrial ecosystems. *Nature Communications* DOI: 10.1038/ncomms10541.
- Delgado-Baquerizo, M., P.B. Reich, P. Garcia-Palacios, R. Milla. 2016. Biogeographic bases for a shift in crop C:N:P stoichiometries during domestication. *Ecology Letters* 19: 564–575, doi: 10.1111/ele.12593
- Delgado-Baquerizo M, F.T. Maestre, P.B. Reich, P. Trivedi, Y. Osanai, Y. Liu, K. Hamonts, T.C. Jeffries, B.K. Singh. 2016. Carbon content and climate variability drive global soil bacterial diversity patterns. *Ecological Monographs* 86(3): 373–390, DOI: 10.1002/ecm.1216.
- Delgado-Baquerizo, M., L. Giaramida, P.B. Reich, A.N. Khachane, K. Hamonts, C. Edwards, L. Lawton, B.K. Singh. 2016. Lack of functional redundancy in the relationship between microbial diversity and ecosystem functioning. *Journal of Ecology* 104: 936–946, doi: 10.1111/1365-2745.12585
- Deng, Ye, Z. He, J. Xiong, H. Yu, M. Xu, S. Hobbie, P.B. Reich, C.W. Schadt, A. Kent, E. Pendall, M. Wallenstein, Z. Zhou. 2016. Elevated carbon dioxide accelerates the spatial turnover of soil microbial communities. *Global Change Biology* 22: 957–964, doi: 10.1111/gcb.13098
- Diaz, S, J Kattge, J Cornelissen, IJ Wright, S Lavorel, S Dray, B Reu, M Kleyer, C Wirth, IC Prentice, E Garnier, G Bonish, M Westoby, H Poorter, PB Reich *et al.* 2016. The global spectrum of plant form and function. *Nature* 529:167-171.
- Drake, JE, CA MacDonald, MG Tjoelker, KY Crouse, TE Gimeno, BK Singh, PB Reich, IC Anderson, DS Ellsworth. 2016. Short-term carbon cycling responses of a mature eucalypt woodland to gradual stepwise enrichment of atmospheric CO₂ concentration. *Global Change Biology* 22:380-390.

- Drake, JE, MG Tjoelker, MJ Aspinwall, PB Reich, CVM Barton, BE Medlyn, RA Duursma. 2016. Does physiological acclimation to climate warming stabilize the ratio of canopy respiration to photosynthesis? *New Phytologist* 211: 850-863 doi: 10.1111/nph.13978
- Flores-Moreno, H, PB Reich, EM Lind, and others. 2016. Climate modifies response of non-native and native species richness to nutrient enrichment. *Philos Trans Roy Soc B* 371: 20150273. DOI: 10.1098/rstb.2015.0273
- Harper, A.B., P.M. Cox, P. Friedlingstein, A.J. Wiltshire, C.D. Jones, S. Sitch, L.M. Mercado, M. Groenendijk, E. Robertson, J. Kattge, G. Bönisch, O.K. Atkin, M. Bahn, J. Cornelissen, Ü. Niinemets, V. Onipchenko, J. Peñuelas, L. Poorter, P.B. Reich, N.A. Soudzilovskaia, P. van Bodegom. 2016. Improved representation of plant functional types and physiology in the Joint UK Land Environment Simulator (JULES v4.2) using plant trait information. *Geosci. Model Dev.*, 9: 2415-2440, <http://www.geosci-model-dev.net/9/2415/2016/> doi:10.5194/gmd-9-2415-2016
- Heskel, M.A., O.S. O'Sullivan, P.B. Reich, M.G. Tjoelker, L.K. Weerasinghe, A. Penillard, J.J.G. Egerton, D. Creek, K.J. Bloomfield, J. Xiang, F. Sinca, Z.R. Stangl, A. Martinez-de la Torre, K.L. Griffin, C. Huntingford, V. Hurry, P. Meir, M.H. Turnbull, O.K. Atkin. 2016. Convergence in the temperature response of leaf respiration across biomes and plant functional types. *Proceedings of the National Academy of Science* 113: 3832–3837.
- Heskel, M.A., O.K. Atkin, O.S. O'Sullivan, P.B. Reich, M.G. Tjoelker, L.K. Weerasinghe, A. Penillard, J.J.G. Egerton, D. Creek, K.J. Bloomfield, J. Xiang, F. Sinca, Z.R. Stangl, A. Martinez-de la Torre, K.L. Griffin, C. Huntingford, V. Hurry, P. Meir, M.H. Turnbull. 2016. Reply to Adams *et al.*: Empirical versus process-based approaches to modeling temperature responses of leaf respiration. *Proceedings of the National Academy of Science* 113(41), E5996–E5997, doi: 10.1073/pnas.1612904113
- Kleynhans, SP Otto, PB Reich, M Vellend. 2016. Ecological communities alter selection under elevated carbon dioxide. *Nature Communications* 7, Article number: 12358 doi:10.1038/ncomms12358
- Koven, CD., LM Kueppers, CM Iversen, P Reich, PE Thornton. 2016. "Expanding the Use of Plant Trait Observations and Ecological Theory in Earth System Models: DOE Workshop Report."
- Lebrija-Trejos, E, PB Reich, A Hernández, SJ Wright. 2016. Species with greater seed mass are more tolerant of conspecific neighbours: a key driver of early survival and future abundances in a tropical forest. *Ecology Letters* 19: 1071-1080. doi: 10.1111/ele.12643
- Liang, J, Crowther, TW, Picard, N, Wiser, S, Zhou, M, Alberti, G, Schulze, E-D, McGuire, AD, Bozzato, F, Pretzsch, H, de-Miguel, S, Paquette, A, Hérault, B, Scherer-Lorenzen, M, Barrett, CB, Glick, HB, Hengeveld, GM, Nabuurs, GJ, Pfautsch, S, Viana, H, Vibrans, AC, Ammer, C, Schall, P, Verbyla, D, Tchebakova, N, Fischer, M, Watson, JV, Chen, HYH, Lei, X, Schelhaas, M-J, Lu, H, Gianelle, D, Parfenova, EI, Salas, C, Lee, E, Lee, B, Kim, HS, Bruelheide, H, Coomes, DA, Piotto, D, Sunderland, T, Schmid, B, Gourlet-Fleury, S, Sonké, B, Tavani, R, Zhu, J, Brandl, S, Vayreda, J, Kitahara, F, Searle, EB, Neldner, VJ, Ngugi, MR, Baraloto, B, Frizzera, L, Bałazy, R, Oleksyn, J, Zawila-Niedzwiecki, T, Bouriaud, O, Bussotti, F, Finér, L, Jaroszewicz, B, Jucker, T, Valladares, V, Jagodzinski, AM, Peri, PL, Gonmadze, C, Marth, W, O'Brien, T, Martin, EH, Marshall, AR, Rovero, F, Bitariho, R, Niklaus, PA, Alvarez-Loayza, P, Chamuya, N, Valencia, R, Mortier, F, Wortel, V, Engone-Obiang, NL, Ferreira, LV, Odeke, DE, Vasquez, RM, Lewis, SL and Reich, PB. 2016. Positive biodiversity–productivity relationship predominant in global forests. *Science* 354 (6309). doi: 10.1126/science.aaf8957
- McCulloh, K.A., J. Petitmermet, A. Stefanski, K.E. Rice, R.L. Rich, R.A. Montgomery, P.B. Reich. 2016. Is it getting hot in here? Adjustment of hydraulic parameters in six boreal and temperate tree species after three years of warming. *Global Change Biology* 22:4124-4133. doi:10.1111/gcb.13323
- Mueller, KE, N Eisenhauer, PB Reich, SE Hobbie, OA Chadwick, MJ Castellano, J Chorover, T Dobies, CM Hale, AM Jagodziński, *et al.* 2016. Light, earthworms, and soil resources as predictors of diversity of 10 soil invertebrate groups across monocultures of 14 tree species. *Soil Biology and Biochemistry* 92:184-198.
- Musavi, T., M. Migliavacca, M.J. van de Weg, J. Kattge, G. Wohlfahrt, P.M. van Bodegom, M. Reichstein, M. Bahn, A. Carrara, T.F. Domingues, M. Gavazzi, D. Gianelle, C. Gimeno, A. Granier, C. Gruening, K. Havránková, M. Herbst, C. Hrynkiw, A. Kalhori, T. Kaminski, K. Klumpp, P. Kolari, B. Longdoz, S. Minerbi, L. Montagnani, E. Moors, W.C. Oechel, P.B. Reich, S. Rohatyn, A. Rossi, E. Rotenberg, A. Varlagin, M. Wilkinson, C. Wirth, M.D. Mahecha. 2016. Potential and limitations of inferring ecosystem photosynthetic capacity from leaf functional traits. *Ecology and Evolution* 6: 7352-7366. DOI: 10.1002/ece3.2479
- Nguyen, NH, L Williams, J Vincent, A Stefanski, J Cavender-Bares, C Messier, A Paquette, D Gravel, PB Reich, P Kennedy. Ectomycorrhizal and saprotrophic fungal diversity are linked to different tree community attributes in a field-based tree experiment. *Molecular Ecology* 25: 4032-4046. DOI: 10.1111/mec.13719

- Pfautsch, S., C. Macfarlane, M. Harbusch, A. Wesolowski, R. Smith, M. Boer, M.G. Tjoelker, P.B. Reich, M.A. Adams. 2016. Vessel diameter and related hydraulic traits of 31 *Eucalyptus* species arrayed along a gradient of water availability. *Ecology* 97: 1626. doi:10.1890/16-0147.1
- Pfautsch, S, A Wesolowski, R Smith, C Macfarlane, MG Tjoelker, PB Reich, MA Adams. 2016. Climate determines vascular traits in the ecologically diverse genus *Eucalyptus*. *Ecology Letters* doi: 10.1111/ele.12559
- Reich, PB, KM Sendall, A Stefanski, X Wei, RL Rich, RA Montgomery. 2016. Boreal and temperate trees show strong respiratory acclimation to experimental and seasonal warming. *Nature* 531: 633-636.
- Shipley, B, F DeBello, JHC Cornelissen, E Laliberté, DC Laughlin, PB Reich. 2016. Reinforcing loose foundation stones in trait-based plant ecology. *Oecologia* 180(4):923-931. doi: 10.1007/s00442-016-3549-x.
- Tian, Q, N Liu, W Bai, L Li, J Chen, PB Reich, *et al.* 2016. A novel soil manganese mechanism drives plant species loss with increased nitrogen deposition in a temperate steppe. *Ecology* 97:65–74, DOI: 10.1890/15-0917.1
- Tobner, CM, A Paquette, D Gravel, PB Reich, LJ Williams, C Messier. 2016. Functional identity is the main driver of diversity effects in young tree communities. *Ecology Letters* 19:638-647
- Tu, Q, X Zhou, Z He, K Xue, L Wu, PB Reich, S Hobbie, J Zhou. 2016. The Diversity and Co-occurrence Patterns of N₂-Fixing Communities in a CO₂-Enriched Grassland Ecosystem. *Microbial Ecology* 71:604-615
- Uelmen, JA, Jr., RL Lindroth, PC Tobin, PB Reich, EG Schwartzberg, KF Raffa. 2016. Effects of winter temperatures, spring degree-day accumulation, and insect population source on phenological synchrony between forest tent caterpillar and host trees. *Forest Ecology and Management* 362:241-250.
- Verheyen, K., M. Vanhellemont, H. Auge, L. Baeten, C. Baraloto, N. Barsoum, S. Bilodeau-Gauthier, H. Bruelheide, B. Castagnyrol, D. Godbold, J. Haase, A. Hector, H. Jactel, J. Koricheva, M. Loreau, S. Mereu, C. Messier, B. Muys, P. Nolet, A. Paquette, J. Parker, M. Perring, Q. Ponette, C. Potvin, P. Reich, A. Smith, M. Weih, M. Scherer-Lorenzen. 2016. Contributions of a global network of tree diversity experiments to sustainable forest plantations. *Ambio* 45: 29–41. DOI 10.1007/s13280-015-0685-1
- Yan, Z., W. Han, J. Penuelas, J. Sardans, J. J. Elser, E. Du, P.B. Reich, J. Fang. 2016. Phosphorus accumulates faster than nitrogen globally in freshwater ecosystems under anthropogenic impacts. *Ecology Letters* 19:1237-1246. doi: 10.1111/ele.12658
- Zadworny M, ML McCormack, J Mucha, PB Reich, J Oleksyn. Scots pine fine roots adjust along a 2,000 km cold-climate gradient. *New Phytologist* 212: 389-399. doi: 10.1111/nph.14048

2015

- Ali, A, BE Medlyn, T Aubier, KY Crouse, PB Reich. 2015. Elevated carbon dioxide is predicted to promote coexistence among competing species in a trait-based model. *Ecology and Evolution* 5:4717-4733
- Ali, A, C Xu, A Rogers, NG McDowell, BE Medlyn, RA Fisher, S Wullschleger, PB Reich *et al.* 2015. Global scale environmental control of plant photosynthetic capacity. *Ecological Applications* 25:2349-2365.
- Ali, A. A., Xu, C., Rogers, A., Fisher, R. A., Wullschleger, S. D., McDowell, N. G., Massoud, E. C., Vrugt, J. A., Muss, J. D., Fisher, J. B., Reich, P. B., and Wilson, C. J. 2015. A global scale mechanistic model of the photosynthetic capacity, *Geosci. Model Dev. Discuss.* 8, 6217-6266, doi:10.5194/gmdd-8-6217-2015, 2015.
- Atkin, OK, KJ Bloomfield, PB Reich, MG Tjoelker, *et al.* 2015. Global variability in leaf respiration among plant functional types in relation to climate and leaf traits. *New Phytologist* 206(2): 614-636.
- Cardinale, B. J., Venail, P., Gross, K., Oakley, T. H., Narwani, A., Allan, E., Flombaum, P., Joshi, J., Reich, P. B., Tilman, D. and van Ruijven, J. 2015. Further re-analyses looking for effects of phylogenetic diversity on community biomass and stability. *Funct Ecol* 29:1607-1610. doi:10.1111/1365-2435.12540
- Cesarz, S, PB Reich, S Scheu, L Ruess, M Schaefer, N Eisenhauer. 2015. Nematode functional guilds, not trophic groups, reflect shifts in soil food webs and processes in response to interacting global change factors. *Pedobiologia* 58:23-32.
- Drake, JE, MJ Aspinwall, S Pfautsch, PD Rymer, PB Reich, RA Smith, KY Crous, DT Tissue, Ghannoum, MG Tjoelker. 2015. The capacity to cope with climate warming declines from temperate to tropical latitudes in two widely distributed *Eucalyptus* species. *Global Change Biology* 21:459-472.
- Feng, Z, T Rütting, H Pleije, G Wallin, PB Reich, CI Kammann, PCD Newton, K Kobayashi, Y Luo, J Uddling. 2015. Constraints to Nitrogen Acquisition of Terrestrial Plants under Elevated CO₂. *Global Change Biol* 21:3152-3168.
- Fisichelli, NA, A Stefanski, LE Frelich, and PB Reich 2015. Temperature and leaf nitrogen affect performance of plant species at range overlap. *Ecosphere* 6:art186.

- Frelich L, PB Reich, DW Peterson. 2015. Fire in Upper Midwestern Oak Forest Ecosystems: an Oak Forest Restoration and Management Handbook. General Technical Report PNW-GTR-914. 62 pp
- Hautier, Y, D Tilman, F Isbell, EW Seabloom, ET Borer, PB Reich. 2015. Anthropogenic environmental changes impact ecosystem stability via biodiversity. *Science* 348:336-340, doi: 10.1126/science.aaa1788
- Isbell, F, D Craven, J Connolly, M Loreau, B Schmid, C Beierkuhnlein, T. Martijn Bezemer, C Bonin, H Bruelheide, E de Luca, A Ebeling, J Griffin, Q Guo, Y Hautier, A Hector, A Jentsch, J Kreyling, V Lanta, P Manning, ST Meyer, AS Mori, S Naeem, PA Niklaus, HW Polley, PB Reich, C Roscher, EW Seabloom, MD Smith, MP Thakur, D Tilman, BF Tracy, WH van der Putten, J van Ruijven, A Weigelt, WW Weisser, B Wilsey, N Eisenhauer. 2015. Biodiversity increases the resistance of ecosystem productivity to climate extremes. *Nature* 526: 574-577
- Jamieson, MA, EG Schwartzberg, KF Raffa, PB Reich, RL Lindroth. 2015. Experimental climate warming alters aspen and birch phytochemistry and performance traits for an outbreak insect herbivore. *Global Change Biology* 21: 2698-2710. DOI: 10.1111/gcb.12842
- Jacques, MH, L Lapointe, K Rice, RA Montgomery, A Stefanski, PB Reich. 2015. Responses of two understory herbs, *Maianthemum canadense* and *Eurybia macrophylla*, to experimental forest warming: early emergence is the key to enhanced reproductive output. *Am J Botany* 102: 1610-1624
- Jewell, MD, B Shipley, A Paquette, C Messier, PB Reich. 2015. A traits-based test of the home-field advantage in mixed-species 3 tree litter decomposition. *Annals of Botany* 116: 781-788
- Liang, J, M Zhou, PC Tobin, AD McGuire, PB Reich. 2015. Biodiversity influences plant productivity through niche-efficiency. *Proceedings of the National Academy of Sciences* 112:5738-5743.
- Maire, V, IJ Wright, I Colin Prentice, NH Batjes, R Bhaskar, PM van Bodegom, WK Cornwell, D Ellsworth, Ü Niinemets, A Ordonez, PB Reich, LS Santiago. 2015. Global effects of soil and climate on leaf photosynthetic traits and rates. *Global Ecol Biogeogr* 24:706-717
- Mueller, KE, SE Hobbie, J Chorover, PB Reich, N Eisenhauer, MJ Castellano, OA Chadwick, T Dobies, CM Hale, AM Jagodziński, *et al.* 2015. Effects of litter traits, soil biota, and soil chemistry on soil carbon stocks at a common garden with 14 tree species. *Biogeochemistry* 123:313-327. DOI: 10.1007/s10533-015-0083-6
- Musavi, T, MD Mahecha, M Migliavacca, M Reichstein, MJ van de Weg, PM van Bodegom, M Bahn, C Wirth, PB Reich, F Schrod, J Kattge. 2015. The imprint of plants on ecosystem functioning: A data-driven approach. *International Journal of Applied Earth Observation and Geoinformation* 43: 119-131
- Poorter, H, AM Jagodziński, R RuizPeinado, S Kuyah, Y Luo, J Oleksyn, VA Usoltsev, TN Buckley, PB Reich, L Sack. 2015. How does biomass distribution change with size and differ among species? An analysis for 1200 plant species from five continents. *New Phytol* 208: 736-749
- Reich, PB, KM Sendall, K Rice, RL Rich, A Stefanski, SE Hobbie, RA Montgomery. 2015. Geographic range predicts photosynthetic and growth response to warming in co-occurring tree species. *Nature Climate Change* 5:148-152.
- Rich, RL, A Stefanski, RA Montgomery, SE Hobbie, BA Kimball, PB Reich. 2015. Design and performance of combined infrared canopy and belowground warming in the B4WarmED (Boreal Forest Warming at an Ecotone in Danger) experiment. *Global Change Biol.* 21: 2334-2348, DOI: 10.1111/gcb.12855
- Rivest, D, A Paquette, B Shipley, PB Reich, C Messier. 2015. Tree communities rapidly alter soil microbial resistance and resilience to drought. *Functional Ecology* 29:570-578.
- Roth, A, T Whitfeld, A Lodge, N Eisenhauer, L Frelich, PB Reich. 2015. Invasive earthworms interact with abiotic conditions to influence the invasion of common buckthorn (*Rhamnus cathartica*) *Oecologia* 178 (1), 219-230
- Sandel, B, AG Gutierrez, PB Reich, F Schrod, J Dickie, J. Kattge. 2015. Estimating the missing species bias in plant trait measurements. *J Vegetation Science* 26 828-838, Doi: 10.1111/jvs.12292
- Schrod, F., Kattge, J., Shan, H., Fazayeli, F., Joswig, J., Banerjee, A., Reichstein, M., Bönisch, G., Díaz, S., Dickie, J., Gillison, A., Karpatne, A., Lavorel, S., Leadley, P., Wirth, C. B., Wright, I. J., Wright, S. J. and Reich, P. B. (2015). BHPMF – a hierarchical Bayesian approach to gap-filling and trait prediction for macroecology and functional biogeography. *Global Ecology and Biogeography* 24: 1510-1521. doi: 10.1111/geb.12335
- Sendall, KM, C Lusk, PB Reich. 2015. Becoming less tolerant with age: sugar maple, shade and ontogeny. *Oecologia* 179: 1011-1021.
- Sendall, K.M., C.H. Lusk, P.B. Reich. 2015. Trade-offs in juvenile growth potential vs. shade tolerance among subtropical rainforest trees on soils of contrasting fertility. *Functional Ecology* doi: 10.1111/1365-2435.12573

- Sendall, KM, RA Montgomery, RL Rich, A Stefanski, K Rice, C Zhao, H Jihua, X Wei, PB Reich. 2015. Effects of experimental forest warming on photosynthetic temperature optima of temperate and boreal tree species. *Global Change Biol* 21(3):1342-1357.
- Steinauer, K, D Tilman, PD Wragg, S Cesarz, JM Cowles, K Pritsch, PB Reich, WW Weisser, N Eisenhauer. 2015. Plant diversity effects on soil microbial functions and enzymes are stronger than warming in a grassland experiment. *Ecology* 96(1):99-112.
- Thakur, MP, A Milcu, P Manning, PA Niklaus, C Roscher, S Power, F Ai, H Guo, R Ji, S Pierce, PB Reich, NR Guerrero Ramirez, AN Richter, S Scheu, K Steinauer, T Strecker, D Tilman, A Vogel, N Eisenhauer. 2015. Plant diversity drives soil microbial biomass carbon in grasslands irrespective of global environmental change factors. *Global Change Biol* 21: 4076-4085
- Tu, Q, M Yuan, Z He, Y Deng, K Xue, L Wu, SE Hobbie, PB Reich, J Zhou. 2015. Fungal Communities Respond to Long-Term CO₂ Elevation by Community Reassembly. *Applied and Environmental Microbiology* 81:2445-2454.
- Vanderwel, MC, M Slot, JW Lichstein, PB Reich, J Kattge, OK Atkin, KJ Bloomfield, MG Tjoelker, K Kitajima. 2015. Global convergence in leaf respiration from estimates of thermal acclimation across time and space. *New Phytologist* 207: 1026-1037. doi: 10.1111/nph.13417
- Venail, P, K Gross, TH Oakley, A Narwani, E Allan, P Flombaum, F Isbell, J Joshi, PB Reich, D Tilman, J. van Ruijven, B. J. Cardinale. 2015. Species richness, but not phylogenetic diversity, influences community biomass production and temporal stability in a re-examination of 16 grassland biodiversity studies. *Functional Ecology* 29:615–626.
- Wright, A, SA Schnitzer, PB Reich. 2015. Daily environmental conditions determine the competition–facilitation balance for plant water status. *J Ecol* 103:648-656
- Zanne, AE, DC Tank, WK Cornwell, JM Eastman, SA Smith, RG FitzJohn, DJ McGlenn, BC O'Meara, AT Moles, PB Reich, DL Royer, DE Soltis, PF Stevens, M Westoby, IJ Wright, L Aarssen, RI Bertin, A Calaminus, R Govaerts, F Hemmings, MR Leishman, J Oleksyn, PS Soltis, NG Swenson, L Warman, JM Beaulieu. 2015. Reply to Edwards *et al.* Doubtful pathways to cold tolerance in plants. *Nature* 521:E6-E7.

2014

- Cornwell, WK, Westoby, M, Falster, DS, FitzJohn, RG, BC O'Meara, *et al.* 2014. Functional distinctiveness of major plant lineages. *J Ecology* 102:345-356.
- Eisenhauer, N, A Stefanski, NA Fisichelli, K Rice, R Rich, PB Reich. 2014. Warming shifts 'worming': effects of experimental warming on invasive earthworms in northern North America. *Scientific Reports* 4: 6890.
- Fazayeli, F, A Banerjee, J Kattge, F Schrod, PB Reich. 2014. Uncertainty Quantified Matrix Completion using Bayesian Hierarchical Matrix Factorization. *Machine Learning and Applications (ICMLA), 2014 13th International Conference on*. P3 312-317.
- Fisichelli, N., A. Wright, K. Rice, A. Mau, C. Buschena, PB Reich. 2014. First-year seedlings and climate change: species-specific responses of 15 North American tree species. *Oikos* 11:1331–1340.
- Fisichelli, N., L. Frelich, PB Reich. 2014. Temperate tree expansion into adjacent boreal forest patches facilitated by warmer temperatures. *Ecography* 37:152-161.
- Flores, O, E Garnier, IJ Wright, PB Reich, S. Pierce, S Diaz, *et al.* 2014. An evolutionary perspective on leaf economics: phylogenetics of leaf mass per area in vascular plants. *Ecology and Evolution* 4(14):2799–2811.
- Gross, K, BJ Cardinale, JW Fox, A Gonzalez, M Loreau, H. Wayne Polley, PB Reich, J van Ruijven. 2014. Species richness and the temporal stability of biomass production: A new analysis of recent biodiversity experiments. *Am Nat* 183:1-12.
- Handler, S, M Duvencek, L Iverson, E Peters, R Scheller, K Wythers, L Brandt, P Butler, M Janowiak, D Shannon, C Swanston, AC Eagle, JG Cohen, R Corner, PB Reich and others. 2014. Michigan forest ecosystem vulnerability assessment and synthesis: a report from the Northwoods Climate Change Response Framework project. Gen. Tech. Rep. NRS-129. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 229 pp.
- Handler, S, M Duvencek, L Iverson, E Peters, R Scheller, K Wythers, L Brandt, P Butler, M Janowiak, P D Shannon, C Swanston, K Barrett, R Kolka, C McQuiston, B Palik, P Reich, C Turner, M White, C Adams, A D'Amato, S Hagell, P Johnson, R Johnson, M Larson, S Matthews, R Montgomery, S Olson, M Peters, A Prasad, J Rajala, J Daley, M Davenport, M Emery, D Fehring, C Hoving, G Johnson, L Johnson, D Neitzel, A Rissman, C Rittenhouse, R Ziel. 2014. Minnesota forest ecosystem vulnerability assessment and synthesis: a

- report from the Northwoods Climate Change Response Framework. Gen. Tech. Rep. NRS-133. Newtown Square, PA; U.S. Department of Agriculture, Forest Service, Northern Research Station. 228 p.
- Janowiak, M, LR Iverson, DJ Mladenoff, E Peters, KR Wythers, W Xi, LA Brandt, PR Butler, SD Handler, PD Shannon, C Swanston, LR Parker, AJ Amman, B Bogaczyk, C Handler, E Lesch, PB Reich, S Matthews, M Peters, A Prasad, S Khanal, F Liu, T Bal, D Bronson, A Burton, J Ferris, J Fosgitt, S Hagan, E Johnston, E Kane, C Matula, R O'Connor, D Higgins, M St. Pierre, J Daley, M Davenport, MR Emery, D Fehring, CL Hoving, G Johnson, D Neitzel, M Notaro, A Rissman, C Rittenhouse, R Ziel. 2014. Forest ecosystem vulnerability assessment and synthesis for northern Wisconsin and western Upper Michigan: a report from the Northwoods Climate Change Response Framework Project. Gen. Tech. Rep. NRS-136. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 247 pp.
- Kern, CC, RA Montgomery, PB Reich, TF Strong. 2014. Harvest-Created Canopy Gaps Increase Species and Functional Trait Diversity of the Forest Ground-Layer Community. *Forest Science* 60:335-344.
- Lau, JA, RG Shaw, PB Reich, P Tiffin. 2014. Indirect effects drive evolutionary responses to global change. *New Phytol* 201:335-343.
- Lebrija-Trejos, E, SJ Wright, A Hernández, PB Reich. 2014. Does relatedness matter? Phylogenetic density-dependent survival of seedlings in a tropical forest. *Ecology* 95: 940-951.
- Lohier, T, F Jabot, D Meziane, B Shipley, PB Reich, G Deffuant. 2014. Explaining ontogenetic shifts in root-shoot scaling with transient dynamics. *Ann Botany* 114 (3):513-524.
- Madani N, JS Kimball, DLR Affleck, J Kattge, J Graham, PM van Bodegom, PB Reich, and SW Running. 2014. Improving ecosystem productivity modeling through spatially explicit estimation of optimal light use efficiency. *JGR Biogeosciences* 119:1755-1769
- Moles, A *et al.* 2014. What is a better predictor of plant traits: temperature or precipitation? *J Vegetation Science* 25(5):1167–1180.
- Palik, B, R Montgomery, PB Reich, S Boyden. 2014. Biomass growth response to spatial pattern of variable retention harvesting in a northern Minnesota pine ecosystem. *Ecological Applications* 24:2078–2088.
- Pietsch, KA, K Ogle, JHC Cornelissen, WK Cornwell, G Bönisch, JM Craine, BG Jackson, J Kattge, DA Peltzer, J Penuelas, PB Reich, DA Wardle, JT Weedon, IJ Wright, AE Zanne, C Wirth. 2014. Global relationship of leaf and wood decomposability: the role of trait spectra and phylogenetic history. *Global Ecology Biogeography* 23(9):1046–1057.
- Price, C, I Wright, D Ackerly, Ü Niinemets, PB Reich, E Veneklaas. 2014. Are leaf functional traits “invariant” with plant size, and what is “invariance” anyway? *Functional Ecology* 28(6):1330–1343.
- Reich, PB. 2014. The worldwide ‘fast-slow’ plant economics spectrum: a traits manifesto. *J Ecology* 102:275-301.
- Reich, PB, SE Hobbie, TD Lee. 2014. Plant growth enhancement by elevated CO₂ eliminated by joint water and nitrogen limitation. *Nature Geoscience* 7:920–924, doi:10.1038/ngeo2284
- Reich, PB, Y Luo, J Bradford, H. Poorter, C Perry, J Oleksyn. 2014. Temperature drives global patterns in forest biomass allocation in leaves, stems and roots. *Proc Natl Acad Sci* 111(38):13721–13726.
- Reich, PB, R Rich, X Lu, Y-P Wang, J Oleksyn. 2014. Biogeographic variation in evergreen conifer needle longevity and impacts on boreal forest carbon cycle projections. *Proc Natl Acad Sci* 111:13703-13708.
- Schwartzberg, EG, MA Jamieson, KF Raffa, PB Reich, RA Montgomery, RL Lindroth. 2014. Simulated climate warming alters phenological synchrony between an outbreak insect herbivore and host trees. *Oecologia* 175:1041-1049.
- Scherer-Lorenzen, M, H Bruelheide, A Paquette, Quentin Ponette, A Hector, C Messier, H Jactel, K Verheyen, P Reich, J Koricheva, M Huxham, D Godbold, M Perring, N Barsoum, K Hulvay, C Potvin. 2014. Assessing biodiversity effects on forest multi-functionality using a global network of tree diversity experiments. *The International Forestry Review* 16:5.
- Thakur, MP, PB Reich, WC Eddy, A Stefanski, R Rich, SE Hobbie, N Eisenhauer. 2014. Some plants like it warmer: increased growth of three selected invasive plant species in soils with a history of experimental warming. *Pedobiologia* 57:57-60.
- Thakur, MP, PB Reich, N Fisichelli, A Stefanski, S Cesarz, T Dobies, R Rich, SE Hobbie, N Eisenhauer. 2014. Nematode community shifts in response to experimental warming and canopy conditions are associated with plant community changes in the temperate-boreal forest ecotone. *Oecologia* 175:713-723.
- Tobner, CM, A Paquette, PB Reich, D Gravel, C Messier. 2014. Advancing biodiversity – ecosystem functioning science using high-density tree-based experiments over functional diversity gradients. *Oecologia* 174:609-621.

- Violle, C, PB Reich, S Pacala, BJ Enquist, J Kattge. 2014. The emergence of functional biogeography. [Introduction to Special Feature], Proc Natl Acad Sci USA. 111(38):13690–13696.
- Whitfeld, T, A Lodge, A Roth, PB Reich. 2014. Community phylogenetic diversity and abiotic site characteristics influence abundance of the invasive plant *Rhamnus cathartica* L. J Plant Ecology 7:202-209.
- Whitfeld, T, A Roth, A Lodge, N Eisenhauer, LE Freich, PB Reich. 2014. Resident plant diversity and introduced earthworms have contrasting effects on the success of invasive plants. Biological Invasions 16: 2181–2193.
- Wright, A, SA Schnitzer, PB Reich. 2014. Living close to your neighbors – the importance of both competition and facilitation in plant communities. Ecology 95:2213–2223.
- Wright, IJ, DL Royer, A Ordonez, J Oleksyn, PB Reich. 2014. Global Leaf Phenology Database. Data from: Three keys to the radiation of angiosperms into freezing environments. Nature. Dryad Digital Repository. <http://dx.doi.org/10.5061/dryad.63q27/5>.
- Zanne, AE, DC Tank, WK Cornwell, JM Eastman, SA Smith, RG FitzJohn, DJ McGlenn, BC O'Meara, AT Moles, PB Reich, DL Royer, DE Soltis, PF Stevens, M Westoby, IJ Wright, L Aarssen, RI Bertin, A Calaminus, R Govaerts, F Hemmings, MR Leishman, J Oleksyn, PS Soltis, NG Swenson, L Warman, JM Beaulieu. 2014. Three keys to the radiation of angiosperms into freezing environments. Nature 506:89- 92.

2013

- Ali, A., B Medlyn, K Crous, PB Reich. 2013. A trait-based ecosystem model suggests that long-term responsiveness to rising atmospheric CO₂ concentration is greater in slow-growing than fast-growing plants. Functional Ecology 27:1011-1022.
- Bentley, LP, JC Stegen, VM Savage, BJ Enquist, DD Smith, EI von Allmen, JS Sperry, PB Reich. 2013. An empirical assessment of tree branching architecture and implications for plant scaling models. Ecology Letters 16:1069-1078.
- Brassard, BW, HYH Chen, X Cavard, J Laganier, PB Reich, Y Bergeron, D Pare, Z Yuan. 2013. Tree species diversity increases fine root productivity through increased soil volume filling. J Ecology 101:210-219, doi: 10.1111/1365-2745.12023
- Cardinale, BJ, K Gross, K Fritschie, P Flombaum, J Fox, C Rixen, J van Ruijven, PB Reich, M Scherer-Lorenzen, BJ Wilsey. 2013. Biodiversity simultaneously enhances the production and stability of community biomass, but the effects are independent. Ecology 94:1697-1707.
- Danz, NP, LE Frelich, PB Reich, GJ Niemi. 2013. Do vegetation boundaries display smooth or abrupt spatial transitions along environmental gradients? Evidence from the prairie-forest biome boundary of historic Minnesota, USA. J Veg Sci. 24:1129-1140.
- Eisenhauer N, T Dobies, S Cesarz, SE Hobbie, RJ Meyer, PB Reich. 2013. Plant diversity effects on soil food webs are stronger than those of elevated CO₂ and N deposition in a long term grassland experiment. Proc Natl Acad Sci 110:6889-6894.
- Farrior, C, GD Tilman, R Dybzinski, PB Reich, SA Levin, SW Pacala. 2013. Resource limitation in a competitive context determines complex plant responses to experimental resource additions. Ecology 94:2505-2517.
- Fazayeli, F, A Banerjee, J Kattge, F Schrod, PB Reich. 2013. Uncertainty quantified matrix completion using Bayesian hierarchical matrix factorization. NIPS Workshop on Probabilistic Models for Big Data.
- Fisichelli, N, L Frelich, PB Reich, N Eisenhauer. 2013. Linking direct and indirect pathways mediating earthworms, deer, and understory composition in Great Lakes forests. Biological Invasions 15:1057-1066, DOI: 10.1007/s10530-012-0350-6
- Fisichelli, N, L Frelich, PB Reich. 2013. Climate and interrelated tree regeneration drivers in mixed temperate-boreal forests. Landscape Ecology 28:149-159, DOI: 10.1007/s10980-012-9827-z
- Fraser, LH, HAL Henry, CN Carlyle, SR White, C Beierkuhnlein, JF Cahill Jr., BB Casper, E Cleland, SL Collins, JS Dukes, AK Knapp, E Lind, R Long, Y Luo, PB Reich, MD Smith, M Sternberg, R Turkington. 2013. Coordinated Distributed Experiments: an emerging tool for testing global hypotheses in ecology and environmental science. Front Ecol Environ 11:147-155, doi:10.1890/110279
- Isbell, F, PB Reich, D Tilman, S Hobbie, S Polasky, S Binder. 2013. Nutrient enrichment, biodiversity loss, and consequent declines in ecosystem productivity. Proc Nat Acad Sci 110:11911-11916.
- Kern, CC, RA Montgomery, PB Reich, TF Strong. 2013. Canopy gap size influences niche partitioning of the ground-layer plant community in a northern temperate forest species. J Plant Ecology 6:101-112.
- Kikuzawa, K, Y Onuda, IJ Wright, PB Reich. 2013. Mechanisms underlying global temperature-related patterns in leaf longevity. Global Ecology Biogeography 22:982-993.

- Montgomery, R, B Palik, SB Boyden, PB Reich. 2013. New cohort growth and survival in variable retention harvests of a pine ecosystem in Minnesota, USA. *Forest Ecology Management* 310: 327-335.
- Mueller, KE, SE Hobbie, D Tilman, PB Reich. 2013. Effects of plant diversity, N fertilization, and elevated carbon dioxide on grassland soil N cycling in a long-term experiment. *Global Change Biol* 19: 1249-1261.
- Mueller K, DM Eissenstat, CW Müller, J Oleksyn, PB Reich, KH Freeman. 2013. What controls the concentration of various aliphatic lipids in soil? *Soil Biology Biochemistry* 63:14-17.
- Mulder, CM, FS Ahrestani, M Bahn, DA Bohan, M Bonkowski, BS Griffiths, RA Guicharnaud, J Kattge, PH Krogh, S Lavorel, OT Lewis, G Mancinelli, S Naeem, J Peñuelas, H Poorter, PB Reich, L Rossi, GM Rusch, J Sardans, IJ Wright. 2013. Connecting the green and brown worlds: Allometric and stoichiometric predictability of above- and below-ground networks. *Adv Ecol Res* 49:69-175.
- Norris, MD, PG Avis, PB Reich, SE Hobbie. 2013. Positive feedbacks between decomposition and soil nitrogen availability along fertility gradients. *Plant and Soil* 367:347-361, DOI 10.1007/s11104-012-1449-3
- Ollinger SV, PB Reich, S Frolking, LC Lepine, DY Hollinger, AD Richardson. 2013. Nitrogen cycling, forest canopy reflectance, and emergent properties of ecosystems. *Proc Natl Academy Sciences* 110: E2437
- Osnas, JLD, JW Lichstein, PB Reich, SW Pacala. 2013 Global leaf trait relationships: Mass, area, and the leaf economics spectrum. *Science* 340: 741-744.
- Perez-Harguindegay, S Díaz, E Garnier, S Lavorel, H Poorter, P Jaureguiberry, MS Bret-Harte, WK Cornwell, J M Craine, DE Gurvich, C Urcelay, EJ Veneklaas, PB Reich, L Poorter, IJ Wright, P Ray, L Enrico, JG Pausas, AC de Vos, N Buchmann, G Funes, F Quetier, JG Hodgson, K Thompson, HD Morgan, H ter Steege, MGA van der Heijden, L Sack, B Blonder, P Poschlod, V Vaieretti, G Conti, AC Staver, S Aquino, JHC Cornelissen. 2013. New handbook for standardised measurement of plant functional traits worldwide. *Aust J Bot* 61:167-234.
- Peters, EB, K Wythers, J Bradford, PB Reich. 2013. Influence of disturbance on temperate forest productivity. *Ecosystems* 16:95-110.
- Peters, EB K Wythers, S Zhang, J Bradford, PB Reich 2013. Potential climate change impacts on temperate forest ecosystem processes. *Can J Forest Research* 43:939-950.
- Reich, PB. 2013. Diversity of traits: a functional link to adaptation, community assembly, and ecosystem structure and function. *Topical Insight 12:7 In Strasburger's Plant Sciences*, pp 1131-1136.
- Reich, PB, SE Hobbie. 2013. Decade-long soil nitrogen constraint on the CO₂ fertilization of plant biomass. *Nature Climate Change* 3: 278- 282. Published online, 30 Sept 2012, DOI: 10.1038/NCLIMATE1694.
- Sendall, KM, PB Reich. 2013. Variation in leaf and twig CO₂ flux as a function of plant size: a comparison of seedlings, saplings and trees. *Tree Physiology* 33:713-729.
- Shuang, X, PB Reich, S Sun, OK Atkin. 2013. Contrasting leaf trait scaling relationships in tropical and temperate wet forest species. *Functional Ecology* 27:522- 534, doi: 10.1111/1365-2435.12047
- Verheijen, LM, V Brovkin, R Aerts, G Bonisch, JHC Cornelissen, J Kattge, PB Reich, IJ Wright, PM van Bodegom. 2013. Impacts of trait variation through observed trait–climate relationships on performance of an Earth system model: a conceptual analysis. *Biogeosciences* 10:5497-5515.
- *Westoby, M, *PB Reich, *IJ Wright. 2013. Understanding ecological variation across species: area-based vs mass-based expression of leaf traits. *New Phytologist* 199:322-323. [*all authors contributed equally to the paper]
- Wright A, SA Schnitzer, IA Dickie, AR Gunderson, GA Pinter, SA Mangan, PB Reich. 2013. Complex facilitation and competition in a temperate grassland: loss of plant diversity and elevated CO₂ have divergent and opposite effects on oak establishment. *Oecologia* 171:449-458.
- Wythers, K, PB Reich, JB Bradford. 2013. Incorporating temperature–sensitive Q_{10} and foliar respiration acclimation algorithms modify modeled ecosystem responses to global change. *J Geophys Res* 118: 1-14
- Xu, M, Z He, D Ye, L Wu, JD Van Nostrand, SE Hobbie, PB Reich, J Zhou. 2013. Elevated CO₂ influences microbial carbon and nitrogen cycling. *BMC Microbiology* 13:124-135.

2012

- Boyden, S, R Montgomery, PB Reich, B Palik. 2012. Seeing the forest for the heterogeneous trees: stand-scale resource distributions emerge from tree-scale structure. *Ecol Applications* 22(5):1578–1588.
- Brzostek, ER, JM Blair, JS Dukes, SD Frey, SE Hobbie, JM Melillo, RJ Mitchell, E Pendall, PB Reich, GR Shaver, A Stefanski, MG Tjoelker, AC Finzi. 2012. The effect of experimental warming and precipitation

- change on proteolytic enzyme activity: positive feedbacks to nitrogen availability are not universal. *Global Change Biology* 18:2617-2625.
- Cavender-Bares, J, PB Reich. 2012. Shocks to the system: Community assembly of the oak savanna in a 40-year fire frequency experiment. *Ecology* 93(8): S52–S69.
- Clark CM, DFB Flynn, BJ Butterfield, PB Reich. 2012. Testing the Link between Functional Diversity and Ecosystem Functioning in a Minnesota Grassland Experiment. *PLoS ONE* 7(12): e52821. doi:10.1371/journal.pone.0052821
- Deng, Y, Z He, M Xu, Y Qin, JD Van Nostrand, L Wu, BA Roe, G Wiley, SE Hobbie, PB Reich, J Zhou. 2012. Elevated carbon dioxide alters the structure of soil microbial communities. *Applied and Environmental Microbiology* 78:2991-2995.
- Eisenhauer, N, S Cesarz, R Koller, K Worm, PB Reich. 2012. Global change below ground: impacts of elevated CO₂, nitrogen and summer drought on soil food webs and biodiversity. *Global Change Biology* 18:435–447, doi: 10.1111/j.1365-2486.2011.02555.x.
- Eisenhauer, N, NA Fisichelli, LE Frelich, PB Reich. 2012. Interactive effects of global warming and “global warming” on the initial establishment of native and exotic herbaceous plant species. *Oikos* 121:1121-1133, doi: 10.1111/j.1600-0706.2011.19807x.
- Eisenhauer, N, PB Reich. 2012. Above- and below-ground plant inputs both fuel soil food webs. *Soil Biology and Biochemistry* 45:156-160, doi:10.1016/j.soilbio.2011.10.019
- Eisenhauer, N PB Reich, F Isbell. 2012. Decomposer diversity and identity influence plant diversity effects on ecosystem functioning. *Ecology* 93(10): 2227–2240.
- Eisenhauer, N, PB Reich, S Scheu. 2012. Increasing plant diversity effects on productivity with time due to delayed soil biota effects on plants. *Basic Applied Ecology* 13(7):571–578, <http://dx.doi.org/10.1016/j.baae.2012.09.002>.
- Falster, DS*, PB Reich*, DS Ellsworth, IJ Wright, M Westoby, J Oleksyn, TD Lee. 2012. Lifetime return on investment increases with leaf lifespan among 10 Australian woodland species. *New Phytologist* 193:409–419. Article first published online: 8 NOV 2011 DOI: 10.1111/j.1469-8137.2011.03940.x [*first two authors contributed equally to the paper]
- Fisichelli, N, LE Frelich, PB Reich. 2012. Sapling growth responses to warmer temperatures ‘cooled’ by browse pressure. *Global Change Biology* 18:3455–3463, doi: 10.1111/j.1365-2486.2012.02785.x
- Frelich, LE, RO Peterson, M Dovčiak, PB Reich, JA Vucetich, N Eisenhauer. 2012. Trophic cascades, invasive species, and body-size hierarchies interactively modulate climate change responses of ecotonal temperate-boreal forest. *Phil Trans Roy Soc.* 367:2955–2961.
- Goll, DS, V Brovkin, BR Parida, CH Reick, J Kattge, PB Reich, PM van Bodegom, Ü Niinemets. 2012. Nutrient limitation reduces land carbon uptake in simulations with a model of combined carbon, nitrogen and phosphorus cycling. *Biogeosciences* 9:3547–3569.
- He, Z, Y Piceno, Y Deng, M Xu, Z Lu, T DeSantis, G Andersen, SE Hobbie, PB Reich, J Zhou. 2012. The phylogenetic composition and structure of soil microbial communities shifts in response to elevated carbon dioxide. *ISME J* 6:259-272. (28 July) doi:10.1038/ismej.2011.99
- Holdsworth, A., LE Frelich, PB Reich. 2012. Leaf Litter Disappearance in Earthworm-Invaded Northern Hardwood Forests: Role of Tree Species and the Chemistry and Diversity of Litter. *Ecosystems* 15:913-926.
- Johnson, KA, G Dana, NR Jordan, KJ Draeger, A Kapuscinski, LK Schmitt Olabisi, PB Reich. 2012. Using Participatory Scenarios to Stimulate Social Learning for Collaborative Sustainable Development. *Ecology and Society* 17:9.
- Kern, CC, PB Reich, RA Montgomery, TF Strong. 2012. Yellow birch, northern red oak, eastern white pine, and eastern hemlock seedling growth and survival: Do deer and shrubs override canopy gap size effects? *Forest Ecology and Management* 267:134–143, doi:10.1016/j.foreco.2011.12.002
- Koele, N, IA Dickie, J Oleksyn, SJ Richardson, PB Reich. 2012. No globally consistent effect of ectomycorrhizal status on foliar traits. *New Phytol* 196:845-852. doi: 10.1111/j.1469-8137.2012.0429
- Moles, AT, H Flores-Moreno, SP Bonser, DI Warton, A Helm, L Warman, DJ Eldridge, E Jurado, FA Hemmings, PB Reich, J Cavender-Bares, EW Seabloom, *et al.* 2012. Invasions: the trail behind, the path ahead, and a test of a disturbing idea. *J Ecology* 100:116-127, doi: 10.1111/j.1365-2745.2011.01915.x. Centenary Symposium Special Feature.
- Mueller, KE, DM Eissenstat, SE Hobbie, J Oleksyn, AM Jagodzinski PB Reich, OA Chadwick, J Chorover. 2012. Tree species effects on coupled cycles of carbon, nitrogen, and acidity in mineral soils at a common garden experiment. *Biogeochemistry* 1111:601-614, doi:10.1007/s10533-011-9695-7.

- Mueller, KE, SE Hobbie, J Oleksyn, PB Reich, DM Eissenstat. 2012. Do evergreen and deciduous tree differ in their effects on soil nitrogen availability? *Ecology* 93:1463-1472.
- Poorter, H, K Niklas, PB Reich, J Oleksyn, P Poot, L Mommer. 2012. Biomass allocation to leaves, stems and roots: meta-analyses of interspecific variation and environmental control. 2012. (Tansley Review) *New Phytologist* 193: 30-50. doi:10.1111/j.1469-8137.2011.03952.x
- Reich, PB. 2012. Key canopy traits drive forest productivity. *Proc Royal Soc B* 279:2128-2134. Published online 25 January 2012. doi: 10.1098/rspb.2011.2270
- Reich, PB, L Frelich, R Voldseth, P Bakken, EC Adair. 2012. Understorey diversity in southern boreal forests is regulated by productivity and its indirect impacts on resource availability and heterogeneity. *J Ecology* 100:539-545. Article first published online: 16 NOV 2011, DOI: 10.1111/j.1365-2745.2011.01922.x
- Reich PB, D Tilman, F Isbell, K Mueller, S Hobbie, D Flynn, N Eisenhauer. 2012. Impacts of biodiversity loss escalate as redundancy fades. *Science* 336:589-592.
- Reid, JP, EC Adair, SE Hobbie, PB Reich. 2012. Biodiversity, nitrogen deposition and CO₂ affect grassland soil carbon cycling but not storage. *Ecosystems* 15(4):580-590.
- Robakowski, P, Y Li, PB Reich. 2012. Local ecotypic and species range-related adaptation influence photosynthetic temperature optima in deciduous broadleaved trees. *Plant Ecology* 213:113-125, doi:10.1007/s11258-011-0011-3
- Shan, H, J Kattge, PB Reich, A Banerjee, F Schrodt, M Reichstein. 2012. Gap Filling in the Plant Kingdom - Trait Prediction Using Hierarchical Probabilistic Matrix Factorization. *International Conference on Machine Learning (ICML)*, Edinburgh, U.K.
- Sperry, JS, DD Smith, VM Savage, BJ Enquist, KA McCulloh, PB Reich, LP Bentley, EI von Allmen. 2012. A species-level model for metabolic scaling in trees. I. Exploring boundaries to scaling space within and across species. *Functional Ecology* 26: 1054-1065, doi: 10.1111/j.1365-2435.2012.02022.x
- Swenson, NG, BJ Enquist, J Pither, AJ Kerkhoff, B Boyle, MD Weiser, JJ Elser, WF Fagan, J Forero-Montaña, N Fyllas, NJB Kraft, JK Lake, AT Moles, S Patiño, OL Phillips, CA Price, PB Reich, CA Quesada, JC Stegen, R Valencia, IJ Wright, SJ Wright, S Andelman, CM Hulshof, PM Jørgensen, TE Lacher Jr., A Monteagudo, M. Percy Núñez Vargas, R Vasquez, K Nolting. 2012. The biogeography and filtering of woody plant functional diversity in North and South America. *Global Ecology Biogeography* 21:798-808. Article first published online: 11 NOV 2011 DOI: 10.1111/j.1466-8238.2011.00727.x
- Tilman, D, PB Reich, F Isbell. 2012. Biodiversity impacts ecosystem productivity as much as resources, disturbance or herbivory. *Proc Natl Academy Sciences* 109(26):10394-7. Epub 2012 Jun 11.
- van Ommen Kloeke, AEE, JC Douma, JC Ordoñez, PB Reich, PM van Bodegom. 2012. Global quantification of contrasting leaf life span strategies for deciduous and evergreen species in response to environmental conditions. *Global Ecol Biog* 21:224-235. Article first published online: 11 MAY 2011. DOI: 10.1111/j.1466-8238.2011.00667.x
- Von Allmen, EI, JS Sperry, DD Smith, VM Savage, BJ Enquist, PB Reich LP Bentley. A species-level model for metabolic scaling of trees. II. Testing in a ring- and diffuse-porous species *Functional Ecology* 26:1066–1076.
- Wang, YP, XJ Lu, IJ Wright, YJ Dai, PJ Rayner, PB Reich. 2012. Correlations among leaf traits provide a significant constraint on the estimate of global gross primary production. *Geophysical Res Lett* 39: L19405, doi:10.1029/2012GL05346
- Wyka, TP, J Oleksyn, R. Żytkowiak, P. Karolewski, AM Jagodziński, PB Reich. 2012. Responses of leaf structure and photosynthetic properties to intra-canopy light gradients: a common garden test with four angiosperm and seven gymnosperm tree species. *Oecologia* DOI 10.1007/s00442-012-2279-y
- Zhang, Y, HYH Chen, PB Reich. 2012. Forest productivity increases with evenness, species richness and trait variation: a global meta-analysis. *J Ecology* 100:742–749, doi: 10.1111/j.1365-2745.2011.01944.x, Article first published online: 12 JAN 2012

2011

- Adair, EC, PB Reich, SE, Hobbie, J Trost. 2011. Elevated CO₂ stimulates grassland soil respiration by increasing carbon inputs rather than by enhancing soil moisture. *Global Change Biology* 17:3546-3563, DOI: 10.1111/j.1365-2486.2011.02484.x

- Antoninka, A, PB Reich, NC Johnson. 2011. Seven years of carbon dioxide enrichment, nitrogen fertilization and plant diversity influence arbuscular mycorrhizal fungi in a grassland ecosystem. *New Phytologist* 192:200-214, Article first published online: 8 JUN 2011 doi: 10.1111/j.1469-8137.2011.03776.x
- Carlson, D, PB Reich, LE Frelich. 2011. Fine-scale heterogeneity in overstory composition contributes to heterogeneity of wildfire severity in southern boreal forest. *J Forest Research* 16:203-214, doi:10.1007/s10310-011-0251-z
- Danz, NP, PB Reich, LE Frelich, GJ Niemi. 2011. Vegetation controls vary across space and spatial scale in a historic grassland-forest biome boundary. *Ecography* 34:402-414, doi:10.1111/j.1600-0587.2010.06561.x
- Dybzinski, R, C Farrior, A Wolf, PB Reich, SW Pacala. 2011. Evolutionarily stable strategy carbon allocation to foliage, wood, and fine roots in trees competing for light and nitrogen: an analytically-tractable, individual-based model and quantitative comparisons to data. *Am Nat* 177:153-166, doi:10.1086/657992
- Eisenhauer, N, J Schläpghammerský, PB Reich, LE Frelich. 2011. The wave towards a new steady state: effects of earthworm invasion on soil microbial functions. *Biological Invasions* 13:2191-2196, First published online July 2011, DOI 10.1007/s10530-011-0053-4
- Fissore C, JF Espeleta, EA Nater, SE Hobbie, PB Reich. 2011. 'A reply to Jarchow and Liebman', *Frontiers in Ecology and the Environment* 9:262-263, doi:10.1890/11.WB.011.
- Goebel, M, S.E. Hobbie, B Bulaj, M. Zadworny, D.D. Archibold, J. Oleksyn, PB Reich, D.M. Eissenstat. 2011. Decomposition of the finest root branching orders: linking belowground dynamics to fine-root function and structure. *Ecological Monographs* 81:89-102, doi:10.1890/09-2390.1.
- Han, W, J Fang, FI Woodward, PB Reich, Z Wang. 2011. Biogeography and variability of eleven mineral elements in plant leaves across gradients of climate, soil, and plant functional type in China. *Ecology Letters* 14:788-796. Article first published online: 22 JUN 2011, doi:10.1111/j.1461-0248.2011.01641.x
- Hector, A, T Bell, Y Hautier, F Isbell, M Kéry, PB Reich, J van Ruijven, B Schmid. 2011. BUGS in the Analysis of Biodiversity Experiments: Species richness and composition are of similar importance for grassland productivity. *PLOS One* 6:e17434, doi:10.1371/journal.pone.0017434
- Isbell, F, V Colgano, A Hector, J Connelly, WS Harpole, PB Reich, M Scherer-Lorenzen, B Schmid, D Tilman, J van Ruijven, A Weigelt, BJ Wilsey, ES Zavaleta, M Loreau. 2011. High plant diversity is needed to maintain ecosystem services. *Nature* 477:199–202, doi:10.1038/nature10282. Published online 10 August 2011
- Kattge, J *et al.* 2011. TRY - a global database of plant traits. *Global Change Biology* 17:2905-2935, doi:10.1111/j.1365-2486.2011.02451.x Article first published online: 21 JUN 2011
- Kueffer, C, Ü Niinemets, RE Drenovsky, J Kattge, P Milberg, H Poorter, PB Reich, C Werner, M Westoby, IJ Wright. 2011. Fame, glory and neglect in meta-analyses. *Trends Ecol and Evol* 26:494-495, doi:10.1016/j.tree.2011.07.007
- Lee, TD, SH Barrott, PB Reich. 2011. Photosynthetic responses of 13 grassland species across 11 years of free-air CO₂ enrichment is modest, consistent and independent of N supply. *Global Change Biology* 17:2893-2904, doi: 10.1111/j.1365-2486.2011.02435.x. Article first published online: 2 JUN 2011
- Liu, Y, PB Reich, G Li, S Sun. 2011. Shifting phenology and abundance under experimental warming alters trophic relationships and plant reproductive capacity. *Ecology* 92:1201-1207, doi:10.1890/10-2060.1
- Mangan, ME, C Sheaffer, DL Wyse, NJ Ehlke, PB Reich. 2011. Native perennial grassland species for bioenergy: establishment and biomass productivity. *Agronomy Journal* 103:509-519, doi:10.2134/agronj2010.0360.
- Milla, R, PB Reich. 2011. Multi-trait interactions, not phylogeny, fine-tune leaf size reduction with increasing altitude. *Annals of Botany* 107:455-465, doi:10.1093/aob/mcq261.
- Pelc, B, RA Montgomery, PB Reich. 2011. Frequency and timing of stem removal influence *Corylus americana* resprout vigor in oak savanna. *Forest Ecology and Management* 261:136-142, doi:10.1016/j.foreco.2010.09.043
- Reich, PB. 2011. Taking stock of forest carbon. *Nature Climate Change* 1:346-47, doi:10.1038/nclimate1233
- Schnitzer, SA, JN Klironomos, J Hille Ris Lambers, LL Kinkel, PB Reich, K Xiao, MC Rillig, RM Callaway. 2011. Soil microbes drive the classic plant diversity – productivity pattern. *Ecology* 92:296-303, doi:10.1890/10-0773.1
- Wu, X, EJ Duffy, PB Reich, S Sun. 2011. A brown-world cascade in the dung decomposer food web of an alpine meadow: Effects of predator interactions and warming. *Ecological Monographs* 81:313-328, doi:10.1890/10-0808.1

Yuan, ZY, HY Chen, PB Reich. 2011. Global-scale latitudinal patterns of plant fine-root nitrogen and phosphorus. *Nature Communications* 2:344, doi:10.1038/ncomms1346

2010

- Crous, KY, PB Reich, MD Hunter, DS Ellsworth. 2010. Maintenance of leaf N controls the CO₂ response of grassland species exposed to nine years of free-air CO₂ enrichment. *Global Change Biology* 16:2076–2088.
- Fissore C, J Espeleta, E Nater, SE Hobbie, PB Reich. 2010. Terrestrial carbon sequestration by land-use conversion shows only limited potential to offset CO₂ emissions in the Midwestern United States. *Frontiers in Ecology and the Environment* 8: 409–413. doi:10.1890/090059
- Frelich, LE, PB Reich. 2010. Will multiple environmental changes reinforce the impact of global warming on the prairie-forest border of central North America? *Frontiers in Ecology and the Environment* 8:371–378. doi:10.1890/080191
- He, J-S, X Wang, B Schmid, DFB Flynn, XF Li, PB Reich, J Fang. 2010. Taxonomic identity, phylogeny, climate and soil fertility as drivers of leaf traits across Chinese grassland biomes. *Journal of Plant Research* 123:551-561. DOI: 10.1007/s10265-009-0294-9
- He, Y, ME Xu, Z Deng, S Kang, L Kellogg, L Wu, JD Van Nostrand, SE Hobbie, PB Reich, J Zhou. 2010. Metagenomic analysis reveals a marked divergence in the structure of belowground microbial communities at elevated CO₂. *Ecology Letters* 13:564-575.
- Hobbie, SE, D Eissenstat, J Oleksyn, PB Reich. 2010. Fine root decomposition rates do not mirror those of leaf litter among temperate tree species. *Oecologia* 162:505–513.
- Larson, ER, KF Kipfmüller, C Hale, LE Frelich, PB Reich. 2010. Tree Rings Detect Earthworm Invasions and their Effects in Northern Hardwood Forests. *Biological Invasions* 12:1053–1066. DOI 10.1007/s10530-009-9523-3
- Lau, JA, RG Shaw, PB Reich, P Tiffin. 2010. Species interactions in a changing environment: elevated CO₂ alters the ecological and potential evolutionary consequences of competition. *Evolutionary Ecology Research* 12:435-455.
- McCulloh, K, JS Sperry, B Lachenbruch, FC Meinzer, PB Reich, S Voelker. 2010. Moving water well: comparing hydraulic efficiency in twigs and trunks of coniferous, ring-porous, and diffuse-porous saplings from temperate and tropical forests. *New Phytologist* 186:439-50 (finalist for New Phytologist Tansley Medal for Excellence in Plant Science).
- Montgomery, R, B Palik, PB Reich. 2010. Untangling positive and negative biotic interactions: views from above and below ground in a forest ecosystem. *Ecology* 91:3641-3655.
- Peng, Y, KJ Niklas, PB Reich, S Sun. 2010. Ontogenetic shift in the scaling of dark respiration with whole-plant mass in seven shrub species. *Functional Ecology* 24:502–512.
- Pierce, A, PB Reich. 2010. The effects of eastern red cedar (*Juniperus virginiana*) invasion and removal on a dry bluff prairie ecosystem. *Biological Invasions* 12:241-252
- Reich, PB. 2010. The Carbon Dioxide Exchange. *Science* 329:774-775.
- Reich, PB. 2010. Permafrost and Wetland Carbon Stocks—Response. *Science* 330:1177.
- Reich, PB, J Oleksyn, IJ Wright, KJ Niklas, L Hedin, JJ Elser. 2010. Evidence of a general 2/3-power law of scaling of leaf nitrogen to phosphorus among major plant groups and biomes. *Proc Royal Soc B* 277:877-883.
- Rich, R, L Frelich, PB Reich, ME Bauer. 2010. Detecting Wind-Disturbance Severity and Canopy Heterogeneity in Boreal Forest by Coupling High-Resolution Satellite Imagery and Field Data. *Remote Sensing Environment* 114:299–308.
- Savage, VM, LP Bentley, BJ Enquist, JS Sperry, DD Smith, PB Reich, EI von Allmen. 2010. Hydraulic tradeoffs and space filling enable better predictions of vascular structure and function in plants. *Proc Natl Acad Sci* 107:22722-22727.
- Schmitt Olabisi, LK, AR Kapuscinski, K Johnson, PB Reich, B Stenquist, KJ Draeger. 2010. Using Scenario Visioning and Participatory System Dynamics Modeling to Investigate the Future: Lessons from Minnesota 2050. *Sustainability* 2: 2686-2706.
- Trocha, L, J Mucha, DM Eissenstat, PB Reich, J Oleksyn. 2010. Ectomycorrhizal identity determines respiration and concentrations of nitrogen and nonstructural carbohydrates in root tips: a test using *Pinus sylvestris* and *Quercus robur* saplings. *Tree Physiology* 30:648-54.

- Willis, CG, M Halina, C Lehman, PB Reich, A Keen, S McCarthy, J Cavender-Bares. 2010. Phylogenetic community structure in Minnesota oak savanna is influenced by spatial extent and environmental variation. *Ecography* 32:565-577.
- Wright, SJ, K Kitajima, NJB Kraft, PB Reich, IJ Wright, DE Bunker, R Condit, J Dalling, S Davies, S Díaz, BM J Engelbrecht, KE Harms, SP Hubbell, CO Marks, MC Ruiz-Jaen, CM Salvador, R Valencia, AE Zanne. 2010. Functional traits and the growth-mortality tradeoff in tropical trees. *Ecology* 91:3664-3674. doi: 10.1890/09-2335

2009

- Adair, EC, PB Reich, SE, Hobbie, JMH Knops. 2009. Interactive effects of time, CO₂, N, and diversity on total belowground carbon allocation and ecosystem carbon storage in a grassland community. *Ecosystems* 12:1037-152.
- Antoninka, A, PB Reich, NC Johnson. 2009. Predator nematodes decline with long-term CO₂ enrichment. *Journal of Nematology* 41:303.
- Boyden, SB, PB Reich, KJ Puettmann, TR Baker. 2009. Effects of density and ontogeny on size and growth ranks of three competing tree species. *J Ecology* 97:277-288.
- Chung, H, D Zak, PB Reich. 2009. Microbial assimilation of new photosynthate is altered by plant species richness and nitrogen deposition. *Biogeochemistry* 94:233-242
- Cernusak LA, G Tcherkez, C Keitel, WK. Cornwell, LS Santiago, A Knohl, MM. Barbour, DG Williams, PB Reich, DS Ellsworth, TE Dawson, HG. Griffiths, GD. Farquhar, IJ. Wright, M Westoby. 2009. Why are non-photosynthetic tissues generally ¹³C enriched compared with leaves in C3 plants? Review and synthesis of current hypotheses. *Functional Plant Biology* 36:199-213.
- Craine, JM, AJ Elmore, MPM Aidar, M. Bustamante, TE Dawson, EA Hobbie, A Kahmen, MC Mack, K K McLauchlan, A Michelsen, GB Nardoto, LH Pardo, J Peñuelas, PB Reich, EAG Schuur, WD Stock, PHTempler, RA Virginia, JM Welker, IJ Wright. 2009. Global patterns of foliar nitrogen isotopes and their relationships with climate, mycorrhizal fungi, foliar nutrient concentrations, and nitrogen availability. *New Phytologist* 183:980-992.
- Dauer, JM, JM Withington, J Oleksyn, J Chorover, OA Chadwick, PB Reich, DM Eissenstat. 2009. A scanner-based approach to soil profile-wall mapping of root distribution. *Dendrobiology* 62:35-40.
- Dickie, IA, BTM Dentinger, PG Avis, DJ McLaughlin, PB Reich. 2009. Ectomycorrhizal fungal communities of oak savanna are distinct from forest communities. *Mycologia* 101:469-479.
- Dijkstra, FA, JB West, SE Hobbie, PB Reich. 2009. Antagonistic effects of species on C respiration and net N mineralization in soils from mixed coniferous plantations. *For Ecol Management* 257:1112-1118.
- Frelich, LE, PB Reich. 2009. Wilderness conservation in an era of global warming and invasive species: a case study from Minnesota's Boundary Waters Canoe Area Wilderness. *Natural Areas Journal* 4:385-393.
- HilleRisLambers, J, WS Harpole, S Schnitzer, D Tilman, PB Reich. 2009. CO₂, nitrogen and diversity differentially affect seed production of prairie plants. *Ecology* 90:1810-1820.
- Milla, R, L Giménez-Benavides, A Escudero, PB Reich. 2009. Intra- and interspecific performance in growth and reproduction increase with altitude: a case study with two *Saxifraga* species from northern Spain. *Functional Ecology* 23:111-118
- Norris, MD, PB Reich. 2009. Modest enhancement of nitrogen conservation via retranslocation in response to gradients in N supply and leaf N status. *Plant and Soil* 316:193-204.
- Ollinger, SV, S Frolking, AD Richardson, ME Martin, DY Hollinger, PB Reich, L Plourde. 2009. Reply to Fisher: Nitrogen-albedo relationship in forests remains robust and thought-provoking. *Proc National Acad Sci USA* 106: E17.
- Ordoñez, JC, PM van Bodegom, J-PM Witte, IJ Wright, PB Reich, R Aerts. 2009. A global study of relationships between leaf traits, climate and soil measures of nutrient fertility. *Global Ecology and Biogeography* 18:137-149.
- Reich, PB. 2009. Accelerating a Silvicultural Metamorphosis? Review of "A Critique of Silviculture: Managing for Complexity" by KJ Puettmann, C Messier, K David Coates. *BioScience* 59:807-809.
- Reich, PB. 2009. Elevated CO₂ reduces loss of plant diversity caused by nitrogen deposition. *Science* 326:1399-1402.
- Reich, PB, DS Falster, DS Ellsworth, IJ Wright, M Westoby, J Oleksyn, TD Lee. 2009. Controls on declining carbon balance with leaf age among 10 woody species in Australian woodland: do leaves have zero daily net carbon balances when they die? *New Phytologist* 183:153-166.

- Reich PB, J Oleksyn, IJ Wright. 2009. Leaf phosphorus influences the photosynthesis-nitrogen relation: a cross-biome analysis of 314 species. *Oecologia* 160:207-212.
- Schmitt Olabisi, L, PB Reich, K Johnson, AR Kapuscinski, S Suh, E Wilson. 2009. Reducing greenhouse gas emissions for climate stabilization: framing regional options. *Env Sci Technol* 43:1696-1703.
- Souto, CP, AC Premoli, PB Reich. 2009. Complex bioclimatic and soil gradients shape leaf trait variation in *Embothrium coccineum* (Proteaceae) among austral forests in Patagonia. *Revista Chilena de Historia Natural* 82:209-222.
- Tobin, M, PB Reich. 2009. Comparing Indices of Understory Light Availability Between Hemlock and Hardwood Forest Patches. *Can J Forest Research* 39:1949-1957
- Tjoelker, MG, J Oleksyn, G Lorenc-Plucinska, PB Reich. 2009. Acclimation of respiratory temperature responses in northern and southern populations of *Pinus banksiana*. *New Phytologist* 181:218-22.

2008

- Anderson, J, B Beduhn, D Current, J Espeleta, C Fissore, B Gangeness, J Harting, S Hobbie, E Nater, P Reich. 2008. The Potential for Terrestrial Carbon Sequestration in Minnesota. A Report to the Department of Natural Resources from the Minnesota Terrestrial Carbon Sequestration Initiative. 74 pp.
- Castro, J, PB Reich, A Sanchez-Miranda, JD Guerrero. 2008. Evidence that the negative relationship between seed mass and relative growth rate is not physiological but linked to species identity: a within family analysis of Scots pine. *Tree Physiology* 28:1077-1082
- Cornwell, WK, JHC Cornelissen, K Amatangelo, E Dorrepaal, VT Eviner, O Godoy, SE Hobbie, B Hoorens, H Kurokawa, N Pérez-Harguindeguy, HM Quisted, LS Santiago, DAWardle, IJ Wright, R Aerts, SD Allison, P van Bodegom, V Brovkin, A Chatain, T Callaghan, S Diaz, E Garnier, DE Gurvich, E Kazakou, JA Klein, J Read, PB Reich, NA Soudzilovskaia, M Vittoria Vaieretti, M Westoby. 2008. Plant species traits are the predominant control on litter decomposition rates within biomes worldwide. *Ecology Letters* 11:1065-1071.
- Domke, GM, AR Ek, DR Becker, JF Espeleta, AW D'Amato, PB Reich, S Suh, MA Kilgore, DA Current, HM Hoganson, TE Burk, CR Blinn. 2008. Assessment of Carbon Flows Associated with Forest Management and Biomass Procurement for the Laskin Biomass Facility. Staff Paper Series No. 198, Department of Forest Resources, University of Minnesota. 31pp.
- Hale, C, LE Frelich, PB Reich, J Pastor. 2008. Exotic earthworm effects on hardwood forest floor, nutrient availability and native plants: a mesocosm study. *Oecologia* 155:509-518
- Holdsworth, AR, LE Frelich, PB Reich. 2008. Litter decomposition in earthworm-invaded northern hardwood forests: Role of invasion degree and litter chemistry. *Ecoscience* 15:536-544
- Knight, KS, J Oleksyn, AM Jagodzinski, PB Reich, M Kasproicz. 2008. Overstory tree species regulate colonization by native and exotic plants: a source of positive relationships between understory diversity and invasibility. *Diversity and Distributions* 14:666-675
- Lau, JA, J Strengbom, LR Stone, PB Reich, P Tiffin. 2008. Direct and indirect effects of CO₂, nitrogen and community diversity on plant-enemy interactions. *Ecology* 89:226-236.
- Lau, JA, J Peiffer, PB Reich, P Tiffin. 2008. Transgenerational effects of global environmental change: long-term CO₂ and nitrogen treatments influence offspring growth response to elevated CO₂. *Oecologia* 158:141-150.
- Lusk C*, PB Reich*, R Montgomery, D Ackerly, J Cavender-Bares. 2008. Why are evergreens so contrary about shade? *Trends Ecology Evolution* 23:299-303. [*first two authors contributed equally to the paper]
- Makarieva, AM, VG Gorshkov, B-L Li, SL Chown, PB Reich, VM Gavrilov. 2008. Mean mass-specific metabolic rates are strikingly similar across life's major domains: Evidence for life's metabolic optimum. *Proc Natl Acad Sci USA* 105:16994-16999.
- McMurtrie, RE, RJ Norby, BE Medlyn, RC Dewar, DA Pepper, PB Reich, CVM Barton. 2008. Why is plant growth response to elevated CO₂ amplified when water is limiting but reduced when nitrogen is limiting? A growth-optimisation hypothesis. *Functional Plant Biology* 35:521-534.
- Milla, R., PB Reich, Ü Niinemets, P Castro-Díez. 2008. Environmental and developmental controls on specific leaf area are little modified by leaf allometry. *Functional Ecology* 22:565-576.
- Ollinger, SV, AD Richardson, ME Martin, DY Hollinger, S Frolking, PB Reich, LC Plourde, M-L Smith, PV Bolstad, BD Cook, GG Katul, TA Martin, RK Monson, JW Munger, R Oren, KT Paw U, HP Schmid. 2008. Canopy nitrogen, carbon assimilation and albedo in temperate and boreal forests: functional relations and potential climate feedbacks. *Proc National Acad Sci USA* 105:19336-19341.
- Peterson, D, PB Reich. 2008. Fire frequency and tree canopy structure influence plant species diversity in a forest-grassland ecotone. *Plant Ecology* 194:5-16

- Przybył, K, P Karolewski, J Oleksyn, A Labędzki, PB Reich. 2008. Fungal diversity of Norway spruce litter: effects of site conditions and premature leaf fall caused by bark beetle outbreak. *Microbial Ecology* 56:332-340.
- Reich, PB, E Nater, SE Hobbie, J Espeleta, C Fissore, L Olabisi, A Ek. 2008. Comments on the Minnesota Climate Change Advisory Group Recommendations. 13 pp. Appendix L, Compilation of Public Comments on Minnesota Climate Change Advisory Group Final Report, May 1, 2008, Minnesota Department of Commerce.
- Reich, PB, J Oleksyn. 2008. Climate warming will reduce growth and survival of Scots pine except in the far north. *Ecology Letters* 11:588-597.
- Reich, PB, MG Tjoelker, KS Pregitzer, IJ Wright, J Oleksyn, JL Machado. 2008. Scaling of Respiration to Nitrogen in Leaves, Stems, and Roots of Higher Land Plants. *Ecology Letters* 11:793-801.
- Rodríguez-Calcerrada, J, JA Pardos, L Gil, PB Reich, I Aranda. 2008. Light response in seedlings of a temperate (*Quercus petraea*) and a sub-Mediterranean species (*Quercus pyrenaica*): contrasting ecological strategies as potential keys to regeneration performance in mixed marginal populations. *Plant Ecology* 195:273-285.
- Rodríguez-Calcerrada, J, PB Reich, E Rosenqvist, JA Pardos, FJ Cano, I Aranda. 2008. Leaf physiological versus morphological acclimation to high-light exposure at different stages of foliar development in oak. *Tree Physiology* 28:761-771.
- Schnitzer, SA, RA Londré, J Klironomos, PB Reich. 2008. Biomass and toxicity responses of poison ivy (*Toxicodendron radicans*) to elevated atmospheric CO₂: Comment. *Ecology* 89:581-585.
- Strengbom, J, PB Reich, ME Ritchie. 2008. High plant species diversity indirectly mitigates CO₂- and N-induced effects on grasshopper growth. *Acta Oecologia* 34:194-201.
- Tjoelker, MG, J Oleksyn, PB Reich, R Żytkowiak. 2008. Coupling of respiration, nitrogen, and sugars underlies convergent temperature acclimation in *Pinus banksiana* across wide-ranging sites and populations. *Global Change Biology* 14:782-797.

2007

- Chapman, K., PB Reich. 2007. Land use and habitat gradients determine bird community diversity and abundance in suburban, rural, and reserve landscapes of Minnesota, USA. *Biological Conservation* 135:543-557.
- Chung, H, D Zak, PB Reich, DS Ellsworth. 2007. Plant species richness, elevated CO₂, and atmospheric N deposition alter soil microbial community composition and function. *Global Change Biology* 13:980-989.
- Dauer, JM, J Chorover, OA Chadwick, J Oleksyn, MG Tjoelker, SE Hobbie, PB Reich, DM Eissenstat. 2007. Controls over Leaf and Litter Calcium Concentrations among Temperate Trees. *Biogeochemistry* 86:175-187.
- Davis, M, PB Reich, MBJ Knoll, L Dooley, M Hundtoft, I Attleson. 2007. Elevated Atmospheric CO₂: A Nurse Plant Substitute for Oak Seedlings Establishing in Old Fields. *Global Change Biology* 13:2308-2316.
- Dickie, IA, RA Montgomery, PB Reich, SA Schnitzer. 2007. Physiological and phenological responses of oak seedlings to oak forest soil in the absence of trees. *Tree Physiology* 27:133-140.
- Dickie, I.A., S.A. Schnitzer, PB Reich, S. Hobbie. 2007. Is oak establishment in old-fields and savanna openings context dependent? *J Ecology* 95:309-320.
- Dijkstra, FA, JB West, SE Hobbie, PB Reich. 2007. Dissolved inorganic and organic N leaching from a grassland field experiment: interactive effects of plant species richness, atmospheric [CO₂] and N fertilization. *Ecology* 88:490-500.
- Fargione, JE, D Tilman, R Dybzinski, J HilleRisLambers, C Clark, WS Harpole, JMH Knops, PB Reich, M Loreau. 2007. From selection to complementarity: shifts in the causes of biodiversity productivity relationships in a long-term biodiversity experiment. *Proc Royal Soc B: Biological Science* 274:871-876.
- Hobbie, SE, M Ogdahl, J Chorover, OA Chadwick, J Oleksyn, R Zytkowiak, PB Reich. 2007. Tree species effects on soil organic matter dynamics: the role of soil cation composition. *Ecosystems* 10:999-1018.
- Holdsworth, AR, LE Frelich, PB Reich. 2007. Regional extent of an ecosystem engineer: Earthworm invasion in northern hardwood forests. *Ecological Applications* 17:1666-1677.
- Holdsworth, AR, LE Frelich, PB Reich. 2007. Effects of earthworm invasion on plant species richness in northern hardwood forests. *Conservation Biology* 21: 997-1008.
- Knight, KS, J Kurylo, T Endress, R Stewart, PB Reich. 2007. Ecology and Ecosystem Impacts of *Rhamnus cathartica*: A Review. *Biological Invasions* 9:925-937
- Knops, JHM, S Naeem, PB Reich. 2007. The impact of elevated CO₂, increased nitrogen availability and biodiversity on plant tissue quality and decomposition. *Global Change Biology* 13:1960-1971.

- Lau, JA, RG Shaw, PB Reich, P Tiffin. 2007. Strong ecological but weak evolutionary effects of elevated CO₂ on a recombinant inbred population of *Arabidopsis thaliana*. *New Phytologist* 175:351-362.
- Milla, R, PB Reich. 2007. The scaling of leaf area and mass: the cost of light interception increases with leaf size. *Proc Royal Soc B* 274:2109-2114.
- Niklas, KJ, ED Cobb, Ü Niinemets, PB Reich, A Sellin, B Shipley, IJ Wright. 2007. "Diminishing returns" in function with increasing leaf mass across and within six species-groups. *Proc Nat Acad Sci USA* 104: 8891-8896
- Novotny, AM, JD Schade, SE Hobbie, AD Kay, M Kyle, PB Reich, JJ Elser. 2007. Stoichiometric response of nitrogen-fixing and non-fixing dicots to manipulations of CO₂, nitrogen, and diversity. *Oecologia* 151:687-696.
- Oleksyn, J, BD Kloeppel, S Lukaszewicz, P Karolewski, PB Reich. 2007. Ecophysiology of horse chestnut (*Aesculus hippocastanum* L.) in degraded and restored urban sites. *Polish Journal of Ecology* 55:245-260.
- Peterson, D, PB Reich, K Wrage, D Wedin. 2007. Plant functional group responses to fire frequency and tree canopy cover gradients in oak savannas and woodlands. *J Veg Science* 18:3-12.
- Potvin, C, FS Chapin, A Gonzalez, P Leadley, P Reich, J Roy. 2007. Plant biodiversity and responses to elevated carbon dioxide. In: *Terrestrial Ecosystems in a Changing World*. pp. 125-134, Canadell, JG, D Pataki, L Pitelka (eds) The IGBP Series, Springer-Verlag, Berlin Heidelberg, 336 pp.
- Reich, PB, C Lusk, IJ Wright. 2007. Predicting leaf physiology from simple plant and climate attributes: a global GLOPNET analysis. *Ecological Applications* 17:1982-1988.
- Reich, PB, MG Tjoelker, J-L Machado, J Oleksyn. 2007. Biological Scaling: Does the Exception Prove the Rule? (Reply) *Nature* 445 (7127):E10-E11.
- Rich, RL, LE Frelich, PB Reich. 2007. Windthrow mortality in the southern boreal forest: effects of species, diameter, and stand age. *J Ecology* 95:1261-1273.
- Tilman, D, PB Reich, JHM Knops. 2007. Diversity and stability in plant communities (Reply). *Nature* 446(7135): E7-E8.
- Trocha, L, J Oleksyn, PB Reich. 2007. Living on the edge: Ecology of an incipient *Betula*-fungal community growing on brick walls. *Trees* 21:239-247.

2006

- Dickie, IA, J Oleksyn, PB Reich, P Karolewski, R Zytowskiak, E Turzanska, AM Jagodzinski. 2006. Soil modification by different tree species influences the extent of seedling ectomycorrhizal infection. *Mycorrhiza* 16:73-79.
- Dijkstra, FA, S Hobbie, P Reich. 2006. Soil processes affected by sixteen grassland species grown under different environmental conditions. *Soil Science Society of America Journal* 70:770-777.
- Dijkstra, FA, K Wrage, SE Hobbie, PB Reich. 2006. Tree patches show greater N losses but maintain higher soil N availability than grassland patches in a frequently burned oak savanna. *Ecosystems* 9:441-452.
- Frelich, LE, CM Hale, S Scheu, A Holdsworth, L Heneghan, PJ Bohlen, PB Reich. 2006. Earthworm invasion into previously earthworm-free temperate and boreal forests. *Biological Invasions* 8:1235-1245.
- Hale, C, LE Frelich, PB Reich. 2006. Changes in hardwood forest understory plant communities in response to European earthworm invasions. *Ecology* 87:1637-1649.
- Hobbie, SE, PB Reich, J Oleksyn, M Ogdahl, R Zytowskiak, C Hale, P Karolewski. 2006. Tree species effects on decomposition and forest floor dynamics in a common garden. *Ecology* 87:2288-2297.
- Johansson, P, CM Wetmore, DJ Carlson, PB Reich, G Thor. 2006. Habitat preference, growth form, vegetative dispersal and population size of lichens along a wildfire severity gradient. *The Bryologist* 109:527-540.
- Machado, J-L, PB Reich. 2006. Dark respiration rate increases with plant size in saplings of three temperate tree species despite decreasing tissue nitrogen and nonstructural carbohydrates. *Tree Physiology* 26:915-923.
- Reich, PB, MG Tjoelker, JL Machado, J Oleksyn. 2006. Universal scaling of respiratory metabolism, size and nitrogen in plants. *Nature* 439:457-461.
- Reich, PB, SE Hobbie, T Lee, DS Ellsworth, JB West, D Tilman, J Knops, S Naeem, J Trost. 2006. Nitrogen limitation constrains sustainability of ecosystem response to CO₂. *Nature* 440:922-925.
- Reich, PB, BA Hungate, Y Luo. 2006. Carbon-Nitrogen Interactions in Terrestrial Ecosystems in Response to Rising Atmospheric CO₂. *Annual Review of Ecology, Evolution, and Systematics* 37: 611-636.
- Savva, J, J Oleksyn, PB Reich, MG Tjoelker, EA Vaganov, J Modrzyński. 2006. Interannual growth response of Norway spruce to climate along an altitudinal gradient in the Tatra Mountains, Poland. *Trees* 20:735-746.

- Shipley, B, MJ Lechowicz, I Wright, PB Reich. 2006. Fundamental tradeoffs generating the worldwide leaf economics spectrum. *Ecology* 87:535-541.
- Strengbom, J, PB Reich. 2006. Elevated [CO₂] and increased N supply reduce leaf disease and related photosynthetic impacts on *Solidago rigida*. *Oecologia* 149:519-525.
- Tilman, D, PB Reich, JMH Knops. 2006. Biodiversity and ecosystem stability in a decade-long grassland experiment. *Nature* 441:629-632.
- West, JB, SE Hobbie, PB Reich. 2006. Effects of plant species diversity, atmospheric [CO₂], and N addition on gross rates of inorganic N release from soil organic matter. *Global Change Biology* 12:1400-1408.
- Withington, JM, PB Reich, J Oleksyn, DM Eissenstat. 2006. Comparisons of structure and lifespan in roots and leaves among temperate trees. *Ecological Monographs* 76:381-397.
- Wright, IJ, PB Reich, O.H. Atkin, CH Lusk, MG Tjoelker, M Westoby. 2006. Irradiance, temperature and rainfall influence leaf respiration in woody plants: evidence from comparisons across 20 sites. *New Phytologist* 169:309-319.
- Wright, JP, S Naem, A Hector, C Lehman, PB Reich, B Schmid, D Tilman. 2006. Conventional functional classification schemes underestimate the relationship with ecosystem functioning. *Ecology Letters* 9:111-120.

2005

- Craine, JM, PB Reich. 2005. Leaf-level light compensation points in shade-tolerant woody species. *New Phytologist* 166:710-713.
- Davis, MA, J Pergl, A-M Truscott, J Kollman, JP Bakker, R Domenech, K Prach, A-H Prieur-Richard, R.M. Veeneklaas, P. Pysek, R. del Moral, R.J. Hobbs, S.L. Collins, STA. Pickett, PB Reich. 2005. Vegetation change: a reunifying concept in plant ecology. *Perspectives Plant Ecology, Evolution, Systematics* 7:69-76.
- Dickie, IA, PB Reich. 2005. Ectomycorrhizal fungal communities at forest edges. *J. Ecology* 93:244-255.
- Dickie, I.A., S.A. Schnitzer, PB Reich, S. Hobbie. 2005. Spatially disjunct effects of co-occurring competition and facilitation. *Ecology Letters* 8:1191-1200.
- Dijkstra, F, S Hobbie, P Reich, J Knops. 2005. Divergent effects of elevated CO₂, N fertilization, and plant diversity on soil C and N dynamics in a grassland field experiment. *Plant and Soil* 272:41-52.
- Dovciak, M, LE Frelich, PB Reich. 2005. Pathways in old-field succession to white pine: seed rain, shade, and climate effects. *Ecological Monographs* 75:363-378.
- Friedman, SK, PB Reich. 2005. Regional Legacies of Logging: Departure from presettlement forest conditions in northern Minnesota. *Ecological Applications* 15:726-744.
- Hale, CM, Frelich LE, Reich PB 2005. Exotic European earthworm invasion dynamics in northern hardwood forests of Minnesota, U.S.A. *Ecological Applications* 15:848-860.
- Hale, C, LE Frelich, PB Reich, J Pastor. 2005. Effects of European earthworm invasion on soil characteristics in northern hardwood forests of Minnesota, USA. *Ecosystems* 8:911-927.
- Johansson, P, PB Reich. 2005. Population size and fire intensity determine post-fire abundance of grassland lichens. *Applied Vegetation Science* 8:193-198.
- Knight, K, PB Reich. 2005. Opposite relationships between invasibility and native species richness at patch versus landscape scales. *Oikos* 109:81-88.
- Lee, TD, PB Reich, PV Bolstad. 2005. Acclimation of leaf respiration to temperature is rapid and related to specific leaf area, soluble sugars and leaf nitrogen across three temperate deciduous tree species. *Functional Ecology* 19:640-647.
- Niklas, KJ, T Owens, PB Reich, ED Cobb. 2005. Nitrogen/Phosphorous leaf stoichiometry and the scaling of plant growth. *Ecology Letters* 8:636-642.
- Reich, PB. 2005. Global biogeography of plant chemistry: filling in the blanks. *New Phytologist* 168:263-266.
- Reich, PB, J Oleksyn, J Modrzynski, P Mrozinski, SE Hobbie, DM Eissenstat, J Chorover, OA Chadwick, CM Hale, MG Tjoelker. 2005. Linking litter calcium, earthworms, and soil properties: a common garden test with 14 tree species. *Ecology Letters* 8:811-818.
- Tjoelker, MG, JM Craine, D Wedin, PB Reich, D Tilman. 2005. Linking leaf and root trait syndromes among 39 grassland and savannah species. *New Phytologist* 167:493-508
- West, JB, K McAlister, J HilleRisLambers, TD Lee, SE Hobbie, PB Reich. 2005. Legume species identity and soil nitrogen supply determine symbiotic nitrogen-fixation responses to elevated atmospheric [CO₂]. *New Phytologist* 167: 523-530.

- Wright, IJ, PB Reich, JHC Cornelissen, DS Falster, E Garnier, K Hikosaka, BB Lamont, W Lee, J Oleksyn, N Osada, H Poorter, R Villar, DI Warton, M Westoby. 2005. Assessing the generality of global leaf trait relationships. *New Phytologist* 166:485-496.
- Wright, IJ, PB Reich, JHC Cornelissen, DS Falster, PK Groom, K Hikosaka, W Lee, CH Lusk, Ü Niinemets, J Oleksyn, N Osada, H Poorter, DI Warton, M Westoby. 2005. Modulation of leaf economic traits and trait relationships by climate. *Global Ecology & Biogeography* 14:411-421.
- Wythers, KR, PB Reich, MG Tjoelker, PV Bolstad. 2005. Foliar respiration acclimation to temperature and temperature variable Q10 alter ecosystem carbon balance. *Global Change Biology* 11:435-449.

2004

- Dickie, IA, RC Guza, SE Krazewski, PB Reich. 2004. Shared ectomycorrhizal fungi between a herbaceous perennial (*Helianthemum bicknellii*) and oak (*Quercus*) seedlings. *New Phytologist* 164:375-382.
- Dijkstra, F, S Hobbie, PB Reich, J Knops. 2004. Nitrogen deposition and plant species interact to influence soil carbon stabilization. *Ecology Letters* 7:1192-1198.
- Ellsworth, DS, Ü Niinemets, PB Reich. 2004. CO₂ processing: Leaf to Landscape. In: *Photosynthetic Adaptation. Chloroplast to Landscape. Series: Ecological Studies, Vol. 178* (WK Smith, TC Vogelmann, C Critchley, eds)
- Ellsworth, DS, PB Reich, ES Naumburg, GW Koch, M Kubiske, S Smith. 2004. Photosynthesis, carboxylation and leaf nitrogen responses of 16 species to elevated pCO₂ across four free-air CO₂ enrichment experiments in forest, grassland and desert. *Global Change Biology* 10:2121-213.
- Hale, CM, LE Frelich, PB Reich. 2004. Allometric equations for estimation of ash-free dry mass from length measurements for selected European earthworm species (Lumbricidae) in the western Great Lakes region. *American Midland Naturalist* 151:179-185.
- Hille Ris Lambers, J, WS Harpole, D Tilman, J Knops, PB Reich. 2004. Mechanisms responsible for the positive diversity-productivity relationship in Minnesota grasslands. *Ecology Letters* 7:661-668.
- Reich, PB, D Tilman, S Naeem, D Ellsworth, J Knops, J Craine, D Wedin, J Trost. 2004. Species and functional diversity independently influence biomass accumulation and its response to CO₂ and N. *Proc Nat Acad Sci USA* 101:10101-10106.
- Reich, PB, J. Oleksyn. 2004. Global patterns of plant leaf N and P in relation to temperature and latitude. *Proc Nat Acad Sci USA* 101:11001-11006.
- Reich PB, C Uhl, M Walters, L Prugh, DS Ellsworth. 2004. Births, deaths, longevity and phenology of Amazonian rain forest leaves: results of a 9-year, 40,000 leaf demography census. *Ecological Monographs* 74:3-24.
- Weyenberg, S, LE Frelich, PB Reich. 2004. Logging versus fire: how does disturbance type influence the abundance of *Pinus strobus* regeneration. *Silva Fennica* 38:179-194.
- Wright, IJ, PK Groom, BB Lamont, P Poot, L Pryor, PB Reich, ED Schulze, E Veneklaas, M Westoby. 2004. Leaf trait relationships in Australian plant species. *Functional Plant Biology* 31:551-558.
- Wright, I, PB Reich, M Westoby, and GLOPNET researchers. 2004. The worldwide leaf economics spectrum. *Nature* 428:821-827.

2003

- Avis, PG, DJ McLaughlin, BC Dentinger, PB Reich. 2003. Long-term increase in nitrogen supply alters above- and below-ground ectomycorrhizal communities and increases the dominance of *Russula* spp. in a temperate oak savanna. *New Phytologist* 160:239-253.
- Bassirirad, H, JVH Constable, J Lussenhop, BA Kimball, RJ Norby, WC Oechel, PB Reich, WH Schlesinger, S, Zitzer, HL Sehtiya, S Salim. 2003. Widespread foliage $\delta^{15}\text{N}$ depletion under elevated CO₂: inferences for the nitrogen cycle. *Global Change Biology* 9: 1-9.
- Bolstad, PV, PB Reich, T Lee. 2003. Rapid acclimation to temperature of leaf respiration in *Quercus alba* and *Q. rubra*. *Tree Physiology* 23:969-976
- Cornelissen, JHC, S Lavorel, E Garnier, S Díaz, N Buchmann, DE Gurvich, PB Reich, H ter Steege, HD Morgan, MGA van der Heijden, JG Pausas, H Poorter. 2003. A handbook of protocols for standardised and easy measurement of plant functional traits worldwide. *Invited Paper: Aust J Botany* 51: 335-380.
- Craine, JM, DA Wedin, FS Chapin, III, PB Reich. 2003. The dependence of root system properties on root system biomass of 10 North American grassland species. *Plant and Soil* 250:39-47.

- Craine, JM, PB Reich, GD Tilman, D Ellsworth, J Fargione, J Knops, S Naeem. 2003. The role of plant species in biomass production and response to elevated CO₂ and N. *Ecology Letters* 6:623-630.
- Craine, J, W Bond, W Lee, PB Reich, S Ollinger. 2003. The resource economics of chemical and structural defenses across nitrogen supply gradients. *Oecologia* 137:547-556.
- Dickie, IA, PG Avis, DJ McLaughlin, PB Reich. 2003. Good-Enough RFLP Matcher (GERM) Program. *Mycorrhiza* 13:171-172.
- Dovciak, M, LE Frelich, PB Reich. 2003 Seed rain, safe sites, competing vegetation and soil resources spatially structure white pine regeneration and recruitment. *Can J For Res* 33: 1892-1904.
- Frelich, LE, JL Machado, PB Reich. 2003. Fine-scale environmental variation and structure of understorey plant communities in two old-growth pine forests. *J Ecology* 91:283-293.
- Frelich, LE, PB Reich. 2003. Perspectives on development of definitions and values related to old-growth forests. *Environmental Reviews* 11:S9-S22.
- Kieliszewska-Rokicka, B, J Oleksyn, R Zytowski, PB Reich. 2003. Links between root carbohydrates and seasonal pattern of soil microbial activity of diverse European populations of *Pinus sylvestris* grown in a provenance plantation. *Acta Societatis Botanicorum Poloniae (Polish Journal of Botany)* 72:167-173.
- Lee, TD, PB Reich, MG Tjoelker. 2003. Legume presence increases photosynthesis and N concentrations of co-occurring non-fixers but does not modulate their responsiveness to carbon dioxide enrichment. *Oecologia* 137:22-31.
- Lee, TD, MG Tjoelker, PB Reich, MP Russelle. 2003. Contrasting growth responses of an N₂-fixing and a non-fixing forb to elevated CO₂: dependence on soil N supply. *Plant Soil* 255:475-486.
- Lusk, CH, I Wright, PB Reich. 2003. Photosynthetic differences contribute to competitive advantage of evergreen angiosperm trees over evergreen conifers in productive habitats. *New Phytologist* 160:329-336.
- Machado, JL, MB Walters, PB Reich. 2003. Belowground resources limit seedling growth in forest understories but do not alter biomass distribution. *Annals of Forest Science* 60:319-330.
- Mitchell, CE, PB Reich, D Tilman, JV Groth. 2003. Effects of elevated CO₂, nitrogen deposition, and decreased species diversity on foliar fungal plant disease. *Global Change Biology* 9:438-451.
- Mitchell, CE, PB Reich. 2003. Assessing environmental changes in grasslands. *Science (letter)* 299:1844.
- Oleksyn, J, PB Reich, R Zytowski, P Karolewski, MG Tjoelker. 2003. Nutrient conservation increases with latitude of origin in European *Pinus sylvestris* populations. *Oecologia* 136:220-235.
- Reich, PB, M.G. Tjoelker, C. Buschena, J. Knops, K. Wrage, J. Machado, D. Tilman. 2003. Variation in growth rate and ecophysiology among 34 grassland and savanna species under contrasting N supply: a test of functional group differences. *New Phytologist* 157:617-631.
- Reich, PB, I Wright, J Cavender-Bares, J Craine, J Oleksyn, M Westoby, MB Walters. 2003. The evolution of plant functional variation: traits, spectra, and strategies. Invited paper. *International Journal of Plant Sciences* 164:s143-164
- Withington, JM, Elkin, AD, Bulaj, B, Olesinski, J Tracy, KN, Bouma, TJ, Oleksyn, J, Anderson, LJ, Modrzyński, J, Reich, PB, Eissenstat, DM. 2003. The impact of material used for minirhizotron tubes for root research. *New Phytologist* 160:533-544.
- Wolf, J, NC Johnson, DL Rowland, PB Reich. 2003. Elevated CO₂ and plant species richness impact arbuscular mycorrhizal fungal spore communities. *New Phytologist* 157:579-588.
- Wright, IJ, PB Reich, M Westoby. 2003. Least-cost input mixtures of water and nitrogen for photosynthesis. *American Naturalist* 161: 98-111.
- Wythers, K, PB Reich, D Turner. 2003. Predicting leaf area index from scaling principles: corroboration and consequences. *Tree Physiology* 23:1171-1179.

2002

- Craine, JM, D Tilman, DA Wedin, P Reich, MG Tjoelker, JMH Knops. 2002. Functional traits, productivity and effects on nitrogen cycling of 33 grassland species. *Functional Ecology* 16:563-574.
- Craine, JM, DA Wedin, FS Chapin, III, PB Reich. 2002. Relationship between the structure of root systems and resource use for 11 North American grassland plants. *Plant Ecology* 165:85-100.
- Frelich, LE, PB Reich. 2002. Dynamics of old-growth oak forests. In: *The ecology and management of oaks for wildlife* (WJ McShea, WH Healy, eds) pp. 113-126, Johns Hopkins University Press, Baltimore, MD, USA.
- Kennedy, T, S Naeem, K Howe, J Knops, D Tilman, PB Reich. 2002. Biodiversity as a barrier to ecological invasion. *Nature* 417:636-638.

- Oleksyn, J, PB Reich, R Zytkowski, P Karolewski, M.G Tjoelker. 2002. Needle nutrients in geographically diverse *Pinus sylvestris* L. populations. *Annals of Forest Science* 59:1-18.
- Ollinger, SV, JD Aber, PB Reich, R Freuder. 2002. Interactive effects of nitrogen deposition, tropospheric ozone, elevated CO₂ and land use history on the carbon dynamics of northern hardwood forests. *Global Change Biology* 8:545-562.
- Reich, PB. 2002. Root-Shoot Relationships: Optimality in Acclimation and Allocation or the "Emperor's New Clothes?" In: *Plant Roots: the Hidden Half*, Chapter 12, pp. 205-220 (eds. Y. Waisel, A. Eshel, U. Kafkafi), Marcel Dekker, Inc. New York.
- Reich, PB, LE Frelich. 2002. Temperate Deciduous Forests. In: *Encyclopedia of Global Change, Volume 2, The Earth system: biological and ecological dimensions of global environmental change*, pp. 565-569 (eds. HA Mooney, JG Canadell), John Wiley and Sons, Chichester.
- Schnitzer, SA, PB Reich, B Bergner, WP Carson. 2002. Herbivore and pathogen damage on grassland and woodland plants: a test of the herbivore uncertainty principle. *Ecol Letters* 5:1-9.
- Tilman, D, J Knops, D Wedin, PB Reich. 2002. Experimental and observational studies of diversity, productivity and stability. In: *The Functional Consequences of Biodiversity: Empirical Progress and Theoretical Extensions*, pp. 42-70 (eds. A. Kinzig, S. Pacala, D. Tilman), Monographs in Population Biology, Princeton University Press, Princeton.
- Tilman, D, J Knops, D Wedin, PB Reich. 2002. Plant diversity and composition: effects on productivity and nutrient dynamics of experimental grasslands. In: *Biodiversity and Ecosystem Functioning: Synthesis and Perspectives*, pp. 21-35 (M Loreau, S Naeem, P Inchausti, eds)
- Wright, IJ, PB Reich, M Westoby. 2002. Convergence towards higher leaf mass per area in dry and nutrient-poor habitats has different consequence for leaf life-span. *J Ecology* 90:534-543.

2001

- Cornett, M, L Frelich, K Puettmann, PB Reich. 2001. Comparing the importance of seedbed and canopy type in the restoration of upland *Thuja occidentalis* forests of northeastern Minnesota. *Restoration Ecology* 9:386-396.
- Craine, JM, PB Reich. 2001. Elevated CO₂ and nitrogen supply alter leaf longevity of grassland species. *New Phytologist* 150: 397-404.
- Craine, JM, DA Wedin, PB Reich. 2001. Grassland species effects on soil CO₂ flux track the effects of elevated CO₂ and nitrogen. *New Phytologist* 150:425-434.
- Craine, JM, DA Wedin, PB Reich. 2001. The response of soil CO₂ flux to changes in atmospheric CO₂, nitrogen supply, and plant diversity. *Global Change Biology* 7:947-953.
- Davis, MA, D Tilman, S Hobbie, C Lehman, PB Reich, JM Knops, S Naeem, ME Ritchie, DA Wedin. 2001. Public access and use of electronically archived data: ethical considerations. *Bulletin of the Ecological Society of America* 82:90-91.
- Dovciak, M, LE Frelich, PB Reich. 2001. Discordance in spatial patterns of white pine (*Pinus strobus*) size classes in a patchy near-boreal forest. *J Ecology* 89:280-291.
- Frelich, LE, PB Reich. 2001. Fire ecology, Forest, boreal, and Forest, temperate (3 articles). Macmillan Reference USA, Biology for Students.
- Friedman, SK, PB Reich, LE Frelich. 2001. Multiple scale composition and spatial distribution patterns of the north-eastern Minnesota presettlement forest. *J Ecology* 89:538-554.
- Kaelke, CM, EL Kruger, PB Reich. 2001. Trade-offs in seedling survival, growth, and physiology among hardwood species of contrasting successional status along a light-availability gradient. *Canadian Journal of Forest Research* 31:1602-1616.
- Lee, TD, MG Tjoelker, DS Ellsworth, PB Reich. 2001. Leaf gas exchange responses of 13 prairie grassland species to elevated CO₂ and increased nitrogen supply. *New Phytologist* 150:405-418.
- Oleksyn, J, PB Reich, MG Tjoelker, W Chalupka. 2001. Biogeographic differences in shoot elongation patterns among European Scots pine populations. *Forest Ecology and Management* 148:207-220.
- Oleksyn, J, P Karolewski, PB Reich, L. Rachwal. 2001. Genotype x environment interaction in Scots pine foliar nutrition in sites near different pollution sources. *Acta Physiologiae Plantarum* 23:23.
- Peterson, D, PB Reich. 2001. Fire frequency and stand dynamics in an oak savanna-woodland ecosystem. *Ecological Applications* 11:914-927.
- Reich, PB. 2001. Body size, geometry, longevity and metabolism: do plant leaves behave like animal bodies? *Trends in Ecology and Evolution* 16:674-680.

- Reich, PB, P Bolstad. 2001. Productivity of Evergreen and Deciduous Temperate Forests. In: Terrestrial Global Productivity, Chapter 11, pp. 245-283 (eds. J. Roy, B. Saugier, H. Mooney), Academic Press.
- Reich, PB, P Bakken, D Carlson, S Friedman, L Frelich, DF Grigal. 2001. Influence of logging, fire and forest type on biodiversity and productivity in southern boreal forests. *Ecology* 82: 2731-2748.
- Reich, PB, J Knops, D Tilman, J Craine, D Ellsworth, M Tjoelker, T Lee, S Naeem, D Wedin, D Bahauddin, G Hendrey, S. Jose, K Wrage, J Goth, W Bengston. 2001. Plant diversity enhances ecosystem responses to elevated CO₂ and nitrogen deposition. *Nature* 410:809-812.
- Reich, PB, DA Peterson, K Wrage, D Wedin. 2001. Fire and vegetation effects on productivity and nitrogen cycling across a forest-grassland continuum. *Ecology* 82:1703-1719.
- Reich, PB, D. Tilman, J Craine, D Ellsworth, M Tjoelker, J Knops, D Wedin, S Naeem, D Bahauddin, J Goth, W Bengston, T Lee. 2001. Do species and functional groups differ in acquisition and use of C, N and water under varying atmospheric CO₂ and N deposition regimes? A field test with 16 grassland species. *New Phytologist* 150:435-448.
- Tilman, D, PB Reich, J Knops, D Wedin, T Mielke, C Lehman. 2001. Diversity and productivity in a long-term grassland experiment. *Science* 294: 843-845.
- Tjoelker, MG, J Oleksyn, PB Reich. 2001. Modelling respiration of vegetation: evidence for a general temperature-dependent Q₁₀. *Global Change Biology* 7:223-230.
- Tjoelker, MG, J Oleksyn, T Lee, PB Reich. 2001. Direct inhibition of leaf dark respiration by elevated CO₂ is minor in 12 grassland species. *New Phytologist* 150:419-424.
- Wright, IJ, PB Reich, M Westoby. 2001. Leaf trait syndromes from species contrasted on rainfall and soil nutrients. *Functional Ecology* 15:423-434.

2000

- Cornett, MW, LE Frelich, KJ Puettmann, PB Reich. 2000. Conservation implications of browsing by *Odocoileus virginianus* in remnant upland *Thuja occidentalis* forests. *Biological Conservation* 93: 359-369.
- Cornett, M, PB Reich, K Puettmann, LE Frelich. 2000. Seedbed and moisture availability determine safe sites for early *Thuja occidentalis* (Cupressaceae) regeneration. *American J Botany* 87:1807-1814.
- Davis, MA, DW Peterson, PB Reich, M Crozier, T Query, E Mitchell, J Huntington. 2000. Restoring savanna using fire: impact on the breeding bird community. *Restoration Ecology* 8:30-40.
- Kloppel, BK, ST Gower, JG Vogel, PB Reich. 2000. Leaf-level resource use for evergreen and deciduous conifers along a resource availability gradient. *Functional Ecology* 14:281-292.
- Lusk, CH, PB Reich. 2000. Relationships of leaf dark respiration with light environment and tissue nitrogen content in juveniles of 11 cold-temperate tree species. *Oecologia* 123:318-329.
- Oleksyn, J, R Zytowskiak, PB Reich, MG Tjoelker, P Karolewski. 2000. Ontogenetic patterns of leaf CO₂ exchange, morphology and chemistry in *Betula pendula* trees. *Trees* 14:271-281.
- Oleksyn, J, R Zytowskiak, P Karolewski, PB Reich, MG Tjoelker. 2000. Genetic and environmental control of seasonal carbohydrate dynamics in trees of diverse *Pinus sylvestris* populations. *Tree Physiology* 20:837-847.
- Oleksyn, J, PB Reich, L Rachwal, MG Tjoelker, P Karolewski. 2000. Variation in aboveground net primary production of diverse European *Pinus sylvestris* populations. *Trees* 14:415-421.
- Reich, PB. 2000. Do tall trees scale physiological heights? *Trends in Ecology and Evolution* 15:41-42.
- Tilman, D, PB Reich, D Peterson, H Phillips, M Mentor, A Patel, E Vose, J Knops. 2000. Fire suppression and ecosystem carbon storage. *Ecology* 81:2680-2685.
- Vanderklein, DW, PB Reich. 2000. European larch and eastern white pine respond similarly during three years of partial defoliation. *Tree Physiology* 20:283-287.
- Walters, MB, PB Reich. 2000. Seed size, nitrogen supply and growth rate affect tree seedling survival in deep shade. *Ecology* 81:1887-1901.
- Walters, MB, PB Reich. 2000. Trade-offs in low-light CO₂ exchange: a component of variation in shade tolerance among cold temperate tree seedlings. *Functional Ecology* 14:155-165.
- Westoby, M, PB Reich, D Wharton. 2000. The time value of leaf area. *American Naturalist* 155: 649-656.

1999

- Ackerly, D, PB Reich. 1999. Convergence and correlations among leaf size and function: a comparative test using independent contrasts. *American J Botany* 86:1272-1281.
- Craine, J, D Berin, PB Reich, J Knops, D Tilman. 1999. Measurement of leaf longevity of 14 species of grasses and forbs using a novel approach. *New Phytologist* 142:475-481.

- Davis, MA, KJ Wrage, PB Reich, MG Tjoelker, T Schaeffer, C Muermann. 1999. Survival, growth and photosynthesis of tree seedlings competing with herbaceous vegetation along a water-light-nitrogen gradient. *Plant Ecology* 145:341-350.
- Frelich, LE, PB Reich. 1999. Neighborhood effects, disturbance severity, and community stability in forests. *Ecosystems* 2:151-166.
- Knops, JM, D Tilman, NM Haddad, S Naeem, CE Mitchell, J Haarstad, ME Ritchie, KM Howe, PB Reich, E Siemann, J Groth. 1999. Effects of plant species richness on invasion dynamics, disease outbreaks, insect abundances and diversity. *Ecology Letters* 2: 286-293.
- Machado, JL, PB Reich. 1999. Evaluation of several measures of canopy openness as predictors of photosynthetic photon flux density in deeply shaded conifer-dominated forest understory. *Canadian Journal of Forest Research* 29:1438-1444.
- Oleksyn, J, PB Reich, W Chalupka, MG Tjoelker. 1999. Differential above- and below-ground biomass accumulation of European *Pinus sylvestris* populations in a 12-year old provenance experiment. *Scandinavian Journal of Forest Research* 14:7-17.
- Oleksyn, J, PB Reich, P Karolewski, MG Tjoelker, W Chalupka. 1999. Nutritional status of pollen and needles of diverse *Pinus sylvestris* populations grown at sites with contrasting pollution. *Water, Air, and Soil Pollution* 110:195-212.
- Peterson, AG, JT Ball, Y Luo, CB Field, PB Reich, PS Curtis, KL Griffin, CA Gunderson, RJ Norby, DT Tissue, M Forstreuter, A Rey, CS Vogel, and CMEAL participants. 1999. The photosynthesis-leaf nitrogen relationship at ambient and elevated atmospheric carbon dioxide: a meta-analysis. *Global Change Biology* 5:331-346.
- Prus-Glowacki, W, A Wojnicka-Poltorak, J Oleksyn, PB Reich. 1999. Industrial pollutants tend to increase genetic diversity: evidence from field-grown European Scots pine populations. *Water, Air, and Soil Pollution* 116:395-402. [Also published in: Shepard, LJ and Cape, JN (eds), *Forest growth responses to the pollution climate of the 21st century*. Kluwer Academic Publishers, Dordrecht].
- Reich, PB, DS Ellsworth, MB Walters, J Vose, C Gresham, J Volin, W Bowman. 1999. Generality of leaf traits relationships: a test across six biomes. *Ecology* 80:1955-1969.
- Reich, PB, D Turner, P Bolstad. 1999. An approach to spatially-distributed modeling of net primary production (NPP) at the landscape scale and its application in validation of EOS NPP products. *Remote Sensing of Environment* 70:69-81.
- Tjoelker, MG, PB Reich, J Oleksyn. 1999. Changes in leaf nitrogen and carbohydrate underlie temperature and CO₂ acclimation of dark respiration in five boreal tree species. *Plant, Cell and Environment* 22:767-778.
- Tjoelker, MG, J Oleksyn, PB Reich. 1999. Acclimation of respiration to temperature and CO₂ in seedlings of boreal tree species in relation to plant size and relative growth rate. *Global Change Biology* 5:679-692.
- Vanderklein, DW, PB Reich. 1999. The effect of defoliation intensity and history on photosynthesis, growth and carbon reserves of two conifers with contrasting leaf lifespans and growth habits. *New Phytologist* 144:121-132.
- Walters, MB, PB Reich. 1999. Low light carbon balance and shade tolerance in the seedlings of woody plants: do winter deciduous and broad-leaved evergreen species differ? *New Phytologist* 143:143-154.

1998

- Cornett, MW, KJ Puettmann, PB Reich. 1998. Canopy type, forest floor, predation, and competition influence conifer seedling emergence and early survival in two Minnesota conifer-deciduous forests. *Canadian Journal of Forest Research* 28:196-205.
- Davis, MA, KJ Wrage, PB Reich. 1998. Competition between tree seedlings and herbaceous vegetation: support for a theory of resource supply and demand. *J Ecology* 86:652-661
- Frelich, LE, SS Sugita, PB Reich, MB Davis, SK Friedman. 1998. Neighborhood effects in forests: implications for within stand patch structure and management. *J Ecology* 86:149-161.
- Frelich, LE, PB Reich. 1998. Disturbance severity and threshold responses in the boreal forest. *Conservation Ecology* (online) 2(2):7.
- Giertych, MJ, Zytkowski, R, Karolewski, P, Oleksyn, J, Tjoelker, MG, Reich PB. 1998. The effects of sulphur dioxide and fluorine on Scots pine seedlings differing in sensitivity to industrial pollution. *International Scientific Meeting "Ecophysiological aspects of plant responses to stress factors"*, Krakow 12-14 June 1997 (eds. S. Grzesiak, A. Skoczowski, Z. Miszalski) pp. 171-174.

- Oleksyn, J, P Karolewski, MJ Giertych, R Zytkowskiak, PB Reich, MG Tjoelker. 1998. Primary and secondary host plants differ in leaf-level photosynthetic response to herbivory: evidence from *Alnus* and *Betula* grazed by the alder beetle, *Agelastica alni*. *New Phytologist* 140: 239-249.
- Oleksyn, J, J Modrzynski, MG Tjoelker, R Zytkowskiak, PB Reich, P Karolewski. 1998. Growth and physiology of *Picea abies* populations from elevational transects: common garden evidence for altitudinal ecotypes and cold adaptation. *Functional Ecology* 12:573-590.
- Oleksyn, J, MG Tjoelker, PB Reich. 1998. Adaptation to changing environment in Scots pine populations across a latitudinal gradient. *Silva Fennica* 32:129-140.
- Prus-Gowacki, W, J Oleksyn, PB Reich. 1998. Relation between genetic structure and susceptibility to air pollution of European *Pinus sylvestris* populations from a IUFRO-1982 provenance experiment. *Chemosphere* 36:813-818.
- Raffa, KF, SC Krause, PB Reich. 1998. Long-term effects of defoliation on red pine suitability to insects feeding on diverse plant tissues. *Ecology* 79:2352-2364.
- Reich, PB. 1998. Variation among plant species in leaf turnover rates and associated traits: implications for growth at all life stages. In H. Lambers, H. Poorter, and M Van Vureen, eds. *Inherent variation in plant growth*. Backhuys Publishers, Leiden, Netherlands, pp. 467-487.
- Reich, PB, DS Ellsworth, MB Walters. 1998. Leaf structure (specific leaf area) regulates photosynthesis-nitrogen relations: evidence from within and across species and functional groups. *Functional Ecology* 12:948-958.
- Reich, PB, MG Tjoelker, MB Walters, D Vanderklein, C Buschena. 1998. Close association of RGR, leaf and root morphology, seed mass and shade tolerance in seedlings of nine boreal tree species grown in high and low light. *Functional Ecology* 12:327-338.
- Reich, PB, MB Walters, DS Ellsworth, J Vose, J Volin, C Gresham, W Bowman. 1998. Relationships of leaf dark respiration to leaf N, SLA, and life-span: a test across biomes and functional groups. *Oecologia* 114:471-482.
- Reich, PB, MB Walters, MG Tjoelker, D Vanderklein, C Buschena. 1998. Photosynthesis and respiration rates depend on leaf and root morphology and nitrogen concentration in nine boreal tree species differing in relative growth rate. *Functional Ecology* 12:395-405.
- Tjoelker, MG, J Oleksyn, PB Reich. 1998. Seedlings of five boreal tree species differ in acclimation of net photosynthesis to elevated CO₂ and temperature. *Tree Physiology* 18:715-726.
- Tjoelker, MG, J Oleksyn, PB Reich. 1998. Temperature and ontogeny mediate growth response to elevated CO₂ in seedlings of five boreal tree species. *New Phytologist* 140:197-210.
- Volin, JC, PB Reich, TG Givnish. 1998. Elevated carbon dioxide ameliorates the effects of ozone on photosynthesis and growth: species respond similarly regardless of photosynthetic pathway or plant functional group. *New Phytologist* 138:315-325.

1997

- Cornett, MW, PB Reich, KJ Puettmann. 1997. Canopy feedbacks and microtopography regulate conifer seedling distribution in two Minnesota conifer-deciduous forests. *Ecoscience* 4:353-364.
- Gerlach, J, PB Reich, K Puettmann, T. Baker. 1997. Species, diversity, and density affect tree seedling mortality from *Armillaria* root rot. *Canadian Journal of Forest Research* 27:1509-1512.
- Kruger EL, PB Reich. 1997. Responses of hardwood regeneration to fire in mesic forest openings. I. Post-fire community dynamics. *Canadian Journal of Forest Research* 27:1822-1831.
- Kruger EL, PB Reich. 1997. Responses of hardwood regeneration to fire in mesic forest openings. II. Leaf gas exchange, nitrogen concentration, and water status. *Canadian Journal of Forest Research* 27:1832-1840.
- Kruger EL, PB Reich. 1997. Responses of hardwood regeneration to fire in mesic forest openings. III. Whole-plant growth, biomass distribution and nitrogen and carbohydrate relations. *Canadian Journal of Forest Research* 27:1841-1850.
- Oleksyn, J, J Modrzynski, W Prus-Glowacki, PB Reich, MG Tjoelker. 1997. Value of existing forest experiments for ecophysiological and genetic studies of the interaction between trees and the environment. *Sylwan* 141: 105-119.
- Oleksyn, J, PB Reich, W Chalupka, MG Tjoelker. 1997. CO₂ exchange, buffer capacity, chlorophyll, carbohydrate and phenols content in relation to needle age of *Pinus heldreichii* Christ- a relict of Tertiary flora. *Trees* 12:82-89.
- Ollinger, SV, JD Aber, PB Reich. 1997. Simulating ozone effects on forest productivity: interactions among leaf-, canopy-, and stand-level processes. *Ecological Applications* 7:1237-1251.

- Reich, PB, DF Grigal, JD Aber, ST Gower. 1997. Nitrogen mineralization and productivity in 50 hardwood and conifer stands on diverse soils. *Ecology* 78:335-347.
- Reich, PB, MB Walters, DS Ellsworth. 1997. From tropics to tundra: global convergence in plant functioning. *Proceedings of the National Academy of Sciences USA* 94:13730-13734.
- Tilman, D, J Knops, D Wedin, PB Reich, M Ritchie, E Siemann. 1997. The influence of functional diversity and composition on ecosystem processes. *Science* 277:1300-1302.
- Tilman, D, S Naeem, J Knops, PB Reich, E Siemann, D Wedin, M Ritchie, J Lawton. 1997. Biodiversity and ecosystem properties. *Science* 278:1865-1867.
- Walters, MB, PB Reich. 1997. Growth of *Acer saccharum* seedlings in deeply shaded understories of northern Wisconsin: effects of nitrogen and water availability. *Canadian Journal of Forest Research* 27:237-247.
- Zagt, RJ, J-L Machado, PB Reich. 1997. Distribution and demography in relation to light and size for seedlings of three Guyanese tropical rain forest species. In: *Tree Demography in the Tropical Rain Forest of Guyana*. ed. R.J.Zagt. Tropenbos-Guyana Series 3. Tropenbos-Guyana Programme, Georgetown, Guyana, pp. 158-203.

1996

- Aber, JD, PB Reich, ML Goulden. 1996. Extrapolating leaf CO₂ exchange to the canopy: a generalized model of forest photosynthesis compared with measurements by eddy correlation. *Oecologia* 106:257-265.
- Ellsworth, DS, PB Reich. 1996. Photosynthesis and leaf nitrogen of in five Amazonian tree species during early secondary succession. *Ecology* 77:581-594.
- Frelich, LE, PB Reich. 1996. Old Growth in the Great Lakes Region. In: *Eastern Old Growth Forests* (M.B. Davis, ed.), Island Press, Washington D.C., pp. 144-160.
- Oleksyn, J, P Karolewski, MJ Giertych, A Werner, MG Tjoelker, PB Reich. 1996. Altered root growth and plant chemistry of *Pinus sylvestris* seedlings subjected to aluminum in nutrient solution. *Trees* 10:135-144.
- Reich, PB. 1996. Environmental constraints on the structure and productivity of pine forest ecosystems: a book review. *Forest Ecology and Management* 83:283-285.
- Reich, PB, J Oleksyn, MG Tjoelker. 1996. Needle respiration and nitrogen concentration in Scots pine populations from a broad latitudinal range: a common garden test with field grown trees. *Functional Ecology* 10:768-776.
- Reich, PB, J Oleksyn, MG Tjoelker, J Modrynzki. 1996. Evidence that longer needle retention of pine and spruce populations at high elevations and high latitudes is largely a phenotypic response. *Tree Physiology* 16:643-647.
- Volin, JC, PB Reich. 1996. Interaction of carbon dioxide and ozone on C₃ and C₄ grasses and trees under contrasting nutrient supply. *Physiologia Plantarum* 97:674-684.
- Walters, MB, PB Reich. 1996. Are shade tolerance, survival, and growth linked? Low light and nitrogen effects on hardwood seedlings. *Ecology* 77:841-853.

1995

- Aber, JD, SV Ollinger, CA Federer, PB Reich, M Gouldin, DW Kicklighter, JM Melillo, RG Lathrop, JM Ellis. 1995. Predicting the effects of climate change on water yield and forest production in the northeastern United States. *Climate Research* 5:207-222.
- Clancy, KM, MR Wagner, PB Reich. 1995. Ecophysiology and insect herbivory. In: *Ecophysiology of Coniferous Forests* (eds. W.K. Smith and T.M. Hinckley), pp. 125-180, Academic Press, San Diego.
- Frelich, LE, PB Reich. 1995. Spatial patterns and succession in a Minnesota southern-boreal forest. *Ecological Monographs* 65:325-346.
- Frelich, LE, PB Reich. 1995. Neighborhood effects, disturbance, and succession in forests of the western Great Lakes Region. *Ecoscience* 2:148-158.
- Gower, ST, Kloeppel, BD, Reich, PB. 1995. Carbon, nitrogen, and water use by larches and co-occurring evergreen conifers. *Ecology and Management of Larix Forests: A Look Ahead* (eds W. C. Schmidt & K. I McDonald), pp. 110-117. *Proceedings of an International Symposium, Technical Report GTR-INT-319*. USDA Forest Service, Washington, DC
- Matyssek, R, PB Reich, R Oren, W Winner. 1995. Response mechanisms of conifers to air pollutants. In: *Ecophysiology of Coniferous Forests* (eds. WK Smith, TM Hinckley), pp. 255-308, Academic Press, San Diego. Predicting the effects of tropospheric ozone on forest productivity in the northeastern US

- Ollinger, SV, JD Aber, PB Reich. Proceedings of the 1995 Meeting of the Northern Global Change Program, 217-225
- Puettmann, KJ, PB Reich. 1995. The differential sensitivity of red pine and quaking aspen to competition. *Canadian Journal of Forest Research* 25:1731-1737.
- Reich, PB. 1995. Phenology of tropical forests: patterns, causes and consequences. *Canadian Journal of Botany* 73:164-174.
- Reich, PB, DS Ellsworth, C Uhl. 1995. Leaf carbon and nutrient assimilation and conservation in species of differing successional status in an oligotrophic Amazonian forest. *Functional Ecology* 9:65-76.
- Reich, PB, BD Kloeppel, DS Ellsworth, MB Walters. 1995. Different photosynthesis-nitrogen relations in evergreen conifers and deciduous hardwood tree species. *Oecologia* 104:24-30.
- Reich, PB, T Koike, ST Gower, AW Schoettle. 1995. Causes and consequences of variation in conifer leaf life span. In: *Ecophysiology of Coniferous Forests* (eds. W.K. Smith, T.M. Hinckley), pp. 225-254, Academic Press, San Diego.
- Sheriff, DW, HA Margolis, MR Kaufmann, PB Reich. 1995. Resource use efficiency. In: *Resource physiology of conifers* (eds. W.K. Smith, T.M. Hinckley), pp. 143-178, Academic Press, San Diego.
- Tjoelker, MG, JC Volin, J Oleksyn, PB Reich. 1995. Interaction of ozone pollution and light on photosynthesis in a forest canopy experiment. *Plant, Cell and Environment* 18:895-905.

1994

- Oleksyn, J, W Prus-Gowacki, M Giertych, PB Reich. 1994. Relation between genetic diversity, productivity and pollution impact in a 1912 experiment with East European *Pinus sylvestris* populations. *Canadian Journal of Forest Research* 24:2390-2394.
- Oleksyn, J, PB Reich. 1994. Habitat destruction and biodiversity in Poland. *Conservation Biology* 8:943-960.
- Reich, PB, J Oleksyn, MG Tjoelker. 1994. Seed mass effects on germination and growth of diverse European Scots pine populations. *Canadian Journal of Forest Research* 24:306-320.
- Reich, PB, J Oleksyn, MG Tjoelker. 1994. Relationships between aluminum, calcium and net carbon dioxide exchange among diverse Scots pine provenances under pollution stress in Poland. *Oecologia* 97:82-92.
- Reich, PB, MB Walters. 1994. Photosynthesis-nitrogen relations in Amazonian tree species. II. Variation in nitrogen vis-a-vis specific leaf area influences mass and area-based expressions. *Oecologia* 97:73-81.
- Reich, PB, MB Walters, DS Ellsworth, C Uhl. 1994c. Photosynthesis-nitrogen relations in Amazonian tree species. I. Patterns among species and communities. *Oecologia* 97:62-72.
- Tjoelker, MG, JC Volin, J Oleksyn, PB Reich. 1994. An open-air system for exposing forest canopy branches to ozone pollution. *Plant, Cell and Environment* 17:211-218.

1993

- Ellsworth, DS, PB Reich. 1993. Canopy structure and vertical patterns of photosynthesis and related leaf traits in a deciduous forest. *Oecologia* 96:169-178.
- Gower, ST, PB Reich, Y Son. 1993. Canopy dynamics and aboveground production of five tree species with different leaf longevities. *Tree Physiology* 12:327-345.
- Ko, LJ, PB Reich. 1993. Oak tree effects on soil and herbaceous vegetation in savannas and pastures in Wisconsin. *American Midland Naturalist* 130:31-42.
- Kruger, EL, PB Reich. 1993. Coppicing alters ecophysiology of *Quercus rubra* saplings in Wisconsin forest openings. *Physiologia Plantarum* 89:741-750.
- Kruger, EL, PB Reich. 1993. Coppicing affects growth, root:shoot relations and ecophysiology of potted *Quercus rubra* seedlings. *Physiologia Plantarum* 89:751-760.
- Lindroth, RL, PB Reich, MG Tjoelker, JC Volin, J Oleksyn. 1993. Light environment alters response to ozone stress in *Acer saccharum* Marsh. and hybrid *Populus* L. seedlings. III. Consequences for gypsy moth performance. *New Phytologist* 124:647-651.
- Reich, PB. 1993. Reconciling apparent discrepancies among studies relating life-span, structure and function of leaves in contrasting plant life forms and climates: "the blind men and the elephant retold". *Functional Ecology* 7:721-725.
- Reich, PB, MB Walters, SC Krause, D Vanderklein, KF Raffa. 1993. Growth, nutrition and gas exchange of *Pinus resinosa* following artificial defoliation. *Trees* 7:67-77.

- Tjoelker, MG, JC Volin, J Oleksyn, PB Reich. 1993. Light environment alters response to ozone stress in *Acer saccharum* Marsh. and hybrid *Populus* L. seedlings. I. In situ net CO₂ exchange and growth. *New Phytologist* 124:627-636.
- Volin, JC, MG Tjoelker, J Oleksyn, PB Reich. 1993. Light environment alters response to ozone stress in *Acer saccharum* Marsh. and hybrid *Populus* L. seedlings. II. Diagnostic gas exchange and leaf chemistry. *New Phytologist* 124:637-646.
- Walters, MB, EL Kruger, PB Reich. 1993. Growth, biomass distribution and CO₂ exchange of northern hardwood seedlings in high and low light: relationships with successional status and shade tolerance. *Oecologia* 94:7-16.
- Walters, MB, EL Kruger, PB Reich. 1993. Relative growth rate in relation to physiological and morphological traits for northern hardwood seedlings: species, light environment and ontogenetic considerations. *Oecologia* 96:219-231.

1992

- Ellsworth, DS, PB Reich. 1992. Leaf mass per area, nitrogen content and photosynthetic carbon gain in *Acer saccharum* seedlings in contrasting forest light environments. *Functional Ecology* 6:423-435.
- Ellsworth, DS, PB Reich. 1992. Water relations and gas exchange of *Acer saccharum* seedlings in contrasting natural light and water regimes. *Tree Physiology* 10:1-20.
- Oleksyn, J, W Chalupka, MG Tjoelker, PB Reich. 1992. Geographic origin of *Pinus sylvestris* populations influences the effects of air pollution on flowering and growth. *Water, Air, & Soil Pollution* 62:201-212.
- Oleksyn, J, MG Tjoelker, PB Reich. 1992. Growth and biomass partitioning of populations of European *Pinus sylvestris* L. under simulated 50° and 60° N daylengths: evidence for photoperiodic ecotypes. *New Phytologist* 120:561-574.
- Oleksyn, J, MG Tjoelker, PB Reich. 1992. Whole-plant CO₂ exchange of seedlings of two *Pinus sylvestris* L. provenances grown under simulated photoperiodic conditions of 50° and 60° N. *Trees* 6:225-231.
- Reich, PB, MB Walters, DS Ellsworth. 1992. Leaf lifespan in relation to leaf, plant and stand characteristics among diverse ecosystems. *Ecological Monographs* 62:365-392.
- Sutinen, ML, JP Palta, PB Reich. 1992. Seasonal differences in freezing stress resistance in two pine species: evaluation of the conductivity method. *Tree Physiology* 11:241-254.

1991

- Reich, PB 1991. Forest decline and air pollution (Book Review). *Tree Physiology* 9:523-526.
- Reich, PB, DS Ellsworth, MB Walters. 1991. Leaf development and season influence the relationships between leaf nitrogen, leaf mass per area, and photosynthesis in maple and oak trees. *Plant, Cell & Environment* 14:251-259.
- Reich, PB, C Uhl, MB Walters, DS Ellsworth. 1991. Leaf lifespan as a determinant of leaf structure and function among 23 Amazonian tree species. *Oecologia* 86:16-24.

1990

- Reich, PB, MD Abrams, DS Ellsworth, EL Kruger, TJ Tabone. 1990. Fire affects ecophysiology and community dynamics of central Wisconsin oak forest regeneration. *Ecology* 71:2179-2190.
- Reich, PB, DS Ellsworth, BD Kloeppel, JH Fownes, ST Gower. 1990. Vertical variation in canopy structure and CO₂ exchange of oak-maple forests: influence of ozone, nitrogen and other factors on simulated canopy carbon gain. *Tree Physiology* 7:329-345.
- Reich, PB, L Middendorf. 1990. Sources of variation in porometry data. *Plant, Cell and Environment* 13:879.

1989

- Harrington, RA, BJ Brown, PB Reich. 1989. Ecophysiology of exotic and native shrubs in southern Wisconsin. I. Relationship of leaf characteristics, resource availability and phenology to seasonal patterns of carbon gain. *Oecologia* 80:356-367.
- Harrington, RA, BJ Brown, PB Reich, JH Fownes. 1989. Ecophysiology of exotic and native shrubs in southern Wisconsin. II. Annual growth and carbon gain. *Oecologia* 80: 368-373.
- Reich, PB, TM Hinckley. 1989. Relationships between leaf diffusive conductance, leaf water potential, and soil-to-leaf hydraulic conductance in oak. *Functional Ecology* 3:719-726.

- Reich, PB, MB Walters, TJ Tabone. 1989. Response of *Ulmus americana* seedlings to varying nitrogen and water status. II. Water and nitrogen-use efficiency in photosynthesis. *Tree Physiology* 5:173-184.
- Walters, MB, PB Reich. 1989. Response of *Ulmus americana* seedlings to varying nitrogen and water status. I. Photosynthesis and growth. *Tree Physiology* 5:159-172.

1988

- Reich, PB, R Borchert. 1988. Changes with leaf age in stomatal function of several tropical tree species. *Biotropica* 20:60-69.
- Reich, PB, AW Schoettle. 1988. Role of phosphorus and nitrogen in photosynthetic and whole plant carbon gain and nutrient-use efficiency in eastern white pine. *Oecologia* 77: 25-33.
- Reich, PB, AW Schoettle, HF Stroo, RG Amundson. 1988. Influence of O₃ and acid rain on white pine seedlings grown in five soils. III. Nutrient relations. *Canadian Journal of Botany* 66:1517-1531.
- Reich, PB, MB Walters, TJ Tabone. 1988. Variation in response of five identical null-balance porometers. *Plant, Cell and Environment* 11:785-786.
- Stroo, HF, PB Reich, AW Schoettle, RG Amundson. 1988. Influence of O₃ and acid rain on white pine seedlings grown in five soils. II. Mycorrhizae. *Canadian Journal of Botany* 66:1510-1515.

1987

- Amundson, RG, RJ Kohut, AW Schoettle, RM Raba, PB Reich. 1987. Correlative reduction in whole-plant photosynthesis and yield of winter wheat caused by ozone. *Phytopathology* 77:75-79.
- Reich, PB 1987. Quantifying plant response to ozone: a unifying theory. *Tree Physiology* 3:63-91.
- Reich, PB, AW Schoettle, HF Stroo, J Troiano, RG Amundson. 1987. Influence of O₃ and acid rain on white pine seedlings grown in five soils. I. Net photosynthesis and growth. *Canadian J of Botany* 65:977-987.
- Sena-Gomes, AR, TT Kozlowski, PB Reich. 1987. Some physiological responses of *Theobroma cacao* L. (var. Catango) seedlings to air humidity. *New Phytologist* 107:591-602.

1986

- Amundson, RG, RM Raba, AW Schoettle, PB Reich. 1986. Response of soybean to low concentrations of ozone: II. Effects on growth, biomass allocation and flowering. *Journal of Environmental Quality* 15:161-167.
- Reich, PB, AW Schoettle, RG Amundson. 1986. Effects of ozone and acidic rain on photosynthesis and growth in sugar maple and northern red oak seedlings. *Environmental Pollution* 40:1-15.
- Reich, PB, AW Schoettle, R Raba, RG Amundson. 1986. Response of soybean to low concentrations of ozone: I. Reductions in leaf and whole plant net photosynthesis and leaf chlorophyll content. *Journal of Environmental Quality* 15:31-36.
- Reich, PB, HF Stroo, AW Schoettle, RG Amundson. 1986. Acid rain and ozone influence mycorrhizal infection in tree seedlings. *J Air Pollution Control Assoc.* 36:724-726.

1985

- Reich, PB, JP Lassoie. 1985. Influence of low concentrations of ozone on growth, biomass partitioning, and leaf senescence in young hybrid poplar plants. *Environmental Pollution* 39: 39-51.
- Reich, PB, AW Schoettle, RG Amundson. 1985. Effects of low concentrations of O₃, leaf age, and water stress on leaf diffusive conductance and water-use efficiency in soybean. *Physiologia Plantarum* 63:58-64.
- Reich, PB, AW Schoettle, H Stroo, J Troiano, RG Amundson. 1985. Effects of O₃, SO₂, and simulated acidic rain on mycorrhizal infection in northern red oak. *Canadian J of Botany* 63:2049-2055.
- Reich, PB, RG Amundson. 1985. Ambient levels of ozone reduce net photosynthesis in tree and crop species. *Science* 230: 566-570.

1984

- Reich, PB. 1984. Loss of stomatal function in aging hybrid poplar leaves. *Annals of Botany* 53: 691-698.
- Reich, PB. 1984. Oscillations in stomatal conductance of hybrid poplar leaves in the light and dark. *Physiologia Plantarum* 61:541-548.
- Reich, PB, RG Amundson. 1984. Low level O₃ and/or SO₂ exposure causes a linear decline in soybean yield. *Environmental Pollution* 34:345-355.
- Reich, PB, R Borchert. 1984. Water stress and tree phenology in a tropical dry forest in the lowlands of Costa Rica. *Journal of Ecology* 72:61-74.
- Reich, PB, JP Lassoie. 1984. Effect of low level O₃ exposure on leaf diffusive conductance and water-use efficiency in hybrid poplar. *Plant, Cell and Environment* 7:661-668.

- Reich, PB. 1984. Leaf stomatal density and diffusive conductance in three amphistomatous hybrid poplar cultivars. *New Phytologist* 98:231-239.
- Reich, PB. 1984. Relationships between leaf age, irradiance, leaf conductance, CO₂ exchange, and water-use efficiency in hybrid poplar. *Photosynthetica* 18:445-453.
- Reich, PB, JP Lassoie, RG Amundson. 1984. Reduction in growth of hybrid poplar following field exposure to low levels of O₃ and (or) SO₂. *Canadian J of Botany* 62:2835-2841.

1983

- Reich, PB 1983. Effects of low concentrations of O₃ on net photosynthesis, dark respiration, and chlorophyll contents in aging hybrid poplar leaves. *Plant Physiology* 73:291-296.
- Lassoie, JP, PM Dougherty, PB Reich, TM Hinckley, C Metcalf, S Dina. 1983. Ecophysiological investigations of understory eastern red cedar in central Missouri. *Ecology* 64:1355-1366.

1982

- Reich, PB, RG Amundson, JP Lassoie. 1982. Reduction in soybean yield after exposure to ozone and sulfur dioxide using a linear gradient exposure technique. *Water, Air & Soil Pollution* 17:29-36.
- Reich, PB, R Borchert. 1982. Phenology and ecophysiology of the tropical tree, *Tabebuia neochrysantha* (Bignoniaceae). *Ecology* 63:294-299.

1980

- Reich, PB, TM Hinckley. 1980. Water relations, soil fertility and plant nutrient composition of a pygmy oak ecosystem. *Ecology* 61:400-416.
- Reich, PB, RO Teskey, PS Johnson, TM Hinckley. 1980. Periodic root and shoot growth in oak. *Forest Science* 26:590-598.