

Benjamin Blonder

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PUBLICATIONS

- Kattge, J., ..., Blonder, B., et al. TRY – a global database of plant traits. *Global Change Biology* (2011).
- Blonder, B. and Dornhaus, A. Time-ordered networks reveal limitations to information flow in ant colonies. *PLoS One* (2011).
- Blonder, B., Violle, C., Patrick, L., Enquist, B. Leaf venation networks and the origin of the leaf economics spectrum. *Ecology Letters* (2011).
- Blonder, B. Teaching K-12 fluid dynamics: the physics of flow. *APS Forum on Education Newsletter* (Summer 2009).
- Blonder, B., Sloat, L., Enquist, B., McGill, B. Where's the biology in macroecology? (in preparation)
- Blonder, B., Violle, C., Enquist, B. Paleoclimate reconstruction from leaf venation networks. (in preparation)
- Blonder, B., Violle, C., Enquist, B. Causes and consequences of the leaf economics spectrum. (in review at *Ecology*)
- Pérez-Harguindeguy, N., ..., Blonder, B., et al. New handbook for measurement of plant functional traits worldwide. (in preparation for *Australian Journal of Botany*)
- Blonder, B., Wey, T., Dornhaus, A., James, R., Sih, A. Temporal dynamics and network analysis: challenges and opportunities. (in review at *The American Naturalist*).
- Blonder, B., Buzzard, B., Sloat, L., Simova, I., Boyle, B., Enquist, B. The shrinkage effect: is dry leaf area a proxy for fresh leaf area? (in revision)
- Lega, J., Buxner, S., Blonder, B., and Tama, F. Explorations in integrated science. (in preparation for *Journal of College Science Teaching*)

EDUCATION

- University of Arizona. 2009-present. Ph. D. program, ecology and evolutionary biology.
- University of Idaho. 2008-2009. M. Ed candidate. Certificate in environmental education.
- University of Oxford. 2007. Visiting student, physics.
- Swarthmore College. 2005-2008. B.A., physics, biology.

TEACHING AND VOLUNTEER EXPERIENCE

- Inner City Outings (Sierra Club). Tucson, AZ. 2009 - present. Co-lead outdoor trips for school and refugee groups to promote healthy lifestyles and environmental awareness. Grant-writer.
- Sky Island Alliance. Tucson, AZ. 2009 - present. Field volunteer for regional conservation projects.
- Biosphere 2. Oracle, AZ. 2010 - 2011. As Science and Society fellow, conduct science outreach programs, give public lectures and teacher workshops, and develop museum displays.
- University of Arizona. Tucson, AZ. 2009-present. Mentored eight undergraduate students and co-mentored two high school students who conducted research. High school students (2010) won the grand award at the Arizona Science & Engineering Fair.
- McCall Outdoor Science School / AmeriCorps. McCall, ID. 2008 – 2009. Taught environmental science and community/leadership skills to Idaho K-12 students through residential and outreach programs. Developed curricula and managed up to 14 instructors. Co-led summer teacher institute and Upward Bound programs for Idaho NSF EPSCoR program. Taught summer Junior Rangers ecology programs for Ponderosa State Park.
- Swarthmore College. Swarthmore, PA. 2007-2008. Developed and taught credit-granting seminar on the physics of biological systems. Also led twice-weekly problem sessions and acted as a resource and liaison for introductory classes.

Dare to Soar. Swarthmore, PA. 2007-2008. Acted as a mentor for a Saturday enrichment program for low-income elementary school students.

Expanding Your Horizons. Swarthmore, PA and Tucson, AZ. 2006-2009. Co-led workshops for annual conference for middle school-age girls interested in science.

GRANTS AND FELLOWSHIPS

2011-2012 University of Arizona BioME K-12 science teaching fellowship
2011-2012 National Geographic Committee on Research and Exploration research grant
2011 ESA Physiological Ecology section travel grant
2011 Rocky Mountain Biological Laboratory summer research fellowship
2011 UA Institute for the Environment travel grant
2011 University of Arizona Galileo Circle scholarship
2010 UA student showcase, President's Award and 1st prize, biological sciences division
2010, 2011 Argonne National Laboratory, Advanced Photon Source user proposal
2010-2013 NSF pre-doctoral fellowship
2010-2011 Biosphere 2 Science and Society fellowship
2010-2011 University of Arizona graduate college fellowship
2010 Sigma Xi grant-in-aid of research
2010 University of Arizona graduate/professional student council travel grant
2009-2010 University of Arizona graduate college fellowship
2009 American Physical Society education mini-grant
2008-2009 DeVlieg Foundation scholarship
2008 Swarthmore College William C. Elmore award

PRESENTATIONS

08/11 Oral: "Linking leaf venations to the leaf economics spectrum and paleoclimate", ESA annual mtg.
10/10 Poster: "Secrets of the naked leaf", University of Arizona student showcase.
09/10 Oral: "Secrets of the naked leaf", Biosphere 2 Science Saturdays.
09/10 Oral: "Exploring leaf diversity", Arizona K-12 Science Teacher Symposium.
08/10 Oral: "Ant interaction networks", IUSI 16th International Symposium.
07/10 Poster: "Leaf venation networks", Gordon Conference, Metabolic Basis of Ecology.
03/10 Oral: "Ant social networks", UAGC symposium.
02/10 Poster: "Information flow in ant social networks", ASU Social Biomimicry conference.
10/08 Oral: "Experiential science education", Serve Idaho conference.

MEDIA COVERAGE

08/11 Web: "Using fossil leaf veins to reconstruct past climates", Nature newsblog
07/11 Web/print: 18th place, Nikon Small World photomicrography competition
06/11 TV: "Ant social networks", KVOA TV
05/11 Web: "Ants give new evidence for interaction networks", Science Daily
05/11 TV: National Geographic "X-Ray Earth" documentary
12/10 Radio: KUAZ (Arizona Public Media) short feature on leaf networks
11/10 Web: "Lifblood of leaves" - Science Daily
04/09 TV: "Environmental education", interviewed by KIVI news (Boise, ID)

PREVIOUS RESEARCH EXPERIENCE

Eco-Informatics Summer Institute, H.J. Andrews LTER. 2008. Field survey and analysis for stream ecology project studying the effect of woody debris on channel morphology and fish habitat.

The Ecosystems Center, Marine Biological Laboratory. Woods Hole, MA. 2008-2009. Climate modeling and biogeochemical cycling externship.

Swarthmore College Department of Physics. Swarthmore, PA. 2007. Built a confocal microscope used for fluorescence correlation spectroscopy. Investigated fluidity of biological membranes.
REU, Mellon Institute, Carnegie Mellon University. Pittsburgh, PA. 2006. Studied dye-binding antibodies as fluorescent biolabels.
REU, Rowland Institute, Harvard University. Cambridge, MA. 2005. Investigated surface plasmon resonance-based sensors with novel geometries and surface enhancements.

ORGANIZATIONS

Ecological Society of America, student member.
American Physical Society, student member.
Geological Society of America, student member.
International Union for the Study of Social Insects, student member.
Phi Beta Kappa, member.
Sigma Xi, associate member.

Reviewer for: American Naturalist, Animal Behaviour, Annual Review of Ecology Evolution & Systematics, Global Ecology and Biogeography, New Phytologist

SOFTWARE AUTHORED

Cavendish Education - n-body gravitation simulator for Mac OS X/Windows
timeordered - network dynamics methods for R
Structure - protein visualization for Mac OS X
venation - leaf network analysis algorithms for MATLAB