

# Curriculum vitae – Matthew Fitzpatrick

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## Education

- PhD, University of Tennessee (Exp: February 2008)      Advisor: Dr. Nathan Sanders  
*Climatic change, biological invasions, and bioclimatic models: Investigating species-climate relationships across space and time*
- MS, University of Montana (2003)  
*Use of GIS and a modified habitat suitability index model to quantify Columbian sharp-tailed grouse habitats in the upper Blackfoot Valley, Montana*
- BS, Pennsylvania State University (1997)

## Research positions

- Yates Fellow, University of Tennessee, Modeling climatic change impacts in Western Australia (2007-2008)
- Research Assistant, University of Tennessee, Modeling future distributions of ants, (2007)
- Consultant, TN & Associates, Modeling invasions in the Great Lakes, (2006-2007)
- Research Fellow, Oak Ridge National Lab, Modeled dispersal corridors, (2004)

## Refereed publications

- Fitzpatrick MC**, Dunn RR, Sanders NJ (*in press*) Datasets matter, but so do evolution and ecology: A response to Peterson and Nakazawa. ***Global Ecology and Biogeography***
- Fitzpatrick MC**, Gove AD, Sanders NJ, Dunn RR (*in press*) Climate change, plant migration and range collapse in a global biodiversity hotspot: The *Banksia* (Proteaceae) of Western Australia. ***Global Change Biology***
- Gove AD, **Fitzpatrick MC**, Majer JD, Dunn RR (*Accepted*) Seed dispersal mode and its association with geographic range size and distribution in Western Australian angiosperms. ***Global Ecology and Biogeography***
- Fitzpatrick MC**, Weltzin JF, Sanders NJ, Dunn RR (2007) The biogeography of prediction error: Why does the introduced range of the fire ant over-predict its native range? ***Global Ecology and Biogeography*** 16:24-33
- Sanders NJ, Weltzin JF, Crutsinger GM, **Fitzpatrick MC**, Nuñez MA, Oswalt CM, Lane KE (2007) Multiple controls on a plant invasion: Insects mediate the interactive effects of propagule supply and resource availability. ***Ecology*** 88:2383-2391

Sanders NJ, Lessard JP, **Fitzpatrick MC**, Dunn RR (2007) Temperature, but not productivity or geometry, predicts elevational diversity gradients in ants across spatial grains. *Global Ecology and Biogeography* 16:640-649

Dunn RR, Sanders NJ, **Fitzpatrick MC**, Laurent E, Lessard JP, *et al* (2007) Global ant biodiversity and biogeography – A new database and its possibilities. *Myrmecological News* 10:77-83

**Fitzpatrick MC**, Hargrove WW (*submitted*) Projecting species distribution models and the problem of non-analog climate. *Ecography*

## Book chapters

**Fitzpatrick MC**, Weltzin JF (2005) Ecological niche models and the geography of biological invasions: A review and a novel application. Invited chapter in Inderjit (ed) *Invasive plants: Ecological and agricultural aspects*. Birkhauser-Verlag AG, Basel, Switzerland

## Other & outreach publications

**Fitzpatrick MC** (2007) The Antlion Sleeps Tonight. *BBC Wildlife*

Stewart A, **Fitzpatrick MC**, Catanzaro D, Hendricks J, Hargrove WW, O'Neill RV, Eskew D, Arnett D (2006) Identifying next potential invaders to the Great Lakes. US Environmental Protection Agency Report. EPA Contract 68-C-04-004

**Fitzpatrick MC** (2006) Spotted coral root leads a shady life of deception. *The Missoulian*

**Fitzpatrick MC**, Weltzin JF (2005) Characterizing ecosystem response to climate variability. *Review of: Greenland D, Goodin DG & Smith RC (eds) (2003) Climate variability and ecosystem response at long-term ecological research sites*. Oxford University Press, Oxford, UK. *Global Ecology and Biogeography* 14:600-601

**Fitzpatrick MC** (2005) Bitterbrush adds history to native plant gardens. *The Missoulian*

**Fitzpatrick MC** (2003) Sticky sundew catches more than just insects. *The Missoulian*

**Fitzpatrick MC** (2003) High Tide on Flathead Lake. Audio essay for *Field Notes, KUFM, Montana Public Radio*

## External funding

Using experiments, equilibrium tests, and historical data to improve distribution models – a study with ants. (Collaborator with PI's Robert Dunn and Nathan Sanders) (2007-2008). Department of Energy (\$120,000)

Climate change, seed dispersal mutualisms and the future of biodiversity in Western Australia. (2006, I declined this award). National Science Foundation (\$5,000)

An assessment of landscape connectivity for grizzly bears in the Greater Yellowstone Ecosystem. (2004). (Co-PI with Lance Craighead) Yellowstone to Yukon Initiative (\$4,000)

## **Selected fellowships & awards**

Yates Dissertation Fellowship (2007-2008), University of Tennessee (\$15,000)

Travel award (2007), University of Tennessee, Graduate Student Senate (\$500)

Travel award to attend the 3<sup>rd</sup> international conference (2007), International Biogeography Society (\$2,000)

Merit Award (2006 & 2007), University of Tennessee, Department of Ecology & Evolutionary Biology (\$2,000 per award)

Research grant (2006 & 2007), "Climate change, seed dispersal mutualisms, and the future of biodiversity in Western Australia", University of Tennessee, Department of Ecology & Evolutionary Biology (\$1,000 per award)

Travel award to attend "Communicating Climate Change - Science and Media Networking for the Future" (2006), British Council USA (\$2,000)

Science Alliance Award for Scholarly Achievement (2006), University of Tennessee, Division of Biology (\$3,000)

NASA-MSU Professional Enhancement Award (2005), U.S. Regional Association of the International Association for Landscape Ecology (US-IALE) (\$500)

Travel award to attend "Global Environmental Change and Biodiversity Workshop" (2005), Terrestrial Ecosystem Response to Atmospheric & Climatic Change (TERACC) (\$2,000)

ORISE Research Fellowship (2004), Oak Ridge Institute for Science and Education (\$15,000)

Research grant (2004), "Comparative assessment of map-analysis tools for detecting dispersal corridors", University of Tennessee, Department of Ecology & Evolutionary Biology (\$1,500)

## **Invited seminars**

Niche stability: Predictions for the future under global change. Riederalp Workshop, Riederalp, Switzerland (2008)

Environmental Sciences Division, Oak Ridge National Lab (2006)

## **Teaching experience**

Instructor, Ecology in a Changing World, (Undergraduate seminar I co-developed) (2008)

Guest Lecturer, Population Growth Models, General Ecology (2003)

Instructor, Environmental Science (Online, distance-learning course I co-developed) (2002-2003)

Graduate Teaching Assistant, various courses, (2002-2005)

Classroom and Laboratory Instructor, General Physical & Chemical Science (2001-2002)

## Mentoring

Sam Jantz, University of Tennessee, "A meta-analysis of the responses of invasive plants to elevated CO<sub>2</sub>." (2005)

## Selected abstracts

**Fitzpatrick MC**, Dunn RR, Gove AD, Sanders NJ (2007) Climate change, dispersal and the future of biodiversity in Western Australia. The International Mediterranean Ecosystems Conference, 2-5 September, Perth, Western Australia. Oral presentation

**Fitzpatrick MC**, Dunn RR, Sanders NJ (2007) The biogeography of prediction error: Using invasive species to explore species-climate relationships across space and time. Colonization versus Invasion Conference, 25 February – 2 March, Ascona, Switzerland. Oral presentation

**Fitzpatrick MC**, Dunn RR, Gove AD, Sanders NJ (2007) Simple dispersal model reduces uncertainty in range shifts predictions and reveals range dynamics under climate change. 3<sup>rd</sup> International Conference of the International Biogeography Society, 9-12 January, Tenerife, Canary Islands. Poster presentation

**Fitzpatrick MC**, Sanders NJ, Dunn RR (2006) Why does the introduced range of the fire ant over-predict its native range? Southern Appalachian Conference on Arthropod Biology, 7 October, Highlands, NC. Oral presentation

**Fitzpatrick MC**, Weltzin JF (2005) Invasive species and bioclimatic models: the ecology of prediction errors. Terrestrial Ecosystem Response to Atmospheric and Climatic Change: Global Environmental Change and Biodiversity Workshop, 1-4 May, Dourdan, France. Poster presentation

**Fitzpatrick MC**, Weltzin JF (2005) Using invasive species to test the predictions of bioclimatic models. United States Regional Association of the International Association for Landscape Ecology, 12-16 March, Syracuse NY. Oral presentation

## Service

Treasurer, Graduate Researchers in Ecology, Behavior and Evolution (2006-2007)

University of Tennessee, Department of Ecology & Evolutionary Biology, Theoretical Ecologist Search Committee (2005-2006)

Website developer, University of Tennessee, Department of Ecology & Evolutionary Biology (2005)

## Refereeing

Journals: Diversity and Distributions, Ecology, Frontiers in Ecology and the Environment, Global Change Biology, Journal of Biogeography

Grant agencies: National Science Foundation