

PATRICK SULLIVAN

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ACADEMIC TRAINING

PhD	2005	Colorado State University	Ecology
BA	2000	Colby College	Biology

PROFESSIONAL EXPERIENCE

2009-present Research Scientist, University of Alaska Anchorage
2008-2009 Murie Science and Learning Center Fellow
2006-2009 National Science Foundation Polar Postdoctoral Fellow
2005-2006 Postdoctoral Fellow, University of Alaska Anchorage
2001-2005 Graduate Research Assistant, Colorado State University
2000-2001 Graduate Research Assistant, University of Wyoming

HONORS AND AWARDS

2008-2009 Murie Science and Learning Center Fellowship
2006-2009 National Science Foundation Polar Postdoctoral Fellowship
2002-2003 Francis Clark Soil Biology Scholarship, Colorado State University
2001 Plummer Scholarship, University of Wyoming
2000 Phi Beta Kappa, Elected Member
2000 Honors in Biology, Colby College

PROFESSIONAL AND HONORARY SOCIETIES

American Geophysical Union
Phi Beta Kappa

PUBLICATIONS

Sullivan PF, Welker JM, Arens SJT, Sveinbjörnsson B. 2008. Continuous estimates of CO₂ efflux from arctic and boreal soils during the snow-covered season in Alaska. *Journal of Geophysical Research* 113: G04009.

Sullivan PF, Arens SJT, Chimner RA, Welker JM. 2008. Temperature and microtopography interact to control carbon cycling in a high arctic fen. *Ecosystems* 11: 61-76.

Sullivan PF, Welker JM, Steltzer H, Sletten R, Hagedorn B, Arens SJT, Horwath JL. 2008. Energy and water additions give rise to simple responses in plant canopy and soil microclimates of a high arctic ecosystem. *Journal of Geophysical Research* 113: G03S08.

Arens SJT, Sullivan PF, Welker JM. 2008. Nonlinear responses to nitrogen and strong interactions with nitrogen and phosphorus additions drastically alter the structure and function of a high arctic ecosystem. *Journal of Geophysical Research* 113: G03S09.

Steltzer H, Hufbauer RA, Welker JM, Casalis M, Sullivan PF, Chimner RA. 2008. Frequent sexual reproduction and high intraspecific variation in *Salix arctica*: implications for a

- terrestrial feedback to climate change in the High Arctic. *Journal of Geophysical Research* 113: G03S10.
- Sullivan PF, Sommerkorn M, Rueth HM, Nadelhoffer KJ, Shaver GR, Welker JM. 2007. Climate and species affect fine root production with long-term fertilization in acidic tussock tundra near Toolik Lake, Alaska. *Oecologia* 153: 643-652.
- Sullivan PF, Welker JM. 2007. Variation in leaf physiology of *Salix arctica* within and across ecosystems in the High Arctic: test of a dual isotope conceptual model. *Oecologia* 151: 372-386.
- Sullivan PF, Welker JM. 2005. Warming chambers stimulate early season growth of an arctic sedge: results of a minirhizotron field study. *Oecologia* 142: 616-626.
- Welker JM, Fahnestock JT, Sullivan PF, Chimner RA. 2005. Leaf mineral nutrition of arctic plants in response to warming and deeper snow in northern Alaska. *Oikos* 109: 167-177.

CURRENT FUNDING

- Sullivan PF, Sveinbjörnsson B. 2009. Canopy gas exchange and growth of white spruce near the Arctic treeline: confronting measurements with models along natural and experimental resource gradients. Office of Polar Programs, National Science Foundation (\$512,445-UAA).
- Weintraub M, Sullivan PF, Steltzer H, Wallenstein M, Schimel J. 2009. The changing seasonality of tundra nutrient cycling: implications for ecosystem and Arctic System functioning. Office of Polar Programs, National Science Foundation (\$301,597-UAA).
- Czimczik C, Welker JM, Schimel J, Sullivan PF. 2009. Environmental changes alter the carbon cycle of High Arctic ecosystems: shifts in the ages and sources of CO₂ and CH₄. Office of Polar Programs, National Science Foundation (\$502,530-UAA).
- Oberbauer SF, Hollister R, Tweedie C, Welker JM, Sullivan PF. 2009. Sustaining and amplifying the ITEX AON through automation and increased interdisciplinarity of observations. Office of Polar Programs, National Science Foundation (\$591,914-UAA).
- Welker JM, Sveinbjörnsson B, Sullivan PF. 2006. Mechanisms and feedback consequences of shrub expansion following long-term increases in winter snow depth in northern Alaska: a legacy for IPY. Office of Polar Programs, National Science Foundation (\$622,000-UAA).
- Welker JM, Sveinbjörnsson B, Sullivan PF, Boggs K. 2006. IPY: Collaborative Research: Study of arctic ecosystem changes in the IPY using the International Tundra Experiment. Office of Polar Programs, National Science Foundation (\$257,000-UAA).

SERVICE

Graduate Committee Membership

- M. Rogers, University of Alaska Anchorage
- S. Cahoon, University of Alaska Anchorage
- S. Ives, Alaska Pacific University
- E. Sharp, University of Alaska Anchorage

L. Ebbs, University of Alaska Anchorage

Reviewer

Arctic Natural Sciences, Office of Polar Programs, National Science Foundation

Ecosystems

Tellus B

Arctic, Antarctic and Alpine Research

Annals of Forest Science

Forest Ecology and Management

Polar Research

Canadian Journal of Soil Science