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EDUCATION

2007 Ph.D. (with distinction), Forest Science, Northern Arizona University. Adviser: Steve Hart
2000 M.S., Botany, University of Wyoming. Adviser: Dennis Knight
1996 B.S., Botany, Miami University of Ohio.

PROFESSIONAL EXPERIENCE

2012-present Junior Research Faculty, Department of Natural Resources and Environmental Management, University of Hawaii at Manoa.
2008-2011 Postdoctoral Scholar, Environmental Studies Department, University of California, Santa Cruz. Adviser: Erika Zavaleta.
2007-2008 Postdoctoral Research Associate, Cottonwood Ecology Group, Northern Arizona University. Advisers: Tom Whitham and Steve Hart.
2003-2006 EPA-STAR Graduate Fellow, School of Forestry, Northern Arizona University.
2000-2003 Graduate Research Assistant, School of Forestry, Northern Arizona University.
1997-2000 Research/Teaching Assistant, Department of Botany, University of Wyoming.
1996-1997 Director, Forfar Field Station, Andros Island, Bahamas.

PUBLICATIONS

Peer-Reviewed Journal Articles:

Selmants, P.C., E.S. Zavaleta, J.R. Pasari and D.L. Hernandez (2012) Realistic species losses reduce invasion resistance in a California serpentine grassland. *Journal of Ecology*. In press.
Dijkstra, P., J.C. Blankinship, **P.C. Selmants**, S.C. Hart, G.W. Koch, E. Schwartz and B.A. Hungate (2011) Probing carbon flux patterns through soil microbial metabolic networks using parallel position-specific tracer labeling. *Soil Biology and Biochemistry* 43, 126-132.
Selmants, P.C. and S.C. Hart (2010) Phosphorus and soil development: Does the Walker and Syers model apply to semiarid ecosystems? *Ecology* 91, 474-484.
Fischer, D.G., S.C. Hart, J.A. Schweitzer, **P.C. Selmants**, and T.G. Whitham (2010) Soil nitrogen availability varies with plant genetics across diverse river drainages. *Plant and Soil* 331, 391-400.
Selmants, P.C. and S.C. Hart (2008) Substrate age and tree islands influence carbon and nitrogen dynamics across a semiarid retrogressive chronosequence. *Global Biogeochemical Cycles* 22, GB1021, doi:10.1029/2007GB003062.
Selmants, P.C., S.C. Hart, S.I. Boyle, C.A. Gehring, and B.A. Hungate (2008) Restoration of a ponderosa pine forest increases soil CO₂ efflux more than either water or nitrogen additions. *Journal of Applied Ecology* 45, 913-920.
Hungate, B.A., S.C. Hart, **P.C. Selmants**, S.I. Boyle, and C.A. Gehring (2007) Soil responses to management, increased precipitation, and added nitrogen in ponderosa pine forests. *Ecological Applications* 17, 1352-1365.
Hart, S.C., **P.C. Selmants**, S.I. Boyle, and S.T. Overby (2006) Carbon and nitrogen cycling in southwestern ponderosa pine forests. *Forest Science* 52, 683-693.

Hart, S.C., C.A. Gehring, **P.C. Selmants**, and R.J. Deckert (2006) Carbon and nitrogen elemental and isotopic patterns in macrofungal sporocarps and trees in semi-arid forests of the southwestern USA. *Functional Ecology* 20, 42-51.

Selmants, P.C., S.C. Hart, S.I. Boyle, and J.M. Stark (2005) Red alder (*Alnus rubra*) alters community-level soil microbial function in conifer forests of the Pacific Northwest, USA. *Soil Biology and Biochemistry* 37, 1860-1868.

Selmants, P.C. and D.H. Knight (2003) Understory species composition 30-50 years after clearcutting of coniferous forests in southeastern Wyoming. *Forest Ecology and Management* 185, 275-289.

Book Chapters:

Pasari, J.R., **P.C. Selmants**, H. Young, J. O'Leary, and E.S. Zavaleta (2011) Nitrogen Enrichment. Pages 488-492 in *The Encyclopedia of Biological Invasions*, D. Simberloff and M. Rejmanek (Eds.). University of California Press, Berkeley, CA.

Selmants, P.C., A. Elseroad, and S.C. Hart (2003) Soils and Nutrients. In *Ecological Restoration of Southwestern Ponderosa Pine Forests*, P. Friederici (Ed.). Island Press, Washington, DC.

In Preparation:

Vallano, D.M., **P.C. Selmants** and E.S. Zavaleta. Simulated N deposition enhances the performance of an exotic grass relative to native serpentine grassland competitors. *Plant Ecology*. In review.

Selmants, P.C. and E.S. Zavaleta. Realistic plant species losses alter community-level plant nitrogen use in a California serpentine grassland. (Target: *Ecology Letters*).

Selmants, P.C., K.L. Adair, J.A. Schweitzer, L.M. Holeski, S.C. Hart and T.G. Whitham. Foliar chemistry governs the abundance and activity of soil ammonia oxidizers: indirect genetic interactions across three domains of life. (Target: *Ecology*).

GRANTS AND AWARDS

Kearney Foundation Grant (Co-PI with E. Zavaleta, P. Koch, Z. Tzankova) \$233,175 (2009-11)

EPA Science To Achieve Results (STAR) Graduate Fellowship \$105,000 (2003-06)

ARCS Foundation Scholarship \$6,000 (2003-04)

Merriam-Powell Center for Environmental Research Graduate Fellowship \$7,500 (2002-03)

USDA Forest Service Administrative Cost Share Agreement - \$40,000 (1998-00)

Willard Sherman Turrell Herbarium Student Research Award - \$1,500 (1996)

TEACHING

Full Courses:

Instructor, Principles of Ecosystem Ecology (BIO/FOR 479), Northern Arizona University, Spring 2008. Team taught with Paul Dijkstra.

Instructor, Sustainable Forestry (FOR 298), Northern Arizona University, Fall 2002. New course developed and team taught with fellow graduate students Dylan Fischer and Jill Clifton.

Teaching Assistant, Introductory Biology Laboratory (BIO 1010), University of Wyoming, Fall 1997 and Spring 1998. Taught three laboratory sections per semester of Introductory Biology for non-majors.

Director, Forfar Field Station, Andros Island, Bahamas, 1996 – 1997. Lecturer/discussion leader on island biogeography, plant communities, and medicinal and economic botany.

Guest Lectures:

“Ordination and Community Analysis”, Vegetation Ecology (BOT 5700), University of Wyoming, Fall 1998 and Fall 1999. Course Instructor, Dennis Knight.

“Ecological water relations”, Ecology (BIO 326), Northern Arizona University, Spring 2002. Course Instructor, Nancy Collins Johnson.

“Biological nitrogen fixation”, Ecology and Management of Forest Soils (FOR 213), Northern Arizona University, Spring 2002. Course Instructor, Steve Hart.

“Plant nutrient use”, Principles of Ecosystem Ecology (BIO/FOR 479) Northern Arizona University, Spring 2006. Course Instructors, Bruce Hungate and Steve Hart.

“Acidity and salinity”, Ecology and Management of Forest Soils (FOR 213), Northern Arizona University, Spring 2006. Course Instructor, Steve Hart.

“Phosphorus and micronutrients”, Ecology and Management of Forest Soils (FOR 213), Northern Arizona University, Spring 2007. Course Instructor, Steve Hart.

SERVICE

2011 Coordinator, 5th Biennial UC Santa Cruz Plant Research Symposium

2011 Internal reviewer for Stanford University Synchrotron Radiation Light Source (SSRL)

2009 *ad-hoc* reviewer for NSF Division of Environmental Biology – Ecosystem Science

2004 Invited Speaker, NAU Graduate College New Student Orientation

2003-04 Graduate Student representative to the University Graduate Committee, NAU

2002-04 School of Forestry representative to Graduate Student Organization of NAU

Peer reviewer for: *Biogeochemistry, Ecological Applications, Ecology, Ecology Letters, Forest Ecology and Management, Isotopes in Environmental and Health Studies, Journal of Applied Ecology, Oecologia, Soil Biology and Biochemistry, Soil Science Society of America Journal.*

PROFESSIONAL MEMBERSHIPS

American Geophysical Union

Ecological Society of America

OTHER EXPERIENCE

Certified OMC outboard engine mechanic

Certified PADI rescue diver