



Catherine Cunningham, PhD

*Eikosphere
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*Nature's Reflection
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Curriculum Vitae

EDUCATION

Ph.D. Mountain Ecology, ETHZ, Switzerland (2002-2007)

Growth of Norway spruce saplings: Exploring the influence of spring climate through observation, experiment, and model simulation

ETHZ research grant

M.S. Ecology, Utah State University, March 1997 (1994-1997)

Natural Disturbance Ecology and Plant Succession in Montane Forests

Dean's Honorary Student, USU research grant

B.A. Cultural Anthropology, University of Notre Dame, May 1992 (1988-1992)

Cultural Views on Nature, Concentration: International Peace Studies

International Exchange at Stella Maris College in Madras, Tamil Nadu India (1991)

Dean's Honorary Student, Kellogg Peace Institute research grant

CONTINUING EDUCATION

Create Switzerland, Entrepreneurial Business School for Artists and Scientists (2003-2004)

NCCR Climate School, Grindelwald, Switzerland (2003)

University of Colorado, Boulder (2000): Zoology & Botany

Ecosystem Institute: NSF Long Term Ecosystem Research (LTER) in Field Ecology (1998)

EMPLOYMENT

Founder and CEO, The Eikosphere.LLC and Foundation: (2008-current)

The Eikosphere uses elements of design, future scenarios, and interactive multimedia to assist leaders in business, government, and society grappling with 21stC global change challenges to visualize brilliant possible future solutions and breakthrough strategies. www.eikosphere.org

Principal, Nature's Reflection: (2005-Current)

Produce imagery for print, visual presentation, and exhibition that visually voices the reflections of the natural world and views of indigenous people living symbiotically with it on salient global change issues.

PHD Researcher, Swiss Federal Institute of Technology, Switzerland: (2002-2007) Designed, implemented, and managed research contributing unique knowledge to environmental science, supervised field technicians, conducted parametric statistical analysis and geospatial analysis of data, published results in the peer reviewed literature, and defended methods and findings.

Independent Environmental Consultant: (2000-2002) Provided assistance for private firms in environmental regulatory compliance, designed conservation easements for land owners, and wrote forest health plans for government agencies.

Professor, Denver Metro State College, Red Rocks, & Front Range College: (1999-2002) Taught natural science courses and labs in molecular biology, microbiology, botany, mycology, zoology, community ecology, environmental science; designed workshops in field ecology.

Wildfire Ecologist/Mitigation Coordinator, Boulder County: (2000-2002) Reviewed land development projects for building contractors, represented the county publically as an ecologist, collaborated with county fire departments to design fire mitigation plans, and created/delivered/taught wildland-urban interface education seminars.

Instructor & Program Director, Thorne Ecological Institute: (1997-2000)
Designed ecology field curricula for youth and young adults, recruited & trained field instructors, sought funding for programs, coordinated program logistics.

Guide, Mountain Travel-Sobek, Rainbow Expeditions, Wilderness Adventures (1994-1999)-
Coordinated travel in isolated wilderness environments for 7-15 clients on 15-day ecology treks in Sierra Nevada Mountains, CA, Grand Tetons, WY, Canyonlands ,UT, Swiss-Italian Alps.

ACADEMIC HONORS AND AWARDS

ETHZ Research Grant in Mountain Ecology (2002-2006)
Banff Mountain Grant- *Nature's Reflection: A Mountain Story* (2005)
Scholarship-NANPA (North American Nature Photographer's Association) 2005 Summit
Scholarship-ZOeK PhD Important Ecological Research (2004)
Colorado Riparian Association- Conference Scholarship, Telluride, CO. (2000)
Ecosystem Institute Academic Scholarship - H.J. Andrews, Forest, Oregon. (1998)
Utah State University-Research Grant (1994)
Utah State University- Dean's Honorary Student (1997)
University of Notre Dame- Dean's Honorary Student (1992)
Kellogg Peace Institute Research Grant- Ethnography of Tamil Indian Culture, India. (1991)

ACADEMIC PRESENTATIONS

PhD Public Defense, ETHZ, Zuerich, Switzerland (2006)
Invited speaker, WSL, Switzerland (2005)
Invited speaker, ZOeK conference, SLF-Davos, Switzerland (2004)

Invited speaker, Regenerating Forests IUFRO-Conference: Bavaria, Germany (2004)
Presenter, Interdisciplinary Mountain Research Conference: Bolzano, Italy (2004)
Conference Chair, PHD Ecosystem Science Conference: Ticino (2002) & Zurich (2003)
Speaker, Mountain Ecology and Economy Forum: Innsbruck, Austria (2002)
Invited Speaker, Mountain Ecology Seminars: ETHZ, Switzerland (2002)
Invited Speaker, Colorado Native Plant Society: Boulder, CO (2001)
Invited Speaker, Intl. Global Climate Change Conference: Aspen, CO. (1999)
Conference Speaker, Fire Ecology Conference: Luso, Portugal (1998)
Master's Public Defense, College of Natural Resources: Utah, USA (1997)

PUBLICATIONS

Cunningham, Catherine. 2006. Growth of Norway spruce saplings: Exploring the influence of spring conditions through observation, experiment, and model simulation. Swiss Federal Institute of Technology, Zurich, Switzerland. PhD Thesis No. 16670. 170 p.

Cunningham, Catherine, Bjoern Reineking, Harald Bugmann, and David Gustafsson. Using an improved snow hydrology and vegetation model (Alpine 3D) for predicting growth of Norway spruce saplings in Swiss mountain Forests. Unpublished ETHZ Report

Nando Foppa, Manfred Stähli, Catherine Cunningham, David Gustafsson, Massimiliano Zappa, and Michael Lehning. 2006. A comparison of satellite-derived and modeled snow cover extent within the alpine and subalpine zone of the Swiss Alps. *Journal of Hydrology*. Submitted.

Catherine Cunningham, David Gustafsson, Manfred Stähli, Nando Foppa, Massimiliano Zappa, and Michael Lehning. 2006. A comparison of methods for determining snow cover duration in the Swiss Alps within the alpine and subalpine zone. *Water Resources Research*. Submitted.

Cunningham, Catherine, Harald Bugmann, Niklaus E. Zimmermann, and Veronika Stoeckli. 2006. Growth response of Norway spruce saplings to artificial browsing, black snow mold, and ground vegetation in forest gaps in the Swiss Alps. *Canadian Journal of Forest Research*. 36: 2782-2793.

Cunningham, Catherine, Harald Bugmann, Niklaus E. Zimmermann and Veronika Stoeckli. 2005. Growth of Norway spruce saplings in subalpine forests in Switzerland: Does spring climate matter? *Forest Ecology and Management*. 228 (1/3) 19-32.

Cunningham, CA, MJ Jenkins and DW Roberts. 2005. Attack and brood production by the Douglas-fir beetle in Douglas-fir following a wildfire. *Western North American Naturalist*. 65(1): 70-79.

Cunningham, Catherine. 1998. Bark Beetle Activity in Fire-Damaged Douglas-fir Trees, *Pseudotsuga menziesii* var. *glauca* (Mirb.) Franco, Following the 1994 Beaver Mountain Fire. Master's Thesis. Utah State University, Utah, USA.

Cunningham, Catherine. 1998. Fire-Insects Disturbance Complex Following the 1994 Beaver Mountain Fire in Utah. III International Conference on Forest Fire Research. Coimbra, Portugal.