

## **DOMINIK KULAKOWSKI, PH.D.**

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### **EDUCATION**

- **University of Colorado**, Boulder, CO 80309  
Ph.D., Geography, Degree conferred: May 2002
- **Pennsylvania State University**, University Park, PA 16802  
Master of Science, Ecology, Degree conferred: December 1997
- **Pennsylvania State University**, University Park, PA 16802  
Bachelor of Science, Environmental Resource Management  
Minor, Philosophy, Degree conferred: May 1996

### **APPOINTMENT HISTORY**

- **Clark University**, Worcester, MA  
School of Geography, Assistant Professor, 2007 – present  
Department of Biology, Adjunct Assistant Professor, 2007 – present
- **University of Colorado**, Boulder, CO  
Department of Geography, Research Associate and Lecturer, 2002 – 2007
- **Swiss Federal Institute for Snow and Avalanche Research**, Davos, Switzerland  
Division of the Alpine Environment, Research Associate, 2004 – 2005
- **University of Colorado**, Boulder, CO  
Department of Geography, Research and Teaching Assistant, 1998 – 2002
- **Pennsylvania State University**, University Park, PA  
Department of Biology, Research and Teaching Assistant, 1996 – 1997

## CURRENT RESEARCH AND INTERESTS

- Disturbance ecology, landscape change, and dynamics of mountain forest ecosystems
- Effects climate on mountain forest ecosystems
- Interactions among disturbances in forest ecosystems, especially how previous disturbances affect the spread and severity of subsequent disturbances and how compounding disturbances affect ecosystem dynamics
- The influence of biophysical variables and infrequent disturbances on the dynamics of quaking aspen (*Populus tremuloides*)

## GRANTS

- National Science Foundation, Research Experiences for Undergraduates, (\$10,394), PI, 2009
- National Science Foundation, “Collaborative Research: Wildfire and Mountain Pine Beetle Outbreaks in Subalpine Forests: Cross-Scale Interactions Under Varying Climate” (\$147,849), PI, 2008
- Velux Foundation, “Natural dynamics of subalpine avalanche protection forests” (273,400 CHF), Co-Investigator, 2007
- Velux Foundation, “Forest structure and biodiversity in avalanche tracks: changes due to avalanche exclusion” (138,300 CHF), Co-Investigator, 2004
- Joint Fire Science Program, “Effects of blowdown, beetle outbreak, and fire history on the behavior and effects of the 2002 fires in western Colorado” (\$214,000), Co-PI, 2003
- National Science Foundation, “Climatic variation and disturbance interactions in subalpine Rocky Mountain forests” (\$300,000), Senior Researcher, 2003
- Colorado Mountain Club Foundation Grant Award, 2001
- National Science Foundation, Doctoral Dissertation Research Improvement Award, “Disturbance interactions in a Rocky Mountain subalpine forest” (\$10,000), 2000
- Beverly Sears Graduate Student Grant Award, 2000
- Colorado Natural History Small Grants Award, 2000
- Colorado Natural History Small Grants Award, 1999

## PEER-REVIEWED PUBLICATIONS

**Kulakowski, D.**, P. Bebi., and C. Rixen. *In review*. The interacting effects of landuse change, climate change, and suppression of disturbances on forest structure in the Swiss Alps.

**Kulakowski, D.** and T. T. Veblen. *In review*. Historical range of variability assessment for forest vegetation of the Routt and White River National Forests, Colorado.

Bebi, P., **D. Kulakowski** and C. Rixen. 2009. Snow avalanche disturbances in forest ecosystems – state of research and implications for management. *Forest Ecology and Management*. 257 (9): 1883-1892.

Kurzel, B. P., T. T. Veblen, and **D. Kulakowski**. 2007. A typology of stand structure and dynamics of Quaking aspen in northwestern Colorado. *Forest Ecology and Management*. 252 (1-3):176-190.

**Kulakowski, D.** and T. T. Veblen. 2007. Effect of prior disturbances on the extent and severity of wildfire in Colorado subalpine forests. *Ecology*. 88(3): 759–769.

Schoennagel, T. T. Veblen, **D. Kulakowski**, A. Holz. 2007. Multidecadal climate variability and climate interactions affect subalpine fire occurrence, western Colorado (USA). *Ecology*. 88(11): 2891–2902.

Rixen, C., S. Haag, **D. Kulakowski**, and P. Bebi. 2007. Natural disturbance modulates plant diversity and species composition in subalpine forest. *Journal of Vegetation Science*. 18 (5): 735-742.

**Kulakowski, D.** and T. T. Veblen. 2006. The effect of fires on susceptibility of subalpine forests to a 19<sup>th</sup> century spruce beetle outbreak in western Colorado. *Canadian Journal of Forest Research*. 36(11): 2974-2982.

**Kulakowski, D.** and T. T. Veblen. 2006. Historical range of variability for forest vegetation of the Grand Mesa National Forest, Colorado. USDA Forest Service, Rocky Mountain Region, Golden, CO and the Colorado Forest Restoration Institute, Fort Collins, CO.

**Kulakowski, D.**, T. T. Veblen, and B. P. Kurzel. 2006. Influences of infrequent fire, elevation and pre-fire vegetation on the persistence of quaking aspen (*Populus tremuloides* Michx.) in the Flat Tops area, Colorado, USA. *Journal of Biogeography*. 33: 1397-1413.

**Kulakowski, D.**, C. Rixen, and P. Bebi. 2006. Changes in forest structure and in the relative importance of climatic stress as a result of suppression of avalanche disturbances. *Forest Ecology and Management*. 223 (1-3): 66-74.

Bigler, C., **D. Kulakowski**, and T. T. Veblen. 2005. Multiple disturbance interactions and drought influence fire severity in Rocky Mountain subalpine forests. *Ecology*. 86(11): 3018-3029.

**Kulakowski, D.**, T. T. Veblen, and S. Drinkwater. 2004. The persistence of quaking aspen (*Populus tremuloides*) in the Grand Mesa area, Colorado. *Ecological Applications*. 14 (5): 1603-1614.

**Kulakowski, D.** and T. T. Veblen. 2003. Subalpine forest development following a blowdown in the Mount Zirkel Wilderness, Colorado, USA. *Journal of Vegetation Science*. 14.5: 653-660.

**Kulakowski, D.**, T. T. Veblen, and P. Bebi. 2003. Effects of fire and spruce beetle outbreak legacies on the disturbance regime of a subalpine forest in Colorado. *Journal of Biogeography*. 30 (9): 1445-1456.

Bebi, P., **D. Kulakowski**, and T. T. Veblen. 2003. Interactions between fire and spruce beetles in a subalpine Rocky Mountain forest landscape. *Ecology*. 84 (2): 362-371.

**Kulakowski, D.** and T. T. Veblen. 2002. Influences of fire history and topography on the pattern of a severe wind blowdown in a Colorado subalpine forest. *Journal of Ecology*. 90 (5): 806-819.

Baker, W. L., P. H. Flaherty, J. D. Lindemann, T. T. Veblen, K. S. Eisenhart, and **D. Kulakowski**. 2002. Effects of vegetation on the impact of a severe blowdown in the Southern Rocky Mountains, USA. *Forest Ecology and Management*. 168 (1-3): 63-75.

Veblen, T. T., **D. Kulakowski**, K. S. Eisenhart, and W. L. Baker. 2001. Subalpine forest damage from a severe windstorm in Northern Colorado. *Canadian Journal of Forest Research*. 31 (12): 2089-2097.

Uhl, C., **D. Kulakowski**, J. Gerwing, M. Brown, and M. Cochrane. 1996. Sustainability: A touchstone concept for university operations, education, and research. *Conservation Biology*. 10 (5): 1308-1311.

#### CONFERENCE PROCEEDINGS AND ABSTRACTS (LEAD AUTHOR)

2009. The effect of low-severity fires on susceptibility of lodgepole pine to mountain pine beetle attack. Conference proceedings: The Association of American Geographers Annual Meeting. Las Vegas, NV. March 22-27.

2008. The effects of climate and bark beetle outbreaks on forest fires in the intermountain West, USA. Conference proceedings: The Association of American Geographers Annual Meeting. Boston, MA. April 15-19.

2007. The effects of anthropogenic suppression of avalanches on the subalpine vegetation of the Swiss Alps. Conference proceedings: The Association of American Geographers Annual Meeting. San Francisco, CA. April 17-21.

2006. Fire history altered stand susceptibility to spruce beetle outbreak in the 19<sup>th</sup> century in the Grand Mesa area, western Colorado. Conference proceedings: The Association of American Geographers Annual Meeting. Chicago, IL. March 7-11.

2005. Effects of blowdown, beetle outbreak, and fire history on the behavior and effects of the 2002 fires in western Colorado. Joint Fire Science Program Principal Investigators Workshop. San Diego, CA. November 1-3.

2005. The effects of previous disturbances on the extent and severity of the 2002 fires in northwestern Colorado. Conference proceedings: The Association of American Geographers Annual Meeting. Denver, CO. April 5-9.

2004. Range of Variability of unmanaged subalpine forests. pp. 47-54 *in*: Conference proceedings: Forum für Wissen: Schutzwald und Naturgefahren. Davos, Switzerland. October 28-29.

2004. One hundred years of ecological change in the quaking aspen forests of the Grand Mesa area, Colorado. Conference proceedings: The Association of American Geographers Annual Meeting. Philadelphia, PA. March 14-19.

2003. The persistence of quaking aspen (*Populus tremuloides*) in west-central Colorado. Conference proceedings: Ecological Society of America Annual Meeting. Savannah, GA. August 3-8.

2003. Interactions between fire and spruce beetle disturbances in a western Colorado subalpine forest. Conference proceedings: The Association of American Geographers Annual Meeting. New Orleans, LA. March 4-8.

2002. Synergistic influences of fire and spruce beetle disturbances on a Colorado subalpine forest. Conference proceedings: Ecological Society of America Annual Meeting. Tucson, AZ. August 4-9.

2002. Subalpine forest development following a 1930s blowdown in northwestern Colorado. Conference proceedings: The Association of American Geographers Annual Meeting. Los Angeles, CA. March 9-23.

2001. Interactions between fire and wind disturbances in a subalpine forest in northwestern Colorado. Conference proceedings: Ecological Society of America Annual Meeting. Madison, WI. August 5-10.

2001. Influences of fire history on the effects of a catastrophic blowdown in a subalpine forest in Northwestern Colorado. Conference proceedings: The Association of American Geographers Annual Meeting. New York City, NY. February 27 – March 3.

1997. Measuring ecological sustainability. Conference proceedings: Penn State Green Design Conference. University Park, PA. December 15-21.

## OTHER PUBLICATIONS

Kaufmann M.R., G.H. Aplet, M. Babler, W.L. Baker, B. Bentz, M. Harrington, B.C. Hawkes, L.S. Huckaby, M.J. Jenkins, D.M. Kashian, R.E. Keane, **D. Kulakowski**, C. McHugh, J. Negron, J. Popp, W.H. Romme, T. Schoennagel, W. Shepperd, F.W. Smith, E.K. Sutherland, D. Tinker, and T.T. Veblen. 2008. The status of our scientific understanding of lodgepole pine and mountain pine beetles – a focus on forest ecology and fire behavior. The Nature Conservancy, Arlington, VA. GFI technical report 2008-2.

Romme, W. H., J. Clement, J. Hicke, **D. Kulakowski**, L.H. MacDonald, T.L. Schoennagel, and T.T. Veblen. 2006. Recent Forest Insect Outbreaks and Fire Risk in Colorado Forests: A Brief Synthesis of Relevant Research. Colorado Forest Restoration Institute, Fort Collins, CO.

**Kulakowski, D.** 2004. A glimpse of a forest. Newsletter Naturgefahren. Swiss Federal Institute of Snow and Avalanche Research. Davos, Switzerland.  
<http://www.slf.ch/newsletter/Newsletter-10-2004.pdf>

## TEACHING EXPERIENCE

- **Clark University, Worcester, School of Geography**  
Professor. 2008 – 2009  
Field Methods for Environmental Science. In this field-based course students learn central methods used in environmental science, especially forest ecology. Students work with the scientific method and explore how to formulate and test hypotheses.
- **Clark University, Worcester, School of Geography**  
Professor. 2008 – 2009  
Earth Systems Science. An introduction to the structure and function of the earth system, focusing on the biosphere. Topics covered are the connections among the terrestrial surface, oceans, and atmosphere that create and sustain the climates and biomes of the world and provide the ecosystem services.
- **Clark University, Worcester, School of Geography**  
Professor. 2007 – 2009  
Forest Ecology. An important foundation in forest ecology; considers the function, structure, and composition of forest ecosystems. Specific topics include forest succession, historical ecology, disturbance ecology, nutrient cycling, and the influence of climate and environmental heterogeneity on forest patterns and dynamics.
- **Clark University, Worcester, Graduate School of Geography**  
Professor. 2007  
Graduate Seminar in Biogeography. This seminar examines primary literature dealing with the important and contemporary research themes in forest ecology.

- **University of Colorado, Boulder, Department of Geography**  
 Instructor. 2007  
Conservation Trends. This critical thinking seminar provides environmental studies or geography majors with an undergraduate format for interdisciplinary discussion and research into current and future directions of conservation.
- **University of Colorado, Boulder, Department of Geography**  
 Instructor. 2006  
Environmental Systems: Climate and Vegetation. An introduction to the principles of vegetation science, the dynamics of the earth's atmosphere, the characteristics and controls of climates, and the function of these physical features in determining the types and geographic distributions of life on earth. In addition, the course focuses on environmental impacts involving climate and vegetation that result from human-environment interactions at local and global scales.
- **Swiss Federal Institute for Snow and Avalanche Research, Davos**  
 Co-instructor. July 2005  
Mountain Forest Research. Surveys current research in the field of mountain forest ecology with focus on ecosystems in the Alps. Specific topics included: tree stability and natural hazards (avalanches and rockfall), mountain forest regeneration and management, influence of wild and domestic animals on mountain forests, and impacts of draught stress on tree growth in the Alps.
- **University of Colorado, Boulder, Graduate School**  
 Graduate Teacher Certification. 2004  
 Awarded the Graduate Teacher Certification by the Graduate School Graduate Teacher Program. Requirements for certification included 40 hours of workshops and teacher-training activities, videotaped consultations of my teaching, and observation and evaluation of my teaching by faculty.
- **University of Colorado, Boulder, Department of Geography**  
 Teaching Assistant. 2001  
Forest Geography. Surveys principles of forest geography and ecology, including both individual tree responses to environmental factors and species interactions within communities. Emphasizes forest dynamics and their relation to management problems.
- **University of Colorado, Boulder, Department of Geography**  
 Lead Teaching Assistant. 1999  
Environment and Society. Examines nature-culture interactions and the effects of development and resource use on environmental quality, as well as practical efforts to manage and protect the environment.
- **University of Colorado, Boulder, Department of Geography**  
 Teaching Assistant. 1999  
World Regional Geography. Involved a consideration of major regions of the world and studies the people, their environments, and how they interact.

- **Pennsylvania State University, Department of Biology**  
Teaching Assistant. 1996, 1997  
Environmental Science. Explores kinds of environments, past and present uses and abuses of natural resources, disposal of human wastes, and prospects for the future.
- **Pennsylvania State University, Student-Athlete Support Center**  
Academic Tutor. 1994 to 1996

#### INVITED TALKS AND COLLOQUIA

- **Sede dell'Istituto federale di ricerca per la foresta, la neve e il paesaggio (Swiss Federal Institute for Forest, Snow and Landscape Research), Bellinzona, Switzerland**  
Invited talk, May 29, 2009
- **Restoring the West Conference: Frontiers in Aspen Restoration, Utah State University, Logan, Utah**  
Invited talk, September 16-18, 2008
- **Clark University, Worcester, MA**  
Invited guest lecture, 2008  
Geography of Fire.  
Instructor: J. Rogan
- **Clark University, Worcester, MA**  
Invited guest lecture, 2008  
Geographic Information Sciences for Development and Environment Seminar.  
Instructor: G. Pontius
- **Fitchburg State College, Fitchburg, MA**  
Colloquium, February 20, 2008
- **Harvard University, Petersham, MA**  
Colloquium, November 2, 2007
- **Colorado Native Plant Society, Denver, CO**  
Invited talk, April 24, 2007
- **University of Utah, Salt Lake City, UT**  
Colloquium, December 4, 2006
- **University of Colorado, Boulder, CO**  
Colloquium, December 1, 2006
- **Clark University, Worcester, MA**  
Colloquium, November 20, 2006

- **Third International Fire Ecology and Management Congress. San Diego, CA.**  
Invited talk, November 15, 2006
- **University of Colorado, Boulder, CO**  
Invited guest lecture, 2006  
Conservation Thought. Instructor: E. Pike
- **University of Colorado, Boulder, CO**  
Invited guest lecture, October 2, 2006  
Introduction to Geographic Information Science. Instructor: B. Buttenfield
- **University of Colorado, Boulder, CO**  
Invited guest lecture, 2006  
Environmental Systems: Climate and Vegetation. Instructor: C. A. Holz.
- **Society of American Foresters, Front Range Chapter, Fort Collins, CO**  
Invited talk, June 13, 2006.
- **University of Colorado, Boulder, CO**  
Invited guest lecture, 2006  
Seminar on Historic Range of Variability in Forest Ecosystems:  
Concepts, Methods and Applications. Instructor: T. Veblen.
- **Sonoma State University, Rohnert Park, CA**  
Colloquium, February 15, 2006
- **University of Colorado, Boulder, CO**  
Invited guest lecture, 2005  
Forest Geography. Instructor: T. Veblen.
- **Colorado State University, Fort Collins, CO**  
Invited guest lecture, 2005  
Insect Outbreaks and Forest Ecosystems. Instructors: J. Hicke, M. Ryan, and C. Rhoades.
- **Instytut Badawczy Leśnictwa (IBL; Forest Research Institute), Warsaw, Poland**  
Colloquium, May 23, 2005
- **Eidgenössisches Institut für Schnee- und Lawinenforschung (SLF; Swiss Federal Institute for Snow and Avalanche Research), Davos, Switzerland**  
Invited guest lecture, 2004  
Third International Winter School on Wood Anatomy of Tree Rings.  
Instructor: F. Schweingruber

- **University of Colorado, Boulder, CO**  
Invited guest lecture, 2004  
Seminar on Historic Range of Variability in Forest Ecosystems: Concepts, Methods and Applications. Instructor: T. Veblen.
- **University of Colorado, Boulder, CO**  
Invited guest lecture, 2003  
Mapping a Changing World. Instructor: K. Foote.

#### INVITED WORKSHOPS

- **Western Mountain Initiative workshop**  
A workshop on climate change and disturbance interactions in western mountains, the purpose of which was to develop both a synthesis of current knowledge and a research agenda for the immediate future.  
Tucson, AZ  
February 13-15, 2007
- **Lodgepole pine forum**  
A forum organized by the USDA Forest Service to assess the health of lodgepole pine forests in Colorado.  
Colorado Mountain College, Leadville, CO  
May 27-28, 2004

#### OUTREACH

- **Wyoming Boomerang**  
Interviewed for article titled “Are we the next Yellowstone?”. August 23, 2008
- **Colorado Public Radio**  
Interviewed for “Colorado Matters”. April 9, 2008
- **Christian Science Monitor**  
Interviewed for article titled “California's age of megafires”. October 24, 2007
- **Congressional Forest Tour, Frisco, CO**  
Invited to lead a tour of forests affected by bark beetle for Colorado State Representatives, Senators, members of the Governors office, and the media. Was featured in the *Denver Post*, *Rocky Mountain News*, *NBC (9 News)*, and other news outlets. August 2007
- **Forest Magazine**  
Interviewed for article titled “Bugged” on insect outbreaks, forest fires and related management strategies in the Western US. 2007

- **United States House of Representatives, Washington, D.C.**  
Testified before the U.S. House of Representatives Subcommittee on Forests and Forest Health  
September 14, 2006

## SERVICE

- Geography and Global Environmental Studies Undergraduate Studies Committee, Clark University, 2009-2010
- Trustee's Committee on the campus environment, Clark University, 2008-2011
- Co-Organizer of four sessions at the Association of American Geographers Annual Meeting. Las Vegas, NV. 2009
- Chair of two sessions at the Association of American Geographers Annual Meeting. Las Vegas, NV. 2009
- Faculty search committee, Clark University, 2008
- Session Chair. The Association of American Geographers Annual Meeting. Boston, MA. 2008
- Representative of Environmental Science Program for Presidential Trainee Scholars, 2008
- Advisory Panel for the National Science Foundation, 2008-2009
- Atwood and Colloquium Committee, Clark University, 2007-2010
- Reviewed proposals for the National Science Foundation, 2007, 2008
- Faculty search committee, Clark University, 2007
- Reviewed manuscripts for Annals of the Association of American Geographers, Canadian Journal of Earth Sciences, Canadian Journal of Forest Research, Ecological Applications, Ecology, Forest Ecology and Management, Frontiers in Ecology and the Environment, Journal of Biogeography, Journal of Vegetation Science, Landscape Ecology, The Professional Geographer, and Scandinavian Journal of Forest Research
- Reviewed proposals for the Biogeography Specialty Group student research grant competition, 2006 and 2007
- Reviewed proposals and served on a panel for the Joint Fire Science Program, 2006
- Judged the Biogeography Specialty Group student paper competition, The Association of American Geographers Annual Meeting, 2004 and 2005
- Member of the Internal Review Committee for the Department of Astrophysical and Planetary Sciences as part of the Academic Program Review process for the University of Colorado, 2002
- Performed demonstrations of the application of Geographic Information Systems in the study of biogeography for the University of Colorado Office of the Chancellor on behalf of the Department of Geography, 2001
- Performed demonstrations of the application of Geographic Information Systems in the study of biogeography for the University of Colorado office of the Dean of Arts and Sciences on behalf of the Department of Geography, 2000

## **AWARDS AND HONORS**

- Exceptional merit award, Clark University, 2008
- “Effect of prior disturbances on the extent and severity of wildfire in Colorado subalpine forests” selected as a “must read” paper and highlighted as one of the most interesting papers published in the biological sciences. 2007. Faculty of 1000 Biology.
- Member of Note. 2006. Association of American Geographers Newsletter. 41 (10): 9
- Best Presentation Award. 2005. Joint Fire Science Program Principal Investigators Workshop. San Diego, CA. November 1-3
- University of Colorado Graduate School University Fellowship, 2001
- Mabel Duncan Memorial Scholarship, 2001
- University of Colorado Graduate School University Fellowship, 2000
- Mabel Duncan Memorial Scholarship, 1999
- Colorado Mountain Club Neal B. Kindig Fellowship, 1999
- University of Colorado Graduate School NRTD Fellowship, 1998
- Gamma Theta Upsilon International Honor Society
- Golden Key National Honor Society
- Gamma Sigma Delta Honor Society
- Dean’s List, 1992, 1994, and 1995

## **PROFESSIONAL AFFILIATIONS**

- Association of American Geographers
- Ecological Society of America