

Danilo Dragoni

Atmospheric Science Program, Department of Geography,
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Education

Ph.D. Cornell University, Ithaca NY, U.S.A. – 2000-2003. Conferred May 2003
Plant Biology (Plant Physiology)
Thesis: *Measuring and Modeling Water Fluxes in Apple Orchard and
Vineyard in Cool and Humid Climates*
Advisor: Professor AN Lakso

Laurea (B.Sc.) Università' Statale di Milano, Milan, Italy. Conferred February 1996
Biology, (Ecology).
Thesis: *ESAT-BCP: the Object Oriented Programming Version of the
Virtual Consumer for Energy Flux Analysis of Ecosystems*
Advisor: Dr. G. Pacchetti

Employment

2005- Assistant Scientist (Atmospheric Science Program), Geography
Department, Indiana University, Bloomington, Indiana, U.S.A.

2003-2004 Post Doctoral fellow (Atmospheric Science Program), Geography
Department, Indiana University, Bloomington, Indiana

2000-2003 Graduate Research Assistant, New York State Agricultural Experiment
Station, Cornell University, Geneva, New York, U.S.A

1996-2000 Scientific Advisor and responsible for scientific software development,
Servizi Territorio s.c.r.l., Cinisello Balsamo, Italy

Research Interests and Experience

Energy and mass (water and carbon dioxide) exchange in urban and forest systems
Topic of particular interest: measuring and modeling spatial and temporal dynamic in
plant-environment interaction with particular focus on transpiration and photosynthesis
processes.

Scientific manager of the AmeriFLUX/FLUXNET site located at the Morgan-Monroe
State Forest. Responsible of the data quality control and analysis, supervisor of undergrad
and graduate students in their activities of site maintenance and research.

Research Grants

Principal investigator

2007-2009 *COLLABORATIVE PROJECT - Disturbance, succession and forest carbon dynamics: an ecosystem-scale experiment at the UMBS Ameriflux site. (PI of IU part from 2008)*
Source: US-Department Of Energy - National Institute for Climate Change Research.
Total: \$150,000

Co-principal investigator

2007-2010 *Ecosystem-Atmosphere Exchange of Carbon, Water and Energy over a mixed deciduous forest in the Midwest*
Source: US-Department Of Energy - Office of Science/Terrestrial Carbon Program
Principal Investigator: HP Schmid
Total: \$630,500

2005-2006 *Characterizing hydrologic response in urbanizing watersheds in Indiana: Determination of changes in runoff coefficients*
Source: Indiana Water Resources Research Center /United States Geological Survey, US Department of Interior.
Principal Investigator: SCB Grimmond
Total: \$29,501

Awards, Honors and Distinctions

2002 American Society For Enology and Viticulture –*Eastern Section* -
Scholarship 2002-2003

Publications

In preparation

K.K. Caylor, **D. Dragoni**. On the measurement and variability of sap flux in individual trees.

D. Dragoni, K.K. Caylor. Characterization of sugar maple transpiration in a deciduous forest of the US Midwest. *To be submitted to Global Change Biology*

Schmid, H.P., H.-B. Su, C.S.B. Grimmond, C. Vogel, and **D. Dragoni**. In search of the ‘typical’ year of forest-atmosphere exchange. *To be submitted to*

Agricultural and Forest Meteorol. (Special Issue on Carbon Studies in the Upper Great Lakes Region).

Wayson, C.A., **D. Dragoni**, J.C. Randolph, C.S.B. Grimmond, J.L. Ehman H.P Schmid. Top-down and bottom-up: integrated carbon flux analysis in a mid-latitude deciduous forest. To be *submitted to Journal of Geophysical Research*.

Refereed

Published

- 2007 **Dragoni D.**, H.P. Schmid, C.S.B. Grimmond, HW Loescher. Uncertainty on annual net ecosystem productivity estimated using eddy-covariance flux towers. *Journal of Geophysical Research- accepted*.
- 2006 **Dragoni D.**, A.N. Lakso, R.M. Piccioni, J.Tarara. Transpiration of grapevines in a humid climate using heat balance sap flow gauges calibrated with whole-canopy gas exchange chambers. *American Journal of Enology and Viticulture*, 57,4: 460-467
- 2005 **Dragoni D.**, A.N. Lakso, R.M. Piccioni. Measuring Transpiration in Apple Trees using Heat Pulse Sap Flow Gauges Calibrated with Whole-Canopy Gas Exchange, *Agricultural and Forest Meteorology*, 130: 85-94.

Conference or Symposium Proceedings, Preprints

- 2006 Schmid H.P., **D. Dragoni D.**, C. Wayson C., R. Toriumi, C.S.B. Grimmond. A marked pulse in annual gross ecosystem productivity detected by E-C measurements in Indiana: is it real or due to a bug? Preprints, 27th Conference on Agricultural And Forest Meteorology. Am. Meteorol. Soc., San Diego. paper 5.9 (3pp).
- 2004 **Dragoni D.**, A.N. Lakso, R.M. Piccioni. Transpiration of an Apple Orchard in a Cool Humid Climate: Measurement and Modeling, *Acta Horticulturae*, 664: 175-180.
This publication was peer reviewed
- 2004 **Dragoni D.** Urban Fluxnet Database: CO₂ Flux Measurements. IAUC Newsletter No. 9: 3

Invited Presentations

- 2005 **Dragoni D.** Forest-Atmosphere Exchange of CO₂, H₂O and energy over a mixed hardwood ecosystem in the Midwest of United States, INRA National Agricultural Research Institute – French Guyana, September 23, 2005
- 2004 **Dragoni D.**, A.N. Lakso, R.M. Piccioni. Measuring and Modeling Water Fluxes in Apple Orchards and Vineyards in the Humid Climate of the Northeastern US, Indiana University- Geography Department, March 05, 2004
- 2003 **Dragoni D.**, A.N. Lakso, R.M. Piccioni. Measuring and Modeling Water Fluxes in Apple Orchards and Vineyards in Cool and Humid Climates, New York State Agricultural Experiment Station, Cornell University, March 03, 2003

Conference Presentations

- 2006 **Dragoni D.**, H.P. Schmid, C.S.B. Grimmond, H.W. Loescher. Uncertainty on annual net ecosystem productivity estimated using eddy-covariance flux towers. AGU 2006, San Francisco, CA (*poster*)
- Dragoni D.**, H.P. Schmid, K.K. Keylor, Characterization of Transpiration in a Deciduous Forest of the US Midwest. AGU 2006, San Francisco, CA (*poster*)
- Dragoni D.**, H.P. Schmid, C.S.B. Grimmond, H.W. Loescher. Uncertainty on annual net ecosystem productivity estimated using eddy-covariance flux towers. 2006 AmeriFlux Meeting (*poster*)
- Dragoni D.**, H.P.Schmid, C.A. Wayson, R. Toriumi, C.S.B. Grimmond. A marked pulse in annual gross ecosystem productivity detected by E-C measurements in Indiana: is it real or due to a bug? 2006 AmeriFlux Meeting. (*poster*)
- 2005 Wade C.M., **D. Dragoni**, H.P. Schmid. Water Vapor Storage Change in the Canopy-Air Space of a Tall Deciduous Forest. AGU 2005 Joint Assembly, New Orleans LA, May 23-27, 2005 (*poster*)
- Howe J.A., **D. Dragoni**, H.P. Schmid. Response of Sap-Flow Measurements on Environmental Forcings. AGU 2005 Joint Assembly, New Orleans LA, May 23-27, 2005 (*poster*)
- 2004 Grimmond C.S.B., **D. Dragoni**, D.E. Anderson, J. Beringer, A. Coutts, B. Crawford, D. Fowler, F. Hu, J. Hom, M. Kanda, T.S. King, W. Kuttler, V. Masson, H. Mayer, J. McFadden, F. Miglietta, R. Moriwaki, E. Nemitz, B. Offerle, T.R. Oke, D. Scherer, H. Soegaard, N. Tapper, C.J. Walsh, R. Vogt.

- Urban FluxNet: CO₂ – Flux Measurements. FLUXNET 2004 Open Workshop, Firenze, Italy December 13-15 2004 (*poster*)
- Schmid H.P., H.B. Su, C.S.B. Grimmond, C.S. Vogel, **D. Dragoni**. In search of the ‘typical’ year of forest-atmosphere exchange. 26th Conference on Agricultural and Forest Meteorology - Vancouver (Canada) August 23-27, 2004
- 2003 **Dragoni D.**, A.N. Lakso, R.M. Piccioni. Water Use of an Apple Orchard in a Cool Humid Climate: Measurement and Modeling. 4th International Symposium on Irrigation of Horticulture Crops, Davis, Ca – September 1-5, 2003
- 2002 **Dragoni D.**, A.N. Lakso, R.M. Piccioni. Water Use of an Apple Orchard in a Cool Humid Climate: Measurement and Modeling. XXVI International Horticultural Congress – Toronto (Canada) August 11-17, 2002 (*poster*)
- 2001 **Dragoni D.**, A.N. Lakso, S. Riha. Approaches to Modeling Water Fluxes through Soil-Plant-Atmosphere Continuum in an Apple Orchard. 3rd International Workshop of Functional-Structural Tree and Stand Models, Val-Morin, (Canada) September 27-30, 2001 (*poster*)

Teaching Experience

- Fall 2006 G350/G550. Introduction to the Morgan-Monroe State Forest Ameriflux project and theory of eddy covariance measurements; method of radiation measurements. (4 hours)
- Fall 2005 G470/570: Introductory lectures on Matlab as data analysis/processing tool for scientists. (3 hours)
- SPEA-E262: Introduction to eddy covariance theory and application. (1 hour)
- Spring 2005 G350/G550: Instrumentation and field methods in Atmospheric Sciences (*co-teaching*)
- 2004-05 Co-supervision of undergraduate student research projects:
 - Howe J.A.: Response of Sap-Flow Measurements on Environmental Forcings
 - Wade C.M.: Water Vapor Storage Change in the Canopy-Air Space of a Tall Deciduous Forest

- 2003- Supervision of undergraduate and graduate students in the regular maintenance tasks of the AmeriFlux site at the Morgan-Monroe State Forest.
- 1998 Teaching Assistant: Technicians for the Management of the Environmental Monitoring Networks, organized by Servizi Territorio s.c.r.l. and sponsored by the European Social Fund.

Service

Journal Referee

Tree Physiology
Scientia Horticulturae

External Research Proposals and Reports Reviewed

Natural Sciences & Engineering Research Council of Canada

Memberships

American Geophysical Union
Ecological Society of America