



**Terrestrial Ecosystem
SCIENCE**

Poster Presentations

April 23-24, 2012



Monday, April 23rd

Poster Session I – City Center Ballroom

Poster #	PI Last	PI First	Institution	Title	Theme
1	Avolio	Meghan	Yale University	Effects of altered rainfall patterns on the genetic diversity of a dominant tallgrass species	Student
3	Chanton	Patrick	Georgia Institute of Technology	Determination of phenol oxidase activity and carbon storage in peatland of Marcell Experimental Forest in Northern Minnesota	Student
5	Hardiman	Brady	The Ohio State University	Maintaining high rates of carbon storage in old forests: A mechanism linking canopy structure to forest function	Student
7	Hoover	David	Colorado State University	Determination of phenol oxidase activity and carbon storage in peatland of Marcell Experimental Forest in Northern Minnesota	Student
9	Radecki	Andrew	North Carolina State University	Partitioning ecosystem Evapotranspiration to evaluate the sensitivity of hydraulic redistribution to changing climate indicators	Student
11	Baldocchi	Dennis	University of California, Berkeley	Findings from a decade-plus study of comparative carbon, water and energy fluxes from an oak savanna and an annual grassland in the Mediterranean climate of California	Carbon Flux
13	Barnard	Holly	University of Colorado	Carbon-water cycling in the critical zone: baseline studies of ecosystem processes across complex terrain	Carbon Flux

Poster #	PI Last	PI First	Institution	Title	Theme
15	Brzostek	Edward	Indiana University	An increasing gap between the end of the aboveground growing season and the carbon uptake season fuels greater labile carbon production in a deciduous forest in south-central Indiana, USA	Carbon Flux
17	Campbell	Elliott	Assistant Professor, UC Merced	Quantifying Carbon-Climate Processes at the Regional Scale Using Atmospheric Carbonyl Sulfide	Carbon Flux
19	Dewey	Janet	University of Wyoming	Using volatile organic compounds to separate heterotrophic and autotrophic forest soil respiration	Carbon Flux
21	Domec	Jean-Christophe	North Carolina State University	Interactive effects of nocturnal transpiration and climate change on the root hydraulic redistribution and carbon and water budgets of three contrasting unmanaged forests	Carbon Flux
23	Dragoni	Danilo	Indiana University	Integrating observations of forest-atmosphere interaction over different temporal and spatial scales: preliminary results from an intensive campaign at the Morgan-Monroe state Forest in south-central Indiana	Carbon Flux
25	Dragoni	Danilo	Indiana University	Trends in fall phenology across the deciduous forests of the Eastern U.S.A	Carbon Flux
27	Ehleringer	James	University of Utah	Improving representation of drought stress, urban metabolism, and fire emissions in climate carbon models: a measurement and modeling focus in the western US	Carbon Flux
29	Fitzjarrald	David	Atmospheric Sciences Research Center, UAlbany SUNY	Clouds and the temporal quality of incident light in two forested ecosystems	Carbon Flux
31	Hanson	Chad	Oregon State University	Overview of AmeriFlux QA/QC Lab Activities	Carbon Flux

Poster #	PI Last	PI First	Institution	Title	Theme
33	Hollinger	David	Northern Research Station, USDA Forest Service	Longterm C Flux patterns in an undisturbed Coniferous forest and relationship to a changing climate	Carbon Flux
35	Katul	Gabriel	Duke University	Constraining the simultaneous effects of elevated CO ₂ , temperature, and shifts in rainfall patterns on ecosystem carbon fluxes using multi-scale resource optimization theories	Carbon Flux
37	Keeling	Ralph	Scripps Institution of Oceanography/UCSD	Changing land metabolic activity as seen from atmospheric records	Carbon Flux
39	Keeling	Ralph	Scripps Institution of Oceanography/UCSD	Constraints on land biospheric carbon cycling from long-term isotopic CO ₂ records from the Scripps CO ₂ program	Carbon Flux
41	Leclerc	Monique	University of Georgia	The Aiken AmeriFlux Site: Innovative Methods of Atmosphere-Terrestrial Carbon Exchange Measurements and Modeling	Carbon Flux
43	Martin	Jonathan	Oregon State University	A Recent Deviation Of Climate And Forest C Processes Between A Wet And Dry Forest In The PNW, USA.	Carbon Flux
45	Martin	Jonathan	Oregon State University	High Frequency Analysis Of The Complex Linkage Between Soil CO ₂ Fluxes, Photosynthesis, And Environmental Variables	Carbon Flux
47	Maurer	Kyle	The Ohio State University	Changes to canopy structure drive shifts in flux ejection-sweep dynamics at the Forest Accelerated Succession Experiment (FASET)	Carbon Flux
49	Maurer	Kyle	The Ohio State University	Modeling the effects of increasingly heterogeneous canopy environments on flux dynamics using a high-resolution, forest-resolving large-eddy simulation (RAFLES)	Carbon Flux
51	Munger	J William	Harvard University, School of Engineering and Applied Sciences	Contrasting Carbon Budgets for Deciduous and Coniferous Stands at Harvard Forest.	Carbon Flux

Poster #	PI Last	PI First	Institution	Title	Theme
53	Savage	Kathleen	The Woods Hole Research Center	Partitioning CO2 fluxes with isotopologue measurements to understand mechanisms of belowground forest carbon cycling	Carbon Flux
55	Schmidt	Andres	Oregon State University AmeriFlux QA/QC lab	Empirical assessment of uncertainties of meteorological parameters and turbulent fluxes in the AmeriFlux network	Carbon Flux
57	Tang	Jianwu	Ecosystems Center, Marine Biological Laboratory	How do stem respiration, root respiration, and heterotrophic respiration influenced by photosynthesis?	Carbon Flux
59	Vickers	Dean	Oregon State University	Five years of carbon fluxes and inherent water-use efficiency at two semi-arid pine forests with different disturbance histories	Carbon Flux
61	Wehr	Richard	University of Arizona	Partitioning CO2 fluxes with isotopologue measurements and modeling to understand mechanisms of forest carbon sequestration	Carbon Flux
63	Bailey	Vanessa	Pacific Northwest National Laboratory	The Response of Pore-Scale Soil Biogeochemical Processes to Changing Climate	National Laboratory Research (SFA)
65	Brodie	Eoin	Lawrence Berkeley National Laboratory	Understanding and Modeling the Microbial Processes Driving Terrestrial Biogeochemical Cycles	National Laboratory Research (SFA)
67	Jastrow	Julie	Argonne National Laboratory	Integrating the Relationships among Soil Organic Matter, Aggregate Structures, and the Microbial Community	National Laboratory Research (SFA)
69	Jastrow	Julie	Argonne National Laboratory	Soil Carbon and Nitrogen Dynamics in Deciduous Forest Exposed to Twelve Years of Atmospheric CO2 Enrichment	National Laboratory Research (SFA)
71	Matamala	Roser	Argonne National Laboratory	Biological invasions impact ecosystem properties and can affect climate predictions	National Laboratory

Poster #	PI Last	PI First	Institution	Title	Theme
					Research (SFA)
73	Matamala	Roser	Argonne National Laboratory	Climatic and edaphic controls over root decomposition and labile components of mineral-associated soil organic matter	National Laboratory Research (SFA)
75	Torn	Margaret	Lawrence Berkeley National Laboratory	Persistence of soil organic matter as an ecosystem property	National Laboratory Research (SFA)
77	Torn	Margaret	Lawrence Berkeley National Laboratory	EBIS-AmeriFlux: Decomposition and Stabilization of Leaf and Root Inputs to Soils using Physical Fractionation and Radiocarbon Measurements	National Laboratory Research (SFA)
79	Anders	Robert	Oak Ridge National Laboratory	Temporal, Spatial, and Uncertainty Aspects of Carbon Dioxide Emissions from Fossil Fuel Combustion: Highlights of Recent TES Funding	National Laboratory Research (SFA)
81	Hanson	Paul	Oak Ridge National Laboratory	Spruce-Peatland Responses Under Climatic and Environmental Change An In Situ Warming by CO2 Manipulation of a Characteristic High-Carbon Ecosystem	National Laboratory Research (SFA)
83	Mao	Jiafu	Oak Ridge National Laboratory	PiTS based simulation and improvement of CLM4	National Laboratory Research (SFA)
85	Mao	Jiafu	Oak Ridge National Laboratory	Remote sensing evaluation of CLM4	National Laboratory Research (SFA)
87	Ricciuto	Daniel	Oak Ridge National Laboratory	Advances in the Community Land Model in simulating ecosystem observations and experiments	National Laboratory Research (SFA)

Poster #	PI Last	PI First	Institution	Title	Theme
89	Hess	Nancy	EMSL	EMSL	



Tuesday, April 24th

Poster Session II – City Center Ballroom

Poster #	PI Last	PI First	Institution	Title	Theme
2	Chan	Allison	University of Utah	The carbon isotopic composition of soil respiration in the decade following disturbance by bark beetle or stem girdling	Student
4	Eddy	William	University of Minnesota	Will warming enhance soil organic matter decomposition?	Student
6	Hicks Pries	Caitlin	University of Florida	Using d14C and d13C to Partition Ecosystem Respiration in Tundra Undergoing Permafrost Thaw and Warming	Student
8	Machmuller	Megan	University of Georgia	Assessing soil organic matter turnover and stabilization with sustained warming	Student
10	Reynolds	Lorien	University of Oregon	Response of soil respiration to experimental warming and increased precipitation intensity depends upon a latitudinal climate gradient in Pacific Northwest grasslands	Student
12	Bridgham	Scott	University of Oregon	Pushing limits: Altered temperature and precipitation differentially affect plant species inside and beyond their current ranges	Ecosystem Manipulation
14	Burton	Andrew	Michigan Technological University	Impacts of Elevated CO ₂ and O ₃ , Alone and in Combination, on the Functioning of a Northern Forest Ecosystem	Ecosystem Manipulation
16	Finzi	Adrien	Boston University	The Duke Forest FACE Experiment: Synthesis and Moving the Science Forward	Ecosystem Manipulation

Poster #	PI Last	PI First	Institution	Title	Theme
18	Germino	Matthew	US Geological Survey, Forest and Rangeland Ecosystem Science Center	Ecophysiological variation in two provenances of <i>Pinus flexilis</i> seedlings across an elevation gradient from forest to alpine	Ecosystem Manipulation
20	Goulden	Michael	UC Irvine	Physiological, demographic, competitive and biogeochemical controls on the response of California's ecosystems to environmental change	Ecosystem Manipulation
22	Kueppers	Lara	University of California, Merced	Alpine Treeline Warming Experiment: Will warming promote uphill species range shifts?	Ecosystem Manipulation
24	Nowak	Robert	University of Nevada Reno	Standing crops of aboveground and belowground biomass are not significantly different after ten years of elevated CO ₂ in the Mojave Desert	Ecosystem Manipulation
26	Nowak	Robert	University of Nevada Reno	Temporal dynamics of root growth under long-term exposure to elevated CO ₂ in the Mojave Desert	Ecosystem Manipulation
28	Pendall	Elise	University of Wyoming	Carbon cycling in a native grassland exposed to elevated CO ₂ and warming: A role for priming?	Ecosystem Manipulation
30	Pockman	William	University of New Mexico	Physiological mechanisms determining survival and mortality during drought in pinon-juniper woodlands in New Mexico, USA.	Ecosystem Manipulation
32	Reed	Sasha	U.S. Geological Survey	Climate change effects in drylands	Ecosystem Manipulation
34	Reich	Peter	University of Minnesota	Boreal Forest Warming at an Ecotone in Danger (B4WARMED): Early Results and Future Directions	Ecosystem Manipulation
36	Rogers	Alistair	Brookhaven National Laboratory	Carbon and nitrogen dynamics in <i>Pinus taeda</i> grown at elevated carbon dioxide concentration with supplemental N supply	Ecosystem Manipulation
38	Schafer	Karina	Rutgers University	Effects of a prescribed burn on the water use and photosynthetic capacity of pitch pines (<i>Pinus rigida</i> L.) in the New Jersey pine barrens	Ecosystem Manipulation

Poster #	PI Last	PI First	Institution	Title	Theme
40	Schuur	Edward	University of Florida	Effects of experimental warming of permafrost on ecosystem carbon balance in Alaskan tundra	Ecosystem Manipulation
42	Smith	Melinda	Yale University/Colorado State University	Ecosystem responses to severe drought and heat waves: Distinguishing between climate extremes vs. extreme climatic events	Ecosystem Manipulation
44	Gough	Christopher	Virginia Commonwealth University	Sustained canopy light-use efficiency supports forest carbon storage resistance to moderate disturbance	Natural Disturbance
46	Trahan	Nicole	University of Colorado	Changes in forest carbon balance following mountain pine beetle disturbance	Natural Disturbance
48	Bohrer	Gil	The Ohio State University	Plot-level measurements and modeling of sap flux - providing a mechanistic link between stomata conductance and soil moisture	Biogeochemistry
50	Bowling	David	University of Utah	Biosphere-atmosphere exchange of CO ₂ isotopes over six years at the Niwot Ridge Ameriflux forest	Biogeochemistry
52	Brzostek	Edward	Indiana University	Impacts of severing belowground carbon allocation on carbon and nitrogen cycling in temperate forest soils	Biogeochemistry
54	Evans	R. Dave	Washington State University	Whole-ecosystem exposure to elevated carbon dioxide increases total ecosystem carbon and nitrogen in the Mojave Desert	Biogeochemistry
56	Genereux	David	North Carolina State University	Water-carbon links in a tropical forest: how interbasin groundwater flow affects carbon fluxes and ecosystem carbon budgets	Biogeochemistry
58	Gonzalez-Meler	Miquel	University of Illinois	Effects of increased snowpack thermal insulation on soil carbon of an Alaskan tussock tundra assessed with natural and anthropogenic radioisotopes.	Biogeochemistry

Poster #	PI Last	PI First	Institution	Title	Theme
60	Kostka	Joel	Georgia Institute of Technology	The response of soil carbon storage and microbially mediated carbon turnover to simulated climatic disturbance in a northern peatland forest: revisiting the concept of soil organic matter recalcitrance	Biogeochemistry
62	Wielopolski	Lucian	Brookhaven National Laboratory	A New Approach to Analyzing Carbon in Soil	Biogeochemistry
64	Bench	Graham	Lawrence Livermore National Laboratory	A liquid sample interface for rapid ¹⁴ C analysis by accelerator mass spectrometry	National Laboratory Research (SFA)
66	LaFranchi	Brian	Lawrence Livermore National Laboratory	Observations of atmospheric ¹⁴ CO ₂ at three tall towers in the continental United States	National Laboratory Research (SFA)
68	McFarlane	Karis	Lawrence Livermore National Laboratory	Plant Litter to Mineral Soil Sinks: Tracking Carbon Flux into Soil Sinks in Temperate Broadleaf Forests in the Eastern US with Radiocarbon	National Laboratory Research (SFA)
70	Lewin	Keith	Brookhaven National Laboratory	Free Air CO ₂ Enrichment (FACE) Facility Engineering and Operations	National Laboratory Research (SFA)
72	Gu	Lianhong	Oak Ridge National Laboratory	Towards a next generation of eddy covariance technologies	National Laboratory Research (SFA)
74	Hayes	Daniel	Oak Ridge National Laboratory	Reconciling estimates of the contemporary North American carbon balance among an inventory-based approach, terrestrial biosphere models, and atmospheric inversions	National Laboratory Research (SFA)
76	Norby	Richard	Oak Ridge National Laboratory	Final Harvest of Oak Ridge FACE Experiment Confirms Stability of Allometric Relationships	National Laboratory Research (SFA)
78	Thornton	Peter	Oak Ridge National Laboratory	Global land modeling advances from the ORNL TES SFA	National Laboratory Research (SFA)
80	Warren	Jeff	Oak Ridge National Laboratory	Partitioning in Trees and Soil (PiTS)	National Laboratory Research (SFA)

Poster #	PI Last	PI First	Institution	Title	Theme
82	Hinzman	Larry	International Arctic Research Center, University of Alaska Fairbanks	Permafrost and Hydrologic Dynamics, and their role in Arctic Climate Change	NGEE
84	Thornton	Peter	Oak Ridge National Laboratory	Developing a Hierarchical Scaling Framework for Modeling a Dynamic Arctic Landscape in a Changing Climate	NGEE
86	Wilson	Cathy	Los Alamos National Laboratory	Process Studies and Observations in the Arctic to Inform a Hierarchical Scaling Framework for Improved Climate Predictability	NGEE
88	Wulschleger	Stan	Oak Ridge National Laboratory	Improved Climate Prediction through Process-Rich Understanding of Arctic Terrestrial Ecosystems	NGEE
89	Hess	Nancy	EMSL	EMSL	