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## ANNOUNCEMENTS

**Diana Wall** was named an AAAS Fellow by the American Association for the Advancement of Science Council. The Council elects members whose "efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished." Diana was honored for her research on ecosystems and for service to professional societies. She will be presented with a certificate and rosette during the AAAS Fellows Forum, part of the Association's annual meeting, in Anaheim, California, January 23, 1999. The AAAS, established in 1848, is the world's largest federation of scientists, with more than 144,000 individual members. Diana is also featured on the Ecological Society of America (ESA) Website. Diana's profile is part of the "What Do Ecologists Do?" series and can be found at: <http://esa.sdsc.edu/dianawall.htm>.

**Alan Covich** has been elected President of the American Institute of Biological Sciences (AIBS). Alan will become president-elect on January 1, 1999. Congratulations and well-deserved!

**Kathy Galvin** was tenured and promoted this past summer to Associate Professor in the Department of Anthropology.

**Benjamin Balk**, **Serita Frey** and **Amy Treonis** were honored at the College of Natural Resources Scholarship Awards Ceremony on October 23. Ben is the recipient of the Natural Resource Ecology Laboratory Graduate Student Fellowship, while Serita and Amy received the Francis Clark Soil Biology Scholarship. **Diana Wall** presented the awards, along with **Francis and Evelyn Clark**, for whom the biology scholarship is named.

**Tammy Bearly**, a programmer for **Tom Hobbs** on the System for Conservation Planning (SCoP)

project, was inducted into the CS Athletic Hall of Fame on October 9, 1998. Tammy was a pitcher on the CS softball team from 1983 to 1988 and was the first softball player in CS history to win a full-ride scholarship. She still ranks in the top five in several career pitching categories, with her earned-run average of 2.21 ranking fourth and her 20 strike-outs number 2.

**Tom Hobbs, Dave Theobald, Chris Johnson**, and **Tammy Bearly** were honored by the Division of Wildlife leadership team at a barbecue held October 2 in Denver. They were recognized for their exceptional work on the Natural Diversity Information Source, an information system that provides data on the World Wide Web about wildlife populations, habitats, and natural communities. The URL is <http://blueberry.nrel.colostate.edu>.

**Beth Holland** has been appointed a C-3 professor at the Max-Planck-Institute (MPI) fuer Biogeochemie in Jena, Germany, and is now "tenured" there. **David S. Schimel** is one of three directors of the MPI fuer Biogeochemie. The other directors are **E.D. Schule**, the current managing director, and **Colin Prentice**. Beth and Dave attended the inaugural workshop for the MPI fuer Biogeochemie, held September 23-24. Their anticipated move is summer 1999.

**Tamera Minnick** started a new post-doc position with **David Wedin** at the University of Nebraska. She'll be doing ecosystem modeling in oak savannas at Cedar Creek in Minnesota and in the Nebraska Sandhills.

**Francis Singer** has been appointed as a faculty affiliate in the Department of Rangeland Ecosystem Science.

## MEETINGS ATTENDED & PAPERS PRESENTED

### COLORADO

**Jill Baron**, **Tom Stohlgren**, **Francis Singer**, **Indy Burke** and **Alan Covich** from NREL, and 11 federal agency representatives, participated in a workshop on "The Contribution of Long-term Ecological Research and Monitoring to Broad-Scale Management Needs: Integrating up from research intensive sites to develop regional perspectives," October 4-5, in Estes Park. Jill organized the workshop with help from **Jim Gos** (LTER and University of New Mexico).

In late October, **Alan Covich** participated in the South Platte Forum in Longmont, which was organized by CS's Water Center. Alan was part of a three-person panel that discussed how different water users and researchers could cooperate with various agencies and private groups to provide an ecosystem perspective on water allocations. The project was funded by the NSF/EPA Program on Water and Watersheds and was a collaborative project with **John Loomis**, **Kurt Fausch**, **Li Strange**, and **Paula Kent**. Alan also participated in the Board of Directors meeting of the Rocky Mountain Hydrologic Research Center in Fort Collins to discuss plans for funding research at the Rocky Mountain Hydrologic Laboratory in Allenspark, Colorado. Alan is currently on the Life Sciences Steering Committee that is reviewing the undergraduate curriculum, as well.

**C.E. Bert Cushing** was the keynote speaker of the second annual Water Symposium, held November 3-4. Bert's keynote presentation was entitled "The Living Stream." He developed the stream continuum concept, which has become basic to understanding riverine systems, and the natural resource, social and economic impacts and implications of water resource development, adaptive management, and other approaches to resource protection, enhancement and restoration. Bert generously donated 31 volumes of the series "Ecosystems of the World" to NREL, and is a member of the NREL Endowment/Development Committee.

**Kathy Galvin** presented a talk on "Issues of sustainability of pastoralism in East Africa" at the

International Connections Seminar Series, here at CS in October.

**Tom Hobbs** gave a presentation on the Natural Diversity Information Source to the Colorado Outdoor Recreation Council on September 2.

**DeAna Nasseth** participated in the Environmental Sustainability panel discussion at the Partnership for Community Design Forum II at The Colorado College in Colorado Springs on October 22.

**Dennis Ojima** and **Bill Lockett** held their second steering committee meeting for the Great Plains Assessment, November, on campus. Attendees from CS included **Lenora Bohren, Dennis Child, Jack Morgan, Gary Peterson, and Lee Sommers.**

**Tom Stohlgren, Roger Pielke** and **Bill Baron** presented overviews of global change research and applications of ecosystem research to resource management to a National Research Council Committee that visited the U.S. Geological Survey offices in Fort Collins on September 1. The NRC committee is charged with advising the SGS on future directions for the agency.

## NATIONAL

**Andres Cibils, Richard Hart, and Dave Swit** presented "Seasonal variations in the impact of cattle-grazing on young fourwing saltbush shrubs: Does the grass understory drive shrub population dynamics?" at the Tenth Wildland Shrub Symposium, August 12-14, in Ephraim, Utah.

**Vern Cole, Ted Elliott** and **Keith Paustian** met with groups from Texas A&M, Iowa State University, and Batelle Northwest National Labs, September 10-11, in Washington, D.C., to develop a joint proposal and brief officials from SDA, EPA and DOE on a baseline estimation of soil CO<sub>2</sub> emissions for the U.S.

In October, **Alan Covich** was invited to visit Southwest Texas State University's Aquatic Research Station in San Marcos, Texas, to review their research program.

NREL members attending and presenting papers at the annual meetings for American Society of Agronomy (ASA) CSSA-SSSA in Baltimore, Maryland, October 18-22, were **Rodolfo Delgado, Ted Elliott, Serita Frey, Keith Paustian, Johan Si, Diana Wall** and **Arvin Mosier**. **Arvin Mosier** was interviewed for an article on soil science research and global change for the convention issue of the *Agronomy News*. Ted, **Arvin Mosier**, Johan and Serita participated in a symposium on soil C sequestration at the meeting. The presentations were: "Carbon Sequestration in Agricultural Soils. I. Microbial Community Composition" by Serita, Ted, **Arvin Mosier**, Johan and **G. Guggenberger** "Carbon Sequestration in Agricultural Soils. II. Aggregation and Particulate Organic Matter Fractions" by Johan, Ted and **Arvin Mosier** "Carbon Sequestration in Agricultural Soils. III. Cultivation Effects in Site - Level Experiments" by Ted, **Arvin Mosier**, **E.A. Paul, Vern Cole** and Serita and "Carbon Sequestration in Agricultural Soils. I. State -level Analysis in the Corn Belt" by **Arvin Mosier**, **J. Cipro, K. Killian** and Ted. **Arvin Mosier** presented two posters. The first was written with **Bill Parton, Mike Coughenour, J.A. Morgan**, and **Dennis Ojima**, and was entitled "Simulated Impact of 2CO<sub>2</sub> Levels on Great Plains Grassland Soils." He also presented "Trace Gas Exchange in the Colorado Shortgrass Steppe under Elevated CO<sub>2</sub>," written by himself, **J.A. Morgan, Bill Parton, Dan Milchunas** and **Dennis Ojima**. Diana attended a meeting for the U.S. National Committee for Soil Science while in Baltimore.

**Kathy Galvin** presented a paper titled "A test case using integrated assessment in the Ngorongoro Conservation Area, Tanzania" at the International Congress of Anthropological and Ethnological Sciences, Williamsburg, Virginia, in July. **Arvin Mosier**, **Mike Coughenour** and **Jim Ellis** presented a poster titled "Ecology and Economy of Pastoral Nutrition. A test case using integrated assessment in the Ngorongoro Conservation Area, Tanzania." The poster was presented at a field project

International 1998 Symposium on Human Nutrition and Livestock, October 14, in Morrilton, Arkansas.

**Beth Holland, Bill Parton and Dennis Ojima** attended the third NCEAS "Development of a Consistent Worldwide Net Primary Production (NPP) Database" workshop, October 14-19, in Santa Barbara, California. Beth and Bill also attended the National Atmospheric Deposition Program (NADP) NRSP-3 1998 Technical Committee meeting workshop, October 2-28, in St. Petersburg, Florida. Bill represented the Colorado Agricultural Experiment Station at the NADP meeting.

**Mohammed Kalkhan, Tom Stohlgren and Geneva Chong** presented two papers at the Ecological Society of America 83rd Annual Meeting, August 2-5, in Baltimore, Maryland: "Linking Multiphase, multiscale, and spatial cross-correlation to investigate biodiversity pattern of plant species richness" and "Hot spots of native plant diversity: additional evidence of invasion by exotic plant species." Mohammed and Tom also presented a paper and poster titled "Using spatial cross-correlation and multiscale sampling to investigate patterns of diversity and plant species richness" at the 2nd Southern Forestry GIS Conference, October 28-29, in Athens, Georgia. **Dennis Ojima and Jill Baron** (along with their children, Jyle and Claire) also attended the ESA meeting. They did a little family sightseeing in the Washington, D.C. area after the meeting. Jill, as member-at-large of the ESA Board, and **Diana Wall**, new president elect, attended the ESA board meeting.

**Tim Kittel, Dennis Ojima and Dave Schimel** attended the EMAP2 "Fast-Track Results" Workshop, October 21-22, Biosphere2, Oracle, Arizona.

**Dennis Ojima and Jill Lockett** held the first focus group meeting for the Central Great Plains Regional Assessment of Climate Variability and Change Impacts. The meeting was on ranching and rangelands systems and was held at the U.S. Meat Animal Research Center, September 24-25, in Clay Center, Nebraska. **Dennis Child** of Rangeland Ecosystem Science and **Jack Morgan** from the SDA-ARS Rangeland Resources also attended.

**Dennis Ojima** participated in the NASA Earth Observing System (EOS) Second Phase Planning Workshop, Concepts for Science and Applications Missions in the Post-2002 Era, August 24-25, in Easton, Maryland. Dennis also attended the 12th Meeting of the START Scientific Steering Committee and 10th Meeting of the START Bureau, September 20-23, in Washington, D.C. He gave a report on "Land Use Land Cover Change/Terrestrial Ecosystems in East Asia." Dennis attended the EOS Investigators Working Group (IWG) Meeting at the University of New Hampshire, October 19-21, and the Native Peoples/Native Rangelands Climate Change Workshop, October 28-November 1, in Albuquerque, New Mexico. He facilitated a meeting on October 18 in conjunction with the Central Great Plains Regional Climate Change Assessment in Baltimore, Maryland. Sponsored by the U.S. Global Change Research Program and funded by DOE, the meeting worked with crop modelers to see if they can develop a framework to conduct a cross-model comparison for site and regional climate modeling.

**Keith Paustian** attended a Natural Resource Conservation Service (NRCS) sponsored scoping workshop on developing field-level methodologies to assess soil C sequestration in cropland, October 1-2, in Indianapolis, Indiana. He is also participating as a member of a workgroup to construct a "roadmap" for DOE's research and development priorities for the next 30 years in the area of C sequestration, including both enhancing biotic sinks and techniques for the capture and sequestration of CO<sub>2</sub> from point source emissions.

**Robert Sanord** attended the Fulbright Senior Scholars Panel for Sub-Saharan Africa, October 1-11, in Washington, D.C.

**Carol Simmons** participated in the Water Resources Sector Workshop, September 14-15, in West Palm Beach, Florida, as part of her involvement in the U.S. National Assessment of the Potential

Consequences of Climate Variability and Change. Carol also assisted with the program management for the SGS -BRD Global Change Research Program, October 28-November 1, in Reston, Virginia.

**Tom Stohlgren** and **Roger Pielke** attended the National Center for Ecological Assessment and Synthesis, September 9-12, in Santa Barbara, California. Tom and Roger also attended a climatology workshop as part of the National Assessment of Climate Change Effects in the Rocky Mountain and Great Basin Region.

**Diana Wall, John Moore**, and **Amy Treonis** attended the "Invertebrates as Webmasters in Ecosystems" symposium in honor of the retirement of David (DAC) Crossely, October 4-5, in Athens, Georgia. John presented a talk entitled "Invertebrates in detrital food webs along gradients of productivity."

## INTERNATIONAL

**Mohammed Kalkhan** and **Tom Stohlgren** presented "Using multiscale sampling and spatial cross-correlation to investigate patterns of plant species richness" at the North America Science Symposium "Toward a unified framework for inventorying and monitoring forest ecosystem resources," November 1-3, Guadalajara, Jalisco, Mexico.

**Serita Frey** presented a talk entitled "Carbon Assimilation in Two Microbial Communities of Differing Composition" at the International Symposium on Microbial Ecology, August 9-14, in Halifax, Nova Scotia. **Ted Elliott** and **Keith Paustian** were co-authors.

**Bill Parton** participated in the GCTE workshop on "Modelling Carbon-Nutrient Interactions of Forests under Climate Change," September 4-9, in Umeå, Sweden. Bill presented Century Model results in the session on "Application of ecosystem models to the Flakaliden experiment - modelling of long-term responses to CO<sub>2</sub> and temperature." Bill also presented "Impact of increased CO<sub>2</sub> levels on grassland decomposition rates and other ecosystem variables" at the GCTE-COST Workshop on Litter Quality and Decomposition under Elevated Atmospheric CO<sub>2</sub>, September 24-25, in Capri, Italy.

**Keith Paustian** traveled to Saskatoon, Saskatchewan, August 2-3, to meet with Canadian scientists conducting a study of C sequestration potential in the Canadian prairies. The purpose of the meeting was to develop collaborative links between the U.S. and Canada in evaluating and modeling soil C in agricultural systems.

**Amy Treonis**, along with co-authors **Diana Wall** and **Ross Virginia**, presented a poster "Soil and sediment invertebrate biodiversity in an Antarctic dry valley stream channel" at the II Scientific Committee on Antarctic Research (SCAR) International Biology Symposium, August 31-September 4, in Christchurch, New Zealand.

**Diana Wall, Bill Hunt** and **Andy Parsons** attended a workshop in Groningen, the Netherlands, for their new NSF soil biodiversity project. Diana chaired and **Gina Adams** coordinated and attended, with **Alan Covich**, the SCOPE Committee on Soil and Sediment Biodiversity and Ecosystem Functioning (SSBEF) 1998 Meeting, "Biodiversity Above and Below the Surface of Soils and Sediments: Mechanisms and Implications for Ecosystem Function and Global Change," October 12-14, in Lunenburg, the Netherlands.

**Chris Wasser** attended the "Central European International Long Term Ecological Research Workshop," September 14-18, held in Warsaw, Poland. This was a working meeting to further the development of an LTER Network in Poland and also to strengthen ties between Central European LTER programs. Chris gave a presentation titled "LTER Site and Network Level Information Management: Challenges for the Future."

, Rothamsted, visited NREL on August 21, sponsored by . Mark discussed his research on microbe location/fungal bacterial ratios/soil aggregates with , Serita, and

visited and other NREL scientists on September 2. Dr. Bugmann is a gap phase vegetation modeler on sabbatical to NCAR and INSTAAR from Switzerland.

arrived at NREL in September to work for a year with . His work will include analysis of micro-climatic data from the short grass steppe research site in Eastern Colorado and on the further development of a soil water and temperature model including testing and modifying the model in accordance with model testing results. Josef is from the Department of Agrometeorology, Institute for Meteorology and Physics (IMP), University of Agricultural Sciences (BO), in Vienna, Austria.

of the Macaulay Land Use Research Institute, Scotland, visited NREL August 18 - 21. While here, she gave a presentation on "Biodiversity of soil microbial communities across a range of grasslands of differing management intensity - the SOAEFD Micronet Project."

of the Institute of Ecology and Resource Management, the University of Edinburgh, Scotland, visited NREL October 18-28 under the sponsorship of . Salvador worked with the CENTR model to try to determine the possibilities of adaptation for tropical grasslands, and for tree-grass inter-cropping. He also consulted on the development of a new model, the Silvopastoral model, and got feedback on the parameterization of plant and soil models.

, and of the College of Wildlife Resources, Northeast Forestry University, China, visited under the sponsorship of .

gave an informal seminar to the Loch Vale Watershed research team on September 1. Dr. Wolfe is at INSTAAR in Boulder, and has been exploring paleolimnological trends in chemistry and species in alpine and arctic lakes.

spent September and October traveling a lot to do research on tropical stream food webs. In Sarawak, Malaysia (Borneo), at Kubang National Park, he worked with Japanese colleagues from Hokkaido University and Kyoto University to study the role of decapod crustaceans (freshwater shrimp and crabs) in leaf-litter processing. This study is just beginning and they hope to continue it in the next few years with support from Japan and NSF. In Hilo, Hawaii, he worked with colleagues from the University of Hawaii on species-specific differences among native and non-native species of freshwater invertebrates. This project is in its second year with NSF support. In the Luquillo Experimental Forest, Puerto Rico, he met with colleagues from the State University of Puerto Rico, and the U.S. Forest Service's International Institute for Tropical Forestry, to determine how different species of macroinvertebrates process leaf litter. This project is in its 10th year as part of the LTER program to determine the effects of disturbances (such as hurricanes and droughts) on stream food webs. With , a recently graduated M.S. student, they are determining the effects of introduced bamboo along the riparian ones. With , a new graduate student, and , an RE student, they are documenting the differences in palm tree distributions along two streams that differ in their disturbance histories.

Several new students are working with \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_: \_\_\_\_\_, a Ph.D. student from Brail, with interests in plantation forestry, ecophysiology, and modeling \_\_\_\_\_, an M.S. student who'll work on water relations in Eucalyptus plantations in awaii \_\_\_\_\_, an M.S. student examining the effects of the Flaming Gorge Dam on the Green River on the N cycling of floodplain terraces and \_\_\_\_\_ has started an M.S. program through the Peace Corps Fellows Program.

\_\_\_\_\_ received an ASA graduate student award from the Division of Soil and Water Management and Conservation at the annual ASA meeting in Baltimore, Maryland.

\_\_\_\_\_ was invited by the City of Colorado Springs Department of Utilities, Water Division, to participate in a 2-day field tour of the city's water collection, storage, and distribution system, from Pikes Peak to the Western Slope. The tour included visits to reservoirs, pump stations, diversion corridors, hydroelectric generating facilities, and potential water development sites. Formal discussions of water conservation, environmental impacts, and water politics and law were integral to the trip, which was designed to make local community leaders and volunteers aware of the scope of the city's water operations. DeAna has been serving on the Citizens' Advisory Committee for the development of the Pikes Peak South Slope Master Plan and has been reappointed by the Colorado Springs Park Board to another 3-year term on the Garden of the Gods Technical Advisory Committee, which oversees and monitors the implementation of the Garden of the Gods Master Plan.

\_\_\_\_\_ won "Best Graduate Poster Presentation" for the Annual CS Student Water Symposium for "Soil and sediment invertebrate biodiversity in an Antarctic dry valley stream channel" with co-authors \_\_\_\_\_ and \_\_\_\_\_, Dartmouth College.

Of the four graduate students working in \_\_\_\_\_ labs, three are expecting to finish within the next nine months: \_\_\_\_\_ "Ecosystem management and population biology of \_\_\_\_\_, a federally listed, endangered species" (Ph.D. degree expected /99), \_\_\_\_\_ "Cryptobiotic crusts and invasion of \_\_\_\_\_ in the context of phosphorus limitation: (Ph.D. degree expected /99) and \_\_\_\_\_, "The age and distribution of soil charcoal in lowland tropical forest: implications for tropical land use history" (M.S. degree expected 3/99). Two undergraduate students working in Robert's labs were also awarded Outstanding Senior Honor's Thesis: \_\_\_\_\_, 1998, "Miombo soils of Zimbabwe effects of fire frequency on soil organic matter" (B.S. with honors in Biological Sciences, /98), Outstanding Honor's Thesis Award, Department of Biological Sciences and \_\_\_\_\_, 1998, "The effects of mobile tree islands on soil nutrients in an alpine ecosystem" (B.S. with honors in Environmental Sciences, /98), Outstanding Honor's Thesis Award, Department of Biological Sciences.

\_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ received funding from the National Science Foundation for "Planning Activities: Shortgrass Steppe Ecological Research Field Station." Funding is for one year at \$24,000. They will hold two workshops with the goal of developing a 10-year master plan for the SGS LTER field station.

\_\_\_\_\_ and \_\_\_\_\_ received \$24,000 from the Bureau of Land Management (BLM) for year two of "Landscape assessment of native and exotic plant diversity and cryptobiotic crusts in Escalante Grand Staircase National Monument, Utah."

The NSF/LTER Program funded the "Niwoot Ridge Long-Term Ecological Research" six-year project, on which \_\_\_\_\_ will serve as co-PI.

SDI/National Park Service (NPS) Dispro funded the "Nitrogen Deposition and Stressor Impacts in Canyonlands National Park as Affected by Climatic Pulse Events" three-year project, on which

will serve as co-PI.

received a grant of \$4,000 from the Winslow Foundation for co-funding of a workshop of the Scientific Committee on Problems of the Environment (SCOPE) Committee on Soil and Sediment Biodiversity and Ecosystem Functioning. The workshop was October 12-1 in Lunteren, The Netherlands

and submitted a joint proposal to be named a Program in Research and Scholarly Excellence (PRSE) at CS.

and submitted a proposal entitled "Net carbon and energy balance of savanna ecosystems at EOS validation sites in Southern Africa" to NASA's Terrestrial Ecology Program.

(ARS, Fort Collins) and submitted a proposal to NIGEC Great Plains Regional Center with (South Dakota State University), (ARS, Logan), (ARS, Burns) and (ARS, Burns) entitled "Carbon dynamics in the Great Plains and Great Basin regions using Bowen ratio flux measurements and ecosystem models."

and submitted a proposal titled "Evaluating Conservation Subdivisions in Larimer County" to the Colorado Department of Wildlife (CDOW-GOCO).

and submitted a continuation proposal to DOE/NIGEC on "Agroecosystem Boundaries and C Dynamics with Global Change in the Central United States." Ted submitted a continuation proposal to DOE/NIGEC for coordination of the Central U.S. component of NIGEC's Integrated Assessment of the Consequences of Climatic and Atmospheric Changes.

submitted a proposal to the Nature Conservancy/Ecosystem Research Program for three years, "Exotic Annual Grasses in Western Rangelands: Predicting Resistance and Resiliency of Native Ecosystems to Invasion."

is co-PI on a proposal submitted to the Andrew W. Mellon Foundation for four years, "Comparative Landscape History in the New World Tropics: Reconstructing Regional Patterns."

and "Global change impacts in the Colorado Rockies biogeographical area: Phase II," SGS Biological Resources Division.

and submitted a proposal to the SDA National Research Initiative Competitive Grants Program (NRICGP) for \$10,000 co-funding for a workshop of the SCOPE Committee on Soil and Sediment Biodiversity on "The Role of Biodiversity at Soil and Sediment Interfaces for the Functioning of Critical Transition Zones."

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joined NREL in August as a postdoctoral research associate working with on soil C dynamics in pasture systems in the southeastern .S. Rich did his undergraduate work at C -Boulder and received his Ph.D. from Ariona State niversity, where he worked on carbon dynamics in semiarid ecosystems. Rich's areas of expertise are ecosystem ecology, ecology of semiarid lands, plant ecology, and carbon cycling.

is a soil scientist with the SDA, Agriculture Research Service, and a new research associate/post-doc at NREL in August. Marlen is working with and





*September*

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