

## Natural Resource Ecology Laboratory



# NREL

# News Notes

Colorado State University

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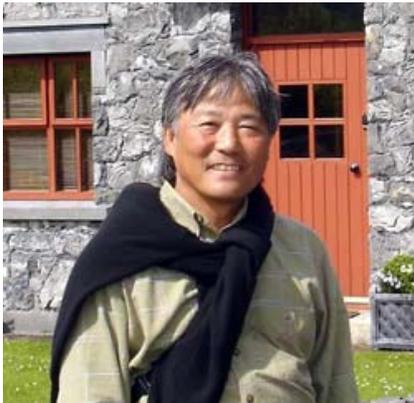
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## NREL APPOINTS INTERIM DIRECTOR



**Dr. Dennis Ojima**, NREL Senior Research Scientist, has been named the NREL Interim Director, replacing **Dr. Diana Wall** who has served as Director since 1993.

Dr. Ojima's research areas include global climate and land-use change effects on ecosystem dynamics related to carbon sequestration, trace gas emissions, and the contributions to informed decision making. He is also leading a major research effort associated with the North American Carbon Project to better understand ecosystem carbon and trace emissions across the continental U.S.

Among his many accomplishments and activities, Ojima has been an Aldo Leopold Leadership Fellow since 1998, and is currently co-chair of the Global Land Project that aims to implement a research strategy that integrates human dimension and ecological sciences to study the interactions of global environmental changes and land system processes. He is a member of the U.S. National Scientific Committee on Problems in the Environment Committee and a governing board member of the Ecological Society of America.

A reception honoring Dr. Wall for her service and many contributions to NREL during her term as Director was held on September 2. She will remain at NREL as a Senior Research Scientist exploring how soil biodiversity contributes to healthy, productive soils, and the consequences of human activities on soil sustainability. She has been active in the scientific community as president of the Ecological Society of America, current chair of the Scientific Society of Presidents, co-chair of the Aldo Leopold Leadership Program, and member of the U.S. National Commission for the United Nations Educational, Scientific and Cultural Organization.



The Dean of the Warner College of Natural Resources, Dr. Joyce Berry is quoted as saying "Diana Wall has been an outstanding and successful leader of the NREL. She is not only one of the nation's leading ecosystem scientists, she is a visionary administrator who has championed interdisciplinary research and inspired a community of NREL scientists whose work is at the forefront of our most pressing global environmental issues. Through her impressive hard work and exceptional dedication, NREL has grown and prospered as a recognized leader in international ecosystem research."

#### NREL IN THE LIMELIGHT

**Dr. Eldor Paul** was presented the Soil Ecology Society Professional Achievement Award during the Soil Ecology Conference banquet in Argonne, Illinois in May. The Society recognizes one scientist at its biannual meeting for his/her outstanding contributions to science and education in soil ecology. Speakers at the meeting highlighted Eldor's many contributions during his career while serving at the Univ. of Saskatchewan Canada, Univ. of California, Berkeley, Michigan State Univ., Lansing, and NREL.

**Dr. Stephen Ogle** (NREL) was awarded funding from EPA for "National Agricultural Greenhouse Gas Inventory Reporting of Soil Organic C and N<sub>2</sub>O Emissions," with collaborators **Drs. Steve Del Grosso** (USDA-ARS), **Keith Paustian** (Soil & Crop Sciences/NREL) and **Bill Parton** (NREL). The team will provide national greenhouse gas emission and removal estimates for soil C and N<sub>2</sub>O to the United Nations Framework Convention on Climate Change, creating a greater consistency in methods and reporting between these two source categories.



**Dr. Karolien Deneff** was awarded a three-year Postdoctoral Fellowship from the Belgian National Fund for Scientific Research for her project "Characterization of the Ecological and Biogeo-chemical Functionality of Microbial Community Structures via Molecular and Component-specific Isotope Analyses." She will be working in the Laboratory for Applied Physical Chemistry (ISOFYS) of Prof. Dr. Ir. Pascal Boeckx and Prof. Dr. Ir. Oswald Van Cleemput at the Univ. of Gent. She also recently married **Jorin Botte**, past NREL MS student with **Dr. Jill Baron** (USGS/NREL) and Research Associate for NREL. They are now residing in Belgium pursuing their new careers.

**Dr. Paddy Sullivan**, past NREL PhD student, **Dr. Jeff Welker** (Univ. of Alaska, Anchorage/NREL), advisor, was awarded an NSF Office of Polar Programs 3-year Postdoctoral Fellowship enabling him to carry out his scientific research and education at the Univ. of Alaska, Anchorage. While this program is new in OPP, these awards are considered extremely competitive, reflecting the high potential the panelists and NSF Program Officers see for Paddy's career.

#### APPOINTMENTS

**Dr. Keith Paustian** (Soil & Crop Sciences/NREL) was appointed to the US Climate Change Scientific Steering Committee, which provides advice to all Federal agencies involved in climate and global change research.

**Drs. Keith Paustian** and **Rich Conant** (NREL) were named lead authors on chapters for the State of the Carbon Cycle Report (SOCCR). The SOCCR was

commissioned to review the status of carbon cycle science knowledge and research and will be completed in 2005.

A new Colorado Forest Restoration Institute, established in the Warner College of Natural Resources by an act of Congress, was officially named by the Secretary of Agriculture in March, with a charter signed by Governor Owens in June. **Dr. Dan Binkley** (FRWS/GDPE/NREL) is the Director. The developing goals of the Institute are to improve the health of ponderosa pine forests and pinyon-juniper woodlands, and to reduce risks of catastrophic wildfires.

### Special Events

**Dr. Jill Baron** gave presentations to the Colorado Institute for Leadership Training and to the Colorado Directors of Environmental Health on atmospheric nitrogen deposition and ecological consequences in Rocky Mountain National Park. The topic is gathering wide interest, along with other air pollution issues in the state. Media coverage included radio and newspapers.

Dr. Baron spoke on the "Value of Long-Term Monitoring Data in Alpine Catchments for Indicating Climatic and Environmental Change" at a Gordon Research Conference on Catchment Science at Colby College in Maine. She also presented "Appropriation of Mountain Resources across Altitudinal Gradients in the Rocky Mountains, and Possible Remedies" at the Global Change in Mountain Regions workshop in Samedan, Switzerland.

**Dr. Tom Hobbs** (FRWS/NREL) conducted fieldwork with **Dr. Robin Reid** (International Livestock Research Institute/NREL) in the Mara region of Kenya in May. They studied the influence of land use by pastoralists on the spatial distribution of wildlife.

**Drs. Dennis Ojima** and Richard Aspinall (Arizona State Univ.), co-chairs of the Global Land Project, established its Executive Committee: Sandra Diaz (Argentina), Billie L. Turner (USA), and Tom Veldkamp (The Netherlands). They met at Clark Univ., Worcester, MA in August.

Integrated Global Observations of the Land (IGOL) Theme for the Group on Earth Observations Systems of Systems (GEOSS) held its second meeting in Reston, VA, at USGS headquarters in August. NREL scientists **Dr. Dennis Ojima** (member of the team) and **Dr. Richard Conant** (appointed to assist in drafting the IGOL report) were attendees. The IGOL effort will provide a global strategy for in situ and remotely sensed land observations to be implemented internationally.

**Dr. Dennis Ojima** attended the NEON modeling planning meeting held at the Ecosystem Center at Woods Hole Marine Biological Laboratory in August. The report from the NEON meeting provides a strategy for the use of various modeling applications and recommends that each NEON Observatory should include an explicit modeling component integral to its design and ongoing operations. In addition, it needs to dedicate resources to support modeling within the categories of cyber-infrastructure tools and equipment, forecast capabilities, and outreach.

**Drs. Dennis Ojima** and **Keith Paustian** attended the workshop on Decision Support and Carbon Cycle Science: Practical Strategies to Reconciling the Supply of and Demand for Carbon Cycle Science, in Boulder, CO in June. The meeting focused on how to provide sound scientific information to decision makers involved in managing carbon (C) at various levels from

policy to land and energy resources. The concept of managing C is relatively new in the spectrum of managing natural resources or environmental issues. The purpose of the workshop was to set a strategy to identify trade-offs and uncertainties related to C cycles that have been well communicated to decision makers.

**Dr. Keith Paustian, Mark Easter, and Kendrick Killian** (NREL) attended a project meeting in Nairobi, Kenya, in May to present final results as part of a project funded by the UN Global Environmental Facility, USAID, and other international agencies to develop soil carbon modeling capabilities in developing countries in the tropics. The meetings were opened by the Deputy Director of the UN Environmental Program (UNEP) and attended by representatives from more than 10 countries.

**Drs. Keith Paustian and Stephen Ogle** (NREL) attended an IPCC meeting in Moscow, Russia in July as lead authors for the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. This document will provide methods and guidelines for all countries in the UN Framework Convention on Climate Change for preparing national estimates of greenhouse gas inventories for the next 10 years.

**Dr. Keith Paustian** was a keynote speaker for the Italian Ecological Society's 15th Annual Congress, "Environment, Resources, and Sustainability" in Turin, Italy in September. He presented "Soils, Global Change, and Global Sustainability."

**Dr. Tom Stohlgren** (USGS/NREL), Catherine Jarnevich, Paul Evangelista (NREL), and the National Institute of Invasive Species Science research team hosted the USGS-NASA Science Team meeting to communicate invasive species forecasting capabilities to land managers, researchers, and scientists. The team also demonstrated field techniques to capture information on tamarisk locations to improve predictive models for management.

In June, **Dr. Diana Wall** participated in the US Commission meeting of UNESCO and the Island Press Board Meeting in Washington, DC. She also attended the ALLP Fellows training in Connecticut.

**Drs. Diana Wall, Johnson Nkem, and Ed Ayres** (NREL) attended the Soil Ecology Society 10th Biennial International Conference "Linkages in Soil Ecology" held at the Argonne National Laboratory, IL in May. Johnson presented "Groundwater Seeps in a Cold Desert Ecosystem: Community Changes in Soil Invertebrates in the McMurdo Dry Valleys" authored with Drs. Wall, Ross Virginia and John Barrett (Dartmouth), and Byron Adams (BYU).

In July, **Drs. Wall, Nkem, and Ayres** attended the McMurdo LTER Meeting and the PI Meeting at Portland State Univ. They presented a poster with Drs. Virginia, Barrett, and Adams entitled "Changes in Soil Invertebrate Habitat from Moisture Addition from Snow Fences at Taylor Valley, Antarctica."

**Dr. Randy Boone** (NREL) attended the semi-annual Global Livestock Collaborative Research Support Program meeting and the International Grasslands Congress, in Dublin, Ireland in late June. He presented results that quantified the profits Kazakhstan herders may expect from cashmere sales and effects of fragmentation on livestock stocking.

In August, **Dr. Boone** gave a presentation at the International

Mammological Congress in Sapporo, Japan on the first empirical evidence that spatial variability in vegetation across landscapes influenced wild herbivore dynamics. More variable vegetation provided elk and bison in the Rocky Mountain region with more diverse areas to use while foraging, which lessened density dependent population effects. Dr. Boone's research was conducted with Drs. Tom Hobbs and Guiming Wang (NREL).

**Drs. Rich Conant** (NREL) and **Joe vonFischer** (Biology/NREL) have concluded the first Summer Ecology Research Program (SERP). Six undergraduate researchers attended a series of professional development seminars, carried out independent research projects, and presented results at a symposium in August. The program was devised to enhance the participation of undergraduates in ecological research. Positive responses were received from all participants (students, mentors, granting agencies, and others). If interested in being involved next year, please contact Joe [jcvf@lamar.colostate.edu](mailto:jcvf@lamar.colostate.edu) or Rich [conant@nrel.colostate.edu](mailto:conant@nrel.colostate.edu).

**Drs. Niall Hanan** and **Chris Williams** (NREL) hosted a meeting for the African Carbon Exchange (ACE) project to discuss its' recent progress and current directions. Attendees included core investigators Drs. Joe Berry (Global Ecology Lab, Carnegie Institution, Stanford), Bob Scholes (Centre for Scientific and Industrial Research, South Africa), Jason Neff (Dept. of Geological Sciences, Univ. of Colorado), and Scott Denning (Atmospheric Sciences Dept., CSU). ACE focuses on reducing uncertainty regarding the role of Africa in the global carbon cycle. The science relies on merging a suite of techniques including point-based flux observations, distributed atmospheric sampling, biogeochemical modeling, and inverse solution methods. Following the meeting, Sally Archibald, a South African student of Bob Scholes', visited NREL for a two-week training on the Simple Biosphere model that will be used extensively in this project.

**Dr. Jackie Grant**, a post-doc with **Dr. Dave Theobald** ([Natural Resource Recreation and Tourism](#)/NREL), spent the summer in Honduras working with Operation Wallace on butterfly diversity in disturbed and recovering tropical forests. Dr. Grant is a fellow with the David H. Smith Conservation Research Fellowship Program administered by the Society for Conservation Biology (formerly by The Nature Conservancy-TNC Smith Fellowship). Drs. Dave Theobald and Dave Merritt (USDA/NREL) were also TNC Smith fellows.

**Dr. Gary Wockner** (NREL) co-edited a book, *Comeback Wolves: Western Writers Welcome the Wolf Home*. Wockner, a member of the Colorado Wolf Working Group, contacted 50 western writers and solicited original essays in support of wolf restoration in Colorado and the Southwest. *Comeback Wolves* includes essays from well-known writers, such as Rick Bass, Pam Houston, and John Nichols, and includes a foreword by Congressman Mark Udall. See [www.comebackwolves.com](http://www.comebackwolves.com) for more information

**Drs. Ed Ayres** and **Johnson Nkem** collected soils from Bonanza Creek LTER and Toolik Lake LTER in Alaska as part of the NSF Ecosystems Grant "Global Patterns of Soil Biodiversity: Implications for Ecosystem Function" (PI: **Dr. Diana Wall**, Co-PIs, Drs. Jim Garey (Florida) and Richard Bardgett [UK]). The project aims to determine soil species richness along a latitudinal gradient from tropical to

polar regions and whether hotspots of aboveground biodiversity correspond to belowground hotspots. Future sampling sites include Ecuador, Argentina, South Africa, Antarctica and New Zealand.

#### ESA NEWS

Several NREL scientists and graduate students attended the 90th Annual Meeting of the Ecological Society of America in Montreal, Canada in August. A few highlights include:



Ed Ayres



Johnson Nkem

**Dr. Tom Hobbs** presented "Prions, People, and Wildlife: Identifying Critical Scales of Interaction in Mule Deer Populations" with co-authors Matt Farnsworth, Jennifer Hoeting, and Mike Miller. He also displayed a poster entitled "Composite Forces Shape Population Dynamics of a Tropical Copepod Crustacean" with co-author Sarantwombly.

**Dr. Diana Wall** was the ESA-ALLP Workshop Co-chair. She presented "Ecosystem Services and the Millennium Development Goals" as an invited speaker at the Millennium Ecosystems Assessment Symposium. A poster entitled "Sources of Soil Moisture and Their Impacts on Soil Biodiversity in Taylor Valley, Antarctica" was presented by Drs. **Johnson Nkem, Diana Wall**, Ross Virginia, John Barrett, and Byron Adams. An oral presentation entitled "Soil Biodiversity and Ecosystem Functioning across a Latitudinal Gradient in Victoria Land, Antarctica" was given by Drs. John Barrett, Ross Virginia, Diana Wall, Byron Adams, and Craig Cary (Univ. of Waikato, New Zealand).

Drs. D.F. Sax (Univ. of GA), G.D. Tilman (Univ. of MN), and **Tom Stohlgren**, organized a symposium "The Invasion Paradox: Reconciling Biodiversity and Invasion Patterns across Spatial Scales."

**Cathy Stewart**, PhD grad student, (**Dr. Keith Paustian**, advisor) was awarded first place in the grad student poster competition for her poster entitled "13C Stabilization in Functional C Pools after 2.5 Years Incubation: Implications for C Saturation Theory."

#### VISITORS

Visiting scientists **Drs. Manuel Toro** and **Victoria Bermejo** came to NREL in August to work with **Dr. Jill Baron**. Manuel is a limnologist at the Center for Hydrographic Studies in Madrid, Spain. His research focuses on 1) development of biological (macroinvertebrates) monitoring networks of aquatic ecosystems; 2) limnology and palaeolimnology of high mountain and Antarctic lakes; and 3) technical implementation of the European Water Framework Directive in Spain. While at NREL, his Fullbright Fellowship will allow him to observe methods for long term monitoring of the effects of climatic change on watersheds, the use of models for the assessment of those effects on aquatic ecosystems, and their applicability for the Spanish basins.

Victoria is an Environmental Researcher at the Center of Environmental, Energetic, and Technological Research (CIEMAT, Ministry of Science and Education, Spain). She is an ecophysiological specialist in tropospheric ozone effects on plants and involved in the definition of the critical levels of ozone for Mediterranean vegetation in the framework of the UN

Convention on long-range Transboundary Atmospheric Pollution (CLRTAP, Geneva Convention). While on sabbatical at NREL, Viki will work with physiologists beginning to explore the status of vegetation exposed to ozone in Rocky Mountain National Park.

**Dr. Bill Parton** is hosting two visiting scientists. **Dr. Whendee Silver**, Professor, ecosystem ecologist, and biogeochemist on sabbatical from UC Berkeley, came to NREL to take advantage of the opportunities to learn the Century model and to interact with the diverse population of NREL staff and students. **Dr. Eduardo de Sa Mendonca**, Professor, Soil Science Dept., Federal Univ. of Vicosa, Brazil is learning how Century models phosphorus cycling in tropical soils with Bill and **Cindy Keough** for the next six months.

**Jeremey Goodell**, on a 6-month internship from Drexel Univ., Philadelphia, PA, is working on the NIISS databases with **Dr. Tom Stohlgren's** team.

### GRAD STUDENT NEWS

#### *Award*

**Moffatt Ngugi's** (**Dr. Rich Conant**, advisor) NASA Earth System Science Fellowship was renewed for another year of funding. Moffatt attended the NASA Biodiversity and Ecological Forecasting Meeting in Washington, DC at the end of August to present part of his first years' work.



NREL PhD grad student, **Khishig Jamiyansharav** (**Dr. Dennis Ojima**, advisor) conducted field work in Mongolia this past summer to better understand the global warming process in the continental region. Meteorological stations' microclimate exposure characteristics were surveyed in 17 stations in 17 different province centers, including the capital city of Ulaanbaatar. This research was funded by NASA and a Mongolian Governmental fellowship for the Land Use Cover in Temperate East Asia (LUCTEA) project, Dennis Ojima (PI), concentrating on 9 GCON sites.

#### *New students*

**Eli Knapp** is a PhD student with **Dr. Kathy Galvin** (Anthropology/NREL), advisor. During the last year, he has been studying in Serengeti National Park, Tanzania and is now embarking on coursework/data analysis as part of the NSF Biocomplexity Project. Eli received his BS in Biology from Houghton College in western NY and his MS in Conservation Planning at the Donald Bren School of Environmental Science & Management at the Univ. of CA, Santa Barbara.

**Megan Steinweg** and **Michelle Haddix** are MS students with **Dr. Rich Conant**, advisor. They share the NREL Program in Research and Scholarly Excellence (PRSE) Graduate Research Associate award and are working on Dr. Conant's NSF-funded project "Vulnerability of Soil Organic Matter to Temperature Changes: Exploring Constraints Due to Substrate Decomposability and Microbial Community Structure."

**Stephanie Owens** is an MS graduate student working with **Dr. Joe vonFischer**, advisor. She is a New York native and earned her BS from the State Univ. of New York School of Environment and Forestry. For the last two years, she has been working in Telluride.

**Dr. Mohammed Kalkhan** (NREL) is advising two new graduate students. **Diane Abendroth**, an MSc student, is a Fire Effect Specialist from Grand Teton National Park (GRTE), and is working with Dr. Kalkhan on fuel loading, fire and burn severity, geospatial information (remote sensing, GIS, GPS), and other landscape analysis. **Cory Bolen**, MS student, has been conducting field work this summer at GRTE to collect data on forest fuel loading characteristics. Both are receiving funding from the National Park Service and GRTE through NREL.

**Don Carpenter** is an MS student with advisors Drs. John Stednick (FRWS) and **Tom Stohlgren**; Dr. Geneva Chong (USGS/NREL) serves on his committee. Don will work on several USGS-funded projects as he pursues his research and studies.

#### SELECTED PUBLICATIONS

**Ojima, D.S.**, T. Kohyama, J. Canadell, and L.F. Pitelka (eds.), *Forest Ecosystems and Environment: Scaling up from Shoot Module to Watershed*, was recently published. This book was produced by a Japanese research group studying global change effects on forested ecosystems in Asia.

**Wall, D.H.**, A. Fitter, and E. Paul. 2005. Developing new perspectives from advances in soil biodiversity research. In: R.D. Bardgett, M.B. Usher, and D.W. Hopkins, eds. *Biological Diversity and Function in Soils*, British Ecological Society, Cambridge University Press, Cambridge, UK.

**Wall, D.H.** 2005. Global change impacts on soil biodiversity in grassland ecosystem. Pages 291-295 In: T.E. Lovejoy and L. Hannah, eds. *Climate Change and Biodiversity*. Yale Press. London.

**Stohlgren, T.J.**, D. Guenther, P. Evangelista, and N. Alley. 2005. Patterns of plant rarity, endemism, and uniqueness in an arid landscape. *Ecological Applications* 15:715-725.

**Stohlgren, T.J.**, D. Barnett, C. Flather, J. Kartesz, and B. Peterjohn. 2005. Plant species invasions along the latitudinal gradient in the United States. *Ecology* 86(9): 2298-2309.

**Dr Ed Ayres** and colleagues recently had a paper published in *Science* 309:1711-1713 entitled "Rising Atmospheric CO2 Reduces Sequestration of Root-derived Soil Carbon. The research, which involved growing over 500 trees in eight tons of soil, showed that despite modest increases in tree biomass and photosynthesis, elevated CO2 concentrations increased soil microbial respiration and markedly reduced the storage of 'new' carbon in the soil. These findings indicate that if similar effects are seen in forest ecosystems, carbon storage by soils may be substantially reduced in the near future, potentially resulting in a positive feedback on the rate of increase in atmospheric CO2 concentration. The article can be found at: <http://www.sciencemag.org/cgi/content/abstract/309/5741/1711>

#### UVB NEWS

**Dr. James Slusser** and **Dr. Wei Gao** (co-chairs), **Dr. John Davis**, **Dr. Zhiqiang Gao**, **Roger Tree**, and **George Janson** gave presentations at the Ultraviolet Ground- and Space-based Measurements, Models, and Effects Conference held during the International Society of Optical Engineering (SPIE) annual meeting in San Diego, CA. Dr. Gao also co-chaired the Remote Sensing and Modeling of Ecosystems for Sustainability II Conference. Congratulations to Dr. Gao who was honored as a Fellow of the

SPIE. The Society only recognizes about 3% of its 16,000 plus members as Fellows.

**Dr. Wei Gao** was appointed as a member of the China Meteorological Administration board of advisors. The board will work to draw a broad spectrum of ideas and implement projects for the sustained development and modernization of meteorological services in China. He was also appointed as a guest professor of Peking Univ., China. In May, he served as co-secretary general of the 'International Symposium of Remote Sensing and Space Technology for Multidisciplinary Research and Application' and the 'Second IMAPP Training Workshop,' in Peking.



Welcome to **Scott Janssen**, computer administrator, bringing an extensive background in business and finance.

Three international scientists visited UVB this summer. Andres Hernandez. Punta Arenas, Chile; Zhiqiang Gao, Beijing, China, and Jim Kerr, retired head of ozone monitoring and research at Environment Canada.

#### GIFTS TO NREL

**GIFTS TO NREL:** NREL would like to thank the many donors who have contributed to our Excellence in Enhancing Global Connections endowment, which was started by matching funds from **Dr. Francis E. Clark**. This endowment will be used to support bridge salary for scientists and other financial needs which cannot be accommodated by NREL's base of federal grant funding. The fund has now reached over \$145,000. If you are interested in contributing to this exciting endowment, please contact **Neil Shropshire** ([neil@nrel.colostate.edu](mailto:neil@nrel.colostate.edu) or 970-491-5645) for more information.

#### PEOPLE

##### *New Arrivals*



This has been a very "productive" summer for many NREL staff and students. A big congratulations to:

**Joe vonFischer**, wife Colleen Webb, and big sister Josie welcomed William Joseph "Liam" von Fischer on March 5th weighing 7 lbs 9oz and 20.5."

**Jayashree Ratnam** and **Mahesh Sankaran** welcomed the birth of their 5 lb 4 oz and 18.5" son Sidharth Ratnam Mahesh on April 9th.

Eleanor Elizabeth Sherman, 7 lbs 7.5 oz, 20" long, was born on May 3rd to **Jill Lackett** and Stephen Sherman.

Ava Carole Hicke was born July 3rd to **Jeff** and Diana Hicke, big sister Laurel. She was 5 lb 12 oz and 18.5" long.

**Shauna** and Glenn Burnsilver were excited to welcome their son Silas Redding Burnsilver on July 14th. He weighed 7 lbs and was 19 3/4" long.

Elias Avery Oropeza was born to **Jill** and Maelly on Sept. 12th. He was a "big" surprise weighing in at 8 lb. 14 oz.

*Marriages*

**Catherine Crosier** married David Jarnevich on May 29, 2005.

**Alycia Waters** married Nick Crall on July 23, 2005.

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