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INSTITUTE OF BEHAVIORAL SCIENCE ■

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UNIVERSITY OF COLORADO

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## NEWSLETTER

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### KUDOS

**Andrew Linke**, graduate student in the Department of Geography and advisee of **John O'Loughlin**, has been selected as a recipient of a U.S. Department of State Critical Language Scholarship for participation in the Arabic program in Cairo, Egypt from June 17 to August 15. His acceptance letter from the Bureau of Educational and Cultural Affairs of the U.S. Department of State, the American Research Center in Egypt and the Council of American Overseas Research Centers noted "Of many outstanding applications submitted, the Review Panel found yours to be particularly impressive."

### PROGRAM ACTIVITIES

#### ENVIRONMENT AND SOCIETY PROGRAM

**Bill Travis's** new book, "New Geographies of the American West: Land Use and the Changing Patterns of Place," has been published by Island Press. Travis who is an associate professor of geography wrote the book with fellowship support from the Orton Family Foundation. The book is highly praised by such luminaries as Bruce Babbitt, former Secretary of the Interior, and Denver mayor, John Hickenlooper. **Tom Dickinson** and **Nancy Thorwardson** of the IBS Computing and Research Services provided technical help with creating maps and illustrations for the book.

#### In Print

**Travis, William R.** *New Geographies of the American West: Land Use and the Changing Patterns of Place.* Washington, D.C.: Island Press, 2007. Travis examines contemporary land use changes and development patterns from the Mississippi to the Pacific, and assesses the ecological and social outcomes of Western development. Unlike previous "boom" periods dependent on oil or gold, the modern population explosion in the West reflects a sustained passion for living in this specific landscape. But the encroaching exurbs, ranchettes, and ski resorts are slicing away at the very environment that Westerners cherish. Efforts to manage growth in the West are usually stymied at the state and local levels. Is it possible to improve development patterns within the West's traditional anti-planning, pro-growth milieu, or is a new model needed? Can the region develop sustainably, protecting and managing its defining wildness while benefiting from it, too? Travis takes up the challenge, suggesting that functional and attractive settlement can be embedded in preserved lands, working landscapes, and healthy ecologies.

#### POLITICAL AND ECONOMIC CHANGE PROGRAM

##### Working Papers

<http://www.colorado.edu/ibs/pec/pubs/wp.html>

Sikora, Patricia, Sarah Moore, Leon Grunberg and **Edward S. Greenberg.** "Work-Family Conflict: An Exploration of Causal Relationships in a 10-year, 4-wave Panel

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## PROGRAM ACTIVITIES

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Study.” (PEC2007-0001). Using four waves of data collected over a ten-year time frame, the authors aim at a longitudinal exploration of work-family conflict theories previously examined via cross-sectional methods. Specifically, using a sample of 354 men, they systematically compare six fully crosslagged competing structural models to simultaneously test: (a) temporal linkages between two forms of work-family conflict, i.e., family-to-work and work-to-family, (b) causal precedence frameworks proposed in previous literature (e.g., the dominant spillover versus other causal frameworks), as well as, (c) domain-specificity using work-domain stressors of job stress and work overload. Cross-sectional analysis replicates previous findings of associations between work-to-family conflict and family-to-work conflict and a moderate relationship between work stressors and work-to-family conflict. In addition, they see no evidence to support a spillover framework; instead, models incorporating reverse and reciprocal effects significantly improve fit over a baseline stability model. Finally, cross-domain causal linkages are evident with a reciprocal pattern between work overload and FW conflict. These results contradict prevailing theories reinforcing the need for additional longitudinal work in the work-family arena.

### POPULATION PROGRAM

The CU Population Center, with support from the National Institute of Child Health and Human Development, the Institute of Behavioral Science, the Institute for Behavioral Genetics, and the Department of Sociology, conducted a three-day short course on the topic of biodemography, June 11-13. **Jason Boardman** organized the course which included a review and discussion of current substantive contributions in the literature, instruction on the collection and use of biomarkers in demographic research, and methodological training in the statistical analysis of biosocial interactions. Faculty for this workshop included Eileen Crimmins (University of Southern California), Noreen Goldman (Princeton University), Maxine Weinstein (Georgetown University), and Tom Johnson, Matt McQueen, Michael Stallings, and Deqing Wu (Institute for Behavioral Genetics, University of Colorado). Students were comprised of graduate students, post-doctoral fellows, and junior faculty from twenty universities across the country. More information can be found by visiting the course website at [www.colorado.edu/ibs/cupc/short\\_courses/biodemography/](http://www.colorado.edu/ibs/cupc/short_courses/biodemography/).

**Richard Rogers** presented “Sex Differentials in Mortality” to the Department of Demography and Organizational Studies and the Institute for Demographic and Socioeconomic Research at the University of Texas at San Antonio on June 5. This research, conducted with **Bethany Everett**, **Jarron Saint Onge**, **Patrick Krueger**, and Bob Hummer, employs the third round of the National Health and Nutritional Examination Survey linked to the National Death Index and life tables with covariates to examine sex differences in mortality. The authors build on previous literature by expanding the theoretical perspective, analyzing a current nationally representative data set, examining the effects of multiple risk factors, and presenting life tables with covariates. Whereas both sexes have witnessed mortality improvements over time, males have realized relatively greater gains. They found that both sexes realize a marriage survival advantage. Compared to men, women’s lower propensity to be married, employed, earn high incomes, and engage in regular physical activity reduces the sex gap in mortality, but women’s greater propensity to attend religious services and abstain from smoking widens the sex gap in mortality. These results contribute to the national

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## IN FOCUS

## Water Management in the West



Chris Goemans  
IBS Affiliate  
Environment and Society Program

*Chris Goemans has been associated with the Environment and Society Program as a Graduate Research Assistant and Postdoctoral Research Associate. He received his bachelor's degree in Economics from the University of Maine in 1997 and attended the University of Colorado at Boulder where he received his master's degree in Economics in 2000 and his doctorate in 2006.*

I joined the Environment and Society Program several years back as a graduate student in the Department of Economics at CU. Having a strong interest in the economics of water resource management, I couldn't have chosen a better environment to pursue my research goals. My advisor, Professor Charles Howe (IBS faculty research associate), brought me onboard to help conduct a comparative analysis of water markets and their impacts across three Colorado water markets. Economists have long promoted water markets as an efficient means of transferring water from old, lower valued uses to new, higher valued ones. We found that the extent to which any particular market successfully reallocated water was highly dependent on the regional economic conditions and how property rights were defined in that market. Markets for water were less effective in reallocating water and resulted in greater economic and social impacts in specialized, marginal regions like the Arkansas River Basin.

Consistent with economic theory, our estimates of price elasticity reflect the fact that households with large outdoor watering demands do not respond to price increases when facing outdoor watering restrictions.

The publication of "Water Transfers and Their Impacts: Lessons from Three Colorado Water Markets" in 2003 was timely to say the least. Rapid population growth over the previous decade together with the onset of one of the worst droughts on record left most water managers along the Front Range scrambling to augment dwindling supplies. Most quickly realized it was no longer possible to rely solely on strategies based only on expanding supply. Planners were forced to address the long ignored other half of the equation: demand. This change in philosophy has opened up numerous opportunities for research as cities have expressed a need to better understand and predict how demands are likely to respond both to particular demand management programs and other exogenous factors (e.g., weather). In short, the drought has been good for business!

My recent work with the city of Aurora serves as an excellent example of this. In response to the recent drought, the city's water department, Aurora Water, implemented a long list of short- and long-term demand management programs. The list included changes to the type of rate structure used to price water, severe price increases, outdoor water use restrictions, and a variety of rebate programs designed to motivate residential customers to install various, new water saving technologies. Despite the collective success of these programs (reducing demand by roughly twenty-five percent in 2003), enthusiasm was tempered by the inability to identify which of the simultaneously employed tools were responsible for the savings and which reductions could, or could not, be relied upon in the future. Together with researchers from the Western Water Assessment (a joint program between the Cooperative Institute for

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Research in Environmental Sciences at the University of Colorado, and the National Oceanic and Atmospheric Administration's Earth System Research Laboratory, we began working with Aurora in the fall of 2005 to investigate these issues. At the heart of our analysis are billing records, provided by Aurora, for *all* customers over the period 1997 through 2005. This data set (including more than 80,000 households observed before, during, and after the drought), together with the extreme nature of the drought and the diversity of the policies employed, provide a unique opportunity to learn about municipal demand. Although this research is ongoing, several important findings have already emerged. These include identifying important differences in how price and restrictions influence demand among different classes of customers. For example, our study is the first to account for the interaction of price and outdoor water restrictions. Consistent with economic theory, our estimates of price elasticity reflect the fact that households with large outdoor water demands do not respond to price increases when facing outdoor watering restrictions.

A few months ago I accepted a faculty position at Colorado State University in the Department of Agricultural and Resource Economics. One especially nice feature of the position is that it will allow me to continue working with people here at CU. This includes moving forward with our work with the city of Aurora where we are studying how providing households with real-time information about their water use impacts their behavior. Beginning in 2005, Aurora Water began providing rebates to those households who purchased a Water Smart Reader (WSR). A WSR is a small device that can be placed on one's refrigerator and provides information on water use wirelessly. These devices allow households to easily monitor instantaneous as well as cumulative water use. It was anticipated that these devices would cause consumers to cut-back, however, preliminary results suggest that owning a WSR increases water use by 10-15 percent. It appears that prior to obtaining a WSR, users fearful of being penalized for consuming more than their water budget allows, err on the side of caution by consuming less than they would have otherwise preferred. However, when armed with the ability to track consumption, these same users skillfully consume up to the budgeted amount.

As I move on to a new life in "Fort Fun," I say goodbye and thanks to everyone at CU who has helped me along the way. While I will miss all of the friendly faces I have come to know here at CU, I look forward to the new challenges that await me.

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discussion of health disparities, are rich with implications for family, health care, and pensions, and provide insight into life expectancy forecasts.

In April, Rogers taught a short course, "The Demography of Adult Morbidity and Mortality," through the Southampton Statistical Sciences Research Institute at the University of Southampton in England. The course was attended by graduate students, postdoctoral researchers, staff members from government agencies, and individuals from private organizations. This three-day course tackled such crucial questions as: "Are health disparities widening over time and place?" "Are individuals really living longer and in better health?" "How does socioeconomic status operate to improve health and reduce mortality?" "Will life expectancies in more developed countries continue to increase over time, and if so, by how much?" Overall, the course focused on ways to

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improve health and lengthen life. Rogers also gave a presentation, “Obesity and Mortality,” on May 1 at the Netherlands Interdisciplinary Demographic Institute in The Hague. He presented historical patterns in adult obesity, revealed how obesity has changed over time for select subpopulations, and highlighted recent trends in the effects of obesity on mortality.

### PROBLEM BEHAVIOR PROGRAM

**Sharon Mihalic** and Abigail Fagan of the Social Development Research Group at the University of Washington conducted a one-day pre-conference workshop on May 29 at the Society for Prevention Research in Washington, D.C. The workshop, “Using Tested Programs in the Real World – Strategies and Tools to Promote Implementation Fidelity,” was designed so that participants would (1) understand the importance of achieving implementation fidelity of tested programs, (2) agree upon common elements of implementation fidelity and discuss ways of measuring these elements, (3) discuss the pros and cons of when and how to adapt programs to the local situation, and (4) identify general models, tools and strategies that promote implementation fidelity.

## UPCOMING COLLOQUIA

Please refer to the following webpage for the IBS colloquia schedules:  
<http://www.colorado.edu/ibs/events/colloquia.html>.

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### Environment and Society Program

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### Health and Society Program

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### Political and Economic Change Program

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### Population Program

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