

September 30, 2009

Dear Board Member,

This month I am pleased to introduce Professor Patricia Gober, a research leader on decision-making in the face of climate uncertainty. Dr. Gober's interview follows a brief list of selected sustainability news and activities at ASU below.

Highlights of ASU's sustainability activities

- The National Academy of Sciences has selected School of Sustainability faculty member Dr. B. L. Turner II, the Gilbert F. White Chair of Environment and Society in the School of Geographical Sciences and Urban Planning, to serve on its Roundtable on Science and Technology for Sustainability for 2009-2012. The Roundtable includes senior decision-makers from the U.S. government, industry, academia, and nonprofit organizations who are in positions to advance sustainability. Members are charged with finding ways to use scientific knowledge and technology to help achieve sustainability goals. [Read more.](#)
- Dr. Cody Friesen, associate professor in the School of Mechanical, Aerospace, Chemical and Materials Engineering, has been named one of the top young innovators for 2009 by MIT's *Technology Review* magazine. Dr. Friesen was recognized for his achievements in sustainability including developing rechargeable, nontoxic zinc-air battery technologies for electronics, electric cars, and renewable energy applications. He is co-founder of Fluidic Energy, which intends to commercialize his new battery design. [Read more.](#)
- "Defining Sustainability" is the theme of ASU Art Museum's fall season that features art-inspired perspectives on sustainability issues. Among the many projects scheduled are an exhibit revealing how artists and art works have influenced human interactions with the land and a demonstration of how School of Sustainability affiliated faculty member, Dr. Nan Ellin's *Canalscape* proposal — which calls for upgrading Phoenix's 181 miles of canals as public amenities and economic development hubs — would contribute to a sustainable desert city. [Read more.](#)
- The relationship of climate change to historic cataclysms is the subject of a new book by Dr. Randy Cerveny, President's Professor in the School of Geographical Sciences and Urban Planning. The book, *Weather's Greatest Mysteries Solved!*, illuminates the science of climatology by tracing the role that extreme weather played in events such as the extinction of T. Rex 65 million years ago. The book also sheds light on possible major climate changes in the future. [Read more.](#)
- Decision Center for a Desert City has teamed up with Portland State University and Clark University to investigate how water demand is influenced by climate and land-use patterns in two vastly different urban areas, Phoenix and Portland, Oregon. The research, which is broadly applicable to many other urban centers around the world, will identify water resource vulnerabilities under different combinations of urban growth and climate change and provide results that are relevant for municipal planning and decision-making. [Read more.](#)

You can reach me at rob.melnick@asu.edu or 480-965-5233 with any questions or comments about this briefing. The interview with Dr. Gober follows on page two.

Best regards,



Rob Melnick
Executive Dean

cc: Jim Buizer, Teresa Forst

Q&A With Dr. Patricia Gober

Decision-making for climatic uncertainty

Dr. Gober is a professor in the School of Geographical Sciences and Urban Planning and in the School of Sustainability. She is also a Policy Research Associate at Morrison Institute for Public Policy and Co-Director of Decision Center for a Desert City, one of five National Science Foundation-funded centers focused on developing fundamental new knowledge and tools for decision-making under climatic uncertainty.

When did you come to focus on “sustainability” in your research?

I've been a “closet” sustainability scientist for as long as I can remember. During more than 30 years interacting with earth scientists, biogeographers, and climatologists, I became more interested in our connections than our differences. Then, in 1998 I was elected president of the Association of American Geographers, which triggered the realization that my field — geography — was a potent catalyst for the marriage of science, social science, technology, and the humanities. Gradually, I moved from there to the long-term perspective, collaborative practices, and solution-oriented work of sustainability science I'm involved with today.

What is your most important sustainability-related research project?

I co-direct the Decision Center for a Desert City (DCDC) to address water management decision-making in the face of climate uncertainty. The premise of our work is that society needs to prepare for the effects of climate change, but even the best climate science will never completely eliminate all unknowns. To mitigate the uncertainty decision-makers must face, we developed WaterSim, a scientific simulation and policy tool that enables them to explore the consequences of different policy scenarios on future water supplies. By asking carefully crafted “what if” questions, applying the best available scientific and institutional knowledge, and collaborating closely with water managers and policymakers, we help identify which choices avoid misfortune and are robust under a range of future climate conditions.

How does your sustainability-related research affect “real world” decisions?

Locally, our goal is to draw attention to the need for climate adaptation in Arizona — particularly to persuade water managers and the public of the need for action. We've also worked in collaboration with the city of Phoenix's Water Services Department to investigate the consequences of using irrigated landscaping to mitigate the urban heat island effect.

Thinking globally, the strategies and solutions we find here can be applied to many other rapidly urbanizing regions around the world. In recognition of that, DCDC was chosen as a winner of the Prince Sultan Bin Abdulaziz International Prize for Water in the category of water resources management and protection.

What is the world sustainability challenge that concerns you the most?

Increasingly, I focus on the challenge of sustainable cities. We can no longer discuss urban water, land, or energy decisions without examining their consequences for maintaining healthy ecosystems, supporting economic progress, feeding the world's population, and managing the risk of shortages across social groups and communities. The challenge for the world's cities is to look at the *interconnectedness* of their social, economic, and environmental systems and policies. Water is but one piece of this complex puzzle.



Dr. Patricia Gober



Rapid growth on urban fringes exacerbates water supply challenges from climate change



Using WaterSim for decision support in the Decision Theater