

## Research Mentors for the NSF-REU 2009 Summer Program

### From Tahoe to Pyramid Lake: Natural Resource Issues in the Sierra Nevada and Great Basin Region

University of Nevada, Reno Academy for the Environment and Great Basin Institute

**Sudeep Chandra** – Natural Resources and Environmental Science Department, UNR.

Recently named Teacher of Year for his college, Dr. Chandra has had extensive experience teaching undergraduates in the field. He has classical training in limnology evaluating the impact of land use change on freshwater ecosystems. Taking an ecosystem-based approach, he has evaluated the impact of historical nonnative species introductions and nutrient loading on the food web structure of the lake. An advocate of the conservation of freshwater resources, Dr. Chandra recently became an advisor to the Paiute tribe of Pyramid Lake (USA) as they try to restore the cutthroat trout and the endangered Cuiui. Dr. Chandra has been studying the Lake Tahoe-Truckee watershed for the last 4 years. His research with REU students will focus on understanding the impacts of nonnative introductions and cultural eutrophication on the Lake Tahoe ecosystem.



**Mike Collopy** – Academy for the Environment, UNR.

As Executive Director of the Academy for the Environment, Dr. Collopy is responsible for strengthening the interdisciplinary research and education focus of environmental programs throughout the university. Throughout his career, Dr. Collopy has directed research on the behavior, habitat requirements, and ecology of a variety of avian species, particularly birds of prey. Dr. Collopy is particularly interested in helping both undergraduate and graduate students develop the technical and interpersonal skills necessary to successfully compete for positions in academia and natural resource management/conservation.



**Peter Goin** – Art Department, UNR.

As a research artist, Dr. Goin is involved in many book publications and projects. He is author of [Tracing the Line: A Photographic Survey of the Mexican-American Border](#), [Nuclear Landscapes](#), [Stopping Time: A Rephotographic Survey of Lake Tahoe](#), and [Humanature](#). Goin is also co-author of numerous other books, including the seminal [Black Rock](#), a dedicated investigation of the phenomenal desert region in northern Nevada. Peter's photographs have been exhibited in more than fifty museums nationally and internationally, and he is the recipient of two National Endowment for the Arts Fellowships. Goin is focusing on the Lake Tahoe environment, having also authored an interpretation of historical photographs in [Lake Tahoe](#). One of his students is already engaged in grant-funded rephotographic work, and another group project is under way rephotographing the South Lake Tahoe region.



**Derek Kauneckis** – Department of Political Science, UNR.  
Dr. Kauneckis specializes in policy analysis, program evaluation, institutional analysis and policy design. His research examines the evolution of governance arrangements and the development of decision-making structures as they relate to environmental policy outcomes. Dr. Kauneckis works closely with multiple natural resource management agencies in the region and is currently involved with private sector businesses in the Lake Tahoe basin in developing community sustainability indicators, and is revising the Social Science chapter for the Lake Tahoe Science Plan. He recently completed a survey of private landowners at Tahoe and an assessment of social science data needs among policy-makers and stakeholders, which closely involved undergraduate research assistants. REU students will aid Dr. Kauneckis in environmental policy analysis and evaluation, research on implementation strategies, and working with both public and private decision-makers in the Lake Tahoe basin.



**Jerry Keir** – Great Basin Institute.  
Co-founder and Executive Director of the Great Basin Institute, Keir has taught and directed interdisciplinary environmental field studies courses throughout the Intermountain West and Mexico, and has extensive experience managing diverse research and monitoring initiatives, leading collaborative planning projects, and overseeing natural resource projects across Nevada wilderness, parks and public lands. Keir will support the REU program through the institute's Research Associate Program, utilizing the program's infrastructure for training, and field operations to support REU participants.



**Klaus Moeltner** – Department of Resource Economics, UNR.  
Dr. Moeltner has worked on several socio-economic projects in the Tahoe Basin over the last few years. He specializes in the analysis of recreation choice and visitation models, and has accumulated primary recreation data that require further analysis. REU students will (i) collect additional information to be combined with these data, and (ii) learn and apply statistical software to analyze these data and draw statistical inferences. This project is well-suited for students who are aiming to enhance their skills in statistical analysis and computational methods.



**Kim Rollins** – Department of Resource Economics, UNR.  
The conceptual basis of the work of Dr. Rollins involves economic problems associated with allocation of public goods, incentive mechanisms for optimal conservation and use of environmental amenities, and valuation of environmental amenities. The diverse applications of her research program provide opportunities to continue to learn more about how society depends upon the natural environment. Dr. Rollins will involve REU students in field surveys of the ecological goods and services provided by, and at risk, in the Lake Tahoe Basin.



**Laurel Saito** – Natural Resources and Environmental Science Department, UNR.

In collaboration with the US Geological Survey, Dr. Saito has been studying anthropogenic impacts on the Truckee River aquatic ecosystem which headwaters in the Sierras and at Lake Tahoe. More recently, Dr. Saito is working with the Agricultural Research Service to understand how land management affects runoff and erosion from small watersheds in Nevada, and how to enhance the sparse precipitation network in the Great Basin, including in the Truckee River watershed, by instrumenting wildlife water developments (guzzlers). REU students will have the opportunity to be involved in both of these watershed studies.



**Peter Weisberg** – Natural Resources and Environmental Science Department, UNR.

Dr. Weisberg's research concerns the causes and consequences of landscape change, including natural disturbances, effects of anthropogenic land use, ungulate-landscape interactions, and invasive species. Ongoing research projects within his lab group address disturbance ecology, woodland expansion, post-fire succession, and ecological restoration in Great Basin pinyon-juniper woodlands; fire history and ecology of mountain big sagebrush communities; fire ecology of the Sierra Nevada (Lake Tahoe Basin); and the ecology of tamarisk invasions along the Colorado River in Grand Canyon. His research with REU students will consider past landscape change as a guide to understanding present and future conditions, and integrates field studies, GIS, remote sensing and simulation modeling.



**Lynn Zimmerman** – Great Basin Institute; Ecology, Evolution and Conservation Biology Program, UNR.

Dr. Zimmerman has extensive field experience working with students on the physiological ecology and conservation biology of reptiles in the Great Basin and Mojave region, with particular emphasis on thermal and nutritional ecology. She also participated in collaborative research on abiotic factors associated with the distribution and abundance of fish and plankton in Walker Lake, a terminal saline lake in central Nevada. Her REU contribution will provide students with the opportunity to study diversity, distribution and densities of small mammals and other vertebrates in the Tahoe Basin and along the Truckee River as part of restoration monitoring.

