



# ENVIRONMENT

## New Era for Tahoe Science

Rendering by Ryan Stahlman, Lundahl & Associates, Architects

by LEO POPPOFF

It's the fulfillment of a 40-year-old dream for Tahoe's pioneering Dr. Charles Goldman, University of California at Davis (UCD) limnologist and founder of the Tahoe Research Group. Goldman wanted a state-of-the-art research facility for UCD's Tahoe Environmental Research Center staff and graduate students. While he raised the money to build it, he couldn't find a home for the facility on the California-side of The Lake. But then a few years ago, Sierra Nevada College (SNC) was trying to expand their science facilities but couldn't fund them. Their dreams have now converged to create a new landmark for the region: the Tahoe Center for Environmental Sciences (TCES or the "Tahoe Center").

On the verge of opening, this facility has already achieved perhaps more than its founders could have ever imagined. Not only is it housed in an incredibly eco-friendly building, it has facilities for UCD researchers as well as labs for University of Nevada, Reno (UNR) and Desert Research Institute (DRI), among others, thereby

encouraging never-before explored collaboration between these entities, and contains a vibrant visitor and public education center.

Over a decade ago, Professor Goldman started "Campaign for Tahoe" to fund the development of a research center that would have first-rate labs and offices for UCD researchers at The Lake. His effort ultimately raised \$13.25 million from some 400 donors. According to Heather Segale, education and outreach coordinator for the center, individual donations ranged from \$10 to \$2.6 million, the latter of which was contributed by the David and Lucile Packard Foundation. The Thomas J. Long Foundation contributed \$2 million, earmarked for a science education center.

Goldman first attempted to fulfill his vision on property adjacent to the old fish hatchery at Lake Forest near Tahoe City, which UCD acquired from California's Department of Fish and Game. But the plans for the fish hatchery location ran afoul of agency regulations and ordinances and, ironically, concerns of environmental organizations. The property includes a

stream environment zone that has been altered to create a campground. An alternate site, also in Lake Forest, was vehemently opposed by local neighbors.

Then Dr. Goldman and SNC had a meeting of the minds, and the idea of a joint venture was hatched. "Normally," explains Jim Steinman, SNC trustee and Tahoe Center project manager, "people would say that getting a California university and a Nevada private college to work out a joint occupancy condition on property in Nevada, and getting \$9.6 million of California money into a building in Nevada, would be impossible. But it turned out to be the easiest thing to do, because both parties wanted it to work." A separate parcel was created for the partnership, with SNC retaining 56 percent ownership of the site and building, while UCD owns 44 percent. The total value of the center is \$25 million.

At press time for this issue, SNC had just announced that it was seeking a financial partner to take over operations of the campus. If such a partnership could not be found, the college might cease operations by the end of the year. The college said



it was in discussions with UNR, DRI and other leading universities as possible financial partners. How this might affect the operation of the Tahoe Center is hard to guess, but with so many major institutions already running most of its operations, any hiccups will likely be brief.

In the meantime, UCD also plans to spend \$3 million renovating the old fish hatchery building in Lake Forest as a preparation area for field research with a visitors' kiosk of displays, brochures and maybe a plasma screen.

In the spirit of its name, the Tahoe Center building is a state-of-the-art, "green" structure. It uses water efficiently, utilizing a gray water containment system in which two large storage tanks collect rainwater and snowmelt for cooling and heating needs, as well as for water closet flushing. The building, designed by Lundahl and Associates, Architects, of Reno, also makes maximum use of natural light and solar energy with a 31.5-kilowatt photovoltaic roofing system. Building materials used were, as much as possible, recycled or from companies that practice sustainable harvesting. The status and operation of the building's sophisticated,

component of the Tahoe Center may be even more impressive than its environment-friendly shell. "We can now do more multi-disciplinary work," says Geoffrey Schladow, director of the UCD Tahoe Environmental Research Center (TERC), located on the building's third floor. "When research started off at Tahoe, it was all about The Lake. Then the realization grew that the watershed has a tremendous impact. And then the realization was that it's not just the watershed, it's what's in the air as well. As our understanding has increased, we have seen the need to start bringing in other disciplines but have not had the capacity to accommodate them. That's what's going to change now; we have the capacity. We will have dedicated labs for these different fields. We will have office space to accommodate visiting scientists that have expertise that we don't have in-house."

Until now, only a few UCD researchers have been working full time at The Lake. Most of the lab and computing work has been done at the Davis campus. Scientists from DRI and UNR, who previously had to commute back and forth from their labs in Reno,

now have facilities on the center's first floor. For the time being, SNC science and education students

have classrooms on the second floor. Other researchers who study Lake Tahoe, including seismologists from Scripps Institute of Oceanography, can use the labs while here.

Also headquartered at the center will be the Tahoe Science Consortium, an organization newly formed by UCD, DRI, UNR, the U.S. Geological Service and the Pacific Southwest Laboratory of the U.S. Forest Service. Initially funded by the Environmental Protection Agency, the consortium will encourage collaboration between researchers, develop research

priorities and consult with Tahoe's agencies about scientific matters.

"With DRI, UNR and UCD research staff co-located," says Dr. Goldman, "the project will bring the two states together in a multi-disciplinary fashion with state-of-the-art facilities to help solve Tahoe's most serious environment problems."

The most visible component of the Tahoe Center for the public will be the Thomas J. Long Science Education Center, which will also be utilized by regional middle schools. Occupying part of the first floor, it resides under a large atrium and features a multipurpose room and visualization lab.

"In the visualization lab," Segale says, "we have earthquake fault line data provided by Scripps, which is seen in the bathymetry and topography of the Tahoe Basin, overlaid with satellite imagery. It's not simply contours of The Lake's bottom; the

## Professor Goldman's "Campaign for Tahoe" raised \$13.25 million to fund a first-rate research center at The Lake.

eco-friendly systems will be displayed on a large plasma screen in the visitor center. Outside, a tree-lined path leads to an informative demonstration garden of native plants and landscaping ideas. So cutting-edge is its building that the Tahoe Center is seeking wider recognition for its eco-efforts. The U.S. Green Building Council sets guidelines and certifies just how green a building is, and the center is aiming for the highest certification — platinum. If successful, it will be the first laboratory building to obtain that rating and only the 14<sup>th</sup> platinum-rated building in the world.

As stunning as all that is, the research



Dr. Charles Goldman. Courtesy photo

above-water part has plants and buildings draped on top — and you can visually fly in and around the landscape. We're also working on visualizations of Lake circulation and clarity models."

"For the first year, we're going to make sure that every sixth grade class in the Tahoe Basin comes to visit the facility.

They'll be doing hands-on science, fun activities that requires no note-taking." Further offerings slated for the first

showing how Lake and stream-water is analyzed for nutrients and fine particles. The center's official opening date is


The Tahoe Center appears destined to become a global example of cutting-edge cooperation between scientists from diverse organizations, bringing together under one roof staff from two universities and a leading research institute, as well as visiting professors, graduate students and environmental scientists from around the world.

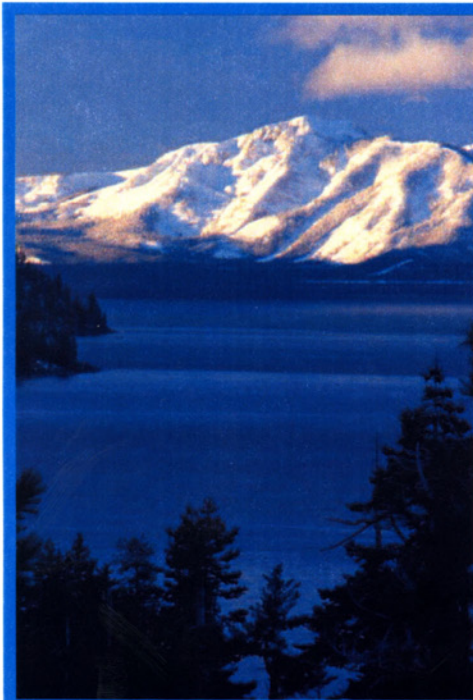
October 14. A grand opening celebration will be attended by UCD, DRI, SNC and UNR presidents and chancellors. Following the celebration will be an evening dinner reception at the Hyatt Regency Lake Tahoe to recognize Dr. Goldman

We've coordinated all our programs, including the exhibits and the information that's being presented, to tie into the sixth grade science content standard. They're studying earth science, so all the information related to geology, erosion and water moving downhill really fit in well. We'll have docents to help with students and visitors coming through. Our plan is to make sure that when students come for the visit, they don't have to pick up a pencil.

floor center include interactive exhibits designed to inform and entertain; for example, there will be a mock-up of the back end of the UCD research vessel, the John LeConte, surrounded by a photo mural of The Lake. Visitors can go aboard, be welcomed by a virtual captain on a plasma screen and get the feeling of being on the boat while watching video footage of real live research. A similar exhibit will duplicate a laboratory setting while

and the efforts of the community in the realization of his dream.

For locals and visitors alike, the Tahoe Center for Environmental Sciences is destined to become a new landmark for the Basin and, hopefully, a boon to the science of saving Tahoe's water clarity. This proximity of top scientists, and the interaction between them it will foster, is sure to make the Tahoe Center a world-class science and research institution. 



## CONSERVATION. CLEARLY.

That's the idea behind Lake Tahoe's Environmental Improvement Program designed to preserve this spectacular place for future generations. The Tahoe Regional Planning Agency, along with 50 different partner organizations is making it happen. With about \$1 billion in improvement projects to benefit the lake's ecosystem, the EIP will contribute to saving the lake's world-famous clarity.

Play a part in preserving Lake Tahoe by visiting [www.conservationclearly.org](http://www.conservationclearly.org).



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