Scientists Find Route to One of Earth’s Most Ancient and Inaccessible Ecosystems

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ice-core above the lake. Cored to within 326 feet of the Lake’s water surface, the ice layers reveal a 400,000-year environmental record with micro-organisms present throughout most of the core. Further coring was halted while scientists convened to develop systematic studies and methodology for further investigation without threat of contamination to the water.

“Our study is a critical step in the exploration of Lake Vostok,” said Bell. “We are learning more about the interface between the water and the ice. Biology loves interfaces. The lake water sampled by the ice sheet can now be traced to the east of the lake. These frozen lake water samples will record the passage of the ice sheet and the processes across the lake. The data show that the current research station on the lake may not be optimal for biological studies.”

Through radar soundings over Lake Vostok, Bell and her team determined that the ice formation in the southern half of Lake Vos- tok, holds buckling patterns frozen into the ice sheet as it flows over the lake. Following the trends of the buckled ice pat- terns, scientists were able to construct movement trajectories across the lake.

They then calculated the time it took for ice to move from the west side of the Lake to the east—20,000 years over a distance of about 50 miles.

“Using the data, the outlines of the lake water captured by the ice sheet removes the equivalent of the entire volume of Lake Vostok. As the ice sheet removes lake water like a continuous conveyor belt, lake waters must be replen- ished, either by melting of the ice sheet or by subglacial meltwater. The source of this water remains a mystery,” Bell said.

When scientists drilled to within a few hundred feet of the lake, they found that the existing Russian research station and the bore hole that scientists studying the lake water samples will record the existence of Russian.

Most Ancient and Inaccessible Ecosystems

six weeks of intense brain- storming and teamwork on robot design and construction culminated in a Feb. 23 and 24 with a high-tech spectator sporting event at Columbia’s Levien Gymnasium.

Thirty-eight high school teams from six states and England compet- ed in the New York City event for a chance to earn a berth at the national championships in Florida next fall.

Hosted by the Fu Foundation School of Engineering and Applied Science, the regional tournament required young inventors to build a robot that could scoop up soccer balls, put them into goals, then move those goals to specified zones—all in two minutes. Working with professional mentors from corporations, governments and universities, the student teams from metro- politan New York and England states and a team from Cambridge, England created their robots from a kit of parts and a standard set of rules over the six-week time frame. The robots competed for recognition in design excellence, competi- tive play and sportsmanship.

By James Devitt

Budget cuts in the federal, state and local government spending for the 2002 fiscal year will have an enormous impact not only on individuals who benefit from government programs, but also on community organizations, according to Columbia professor Nicole Marwell, CC ’90.

Marwell is an assistant profes- sor in the Department of Sociolo- gies and the Latino/Chicano Studies Pro- gram at Columbia’s Center for the Study of Ethnicity and Race.

“When we talk about funding cuts in government services, it really means cuts to non-profits because over last 40 years govern- ment has increasingly contracted its services to private non-profits,” said Marwell. “When such cuts occur, community organizations’ ability to meet the needs of their commu- nities becomes compromised because there is not alternative or alternative support.”

“Budget cutting also under- mines the credibility of commun-

Budget Cuts May Hurt Non-Profits Most, Says Marwell

Facilities’ Marcelo Velez Named AVP for Design, Construction

Marcelo Velez, former director of programs for Columbia Facili- ties Management’s Design and Construction Department, has been appointed assistant vice president for design and construc- tion.

In his new role, Velez will manage a staff of more than 50 and oversee the design and construc- tion of Morningside campus construction and renovation projects in the final two years of the current capital plan, during which $450 million will be spent.

“Marcelo has successfully managed complex projects with extensive community outreach, such as the Broadway Residence Hall and the new faculty resi- dence at 110th Street and an exceptional leadership during his seven years at Colum- bia,” said Mark Burstein, vice president for facilities manage- ment. “I am extremely pleased to have Marcelo among the senior management team. His skill, expertise and invaluable institutional knowledge will serve Columbia well.”

As director of programs for Facilities Management, Velez managed more than 20 projects budgeted at over $250 million, including the faculty residence at 110th Street and Lentil Hall at 121st Street and Amer- dam currently under construction. In addi- tion to new construc- tion, he has overseen the gut renovation of two historic campus buildings, including Furnald Hall, and River Hall.

Before joining Columbia, Velez worked as a senior project officer for New York City School Construction Authority and was an engineer for the New York City Department of Parks and Recreation.

Velez holds a BS in engineering from Rutgers University, an MBA from Columbia’s School of Busi- ness, and is a licensed profes- sional engineer in the state of N.Y.