The Genesis Discovery mission, to be launched in January 2001, will expose ultra-terrestrial landscape features shaped by glaciers or landslides, for instance. Near Chan's home in Salt Lake City, special geological features include deltas, bars, spits, and other shoreline geological features remaining from ancient Lake Bonneville, which existed from about 32,000 to 14,000 years ago.

Geoantiquities, she said, might contain irreplaceable data about scientific and environmental information, such as Earth surface processes, natural hazards, and climate change. These features are world-class archives of Earth's history, she said. "When geoantiquities are lost, we lose basic scientific information."

However, under pressure from urban sprawl, more and more of these geoantiquities are disappearing beneath bulldozers and development. In Salt Lake City, Chan watched as some geological features she used to show her students were covered over by a golf course.

Chan said there is no mechanism for protecting geological features in urban areas. She hopes that the push to protect geoantiquities can begin to change that.

"We can't save every bar and spit and alluvial spit, but [we can] develop some criteria for management," she said. "If we get one site preserved, we feel we will accomplish a lot."

A number of scientists also will focus on the potential impact of natural hazards on cities. Domenico Giardini of the Institute of Geophysics in Zurich, Switzerland, will present a paper on "Earthquakes and Megacities," and Giovanni Orsi of the Osservatorio Vesuviano in Naples, Italy, will speak on "Facing Volcanic and Related Hazards in Neapolitan Areas."

Gerald Hebenstreit, an oceanographer with the Science Applications International Corporation in McLean, Virginia, will discuss "Tsunami Impact and Mitigation in Inhabited Areas."

According to Hebenstreit, only about 8–12 tsunamis occur worldwide each year, and most of these are relatively small. However, the topic of tsunamis has received a wave of interest following the devastating July 17, 1998, event that killed thousands of people in Papua New Guinea. Earlier this month, Geology, a magazine published by the Geological Society of America, published an article about the possibility of tsunamis along the mid-Atlantic coast of the United States.

Hebenstreit said that the potential for tsunamis appears greater along parts of the U.S. Pacific coast, because of the bathymetry, and that some urban areas could be affected. However, he added that the article by N.W. Driscoll, J.K. Weissel, and J. Goff [Geology, May 2000] has provoked a great deal of discussion among scientists.

Hebenstreit said that sophisticated tools—including side scanners, and computers that can model tsunami wave action in much higher resolution than in the past—are helping scientists to gain a better understanding about tsunamis and their potential threat to people and urban areas.

For further information about the AGU sessions, visit the AGU Web site: http://www.agu.org/meetings/sm00top.html.

Randy Showstack, Staff Writer
Proposal review will be managed by the Lunar and Planetary Institute (LPI) following well-established peer-review processes of the NASA Planetary Division Discipline Science programs that utilize both external and panel reviews.

Based on letters of intent and a preliminary summary statement of the proposed facility, a review panel will be selected by the LPI director with advice from the discipline scientist of NASAs Cosmochemistry Program. The review panel will be drawn from institutions not represented in the letters of intent. The number and type of facilities funded are at the discretion of the review panel. Funding decisions of the panel, transmitted to the LPI director, are final and not subject to review.

Neither the mission principal investigators nor co-investigators will be members of the review panel, and both are eligible to participate in and submit AAIF proposals. AAIF funding will be held by the Johnson Space Center (JSC), but since this is just a contract administrative responsibility, scientists from JSC are eligible to submit facilities bids.

**Available Funding**

For FY 2001, $4.3 million is available for capital investments. An additional $500,000 per year in installation and operational funding is available through FY 2007, the duration of the Genesis mission.

**Technical Oversight**

Following capital investment funding in the first year, funds will be provided to the AAIF principal investigators for 2 additional years to support AAIF installation and testing. Performance will be evaluated at 6-month intervals through written reports to the review panel, which would be reconstituted as a Technical Advisory Committee. The Technical Advisory Committee reports to a contract monitor appointed by the LPI Director. If progress is not satisfactory, the Advisory Committee would visit the site and recommend corrective actions.

Additional information about the Genesis mission and sample analysis can be obtained from Web site: http://www.gps.caltech.edu/genesis/genesis3.html. More specific questions can be addressed to burnett@gps.caltech.edu.

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**Table 1. Advanced analytical instrument facilities selection schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 1, 1999</td>
<td>AAIF selection process published</td>
</tr>
<tr>
<td>May 15, 2000</td>
<td>Final proposal guidelines released by LPI</td>
</tr>
<tr>
<td>August 1, 2000</td>
<td>Letters of intent due to LPI</td>
</tr>
<tr>
<td>September 1, 2000</td>
<td>Review panel selected</td>
</tr>
<tr>
<td>October 1, 2000</td>
<td>Review panel selects external reviewers</td>
</tr>
<tr>
<td>November 1, 2000</td>
<td>AAIF proposals due to LPI</td>
</tr>
<tr>
<td>January 15, 2001</td>
<td>Funding decisions announced</td>
</tr>
<tr>
<td>February 15, 2001</td>
<td>Beginning of Genesis Phase E</td>
</tr>
<tr>
<td>March 1, 2001</td>
<td>AAIF funding initiated</td>
</tr>
<tr>
<td>February 15, 2007</td>
<td>End of Genesis Mission</td>
</tr>
</tbody>
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**HYDROLOGY**

**Editor:** Roger C. Bales, Department of Hydrology and Water Resources, University of Arizona, Tucson, AZ 85721-0011, USA; Tel: +1-520-621-7113; Fax: +1-520-621-1422; **Section President,** Soroosh Sorooshian; **Section Secretary,** Marc B. Parkinge

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**Rinaldo Receives 1999 Research Award**

PAGES 237, 239

Andrea Rinaldo received the 1999 Research Award, presented by the Hydrology Section during the 1999 AGU Fall Meeting. The award recognizes an outstanding contribution to the science of hydrology.

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**Citation**

"It is indeed a great pleasure to introduce Professor Andrea Rinaldo, this year's winner of the Research Award of the AGU Hydrology Section. Andrea is eminently qualified for this award for his outstanding contributions to the science of hydrology. There are two major areas of our science where his research work has been truly exceptional and path-breaking. The first one is the area of transport of solutes in porous formations, and the second is that of hydrogeomorphology. In the first area, Andrea, with students and collaborators, has provided the high-accuracy numerical studies that constitute the benchmark against which many analytical approximations of solutions to the stochastic transport equation are now routinely compared. Of great interest in this area is also his recent development with Bellin and Rubin of an Eulerian-Lagrangian approach to the simulation of advective transport in randomly heterogeneous porous media. These are only examples of an extensive and impressive oeuvre, which covers topics like land subsidence and the organization of soil moisture fields. In the words of Professor Shlomo Neuman, Andrea has made major contributions to our understanding of both reactive and nonreactive solute transport through randomly heterogeneous porous media, and his high-caliber work and dedication deserve no less recognition than this research award."

"Andrea's contributions to hydrogeomorphology place him, according to Professor Rafael Bras, among a very selected few and is enough to deserve worldwide recognition'...his work on self-organization, optimal channel networks, and thermodynamic analogies in the evolution of rivers is truly extraordinary...his enthusiasm and energy is enough to light up even the most tired intellect. I fully agree with Rafael. I first became familiar with Andrea's work when reading his series of papers in Water Resources Research on geomorphological dispersion and mass response functions. I remember the excitement they transmitted, a natural result of the originality of the ideas and a truly exceptionally creative mind in love with research and the exploration of new paths. From that moment on, Andrea has been in the forefront as a world leader in the search for the laws describing the structure of river basins and their links with the hydrologic response. Most lately, he has also been involved with the structure of tidal networks where he is again pioneering new and creative avenues. Andrea's work in hydrogeomorphology, in the words of Professors William Dietrich and Alan Howard, is 'forcing a debate about which fundamental processes drive landscape form, which features are ubiquitous, and what approaches to modeling are worthwhile.' Because of this work, now physicists, engineers, geomorphologists, geophysicists, and others are pursuing river network analysis. I share Bill's perspective that Andrea's papers will be seen in the future as a major contribution in explaining self-organizing tendencies in nature, and in landscapes in particular.'...Andrea Rinaldo is a unique researcher in the creativity, intensity, enthusiasm, and search for important problems that he brings into his work. His contributions have impacted hydrology deeply and he has distinguished himself..."