

The redshift survey will reveal in exquisite detail the filaments, clumps, voids, and walls traced out by the galaxies over vast reaches of space. "I'm looking forward to seeing what the universe looks like," says Adrian Melott, a cosmologist who studies large-scale structure at the University of Kansas, Lawrence. "I wish them luck."

The Sloan researchers' luck has held so far.

Photos on the Apache Point Observatory's World Wide Web site, dated 7 May, show the imaging camera being mounted on the telescope for first light. Time-consuming glitches were inevitable with the survey's new, untested equipment, the astronomers had thought. But the exultant e-mail was circulated just 2 days later. The group isn't discussing its initial data any further until a scheduled press conference during the American Astronomical Society meeting in San Diego from 7 to 11 June, where it will unveil the first public images. "I cannot comment on first light until June 8," says a smiling Michael Turner of the University of Chicago and the Fermi National Accelerator Laboratory, who is the Sloan survey's spokesperson.

—James Glanz

SPACE AND LIFE SCIENCES

Astrobiology Institute Picks Partners

The possibility of life on other planets has long inspired NASA's space exploration. Now NASA is funding a network of researchers dedicated to studying how life got started anywhere in the universe, including Earth. Last week, the agency chose interdisciplinary teams from 11 institutions to form a research network linked to the new Astrobiology Institute at NASA's Ames Research Center in Mountain View, California (*Science*, 20 March, p. 1840). Ultimately, agency officials hope the network will grow into a \$100 million a year initiative.

Scientists from the winning institutions, who will divide some \$4 million this year and an additional \$9 million that NASA has requested for 1999, say they intend to use the new institute to leap traditional disciplinary walls, linking biologists, chemists, and researchers probing the origins of life on Earth. "This provides for the first time a comfortable intellectual home for these kinds of investigations," says Harvard University paleontologist Andrew Knoll, who is leading his university's effort. But the organizational hurdles are high. The top candidate to lead the institute declined the job last week, leaving the agency scrambling to fill the hole. And there is tension within NASA's bureaucracy over its funding and support.

The researchers work at universities, research institutes, and NASA centers across the country (see table) and in Europe. NASA is arranging for each institute member to be tied to one another and to Ames in the coming months via the government's high-speed Next Generation Internet initiative.

The range of work varies enormously, even within individual proposals. The University of Colorado, Boulder, for example, intends to analyze the geochemical energy available on Mars, search for protoplanetary disks around other stars, study RNA catalysis, and examine the history of photosynthesis. "We also reached into the humanities by including philosophy and religion," says Bruce Jakosky, geologist and principal investigator. The university is creating two new positions to focus on geological and cellular aspects of astrobiology.

Harvard, by contrast, will concentrate on this planet's geologic record and past environ-

mental change, drawing on geochemists and paleontologists from Harvard as well as the nearby Massachusetts Institute of Technology and Marine Biological Laboratory in Woods Hole. "NASA is keeping its eye on the prize—the return of samples from other planets," says Knoll. "And when that happens, they will need people like me to sit down with planetary scientists." NASA officials say they are betting that the institute will encourage researchers from different disciplines to forge those links.

TEAMING UP ON ASTROBIOLOGY	
Institution	Research Focus
Arizona State University, Tempe	Distributed learning center, organic synthesis
Carnegie Institution of Washington, D.C.	Evolution of hydrothermal systems
Harvard University, Cambridge, MA	Earth geochemistry and paleontology
Pennsylvania State University, University Park	Earth biota changes in early evolution
Scripps Research Institute/University of California, Riverside	Self-replicating systems, prebiotic worlds
University of California, Los Angeles	Study of ancient metabolisms
University of Colorado, Boulder	Origin/habitability of planets, RNA catalysis, philosophy
Woods Hole Marine Biological Laboratory, MA	Microbial diversity, complex system evolution
NASA Centers: Ames Research Center, Mountain View, CA	Planet formation, Earth and biosphere interactions
Jet Propulsion Laboratory, Pasadena, CA	Biosignatures, martian geochemistry and geology
Johnson Space Center, Houston	Biomarkers on other planets

SOURCE: NASA

The winners were chosen from a pool of 53 proposals by an outside expert panel. A team of NASA officials led by Gerald Soffen, director of the agency's university programs, approved the panel's choices, which recommended four more winners than NASA had initially planned. That higher success rate, says Soffen, is a clear sign of the scientific strength of the proposals. NASA will now negotiate cooperative agreements with each winner.

In the meantime, the institute faces bu-

reaucratic challenges. Wes Huntress, the departing NASA space science chief, was the agency's first choice for the director's job. But he turned down the position just 2 days before the winners were announced to become director of the Geophysical Laboratory at the Carnegie Institution of Washington. "The [Ames] offer was made to me, and I wanted to make a decision as quickly as possible" so as not to stall the search, he told *Science*.

Soffen will head the effort until a director is chosen. Although researchers praise him, they worry about the delay in finding a permanent leader for an enterprise as complex as what NASA envisions. "Strong direction in getting us all to work as a unit would help," says Jakosky. Adds Knoll, "Good leadership is going to be important, because this animal could develop in a number of ways." Huntress, who takes up the Carnegie post in September, promises that "we will find a staff fairly soon."

Meanwhile, NASA's life and microgravity sciences office is keeping its distance from the institute, which is being supported primarily by the agency's space science office. Life sciences spokesperson Michael Braukus confirmed that the office will not contribute funding to the effort—instead, it is preparing its own series of grants in evolutionary biology. "Unfortunately, this is all mired in NASA politics," says one agency manager.

NASA sources say Administrator Dan Goldin has instructed life sciences managers to cooperate with the astrobiology effort.

Despite those problems, investigators like Jakosky say they are looking forward to the fruits of "an amazing interdisciplinary perspective" growing from the collaboration. Adds Knoll: "Everyone sees a connection to their individual field—and it's also cutting-edge science."

—Andrew Lawler