

facilitates problem solving, and keeps people from becoming discouraged when they bang their heads against the wall." He adds that he will work to make sure any tensions between AIP and its member societies "are creative tensions."

For his part, Brodsky says he is stepping down because "I want more time

for myself. In a job that is as demanding as this, it's very hard to have personal time." He is looking forward to traveling for pleasure—rather than for business—and going to museums and the theater, and says he has "an unbounded amount of photography I want to pursue."

Toni Feder

Progress and problems with Middle East light source

Assembly of SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East) is set to begin this spring now that a building for it is nearly ready in Allaan, Jordan. But progress on the light source was overshadowed recently when a group of scientists from Iran was not granted visas to attend a users meeting in Egypt.

SESAME formed around a gift from Germany: BESSY I, a decommissioned light source, will provide the 0.8-GeV booster synchrotron injector system (see PHYSICS TODAY, August 2002, page 27). SESAME is supposed to open for science in 2010. It will be a 2.5-GeV machine and is designed for a stored current of 400 mA, although if funding is tight, it may start off with a lower current.

In December the International Atomic Energy Agency committed \$750 000 over four years mainly for training scientists to use SESAME. And last October, the European Union said it will give the project €1 million (\$1.3 million). This money may help persuade the US and Japan to support SESAME, says the project's council president, Herwig Schopper of CERN.

Not counting Germany's gift of the old synchrotron, or the building and site, which Jordan provided, "the cost to realize the machine—not including the beamlines—is about €15 million," Schopper says. The annual budget, which is paid by member countries, will increase from about \$1 million now to \$4.5 million when the machine starts up, he adds.

Last summer, Cyprus became the eighth member of SESAME—making it a rare project on which Cyprus and Turkey are collaborators. The other members are Bahrain, Egypt, Israel, Jordan, Pakistan, and the Palestinian Authority. Iran has been involved since the outset and is expected to become a full member.

But in November, 35 Iranian scientists did not receive their visas to attend a users meeting in Alexandria, Egypt. The ensuing brouhaha underscores the importance of SESAME's dual mission to facilitate both science and friendship in the Middle East.

Undisputed is that the Iranians had applied and been accepted to the meeting and they had reserved and in some



SESAME begins moving into its new building in Allaan, Jordan, this spring.

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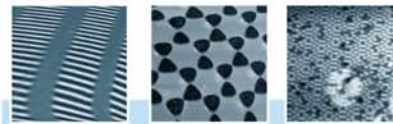


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cases paid for their flights to Egypt; the Egyptian organizers had booked and paid for hotel rooms for the Iranians; and Egypt did not issue visas to the Iranian contingent.

According to Hany Helal, Egypt's minister for higher education and scientific research, the lack of visas was the result of a misunderstanding and "there is no political issue behind it." The Iranians, he says, should have applied for their visas two or three months before the meeting. Had he known in time, Helal adds, "I could have helped push it [the visas] through."

But Sharif University of Technology's Reza Mansouri, one of Iran's two nonvoting representatives on the SESAME council, insists it was not a misunderstanding. "The office of Egyptian interests [in Tehran] said 30 to 40 days was what was needed. We applied 40 days in advance," he says.

Upset at Egypt for not issuing the visas and at the SESAME council for seeming to downplay the matter, Mansouri boycotted a SESAME council meeting in Jordan in December. Javad Rahighi, who heads the neutron physics group at the Atomic Energy Organization of Iran, attended the meeting as chair of the SESAME training committee but not in his role as a council representative. He adds, "This is not an issue we can leave under the carpet. We should make sure it will never happen again." The timing is especially sensitive, Rahighi says, because the Iranian parliament is preparing to vote on officially joining SESAME. "This issue puts a shadow over the whole thing. It would help if an Egyptian authority would come up with a clear explanation and an apology."

Schopper, for his part, says it's better for SESAME not to exaggerate this issue. "There are visa problems everywhere," he says. At its December meeting in Jordan, he adds, the council passed a resolution requiring that the organizers of future SESAME meetings provide information on obtaining visas for attending. SESAME's host country of Jordan, he notes, "is guaranteeing that everyone can enter."

Toni Feder

news notes

Extremely large telescope. The European Southern Observatory's governing council announced on 11 December that ESO would go forward with a final-design study for the European Extremely Large Telescope. With a

primary-mirror diameter of 42 m, the EELT would have about 20 times the light-gathering capacity of today's largest optical-infrared telescopes. The ESO council's decision follows a year-long conceptual-design effort.

The council's approval of a €57 million (\$74 million) budget for the final-design study makes it possible for construction to begin in about three years, assuming that the 12-nation ESO accepts the final design. The Czech Republic became ESO's 12th full member in January. The telescope's site should be chosen by 2008.

The EELT could be completed by 2017 at an estimated cost of €800 million. "Such an extraordinarily ambitious instrument requires a complete rethinking of how we make telescopes," says Catherine Cesarsky, ESO's director general. The primary mirror is envisaged as a mosaic of 906 hexagonal segments. Adaptive optics to compensate for atmospheric turbulence will be incorporated into the EELT's design from the start. The telescope's 4-m tertiary mirror will relay light to the adaptive-optics system's two 2.5-m mirrors, one of which will be backed by thousands of actuators that can distort its shape at kilohertz rates in response to turbulence.

The resulting image sharpness and sensitivity, at optical and infrared wavelengths, is expected to "revolutionize ground-based astronomy at all

distance scales," says Cesarsky. Nearby, for example, it will permit detailed studies of planets orbiting stars in our vicinity, and at cosmological distances it should let astronomers analyze the spectra of the very first generation of stars.

BMS

Mexico's millimeter telescope. On 22 November, the Large Millimeter Telescope was inaugurated by Mexico's outgoing president Vicente Fox.

Located 250 km east of Mexico City, at 4600 m atop Volcán Sierra Negra, the 50-m LMT is the world's largest single-dish millimeter-wave telescope. At this



Mexican President Vicente Fox inaugurates the Large Millimeter Telescope.

web watch

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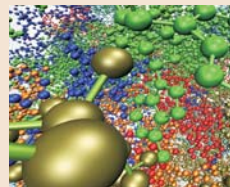
<http://www.ipy.org>

In 1879, the International Polar Commission, chaired by Georg von Neumayer and Karl Weyprecht, established 1882–83 as the first

International Polar Year. The third and latest IPY begins in March and will run through March 2009. True to its founders' vision, the new IPY will bring countries together to meet the cost and difficulty of exploring Earth's polar regions.



<http://www.envision.purdue.edu/4kstream/video.html>



Researchers at Purdue University have created a 10-gigabyte animation of a 90 000-atom cell structure from a bacterium—and then streamed the video through the high-speed National LambdaRail research network. The exercise foreshadows how scientists will be able to exchange rich, copious visual data. A clip from the video is available from Purdue's **Envision Center**.

<http://ep.espacenet.com>

In recent years, the world's inventors have submitted patent applications at a rate of about 1 million per year. More than 4 million patents are now in force worldwide. Most of that vast trove of human ingenuity and knowledge is available online through the **European Patent Office**, which provides a convenient search engine called **esp@cenet**.

