Europe Wrestles With ITER Site Bid

Cadarache or Vandellós? The European Union is in a quandary over whether to put forward the French or Spanish site to host ITER, a $5 billion magnetic fusion experiment intended to prove the feasibility of fusion energy. The decision is set for 27 November, with the final site selection, between the victorious European bid and bids from Canada and Japan, to follow within a couple of months.

In September, a European panel of experts pronounced the site bids of both France and Spain "outstanding," and said that either of them was "likely to win the international site selection." The panel, chaired by UK chief science adviser David King, evaluated the two sites in terms of technical and scientific properties, cost, local political and financial commitment, and other factors. The King report notes that France has the advantage of existing technical facilities and highly skilled people, while building ITER in Spain could cut costs; preliminary estimates of the savings are all over the map, from €34 million to €274 million ($40 million–$319 million). But the report's conclusions do not point the way to an easy decision.

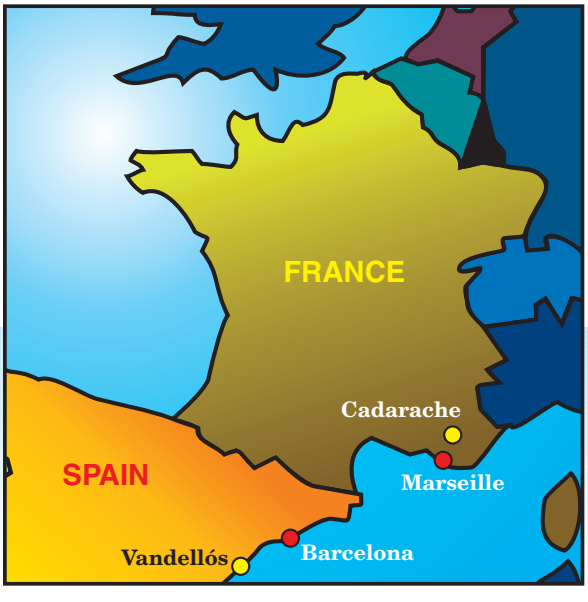
Not surprisingly, scientists and politicians are rooting for their own country to host the project. "Just have a cup of coffee in Madrid and Paris, and you'll know that building ITER will be much cheaper in Spain than in France," says Carlos Alejaldre, director of the fusion lab at CIEMAT, Spain's national center for energy research. "But that's not the main issue. We are convinced we have a very good technical site." Spain's bid, he adds, "challenges the natural order in Europe. But here it is seen as a chance to have a large international project. There is a dynamism. The whole country feels this is right."

Arguing that France should host ITER, Jean Jacquinot, who heads that country's fusion research program, says, "the most important consideration for me is that fusion development proceed along the safest and fastest route." The Tore Supra experiment in Cadarache and the Joint European Torus in the UK—of which he is a former director—"were constructed on time and budget with the huge help of first-class nuclear fusion centers nearby," says Jacquinot. "Fusion could pay a very dear price if this lesson [is] forgotten." A counter example is Germany's Wendelstein 7-X stellarator, which lacks local scientific and technical support and is suffering costly delays. Some people point to the demise of the Superconducting Super Collider in Texas a decade ago as a warning against building a major project on a greenfield.

The bottleneck is dangerous, says Robert Aymar, former ITER chief who in January will become director general of the CERN particle physics lab near Geneva. "If the different European parties take too much time to decide, you will find that the other partners say, Why accept a European site when they can't make a decision?"

Behind the scenes of what comes down to a political decision, there is talk of which site would garner the strongest European support to actually go ahead with the project, and what sort of tradeoff the two countries might arrange. For example, Spain might let France take the ITER lead in exchange for a neutron source, a high-speed train line, or something else.

If no solution is found before 27 November, then the 15 EU research ministers may end up selecting the site by vote. In addition to the EU, ITER members are Japan, Russia, Canada, and, as of earlier this year, the US, China, and South Korea. Construction on the project is scheduled to begin in 2005, and if all goes well operations could begin in 2013.



Before a final site for ITER can be chosen, the European Union must decide whether to put forth Cadarache, France, or Vandellós, Spain, as its candidate.

In related news, at press time word on Canada's participation was expected imminently. Late last year, the Canadian delegation announced that it would revamp its offer to host ITER in Clarington, Ontario. Now the government is considering whether it wants to pony up 20% of the construction costs plus a share of the remaining 80%, as expected of the host country, and indeed how much it wants to contribute to ITER, whether or not it hosts the project.

And on 25 September, the National Academy of Sciences' National Research Council released a report reaffirming its support for the US rejoining ITER (see PHYSICS TODAY, March 2003, page 23). Achieving a burning plasma is so important, the report says, that if ITER falls through, the US should pursue a new international project. The report stresses that, to afford ITER, the US domestic fusion budget needs to grow. It also says the community should follow the examples from astronomy and high-energy physics and set research priorities.

Toni Feder

New Science Forum Aims at Political, Industry Leaders

Citing the "growing importance in the relationship between science and the future of mankind," an international group of scientists is creating an annual forum intended to bring together academics, researchers, legislators, business leaders, and journalists to discuss controversial science and technology issues such as human cloning and global warming. The Science and Technology for Society Forum, the idea of Japan's former science minister Koji Omi, is based on the notion that in-depth, inclusive discussions of science-based issues are needed if societies expect to move intelligently into the future.

"Health, meeting energy needs, and other aspects of human welfare are dependent on continued progress in science and technology," Omi said in announcing the creation of the forum at a 9 September meeting at the National Academy of Sciences in Washington, DC. The benefits of science and technology are great, he said, but they are not reaching "a part of the world's people." The advance of science and

technology "raises important ethical, safety, and environmental issues, [and] possible negative applications are threatening mankind's own future."

Bruce Alberts, president of the NAS, said the forum will take on a handful of problems each year. Its goals will include having small, issue-oriented working groups make specific proposals and policy recommendations. "It's important that we do more than just talk," Alberts said. The NAS is a founding sponsor of the forum.

MIT physicist Jerome Friedman, a member of the US group supporting the forum, said the idea is to create a venue where "the scientists don't only speak to themselves, they speak to a broader society, to industry people, policymakers, the people who really take positions on these issues. There haven't been many vehicles for this because people really just speak at one another in most situations and never really discuss the issues. The idea here is to try to listen to everybody and try to understand what the points of view are, and try to have the best science that can be brought to the discussion."

The scientists must also listen, Friedman said. "There are always policy issues which go beyond science. Scientists have no better handle on policy decisions than anybody else. I mean, after all, we're just citizens." The first meeting of the forum is set for 14 November 2004 in Kyoto, Japan. Omi wants the invitees to "participate not as representatives of their country or organization, but as individuals to express their own views."

Jim Dawson

Physics Salaries Rise

Despite the slump in the economy, the salaries of PhD physicists in the US grew significantly faster than inflation from 2000 to 2002, according to the American Institute of Physics, which biennially polls physicists and other scientists who belong to its 10 member societies.

In 2002, the median salary for PhD survey respondents was $87 000, up 11.5% from 2000. Those working in hospitals and medical services had the highest median salary, $108 000, followed by $104 000 for physicists at federally funded R&D centers. Remaining at the low end of the income spectrum were physicists employed at four-year colleges. Those physicists earned a median nine-month salary of $55 000—up 10% from two years earlier.

Academic physicists who earned their PhD up to five years before the survey and were not in postdoctoral positions reported median salaries for 9- to 10-month university contracts that were 17% higher than people in similar positions two years earlier.

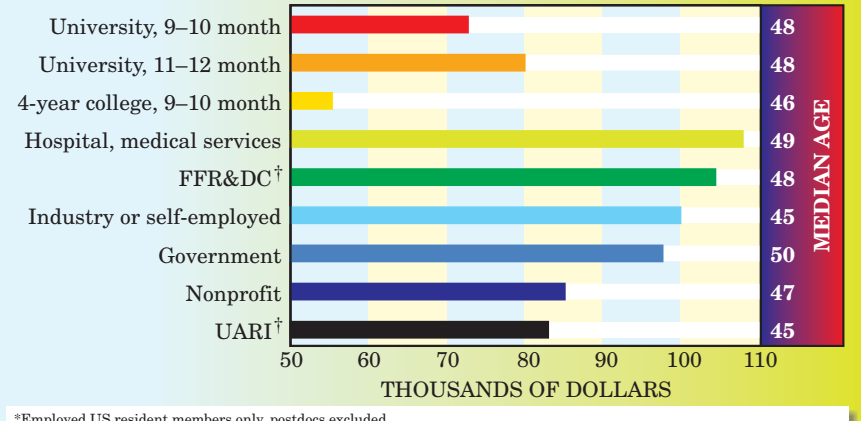
Broken down by geographical region, the highest median salary for PhD physicists across all sectors of employment was $96 000, in the Pacific region—Alaska, Hawaii, California, Oregon, and Washington. The lowest median salary was $70 000, in the West North Central states—Iowa, Kansas, Minnesota, Nebraska, North Dakota, and South Dakota—where the highest proportion of PhD physicists in the country, 70%, work in academe.

More than a third of the survey respondents added about $11 000 to their annual pay through consulting, summer research and teaching, and other sources of supplemental income. Unemployment among PhD physics society members increased slightly from 2000 to 2002, but at 1.2%, it remained lower than 1.6%, the nationwide unemployment rate for PhDs across all fields.

Additional salary and employment information may be purchased online at http://store.aip.org/salaries/. Twelve tables break down salary data by employment sector and years of experience. The tables may be purchased individually ($4 apiece for members of AIP member societies and $5 for nonmembers) or as a set ($20 for members and $25 for nonmembers).

Toni Feder

Median Salary and Age for Major Employment Sectors, PhDs, 2002.*



*Employed US resident members only. postdocs excluded.
†FFR&DC = Federally-funded research and development center. UARI = University-affiliated research institute or observatory.

Retired General to Tighten Sandia Security

Retired US Air Force General Thomas Neary has been appointed to oversee a tightening of security at Sandia National Laboratories in New Mexico as part of a wider effort by the National Nuclear Security Administration (NNSA) to stop the security lapses that have plagued Sandia and the two other nuclear weapons laboratories. The six-month appointment of Neary, who has managed several nuclear weapons programs, comes in the wake of a classified Department of Energy report that concluded that "additional steps" were needed to bring Sandia's security up to DOE standards.

"The best way to achieve our objective in a timely fashion is to bring in a topflight manager whose sole responsibility is to make sure this important job is done well and completely," said NNSA Administrator Linton Brooks in announcing Neary's appointment. Energy Secretary Spencer Abraham endorsed the need for an outside administrator to clean up the lab's security problems. "We must ensure that the laboratory focuses on implementing the necessary security improvements promptly even as it works to fulfill its national security mission," Abraham said.

Sandia, like nearby Los Alamos National Laboratory and Lawrence Livermore National Laboratory in California, has suffered in recent years from security breaches that have included stolen computers, missing keys to restricted areas, and sleeping guards. In one incident, someone stole a van from a restricted area at Sandia by crashing it through a fence. The van was recovered in the parking lot of a Home Depot store in Albuquerque.

Sandia Director C. Paul Robinson replaced the head of security in June after the Government Accounting Of-