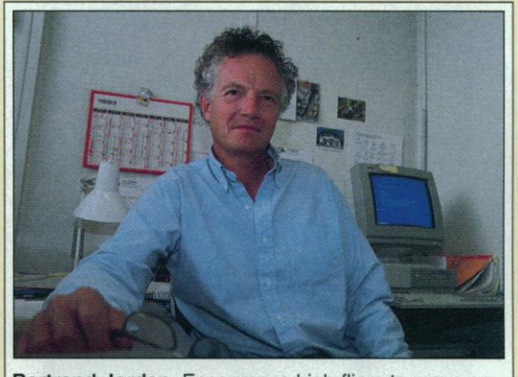
Immunology Powerhouse in the Marseilles Hills

MARSEILLES—This city is better known for its seafood and gang warfare than as a sanctuary for science. But 10 miles to the southeast, on a craggy limestone hill between the mountains and the sea, lies a science park called Luminy, where an impressive array of research centers and biotech companies has, over the past 15 years, quietly sprouted among the umbrella pines. Heading the pack is the Marseilles-Luminy Center for Immunology (CIML), one of Europe's leading institutes in its field, and certainly one of France's most successful examples of scientific decentralization.



Bertrand Jordan. Encourages high-fliers to move on.

Immunologist François Kourilsky—who founded the center in 1975 with biochemist Michel Fougereau—admits that Marseilles seemed like "the end of the world" in those days, viewed from his university lab in Paris. But when 2000 square meters of space became available at Luminy, he saw an ideal opportunity to bring many of the country's small immunology groups under one roof. And once he'd secured government funding for the project, he set about persuading a dozen scientists, mostly from Paris, to pack their bags and set up shop in the south.

They took some convincing. Back in the mid-1970s, there was scant enthusiasm among the Parisian scientific elite for the idea of establishing strong regional science centers. Yet today, few would doubt that Kourilsky's hope of giving France a "southern pole of immunological excellence" has been more than fulfilled. Indeed, CIML is one of the world's major sources of monoclonal antibodies and a world leader in T cell recognition mechanisms. It was also the first center to clone and sequence a human major histocompatibility complex gene, and one of the first in France to master gene knockout technology.

"CIML is without doubt a national and international success," says cellular immunologist Antonio Lanzavecchia of the Basel Institute for Immunology. And Kourilsky, who now heads the Centre National de la Recherche Scientifique, France's major agency for basic research, attributes this achievement in part to a decision to break with the "immobile, Napoleonic" traditions of most French institutes. CIML, he says, is run to a game plan designed to foster "a continuous pioneering spirit...scientific freedom... and, above all, mobility." The ingredients? Small research groups—10 members maximum; young team leaders; a directorship that passes on every 4 years; and a common pot of money for equipment. "You've got to have a socialist bent to get on here," says British immunologist Quentin Sattantau, who came to CIML in 1990 to work on HIV. "But the system does seem to work."

Perhaps most important, says molecular biologist and former CIML director Bertrand Jordan, is the center's high staff turnover. "To keep up with science," he says, "and keep new blood coming in...we've kept a policy of disbanding unproductive groups." Ambitious group leaders are also encouraged to go and do their own thing elsewhere after a few years at the center, which explains why only two of the current 15 groups were part of the original set-up. Indeed, 29 have been formed since 1975—a statistic that few French institutes can match.

But that's not all that separates CIML from "the typical, self-centered French institution," according to director-elect Bernard Malissen: Being in Marseilles, he says, has encouraged a much more international outlook than is usual in France. "Paris is such a hub of scientific activity that researchers there don't have to look elsewhere for scientific stimulation. Here, we have to be European—worldwide, in fact—or we die." Fully one-third of the center's team leaders have come from abroad, Malissen notes. The scientific isolation of Marseilles has its drawbacks, of course: Cellular immunologist Jean Davoust, for instance, complains about the paucity of skilled labor to maintain equipment like the confocal microscope that the IML acquired recently. But the government's official push toward decentralization should help, as new research facilities come to the area.

For many researchers, though, it was the quality of life in the south of France that weighed most heavily in their decision to come to CIML. Malissen counts himself lucky to live both in a pastoral setting and within a few minutes of his lab—an impossibility for most Parisian scientists, forced by high housing costs in the city center to live in the outer suburbs. He had feared, though, that Marseilles' unsavory reputation would make it hard to recruit postdocs and foreigners. But aside from the difficulty in finding jobs for spouses in an area with almost twice the national unemployment rate, "we've had no problem attracting young scientists here," says Malissen.

Indeed, developmental biologist Nadine Peyrieras, who moved down from Paris a year ago, says she "was pleasantly surprised to find Marseilles such a beautiful place and no more dangerous than Paris." She adds quickly: "Don't tell the Parisians that. They'd just flood down if they knew what the place is really like."

–John Maurice

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molecular biologist Pierre Chambon, director of the Laboratory of Eukaryotic Molecular Genetics in Strasbourg, who later this year will move to a new Institute of Biology and Molecular and Cellular Genetics in the Strasbourg suburb of Illkirch. That institute is just one of about 20 major new regional labs approved last year that are intended to become world-class centers. But if that is to happen, Chambon warns, it can't be done on a shoestring budget: "The question is whether [we] have the necessary funds at a time when the research budget is stagnating."

Indeed, all eyes are now on François Fillon, research minister in the new French conservative government that has promised to slash public spending. The 1994 research budget, announced last month, will be a mixed bag—although overall funding for science will remain roughly the same, money for new projects will be cut by almost 9%. If Fillon can somehow find enough money to ensure that the reduction of Parisian science is countered by the necessary investment in the new regional centers, then most French researchers are happy for the drive toward decentralization to continue. But if he can't, they would rather he apply the brakes on the policy, at least for now. "It would be silly to destroy what we have in Paris," says Chambon.

–Michael Balter

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