

Courtillot, Allègre's principal adviser.

Several senior research officials argue that while Allègre is personally flexible and open to discussion, his cabinet is "rigid" and has shown a reluctance to consult with others in the research system. "In practice the cabinet is more difficult to work with than Allègre," says one CNRS official. He added that working relationships now seem to be improving and that the cabinet is "more willing to listen". Efforts to contact Courtillot for comment last week were unsuccessful.

Scientific community open to change

Frustration over the lack of visible progress on reforms is even greater because, whereas the research community has often resisted reform, the government's strong support for science has created a climate conducive to change, and the need for reform is now widely acknowledged. Indeed, judging by a major conference on biomedical research policy organized by parliamentarians and scientists in Paris last week (see below), Allègre's promises of deep reforms seem to have created a thirst for change in the community.

A wider reform of the evaluation system is considered a priority by many scientists. They believe that a major challenge for French research is to distribute funds and resources more efficiently, making the system more competitive. Many would like to see funds distributed to individual research groups on the basis of competitive grant applications, instead of through the present system in which funds are spread broadly among the public research agencies and university laboratories.

Critics argue in particular that the system favours established scientists, and that change

would increase the competitiveness of French research by providing greater opportunities for young scientists. A more élitist system would also reduce mediocrity and the dispersal of scant resources, they add. Allègre, who has said he considers research groups as the "basic unit of research", is seeking a deeper reform of the evaluation system, involving for the first time international experts.

Catherine Brechignac, the director-general of CNRS, says she is opposed to evaluation on the basis of research groups, and argues that laboratory directors are able to evaluate their own groups. Meanwhile, Brechignac has decided to reduce the frequency with which CNRS laboratories are evaluated from every two years to every four, arguing that this will allow groups to relax and take on more ambitious projects, while reducing bureaucracy.

Increasing role for universities

Another area in dire need of reform is the relationship between CNRS and other research organizations and the universities. There are two competing visions: that CNRS should remain an independent agency, much like Germany's Max Planck institutes, or that there should be a progressive fusion of CNRS laboratories and the universities.

Over the past two decades the latter has increasingly dominated thinking, and many believe that a major leap in this direction is now imminent. Allègre has made no secret of his belief that the universities should be the driving force of French research, and that his model is the Anglo-Saxon research university.

The creation in the 1970s of mixed laboratories between CNRS and universities is widely credited with having transformed the research landscape in France, irrigating the



The old and the new: CNRS's headquarters outside Paris are set for further changes.

university system with laboratories working in many areas of basic science. With the lessening pressure on university budgets from the explosive growth in student numbers during the 1980s, many see the universities as being well placed to lead French research.

Even Edouard Brezin, the president of the CNRS board, questions whether CNRS should continue in its present form. "The major flaw with CNRS at present is that research funds are spent on a staff of 11,500 people employed for life within CNRS," says Brezin. "This is not the best way to use resources."

Brezin says there is now an opportunity to "change the shape of CNRS" by reducing the number of staff employed for life within the agency itself. The remainder of CNRS posts could then be more mobile, staff being recruited only for during most productive years and then moving on to the universities.

Several observers speculate that Allègre would ultimately like the research agencies to be transformed into research councils, with the universities having responsibility for all laboratories. Brechignac says that CNRS's national character makes it better geared than the universities to developing research strategy, and that CNRS laboratories therefore "complement" the university system.

One change Allègre has often promised is a reorganization of France's research agencies. He argues that they have become isolated from one another, and progressively strayed beyond their core missions. The Atomic Energy Commission now has many laboratories in climatology and Earth sciences, for example, while life science research is done there and at CNRS and INSERM.

But the expected radical reshuffle has yet to materialize, with Allègre arguing that inter-agency cooperation must be increased. For example, instead of creating a single agency for biological and medical sciences, as suggested by several scientists, the government has opted to set up a ministerial committee to coordinate such research among the various agencies, an initiative judged as inadequate by many biologists.

This approach is defended by Brechignac, who questions the usefulness of dramatic changes. She argues that efficiency is better achieved by closer cooperation and by modifying the existing agencies.

Researchers challenge biomedical plans

Critics cite the government's recent unsuccessful attempt to impose changes on INSERM, the national biomedical research agency (see *Nature* **391**, 110; 1998) as evidence of the shortcomings of the government's reform efforts. Allègre has criticized the agency, for example, for failing to underpin applications of medical research such as telemedicine, biotechnology and new drugs.

To remedy the situation, he has proposed a greater emphasis on these applied goals and splitting it into distinct departments. But the reforms have been vigorously challenged by many

scientists as being poorly thought through and likely to have little impact, while damaging INSERM's fundamental research capacity. Christos Goridis, head of the joint CNRS/INSERM Institut Fédéraliste de Recherche de Biologie du Développement in Luminy, near Marseilles, argues that splitting the relatively small agency into several departments would create "unacceptable" artificial barriers.

Henry Edouard Audier, a chemist at the Ecole Polytechnique and a member of the board of the national researchers' trade union SNCS, argues that the 'diagnosis' – that France is

weak in these industrial areas – is correct, but that the proposed treatment would have done little to remedy the situation, since the causes are much wider and related more to deficiencies within the industries themselves than within INSERM.

The original reforms have since been rejected by INSERM's representative bodies, while the idea of creating new departments is said to have been watered down to the creation of committees within INSERM's management. Allègre last week threatened that if INSERM does not agree to this, the government will simply take such research "elsewhere". **D.B.**