

Renaissance revisited

French science faces an uncertain future as the new government struggles with a fractured parliament.

The outlook for French scientific research is enveloped in a dense metaphorical fog, as newly re-elected President Emmanuel Macron grapples to find a way of governing the country for the next five years after his party, renamed Renaissance, and its allies lost their absolute majority in the parliamentary elections on 19 June.

And the fog is unlikely to clear in the near future, as Macron is facing strong opposition from the far left and the unexpectedly large group of 89 representatives of Marine Le Pen's far-right Rassemblement National party. Rather than to cooperate in some form of coalition in the national interest, both sides seem intent on making Macron pay for his perceived errors and arrogance. All this is a far cry from the hopes behind his election five years ago¹, and partly explains the record-low voter turnout.

Science was given scant attention in both the presidential and parliamentary election campaigns after a bumpy ride during the last five years. Macron inherited many of the problems now facing his new government, such as research underfunding and poor career prospects, especially for young academics. And critics say his solutions have been insufficient in quality, quantity, or both.

Meagre investment in biomedical research and venture capital are generally blamed for France's humiliating failure to develop a COVID-19 vaccine, and the widely vaunted 10-year research plan for 2021–2030, which earmarked an additional €25 billion for government spending, has been a damp squib. Many scientists were upset by the way the plan was prepared and the time it took, and now it seems that inflation could absorb much, if not all, of the extra cash.

On top of that is the dire state of the French public finances and rising interest rates. The government handed out “whatever it costs” support, in Macron's words, to keep the economy afloat during the COVID-19 pandemic.

In January, Macron suggested to turn public research organizations such as the CNRS, Inserm and Inrae into funding agencies and to let universities lead the research dance, a suggestion that has been widely criticized. Since then, nothing more has been said officially.

It is also unclear how far the government will be able to continue supporting artificial intelligence, nanoscience and the energy transition. For example, scientists are



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disappointed by the delays in bringing the Health Data Hub online (<https://www.health-data-hub.fr>). It continues to stumble over the government's choice of Microsoft as the host and fears that French personal data will land in the lap of the US authorities.

The 2019 Energy and Climate Law fixed carbon neutrality for 2050, a 40% drop in fossil-fuel consumption by 2030 and a reduction of nuclear energy to 50% of French electricity output by 2035. But some scientists say it was mere greenwashing and a disappointing outcome for the sterling work of the 150-strong citizens' panel that was set up to help inspire the law. Furthermore, there is uncertainty over the energy mix due to the war in Ukraine.

The conditions for university students have not improved either. Their numbers have grown faster than the available cash per capita, and to make matters worse, faculty recruitment has declined. According to the government's advisory Council of Economic Analysis, the number of university students rose by 20% between 2010 and 2020, but the number of teachers fell by 2%.

All is not bleak, however. Arguably, Macron's greatest success in science and technology has been to bolster France as a “start-up nation,” as he calls it. By June, the number of French unicorns — unlisted start-up companies worth at least US\$1 billion — totalled 27, third in Europe behind the United Kingdom and Germany. The next goal is to have 100 French unicorns and 10 decacorns — start-ups worth US\$10 billion — by 2030.

The proportion of projects winning competitive funding from the National Research Agency increased from 12.9% in 2016 to 22.7% in 2021. The French Higher Education and Research budget rose by about 8% from €26.9 billion in 2017, when Macron was elected, to €29.2 billion in 2022.

Macron has not wavered from the innovation-driven Investments for the Future (PIA) programme that was launched in 2010. Since then, successive governments have pledged €77 billion to the programme, and Macron pledged another €34 billion for the France 2030 innovation strategy announced in October 2021 (<https://go.nature.com/3AOHJ1L>).

Even if parliamentary battles rage, scientists say there could be a consensus to invest in the future through education and research rather than to “sacrifice them on the altar of immediate imperatives” when budgets are cut to bring some order to the state's balance sheet. Another possible consensus would be to create a multi-year university plan for salaries, jobs and spending on dilapidated premises over several years.

Quite apart from France's political scrum, scientists say that the new higher education and research minister Sylvie Retailleau (pictured) will have to repair the damage left by her predecessor Frédérique Vidal. Vidal is seen as a technician, who failed to defend science and scientists or the links between training and research. She also triggered a rumpus over Islamo-leftism in higher education².

Retailleau, former president of the Paris-Saclay University, helped to create the mega research campus southwest of Paris, a notoriously complicated task, which propelled it to thirteenth position in the 2021 Shanghai rankings. Known to be forthright and knowledgeable of the issues at stake, she will need to harness those skills and more to restore French academia's morale and confidence in the government, and the general public's trust in science. □

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References

1. *Nat. Mater.* **16**, 783 (2017).
2. Le Névé, S. “Islamism-leftism” at the university: Minister Frédérique Vidal accused of abuse of power before the Council of State. *Le Monde* <https://go.nature.com/3ATWvV4> (10 June 2021).