

► that it violated Brazilian law and breached Hicheur's human rights. Neither Hicheur nor his institution, the Federal University of Rio de Janeiro (UFRJ), has been given a justification for his deportation, UFRJ colleagues say, and Hicheur had no chance to contest its legality.

"His deportation without any explanation is something that makes me feel ashamed for my country," says Ron Shellard, director of the Brazilian Center for Physics Research (CBPF) in Rio de Janeiro. "If there is no objective reason for this extreme act, the Brazilian government should revoke the act of deportation and request the French authorities to send him back to Rio."

At the airport, Hicheur repeatedly requested that he be sent to Algeria (the nationality on his Brazilian work visa) or anywhere other than France, fearing that he would be confined under the state-of-emergency laws, says Ignacio Bediaga, a physicist at the CBPF. Bediaga and three UFRJ officials had rushed to the airport and remained with Hicheur until his flight took off. "In my opinion, Dr Hicheur was illegally extradited, at the request of the French government," Bediaga says.

Collaborators at CERN, Europe's particle-physics laboratory near Geneva, Switzerland, and at other European laboratories, have also expressed solidarity with Hicheur. And an international group of researchers has written to French President François Hollande, asking him to intervene to lift the physicist's house arrest — but has received no reply. Neither French nor

Brazilian authorities had responded to *Nature's* requests for comment by the time this article went to press.

Hicheur says his latest problems began in January, when the Brazilian magazine *Epoca* splashed his French conviction on its front page under the headline "A terrorist in Brazil".

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A deluge of media coverage followed. "I was an invited professor at the UFRJ with a smooth, peaceful life, until the craziness reached me again," Hicheur says. After Hicheur's deportation, the justice ministry issued a brief statement saying little more than that the decision was based on a recommendation by the federal police, and that Hicheur's presence was an "inconvenience to the national interest". In an interview with the newspaper *Folha de S.Paulo*, justice minister Alexandre de Moraes said Hicheur had not communicated with terrorist groups, or committed any crime while in Brazil. But he said he felt it was "absurd" to allow someone who had been convicted of terrorism-related offences to live and work in the country. "Furthermore, he is a nuclear physicist, who, in a laboratory, has all the material at hand," he added — apparently unaware that Hicheur studies the physics of fundamental particles.

But Shellard says that he discussed Hicheur's

past with Brazil's foreign office when he and others invited the physicist to Rio in 2013. Because Hicheur had served his prison term in France, and had recommendations from leading scientists, officials had no problem with his coming to Brazil.

Concern over the case is growing. On 1 September, researchers at the UFRJ's Laboratory of Elementary Particles petitioned Brazil's justice, science and education ministries to release Hicheur. The petition has now been signed by more than 300 people: mostly Brazilian physicists, but also a large contingent of researchers from European institutes. And on 5 September, a general assembly of the particle-physics section of the Brazilian Society of Physics — held at the society's annual meeting in Natal — agreed unanimously to send a letter to de Moraes, expressing concern that the society's board still hasn't received an explanation for the deportation, two months after it was first requested.

Bediaga and other researchers are convinced that repressive measures in the run-up to Rio's Olympic games, combined with media coverage of Hicheur's earlier conviction, were linked to the decision to deport the physicist.

Nadine Borges, a lawyer and human-rights expert at the UFRJ, says that she is taking up Hicheur's case in a personal capacity. In France, Hicheur's lawyers filed in July to have his house arrest lifted, but the request was quickly rejected by a Grenoble tribunal. Hicheur says he now will appeal to a higher court. ■

MEDICAL RESEARCH

Wishlist set for cancer 'moonshot'

From immunotherapies to diagnostics, experts outline research goals for US initiative.

BY HEIDI LEDFORD

Advisers to the US government's Cancer Moonshot Initiative have produced a wide-ranging laundry list of research targets — even as the project's funding remains uncertain.

The ten recommendations released on 7 September include the launch of a national clinical-trial network specifically targeted at therapies that harness the immune system, and the creation of a 3D cancer atlas to catalogue a tumour's mutations and its interactions with neighbouring normal cells.

The advisory panel — whose members include leading cancer researchers, physicians and patient advocates — also called for new technologies, including advanced imaging techniques and drug-delivery devices; a focus on proteins that drive many paediatric cancers; and studies of how tumours



Childhood cancer is a high priority for experts.

become resistant to cancer treatments.

The National Cancer Institute (NCI) has not yet determined how much funding each initiative will receive, or how the projects will be structured.

The White House launched the moonshot in January to double the pace of cancer research over the next five years. But the programme is stuck in funding limbo as Congress hashes out next year's budget. The US National Institutes of Health requested US\$680 million for the project for the 2017 fiscal year, which starts on 1 October. Despite vocal support from members of both political parties, lawmakers have said that they need more detail on the programme before they can fully fund it.

If that does not happen before Congress sets the government's 2017 budget, full funding might have to wait until fiscal year 2018, says Matt Hourihan, director of the research and development budget and policy programme at

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the American Association for the Advancement of Science in Washington DC.

The advisory panel's recommendations should provide the information that lawmakers want, says Jon Retzlaff, managing director of science policy and government affairs for the American Association for Cancer Research in Washington DC. Retzlaff plans to start lobbying Congress with the recommendations in hand. "The concepts and the grant proposals that will be generated because of these proposals, I think, will inspire Congress to say, 'Yes, this is a worthy project,'" he says.

For now, uncertainty hangs heavy over moonshot-related discussions. At a meeting on 7 September, NCI deputy director Dinah Singer said that the agency aims to launch some moonshot programmes in fiscal year 2017 and might seek extra funding from the private sector. But some NCI advisers are concerned that without substantial new government cash, implementing the advisory-panel recommendations could hamper the NCI's current projects.

Agency director Douglas Lowy is hoping for a big budget boost from the government. "If we didn't get one, it's not that we wouldn't be able to start anything," he said. "It's just that the size, scope and speed would be dramatically different."

Despite the uncertainty, the report generated excitement among some cancer researchers. A call to expand the use of proven cancer-prevention and early-detection strategies was a pleasant surprise, says cancer geneticist Bert Vogelstein of Johns Hopkins University in Baltimore, Maryland. Although many specialists think that the approach could slash cancer deaths, it has not typically been high on the funding list, he says. "I was very impressed. They picked out some under-explored opportunities."

But at the 7 September meeting, several attendees argued that the report should have emphasized the need for research on disparities in cancer deaths that have been linked to race and economic status. "People are dying who shouldn't be dying," said Mack Roach, a radiation oncologist at the University of California, San Francisco.

That issue was largely left to the Moonshot Task Force, a separate advisory panel that is focused on improving access to cancer care and removing barriers to cancer research, said its leader, Greg Simon, chief executive of Poliwogg, a health-care investment company in New York City. The task force plans to release its report later this year.

The advisory panel's recommendations could not cover the gamut of cancer research, but the breadth of its recommendations was still impressive, says Stephen Elledge, a geneticist at Harvard Medical School in Boston, Massachusetts. "They did a pretty good job," he says. "I was glad they didn't just say, 'Oh we just need to sequence more tumours.'" ■



The medicine prize is awarded at a prestigious ceremony in Stockholm.

ETHICS

Nobel Assembly deals with scandal

Prize-selection panel rocked by investigations into surgeon — but its credibility stays intact.

BY ALISON ABBOTT

In an unprecedented move, the group that selects the winners of the Nobel Prize in Physiology or Medicine — the Nobel Assembly — has asked two of its members to resign following a scandal at the institute that supplies the assembly's members.

But scientists around the world don't see the events at the Karolinska Institute (KI) in Stockholm as a threat to the reputation of the medical prize. They say that the assembly is sufficiently separate to the KI and has handled the affair well so far.

"Everything is exploding now, but the long-term credibility won't be affected," says cancer researcher Julio Celis, associate scientific director of the Danish Cancer Society Research Center in Copenhagen.

The scandal involves the surgeon Paolo Macchiarini. Multiple inquiries have alleged that he committed scientific misconduct and subjected patients to unethical, experimental tracheal transplant operations, three of which occurred at the affiliated Karolinska University Hospital. Two of the patients have since died, and the third has required continuous hospital care since the transplant. In June,

Swedish public prosecutors opened investigations following preliminary charges against Macchiarini of involuntary manslaughter and causing grievous bodily harm. Macchiarini has denied the allegations.

On 5 September, an independent report that revealed institutional problems at the KI mentioned Nobel Assembly members Harriet Wallberg-Henriksson and Anders Hamsten — both former KI vice-chancellors — for their roles in hiring Macchiarini in 2010 and subsequently extending his contracts. (Hamsten resigned as vice-chancellor in February after acknowledging that he had misjudged Macchiarini; the KI dismissed Macchiarini in March.)

The call for Wallberg-Henriksson and Hamsten to resign came a day after the report and is a first for the 115-year-old panel, says neuroscientist Thomas Perlmann, secretary of the Nobel Committee, whose fixed-term members are elected from the more permanent assembly.

"The professionalism of some of the faculty at the Karolinska Institute has been called into question, and this won't go away," says Erwin Neher of the Max Planck Institute for Biophysical Chemistry in Göttingen, ▶