(JAMSTEC) in Yokusuka, and seen by *Nature*, suggests that the order came from Japan's science ministry. The e-mail says that the ministry cancelled a proposed agreement to allow JAMSTEC researchers to collaborate on the ship.

A senior researcher at JAMSTEC, who asked to remain anonymous, says that he and other JAMSTEC researchers have been told not to use the ship or any data it obtains.

JAMSTEC's actions regarding *Isabu* seem to be directed from more-senior officials. An e-mail sent earlier this year from a JAMSTEC staff member to an employee of a government-supported research institute in South Korea that is involved with *Isabu* suggests that JAMSTEC is acting on the wishes of its supervising authority, the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT). The e-mail said: "We have consulted MEXT on your request to add the collaboration on the research activities using your new research vessel 'ISABU', and got a negative answer from MEXT due to a non-scientific reason." The e-mail goes on to state that JAMSTEC cannot "carry out the collaboration using your new research vessel".

When contacted by *Nature*, the JAMSTEC staff member who sent the e-mail declined to answer questions. JAMSTEC president Asahiko Taira told *Nature* that he had no knowledge of that specific e-mail, and he had not issued an order, or personally received one from the government, prohibiting the organization's involvement with *Isabu*. But he says cooperation with South Korea using the ship "could be very difficult" and would require permission from MEXT. "The name of *Isabu* is a little bit unfortunate," he says, but he adds that JAMSTEC will remain involved with an ongoing 16-nation collaboration to survey the region between the Indian and Pacific oceans, to which South Korea has committed *Isabu*. Pulling out of the collaboration over South Korea's use of the ship would "be a pretty stupid thing to do", says Taira.

"The name of* Isabu *is a little bit unfortunate."

MEXT's director of deep-sea research, Tatsuya Watanabe, says that the ministry had discussed the South Korean ship with JAMSTEC, but would not comment on whether the ministry had instructed JAMSTEC to avoid collaborations on the ship, or whether the ministry had an issue with the ship's name.

So far, the controversy has disrupted at least one planned research project between scientists from both countries. A university-based Japanese marine scientist, who also asked for anonymity, says that he had planned a cruise on *Isabu* in collaboration with JAMSTEC before the tensions arose. But the agency's researchers have since told him that JAMSTEC instruments cannot be used on *Isabu*. His project will go ahead without the equipment, reducing the data resolution.

Sang-Mook Lee, a marine geophysicist at Seoul National University, says that disruptions to the two countries' research collaborations will restrict the ship's scientific capability. "Had we known that the Japanese would react in such a way, I don't think Koreans would have chosen the name," he says.

But the senior JAMSTEC researcher says that the dispute is unlikely to have a major impact on Japan's marine science because the country has its own research ships and marine projects. Even so, he is upset that the ship was given such a politically-charged name: "Scientists should be politically neutral." ■

Additional reporting by Ichiko Fuyuno.

NEUROSCIENCE

Researchers unite in quest for 'standard model' of the brain

Modelled on big physics projects, the International Brain Lab will bring together some of the world's pre-eminent neuroscientists to probe a single behaviour.

BY ALISON ABBOTT

Leading neuroscientists are joining forces to study the brain in much the same way that physicists team up in mega-projects to hunt for new particles.

The International Brain Lab (IBL), launched on 19 September, combines 21 of the foremost neuroscience laboratories in the United States and Europe into a giant collaboration that will develop theories of how the brain works by focusing on a single behaviour shared by all animals: foraging. The Wellcome Trust in London and the Simons Foundation in New York City have together committed more than US$13 million over five years for the IBL.

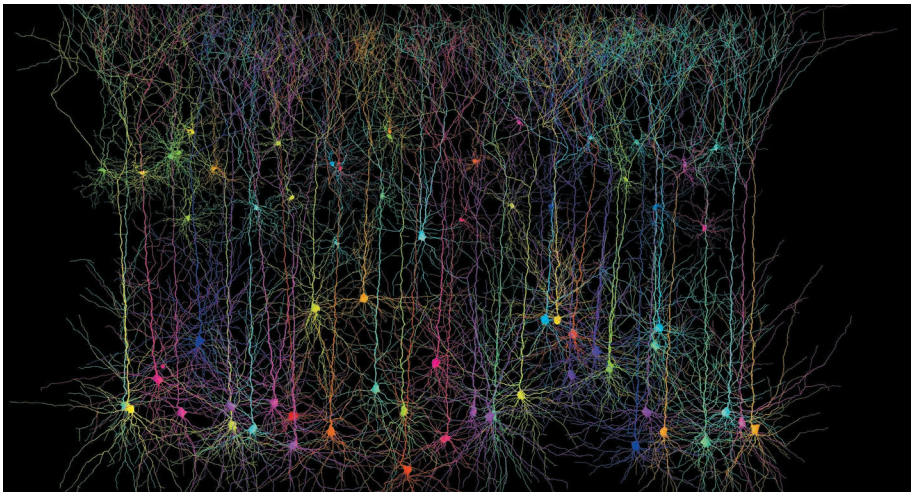
The pilot effort is an attempt to shake up cellular neuroscience, conventionally done by individual labs studying the role of a limited number of brain circuits during simple behaviours. The 'virtual' IBL will instead ask how a mouse brain, in its entirety, generates complex behaviours in constantly changing environments that mirror natural conditions.

The project will use chips that can record the electrical signals of thousands of neurons at once. It will also use other emerging technologies, such as optogenetics toolkits that control neurons with light. "It's a new approach that will likely yield important new insights into brain and behaviour," says Tobias Bonhoeffer, a director of the Max Planck Institute for Neurobiology in Martinsried, Germany, who is also a Wellcome Trust governing-board member.

Large-scale neuroscience projects are hardly rare. In 2013, the European Commission announced the 10-year Human Brain Project, which will cost more than €1 billion ($1.1 billion); and in 2014, then-president Barack Obama launched the US Brain Initiative to develop neurotechnologies, with $110 million of funding that year. The Allen Institute for Brain Science in Seattle, Washington, has been creating comprehensive maps of brain anatomy and neural circuitry since 2003. Japan, China, Canada and other countries also have, or are planning, their own big neuroscience initiatives.

But none operates quite like the IBL, which will be governed in a similar way to large-scale physics projects such as ATLAS and CMS, at Europe's particle-physics lab CERN. The two collaborations, at CERN's Large Hadron Collider near Geneva, Switzerland, brought together experimentalists and theoreticians from hundreds of labs worldwide to test the predictions of particle physics' standard model.

Like the massive CERN teams, the IBL has created a flat hierarchy and a collaborative decision-making process with near-daily web meetings. Instead of acting only when group consensus is reached, teams will make decisions by simple consent. "No one will be ▶



M. HÄUSSER & H. CUNTZ, UCL

Scientists aim to surpass small-scale neural models (pictured) to show how brains generate behaviour.

able to stop a proposed experiment being carried out without a very convincing proposal of why it would be a disaster," says Alexandre Pouget, an IBL member and a theoretician at the University of Geneva.

So far, says Andreas Herz, a theoretical neuroscientist at the Ludwig Maximilian University of Munich, Germany, "neuroscience has been stuck in an exploratory phase". The IBL will aim to generate and test unifying theories about how the brain encodes and computes information — seeking to come up with the equivalent of physicists' standard model.

Still, the IBL is not unique among neuroscience projects in melding theory and practice, notes neuroanatomist Katrin Amunts at the Jülich Research Centre in Germany. Amunts chairs the scientific board of Europe's Human Brain Project, an initiative that is taking a more conventional approach to collaboration in its own attempts to understand the brain. "The future will show which is the best," she says.

The IBL's principal investigators will dedicate around 20% of their time to the effort. During its first two years, the IBL will build informatics tools for automatic data-sharing and establish a reliable experimental protocol for a basic foraging task in mice. Members will be required to register their experiments before they start, and results will be instantly visible to the whole collaboration. "It is a big challenge — and it's not the way the field works at the moment," says Anne Churchland, an IBL member at Cold Spring Harbor Laboratory, New York.

In experimental neuroscience, the slightest parameter change can alter outcomes of an experiment. The IBL's protocol attempts to address all possible sources of variability, from the animals' diets to the timing and quantity of light they are exposed to each day and the type of bedding they sleep on. Every experiment will be replicated in at least one separate lab before its results and data are made public.

Expanding the IBL beyond its pilot phase will require much more than $13 million, Pouget acknowledges. He hopes to enrol more labs and broaden the suite of behaviours studied. For Herz, it's about time neuroscience adopted such rigour. "A hundred years from now," he says, "people will look back and wonder why it hadn't, until now, been possible to do a more physics-based approach of designing experiments to consolidate or disprove theories." ■

CORRECTION

The news story 'Researchers unite in quest for 'standard model' of the brain' (*Nature* **549,** 319–320; 2017) incorrectly located the Simons Foundation in Washington DC. It is in New York City.