

# NEWS IN FOCUS

**LAB LIFE** Sexual harassment is common in US academic science, report finds **p.352**

**BUSINESS** Microsoft's purchase of Github worries researchers **p.353**

**MEDICAL RESEARCH** The hunt is on for dormant cancer cells **p.355**



**COMPUTING** Researchers try to reduce the impact of biases in algorithms **p.357**

YEGOR ALEYEV/TASS VIA GETTY



Security measures implemented in advance of the World Cup have affected some scientists in Russia.

POLICY

## World Cup chemical ban frustrates Russian labs

*Sports event adds to systemic resupply problems for biochemists in the country.*

BY QUIRIN SCHIERMEIER

Football fans around the world are glued to the World Cup, which kicked off in Russia on 14 June. But some Russian researchers might find themselves with more time to watch the matches than they expected.

Because of security and counter-terror measures enacted by the government ahead of the World Cup tournament, some Russian labs will go without the radioactive reagents that they urgently need for their research, according to molecular biologists and biochemists who spoke to *Nature*.

In a presidential decree issued on 11 May, the Russian government suspended the sale and transport of hazardous chemical and biological substances — including toxic and radioactive chemicals — for two months, citing security concerns. The World Cup runs until 15 July. The decree applies only to cities hosting the matches, but many of these, including Moscow, happen to be research hubs, says Konstantin Severinov, a biochemist at the Skolovo Institute of Science and Technology (Skoltech) near Moscow.

The measures threaten to stall the relatively little molecular-biology research that exists in

Russia, says Severinov. Last month, Russian researchers who had recently ordered radioactive nucleotides, which they use to measure gene expression and for other assays, received bad news from the Russian Academy of Sciences' Institute of Bioorganic Chemistry in Moscow: an expected June delivery to their labs would be cancelled because of the presidential decree. No other Russian centre supplies such reagents.

"This jeopardizes the whole workflow in my lab," says Severinov, who is also a group leader at the Russian Academy of Sciences' Institutes of Molecular Genetics and Gene Biology in ▶

► Moscow. Numerous projects — including CRISPR–Cas9 gene-editing experiments and those measuring the effects of toxins on cells — have been affected, he says.

Maintaining supplies of research reagents and other consumables is notoriously problematic in Russia, says Stephen O'Brien, director of the Theodosius Dobzhansky Center for Genome Bioinformatics in Saint Petersburg. Russian production capacities are slight, and severe customs restrictions effectively bar scientists who depend on radio-labelled reagents from legally purchasing them from foreign suppliers, Severinov says.

### DOMESTIC DEMAND

Meanwhile, domestic supply is routinely hampered by bureaucracy and long delivery times. “We always have problems with ordering research materials during summer,” says Ilya Osterman, a biochemist at the Skoltech Center for Translational Biomedicine in Moscow, who uses restricted chemicals to examine the shapes of different RNA molecules and to measure gene expression. “The World Cup only makes the situation worse.”

To prevent frustrating disruptions to their research, scientists in Russia must order such reagents several weeks in advance, through their institution's procurement department. With the World Cup and the ensuing summer break, the next deliveries of radio-labelled nucleotides might not arrive until early autumn. “This means a bad disruption,” says Severinov. “Four of my PhD students are caught midway in their thesis work.”

Alexei Khokhlov, a vice-president of the Russian Academy of Sciences, which runs the institute that supplies researchers with radio-labelled nucleotides, did not reply to an e-mail from *Nature* asking how many scientists were affected and how the delay might affect their research.

Before his re-election as president in March, Vladimir Putin promised to strengthen Russia's struggling research base. But strict customs and import restrictions on research materials continue to put Russian scientists at a competitive disadvantage compared with researchers in countries where there is an ample supply of chemicals and science equipment, says Fyodor Kondrashov, a Russian biologist at the Institute of Science and Technology Austria in Klosterneuburg.

The enhanced security restrictions will be lifted soon after the World Cup final takes place at the Luzhniki Stadium in Moscow on 15 July. “This current crisis might be short-lived,” says Kondrashov. “But it underlines the difficulty of doing cutting-edge research in a country that is not entirely free.” ■

### LAB LIFE

# Sexual harassment is rife in US science

*Science academies call for cultural shift to fight problem.*

BY ALEXANDRA WITZE

Sexual harassment is pervasive throughout academic science in the United States, driving some talented researchers out of the field and harming others' careers, finds a report from the US National Academies of Sciences, Engineering, and Medicine in Washington DC. The analysis concludes that policies to fight the problem are ineffective because they are set up to protect institutions, not victims — and that universities, funding agencies, scientific societies and other organizations must take stronger action.

“The cumulative effect of sexual harassment is extremely damaging,” says Paula Johnson, president of Wellesley College in Massachusetts and co-chair of the committee that wrote the report. “It's critical to move beyond the notion of legal compliance to really addressing culture.”

The report, released on 12 June, is the most comprehensive look yet at harassment in the sciences. It comes in the wake of the #MeToo movement against sexual assault and harassment, and as the US national academies are grappling with whether to punish members accused of harassment.

Notably, the report finds that the main mechanism for reporting sexual harassment on US campuses — Title IX, the federal law enacted in 1972 that outlaws discrimination on the basis of gender — has not reduced the incidence of sexual harassment. Institutions can find ways to comply with Title IX that avoid liability but don't actually prevent harassment, says Asmeret Asefaw Berhe, a biogeochemist at the University of California, Merced.

To change this, the report says, research institutions should act to reduce the power differential between students and faculty members, perhaps by introducing group-based advising; the government should prohibit confidentiality in settlement agreements, so that harassers cannot switch jobs without their new employer knowing about past behaviour; and research organizations should treat sexual harassment at least as seriously as research misconduct.

“This is an incredibly comprehensive and ambitious report,” says Anna Bull, a sociologist

at the University of Portsmouth, UK, and co-founder of The 1752 Group, which works to end harassment in academia. “They get beyond the ‘one bad apple’ approach and look at the culture that enables that one bad apple.”

The most common type of sexual harassment is gender harassment, the report says. Such behaviour conveys the idea that women don't belong in the workplace or merit respect — “the put-downs as opposed to the come-ons,” Johnson says. Such actions might seem minor but can seriously affect the person targeted, she adds; they also set the stage for unwanted sexual attention and coercion.

### TRACKING THE TOLL

All three kinds of sexual harassment are illegal in the United States when they interfere with a person's work environment, yet all are widespread in science, engineering and medicine. Previous research has shown that the prevalence of reported sexual harassment in US academia, at 58%, is second only to the military's 69%, and outpaces that of industry and government<sup>1</sup>. Women of colour experience particularly high rates of harassment<sup>2</sup>, as do people from sexual- and gender-minority groups<sup>3,4</sup>. Men in academia also experience sexual harassment, although at lower rates than women do<sup>3</sup>.

To build on those earlier studies, the academies' committee commissioned an analysis that found that 20% of female science students at the University of Texas's campuses reported being sexually harassed by faculty members or staff there. A similar survey of the Pennsylvania State University system concluded that 43% of graduate students experienced harassment (see ‘Pervasive problem’).

All types of harassment, including gender harassment, can prove corrosive to scientists' career development, according to interviews of 40 women faculty members conducted for the new report. One woman who had been raped by a colleague gave up research; another, who had been verbally berated by her dean, felt the experience derailed her from ever becoming a full professor.

“It's not okay to treat your co-workers like dirt,” says Kathryn Clancy, a biological anthropologist at the University of Illinois at Urbana–Champaign and a member of the report committee. But university leaders often minimized or ignored the harassing behaviour, survey participants said, especially when it involved higher-ranking faculty members who

**“It's not okay to treat your co-workers like dirt.”**