

► 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 government¹. Women of colour experience particularly high rates of harassment², as do people from sexual- and gender-minority groups^{3,4}. Men in academia also experience sexual harassment, although at lower rates than women do³.

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.”

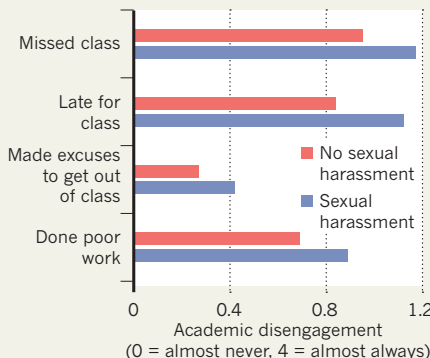
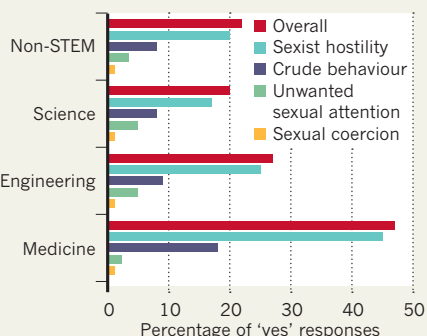
SOURCE: NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE

PERVASIVE PROBLEM

All forms of sexual harassment are prevalent in US academic science, a new report finds.

Harassment by major. The proportion of female students in the University of Texas system who report having been harassed by faculty members or staff varies between those who major in science, technology, engineering and medicine (STEM) and those who do not.

Academic impact. Female science majors at the University of Texas who say they have been harassed by faculty members or staff also report higher rates of disengagement with their studies.



the university over its handling of sexual-harassment allegations against a researcher in her department; the case is ongoing. “We are still waiting for tangible changes at our university, despite having voiced similar recommendations over two years ago in the wake of multiple student complaints about sexual harassment by a faculty member,” she says.

The report comes as the flagship national academy is facing criticism over its policies on harassment. Since early May, more than 3,500 people have signed a petition requesting that the National Academy of Sciences expel members who have been sanctioned for sexual harassment, retaliation or assault.

Academy president Marcia McNutt says the group’s governing council will consider proposed changes when it meets in August. “This is something we have to take seriously as an organization,” she says. But, she adds, the academy would probably not initiate its own investigation of a member — instead referring any complaints that it receives to the leadership of that person’s university. “One is ongoing right now,” she says. “No, I won’t tell you who it is.” ■

1. Ilies, R., Hauserman, N., Schwochau, S. & Stibal, J. *Personnel Psychol.* **56**, 607–631 (2003).
2. Clancy, K. B. H., Lee, K. M. N., Rodgers, E. M. & Richey, C. J. *J. Geophys. Res. Planets* **122**, 1610–1623 (2017).
3. Konik, J. & Cortina, L. M. *Social Justice Res.* **21**, 313–337 (2008).
4. Rosenthal, M. N., Smidt, A. M. & Freyd, J. J. *Psychol. Women Q.* **40**, 364–377 (2016).

were perceived as stars in their department.

An institution’s workplace climate is by far the greatest predictor of sexual harassment, the academies’ report says. Title IX and related laws are a good start, says Clancy, but universities need to embrace other methods of addressing sexual harassment. These include ways for victims to report incidents without being re-traumatized or subjected to retaliation.

“Many targets of harassment are women and minorities in vulnerable positions,” says Akiko

Iwasaki, an immunologist at Yale University in New Haven, Connecticut. “If they feel like their careers rely on future recommendation letters from the harassers, they are less likely to want to come forward.”

However strong the report’s findings, it is still up to universities to interpret them, says Jessica Cantlon, a cognitive neuroscientist who is in the process of leaving the University of Rochester in New York. There, she was part of a group of faculty members who sued

BUSINESS

Microsoft’s GitHub buyout raises fears

Users worry popular data-sharing site will become less open.

BY ANDREW SILVER

GitHub — a website that has become popular with scientists collaborating on research data and software — is to be acquired by Microsoft for US\$7.5 billion. In the wake of the takeover announcement on 4 June, some scientists and programmers voiced concerns about the deal on social media. They fear that the site will become less open, or less useful for sharing and tracking scientific data, after the buyout. But others are hopeful that Microsoft’s stewardship will make the platform even more valuable.

GitHub launched in 2008, and is now widely used to store, share and update data sets and software code. As of 13 June, more than 223,000 academic papers on Google

Scholar cited the website, which is free to use for projects that release their code. GitHub uses a version-control software known as Git, which transparently records changes to files. This allows programmers in different locations to work on the same project in real time, and to track changes and merge updated data.

Although Microsoft says GitHub will remain open to any project, some scientists are sceptical about that commitment. “Open Science is not compatible with one corporation owning the platform used to collaborate on code. I hope that expert coders in #openscience have a viable alternative to #github,” tweeted Tom Johnstone, a cognitive neuroscientist at the University of Reading, UK.

Björn Grüning, a bioinformatician at the University of Freiburg in Germany, says some

researchers are wary because Microsoft has been slow to make its own tools available in open-source code, and to make its services compatible with open-source projects. He has several projects on GitHub, but says he will move them to another service if the company makes the platform less open, forces Microsoft tools on users or changes its pricing model.

Mahmood Zargar, who studies open-source communities at the Free University of Amsterdam, is more concerned that Microsoft will impose changes that will make GitHub less efficient for him to use. He’s planning to move his projects to other services.

A spokesperson for Microsoft did not answer *Nature’s* questions about researchers’ concerns, but referred to a blogpost by company chief executive Satya Nadella. “We are committed to being stewards of the GitHub community, which will retain its developer-first ethos, operate independently and remain an open platform,” Nadella wrote.

Arfon Smith, a data-science manager at the Space Telescope Science Institute in Baltimore, Maryland, says the fears are overblown. He doesn’t think Microsoft will change the features that researchers care about, such as its ease of use. Katy Huff, a nuclear engineer at the University of Illinois at Urbana-Champaign, thinks GitHub will give Microsoft an opportunity to support science. ■