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MISCONDUCT Giant Max Planck survey takes the temperature on harassment **p.14**

HEALTH Infection surge threatens to compound US opioid crisis **p.15**

MATHEMATICS ‘Fragile topology’ provides new window into behaviour of materials **p.17**

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The National Autonomous University of Mexico ranked highly in a survey of Mexican universities' efforts to improve gender equality.

HARASSMENT

Mexican science faces its #MeToo moment

Social-media stories spur debate on sexual harassment at Mexico's research institutions.

BY EMILIANO RODRÍGUEZ MEGA

Dana was thrilled. The university student had travelled hours across Mexico to a scientific conference where she was set to present her research. The talk was a success, and afterwards her university adviser introduced her to several prominent scientists in her field of study.

“To see those big names calling me by my name — I mean, wow,” says Dana. “It was super exciting.” But her triumph gave way to fear and confusion later that night, when she

awoke to find her adviser kissing her arms and neck. With one hand, he stroked her skin; with the other, he masturbated. Dana says that the behaviour was unexpected and unwanted. She had agreed to share a room with her adviser to save money, but the two did not have a romantic or sexual relationship.

The next day, her adviser grabbed her hand and tried to kiss her during the long ride back to their university. When they arrived, he congratulated her once more before leaving. Dana — who asked *Nature* to refer to her by a pseudonym, to protect her from ostracism

and retaliation — never went back to his laboratory, or finished her degree. “I just disappeared,” she says.

Hundreds of similar stories from across Mexican academia have emerged on Twitter in recent months, as women have shared their experiences of sexual harassment and abuse. Many described incidents involving senior scientists at research institutions across the country. “I have unsuccessfully tried to list all the times that, at the age of 28, I have been sexually harassed,” one woman wrote in March. “I can’t because I don’t remember them all.” ▶

► The messages are part of Mexico's broader reckoning with sexual harassment and assault, which in recent years has spilt onto social media with hashtags such as #MiPrimerAcoso ('My first harassment'). The latest tweets also contribute to science's #MeToo moment — a growing awareness of sexual misconduct in research settings, and the harm it causes.

The outpouring in Mexico has prompted a fierce public discussion about the prevalence of sexual harassment and assault in the country's universities, and the part that educational institutions should play in confronting and preventing such behaviour. Some researchers are pushing universities to take stronger action against sexual misconduct in laboratories and classrooms, and at scientific meetings.

But change must also come from scientists themselves, says Antígona Segura, an astrobiologist at the Nuclear Sciences Institute of the National Autonomous University of Mexico (UNAM) in Mexico City. Those who harass or assault others "should feel that we're going to condemn them for doing these things", says Segura, an outspoken voice in the debate over sexual harassment in Mexican science. "That we consider the lives of young students so important that we will not allow anyone from our community to ruin them."

Research by Ana Buquet, director of UNAM's Research Center for Gender Studies, and her colleagues suggests that Mexican academia has far to go. The team last year published results from its survey of the steps that 40 universities and research centres have taken to ensure gender equality — including policies to prevent, monitor and punish sexual harassment and assault. The institutions, spread across Mexico, scored an average of just 1.5 points out of 5.

"We have serious problems in dealing with gender-based violence in higher-education institutions," says Buquet, who plans to update the survey each year. "The authorities can no longer shun the issue."

Even some of the universities that ranked highest in the survey have faced criticism over their policies. In 2016, UNAM — a giant of Mexican higher education, which enrolls about 340,000 students across roughly 20 campuses — implemented its first protocol to address gender violence. (The term is widely used in Mexico to refer to sexual harassment, assault and abuse.) The original version of the policy gave adults who had been the subject of such behaviour up to one year after an incident to file a complaint, a condition that UNAM eliminated in March in response to an outcry from students.

The latest version of the protocol says that UNAM made the change after it "evaluated the strengths and weaknesses of the instrument". The university declined to comment further on the rationale for the switch. But it says that the protocol has prompted a spike in gender-violence complaints: 485 in less than three years, compared with just 396 from 2003 to 2016.

But telling people who have been harassed or assaulted in academic settings to report what happened is not enough by itself, says Socorro Damián, a feminist lawyer at the Metropolitan Autonomous University in Mexico City. Although Mexico's criminal code and federal laws prohibit anyone in a position of power from sexually harassing or assaulting subordinates, she says, officials at the country's

universities often discourage students from reporting incidents — and in some cases, actively delay ongoing investigations.

"It's always a question of protecting the prestige of the university at the expense of the human rights of students," says Damián.

UNAM's general counsel, Mónica González Contró, rejects any suggestion that her university does not adequately evaluate claims of sexual harassment and abuse. Since UNAM put in place its protocol for handling complaints in 2016, the university has sought to ensure that victims of sexual harassment and abuse can "file a complaint without re-victimization, and with legal and psychological support during the procedure", she says.

Others want universities to work harder at preventing sexual misconduct, not just punishing it. María Ávila, a population geneticist, underwent mandatory training on reporting and preventing sexual harassment in 2014 as a new postdoc at Stanford University in California. At first, she was sceptical, but now, as a researcher at UNAM in Querétaro, Ávila sees value in such training. "It's important for the community to have that agreement," she says. "To know what's right, and what isn't."

But such changes in Mexican academia might come too late for some. After her experiences at the conference where she presented her research, Dana abandoned hopes of a career in science and dropped out of university. "I didn't feel worthy of being in a good lab with a good researcher," she says. "I was dying of shame."

Now, years later, Dana is planning to start her own business. She also often thinks about filing a harassment complaint against her former adviser with the university where he still works. "I don't hate him," Dana says. "I just want it known that he's a pig." ■

RESEARCH CULTURE

Max Planck conducts huge bullying survey

Thousands of employees took part in a social study after high-profile bullying scandals emerged last year.

BY ALISON ABBOTT

Most of the scientists who work for one of the world's richest and most prestigious basic research organizations, the Max Planck Society (MPS) in Germany, have pride and trust in their institutes. However, cases of sexual discrimination and bullying occur regularly, and nearly half of foreign scientists working

for the MPS don't feel that they fit in.

These are some of the findings of a huge survey of the society's staff and its working culture, which analysed answers from more than 9,000 people, or 38% of MPS staff, at the society's 86 research institutes. The society commissioned the survey after two high-profile bullying scandals last year involving research directors. The draft conclusions were presented at the MPS annual meeting on 27 June in Hamburg.

"I wanted to get a picture of the general mood in the society so that we can base our responses to any problems on a more thorough understanding of how the society works," says MPS president Martin Stratmann. The survey was conducted independently by sociologists at the Berlin-based Center for Responsible Research and Innovation, part of the Fraunhofer Society, Germany's main applied-research organization.

BULLYING AND HARASSMENT

Overall, 76% of staff members who responded said they were proud to work at their organization and 84% said they would go above and beyond to support their institute's success.

But about 10% said they had experienced bullying in the past 12 months, and 17.5% said they had done so over a longer period — figures similar to those found by surveys in countries including the United States. The incidence of gender-based discrimination or sexual harassment — reported by nearly 4% of respondents in the past 12 months — was below that found in other similar surveys (see 'Working culture').