

► a commission to explore issues of women and gender in academia.

Jaeger, who works on developing computational frameworks for language production and understanding, will remain off-campus for the rest of the current semester. He declined an interview request from *Nature*.

“This is a very extraordinary case,” says Ann Olivarius, a senior partner at the McAllister Olivarius law firm in London who is co-leading the legal case against the university. “It’s the first time in all the decades that I’ve worked in this area that senior faculty combined with junior faculty to make a stand.”

The group filed its eight identical complaints — one per complainant — with the US Equal Employment Opportunity Commission (EEOC) beginning on 30 August. The commission’s duties include enforcing federal laws that bar discrimination against employees because of gender. The EEOC will now investigate the complaint — and a response yet to be filed by university administrators — and determine whether discrimination occurred.

Richard Aslin, a developmental psychologist and member of the US National Academy of Sciences, resigned from the university in December in protest over its handling of the Jaeger investigation. Six of the seven other co-authors of the complaint have also left, or plan to leave — most for reasons directly related to the incident.

In a 10 September statement, Seligman wrote that the core allegations “were investigated, appealed and found to be unsubstantiated”. But the university response did not go down well with many students. On 12 September, hundreds of them participated in a heated three-hour meeting with Seligman;

the following day, hundreds more turned out to protest in front of the university library.

Jaeger’s behaviour came under scrutiny in early 2016, when he allegedly said at several faculty meetings that he saw no problem with faculty members dating students. Aslin and other faculty members began discussing the subject and discovered what they say is a string of sexual predations by Jaeger over the years.

Aslin and Jessica Cantlon, an associate professor in the department, led the formal complaint to the university on behalf of students, arguing that Jaeger had violated its policy against discrimination and harassment. The university investigated and concluded — initially, and again after an appeal — that Jaeger had not violated any university policies.

The complainants say that the investigation did not gather enough information to accurately assess whether Jaeger had violated university policies. The 11 women from whom the group gathered witness statements allege acts by Jaeger that include sending photographs of his genitalia and having loud sex with students within earshot of other students.

“The problem isn’t being sexual — the problem is doing that across boundaries that involve power and authority over people,” says Elissa Newport, a cognitive psychologist at Georgetown University in Washington DC. As head of the University of Rochester brain and cognitive sciences department from 1998 to 2010, she hired Jaeger there; she is now among the complainants.

After the initial investigation found that Jaeger had not violated any university policies,

one of the complainants filed a separate report alleging that Jaeger had engaged in retaliatory behaviour against her. The university commissioned an external investigator, who found no evidence of retaliation.

In its EEOC filings, the wider group of eight complainants alleges further acts of retaliation. In one instance, they allege, the chair of the department disparaged them in front of the entire department faculty; in another, provost Robert Clark sent a memo to the department’s faculty criticizing what he called “rumors” and “misinformation” about the investigation.

The university will now look into these new allegations. “I think it shows that the original investigation was flawed,” Cantlon says. “The university’s claims and actions don’t pass the smell test.” (The university says, “We do not believe the original investigation was flawed.”)

The complainants now also allege that Rochester administrators searched their university e-mails without their knowledge, a step that Cantlon says was the last straw for her. She is looking for a new job.

Erika Marin-Spiotta, a biogeochemist at the University of Wisconsin–Madison, says that sexual harassment can derail or even end the careers of many researchers. She is leading a US\$1.1-million initiative funded by the US government to help scientists respond to and prevent such harassment. The Rochester case, she notes, is rare in having so many faculty members come forward on behalf of their younger colleagues.

Newport says that she and the other complainants went public because they want the university to reform its processes. “It wasn’t meant to be about Florian,” she says. “It’s meant to be about harassment and retaliation.” ■

MARINE BIOLOGY

Sharks can live a lot longer than researchers realized

Errors in past studies could undermine conservation plans.

BY DANIEL CRESSEY

Many sharks are living much longer than was thought, says a major review of studies on these important and often endangered top predators. This means that many estimates of how threatened species are — and decisions about whether they can be fished safely — could be based on faulty data.

Scientists usually estimate how old sharks are by slicing into their spines and counting

distinctive pairs of bands inside, which are often assumed to show age in the same way as the rings of a tree. But a growing number of cases suggest that the method can be problematic. For example, a 2014 study showed that sand tiger sharks (*Carcharias taurus*), which were thought to live for around two decades, can actually survive for up to twice that (M. S. Passerotti *et al. Mar. Freshwater Res.* **65**, 674–687; 2014).

To investigate the scale of the problem, fisheries researcher Alastair Harry of James Cook

University in Townsville, Australia, reviewed evidence for age underestimation. He reports in *Fish and Fisheries* that of 53 populations of sharks and rays with good data, 30% have probably had their ages underestimated (A. V. Harry *Fish. Fish.* <http://doi.org/cc79>; 2017). “Current evidence points to it being systemic, rather than restricted to a few isolated cases,” says Harry. “We really can’t ignore it any more.”

Growth rings are used to determine age in fish of all kinds. In bony fish, researchers tend to

PLANETARY SCIENCE

Cassini's science still has secrets to spill

The spacecraft is dead, but its data could help to reveal the age of Saturn's rings and the origin of its magnetic field.

BY ALEXANDRA WITZE

At 4:55 a.m. California time on 15 September, hundreds of scientists watched their life's work go up in flames. The Cassini spacecraft disintegrated in Saturn's atmosphere in a mission-ending move meant to keep the probe from contaminating any of the planet's moons, including Titan and Enceladus, that could harbour signs of life.

Cassini's final images, transmitted in the hours before its death, included a sequence showing Enceladus setting behind Saturn, as well as a close-up look at some of the planet's rings.

The spacecraft's last radio signal died as planned when the probe entered Saturn's atmosphere at about 113,000 kilometres per hour, roughly 10 degrees north of the planet's equator. As Cassini plunged to its death, it sent back a burst of data from its Ion and Neutral Mass Spectrometer. This instrument measures the chemical composition of gases, and provided scientists with their first direct taste of Saturn's atmosphere. Those data "will be the most exciting result scientifically" from the end of the mission, says Ralph Lorenz, a planetary scientist at the Johns Hopkins University Applied Physics Laboratory in Laurel, Maryland.

Many discoveries about Saturn's moons, rings and interior are likely to emerge in the coming months. From April until its death, Cassini carried out a series of 22 orbits, looping between the giant planet and its rings — a perspective never before captured.

During these orbits, Cassini's Cosmic Dust Analyser, which looked at the size and composition of small particles, directly measured the composition of material in Saturn's main rings for the first time, says Sascha Kempf, a space physicist at the University of Colorado Boulder. "The data set is rich and surprising," he says. "Stay tuned."

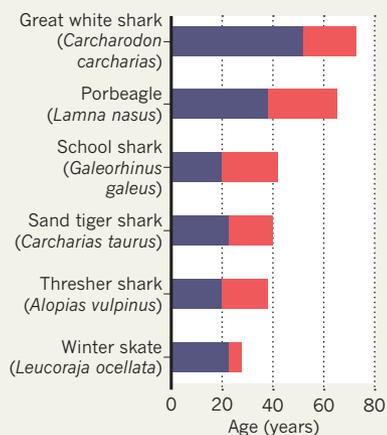
The dust data could answer a long-standing question: how old the rings are. By studying how dust falls onto the rings' icy particles and dirties them, the team can estimate their age. Some scientists argue that the rings are billions of years old, whereas others think that they are of the order of 100 million years old or younger. Kempf says that his team should have an answer soon, and that the knowledge will help researchers to narrow down how the rings formed.

Cassini's gravity measurements are helping scientists to pinpoint other key information. By analysing the gravitational effect of the rings on Cassini — a force best measured as the probe ▶

LONG IN THE TOOTH

Many shark and ray populations are living longer than conventional ageing methods suggest*.

■ Apparent maximum age
■ True maximum age



*Data for great white shark, thresher shark and winter skate populations from northwest Atlantic; sand tiger sharks from South Africa; school sharks and porbeagle sharks from Australia/New Zealand.

look at otoliths, lumps of calcium carbonate in the inner ear that build up layers throughout the fish's life. But cartilaginous sharks and rays don't have otoliths, so researchers often use sections of vertebrae instead. Sometimes, when sharks stop growing, so do their vertebrae, which means that counting the rings can make an animal seem younger than it is (see 'Long in the tooth').

Harry's paper looked at two ways of checking whether estimated age is correct: chemical marking and bomb-carbon dating. In the former, researchers inject an animal with fluorescent dye that is taken up by its spine, making a permanent mark. When the animal is recaptured, they count how many bands have formed since this known date. In the second method, scientists check animal specimens for traces of 1950s nuclear-bomb tests, and use these to estimate age.

Harry has done "a very nice job", says shark scientist Steven Campana of the University of Iceland in Reykjavik, who has worked on more than 100 ageing studies in sharks and rays, as well as in bony fish. "I fully agree with his conclusions."

The study has wide-ranging implications. Key processes such as growth, mortality and reproduction change with age. If age information is wrong, so are models that guide fisheries' decisions about how many animals can safely be caught. Living longer might mean that animals mature and start reproducing later in life, so are more vulnerable than has been realized. By contrast, longer lives might mean more breeding years, making a population more robust. Such effects haven't yet been demonstrated, says Harry, but "I would expect the impacts to be generally negative". ■



Cassini team members console each other as the spacecraft's final signal fades away on 15 September.