

leave a crater that could be around 10 metres across. At the same time, bits of the spacecraft's wreckage might scatter across the asteroid's surface, but exactly how DART will break apart remains to be seen. "Just from a pure crime-scene sense, a lot of us are curious about that," Rivkin says.

Researchers will have a chance to get answers, because, minutes after impact, a tiny probe funded by the Italian Space Agency will fly past to photograph the aftermath³. Named LICIAcube, it will travel aboard DART and is the agency's first autonomously guided deep-space mission. LICIAcube will be released from DART 10 days before impact, and come within 55 kilometres of Dimorphos. As it whizzes past, its cameras should spot the dust cloud, if the impact kicks one up, and possibly the resulting crater. "We might be surprised by the images we collect," says Elisabetta Dotto, an astronomer at the National Institute for Astrophysics in Rome, which is leading the collaboration of Italian universities and institutions involved in LICIAcube.

In 2026, a follow-up spacecraft, the

European Space Agency's Hera mission, will visit Dimorphos to take more detailed pictures of the impact site.

Data collected by the DART mission should help scientists to understand how impacts affect asteroids, says Megan Bruck Syal, a physicist at the Lawrence Livermore National Laboratory in California, who will model what happens to Dimorphos. But DART is just one test involving one kind of space rock. There could be scenarios in which planetary defenders want to hit an asteroid with more speed than DART will achieve when it hits Dimorphos, or in which they need to pummel an asteroid with several impactors to change its course. "We need to do more experiments like this," Bruck Syal says.

Although many other spacecraft have been deliberately smashed into celestial objects at the ends of their lives, DART promises to be the first to hit a planetary body in the name of saving Earth.

1. Rivkin, A. S. et al. *Planet. Sci. J.* **2**, 173 (2021).
2. King, P. K. et al. *Acta Astronaut.* **188**, 367–386 (2021).
3. Dotto, E. et al. *Planet. Space Sci.* **199**, 105185 (2021).

The NHMRC has previously acknowledged problems with equity, and in 2018, it released a gender-strategy report. The hope was that by combining salary and research funding, the new investigator grants would allow projects to continue if their leaders needed to work part-time because of childcare or other responsibilities.

But the data from the latest round of funding in 2021, released in October, suggest that the new scheme still favours men over women.

Men won more grants and were awarded more money, according to Louise Purton, a stem-cell biologist at St Vincent's Institute of Medical Research in Melbourne, and Jessica Borger, a medical researcher at Monash University in Melbourne, who crunched the numbers and revealed the disparity in an article for Australian news site Women's Agenda (see go.nature.com/3kaj5qw).

Across the scheme, men and women applied for grants at similar rates – with 865 men applying for funding, alongside 850 women. But 143 men secured funding totalling Aus\$245 million (US\$176 million), compared with 110 women netting just \$153 million (see 'More money for men').

Systemic disparities

The scheme offers grants at three levels of seniority. At the most junior level, women as a whole secured equal amounts of funding to men, but the distribution of grants for more established scientists was skewed heavily towards men. Only about 20% of the awards for the most experienced scientists went to women, according to the analysis.

Anne Kelso, NHMRC chief executive, agreed that there are clear gender disparities, but says that they reflect the disparities in the gender balance of the make-up of scientists at various career stages at Australia's universities.

"The single biggest contributor to the investigator grant outcomes is the predominance of male applicants at the most senior level of the scheme," she told *Nature*. At that level, for which the funds awarded are the largest, there were about four times more male than female applicants, she says.

The petition (see go.nature.com/3xqng23), created in response to Purton and Borger's analysis, says that the NHMRC "is awarding women significantly less funding than their male counterparts in a broken system", which it says "requires an urgent strategic overhaul".

It is calling for the funder to allocate the same amount of money to men and women, and to include a separate pot for non-binary applicants. It also pushes for set gender quotas for fellowships at each level of seniority.

In response to these calls, Kelso says "all options are on the table", adding that the "NHMRC schemes are under continuous review to ensure they are meeting their objectives" in terms of gender equity.

OUTCRY AS MEN WIN BIGGER SHARE OF AUSTRALIAN GRANTS

Analysis showing women won fewer grants prompts thousands to sign a petition calling for gender quotas.

By Holly Else

Men secure a greater share of medical-research funding than women in Australia's largest grant-award programme, despite applying at similar rates, according to an analysis. The issue was flagged by researchers in 2019; however, this time, nearly 6,000 people have signed a petition calling for the introduction of gender quotas.

"It is soul-destroying to watch a disproportionately higher number of young, bright women stagnate or be pushed out of the system compared to their male counterparts," says Rachael Murray, a biomedical scientist at the Queensland University of Technology in Brisbane.

The findings come after the National Health and Medical Research Council (NHMRC) overhauled its funding programmes in 2018–19, attempting to take gender equity into account.

The awards in question are the NHMRC's investigator grants, comprising Australia's largest research-funding programme, which

consolidates salary and project support into one flexible, five-year grant for the best researchers at various stages of their careers. Before 2019, scientists had to apply for a fellowship to fund their salary, and separate grants for their research.

MORE MONEY FOR MEN

Although the numbers of male and female applicants for the National Health and Medical Research Council's investigator grants in 2021 were comparable, men received 23% more grants than women.

