

New heights for Australian beer lovers

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The first space tourist flights may be several years away but a group of thirsty Australian scientists are at work on the critical question -- what makes a top zero-gravity beer?

Researchers at the Queensland University of Technology have been working since November, testing various recipes in their microgravity "drop tower", which simulates [space](#) conditions, in search of the perfect brew.

Flavour and fizz are key factors -- the tongue swells in space, affecting the tastebuds, while lower carbonation is needed.

Lead researcher Martin Castillo, formerly an engineer with Japan's [JAXA](#) space agency, said the 21-metre (70-foot) anti-friction chute allowed beer droplets to achieve about two seconds of low gravity.

"Australian students are quite keen to develop microgravity beer projects," Castillo joked.

The team examined how fizzy each of the recipes were at high acceleration, and the ideal properties for keeping it cool, as well as the "drinkability factor" and ever-elusive perfect head of foam, he said.

"All this bundled together -- the carbonation, the frothing on the top, the drinkability, the way the liquid cohesively agglomerates -- all of this is put into a final product for... going up into the (International) Space Station, [low earth orbit](#) satellites, things like that that humans can go

onto," Castillo told AFP.

Sydney brewer 4 Pines and Saber Astronautics Australia, a commercial space firm, are using the research to fine-tune their "Vostok" space beer range, which had its maiden voyage at Florida's Cape Canaveral in February.

Named for Russia's first manned space mission, Vostok Space Stout was taste-tested at [zero gravity](#) by an "astronaut for hire" who gave it the thumbs-up after consuming almost a litre of the brew on a parabolic arc flight.

Basic biometric data was recorded to track the impact on his body, as well as his rating of the [beer](#) compared with sea-level impressions.

Castillo said his team was at the "very start of all of our preliminary research" and the brewers had more work to do on understanding the effects of microgravity on alcohol absorption.

The Queensland tests were physio-chemical only -- "no taste-testing involved for us," he added.

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