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Fake news from the outer space

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Commentary on: Space the new frontier in the battle against cancer, https://www.abc.net.au/news/2019-08-27/space-cancer-frontier-uts-cells/11454430

From the press:

> Space the new frontier in the battle against cancer. An Australian space medicine researcher is preparing to launch cancer cells into space, after trials on earth show that they can be radically affected in near-zero gravity conditions.
>
> We're all very excited about where this research is heading and more importantly, the implications and impacts to potentially provide the community," Dr Joshua Chou told.
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> The cell will be placed into a device smaller than the size of a tissue box and sent into orbit on the International Space Station. 80-90 per cent of cancer cells die without drug treatment!
>
> The idea was sparked when Dr Chou and one of his students, Anthony Kirollos, found that a micro-gravity simulator in their lab at the University of Technology Sydney (UTS) had a remarkable effect on cancer cells.
>
> "We put in four different types of cancer — ovarian, breast, nose and lung cancer," Dr Chou explained.
>
> And what we found was that in 24 hours in this micro-gravity condition, 80 to 90 per cent of the cancer cells actually die without drug treatment.
>
> This is simply in a micro-gravity environment.
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> The simulator mimics the space environment by reducing gravity.
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> Dr Chou thinks the reduced gravity kills the cancer cells because it stops them communicating with each other.
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> "When we're in space, what happens to the body is that your cells start to feel this condition which we call mechanical unloading," Dr Chou said (ABC net, August 2019).

What amazing news! This info spreads by a number of "respectable" newspapers and popular magazines.

It seems that we are actually approaching a cure for cancer.

Unfortunately, nothing is true.

1. Dr Chou's statement is not substantiated by any scientific publication. Moreover, the various journalistic reports released so far do not provide any mention of specific scientific article authored by Dr Chou dealing with that matter. Instead, press reports vaguely speak about a device made by Dr Chou in order to obtain artificial microgravity. Interestingly, that tool is specifically designed to support a forthcoming study, which should to be carried out on the International Space Station (ISS). Furthermore, Dr Chou claimed having manufactured the "first Cell Biological Microgravity Device". We must remember that such a device has already been patented, it has developed (since the 90s), and it is currently in use in many laboratories (including mine)(Vassy et al., 2001; Masiello et al., 2018; Krüger et al., 2019).
2. Dr Chou is a person Dr Chou is not credited having authored any scientific publication in the field of Space Biomedicine. In fact, he is completely unknown to the international scientific community dealing with Space Biomedicine
3. The numerous studies conducted so far do not allow affirming that such a high percentage of cancer cells die (and in such a short time: 24 hours!) in the pres-

ence of microgravity. This statement is deprived of any sound evidence (Morabito et al., 2019; Grimm et al., 2014; Po et al., 2019).

In conclusion: the news published are a real shameful example of an embarrassing media fraud, as they are based on nothing. The press should be blamed for having lightly published this news, without any prior verification. It would have been better to contact any members of the Academy before disclosing such information. Thereby, spreading the news ends up discrediting both Science and the Press, irrevocably undermining their credibility. Nevertheless, it would be interesting what is the aim behind all of this. Who – and why – could be interested in divulging such fake news? Who feeds unattainable expectations in order to support the new (upcoming) space race?

Altogether, here is where science ends up and politics comes into play

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