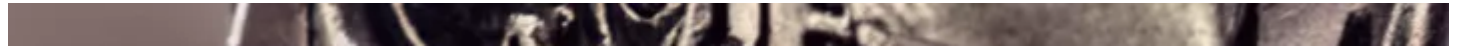


## THE CONVERSATION

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# Science fiction helps us deal with science fact: a lesson from Terminator's killer robots

August 23, 2017 1.44pm AEST

Terminator's killer robots can help in the real debate on lethal autonomous weapons. Flickr/Edwin Montufar, CC BY-NC-SA

## Science fiction helps us deal with science fact: a lesson from Terminator's killer robots

August 23, 2017 1.44pm AEST

Further calls this week for a crackdown on the development of lethal autonomous weapons has led to the usual rush of references to killer robots in science fiction, such as the Terminator film series and RoboCop.

Given that the 1991 movie Terminator 2: Judgement Day is getting a re-release in 3D this week, it seems likely that the original film's killer robot will not lose its shine as the poster boy for any debate on lethal autonomous weapons.

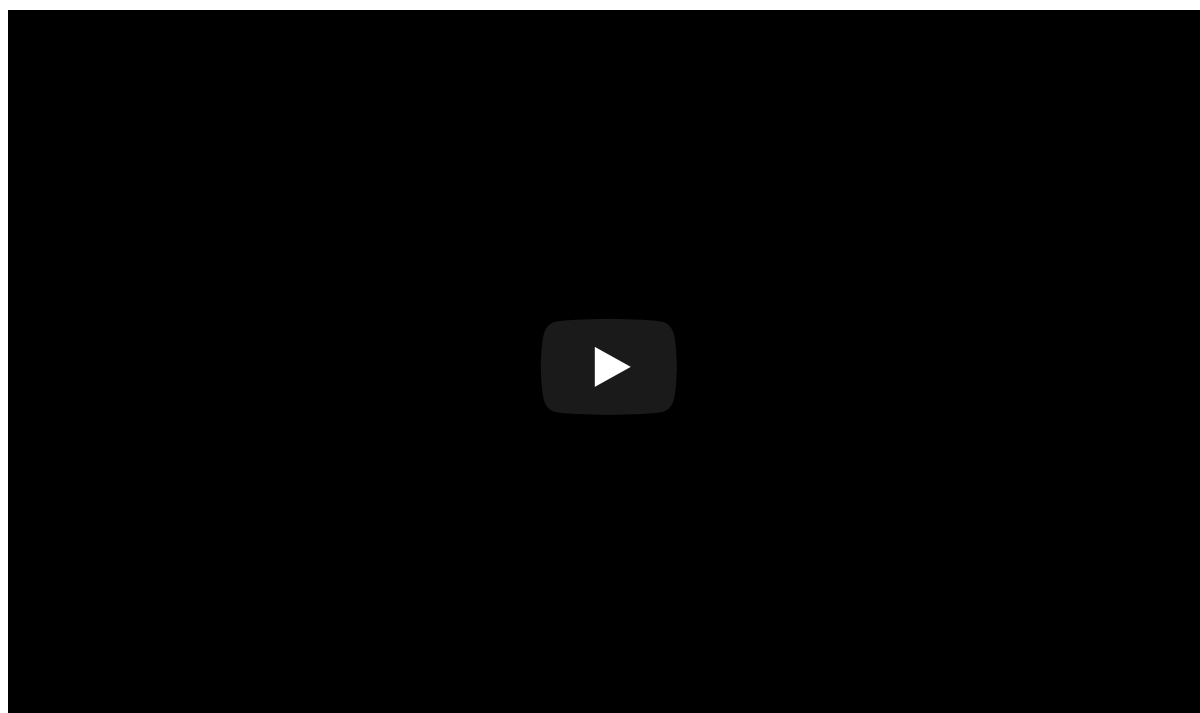
But is that a bad thing?

### Author



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He's back, with added 3D.

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Research last year showed that the use of the Terminator image was a good way to get people engaged in global policies related to the rise and proliferation of killer robots. Far from demonising real science, the inclusion of fiction seemed to keep the discussion focused on the real world issues.

In a recent paper, a colleague and I discovered that researchers are using science fiction to provide a common ground for engaging with the public across a wide range of disciplines.

This is especially the case in science education, advocacy and research. Fiction appears to be an excellent medium for education and advocacy because it gives us humanistic ways of thinking about new and challenging scientific subjects.



(Left to right) Ruth (Keira Knightley), Kathy (Carey Mulligan) and Tommy (Andrew Garfield) in the film *Never Let Me Go*: are they people or spare parts? [IMBD](#)

Science fiction can personalise the horror of a wealthy elite cloning children as living breathing organ donors, as depicted in Kazuo Ishiguro's 2005 novel *Never Let Me Go*.

The 1982 film *Blade Runner*, based on Philip K. Dick's novel *Do Androids Dream of Electric Sheep*, is used to make us question what it is to be human.

Researchers even argue that our fear and fascination of intelligent machines originates from discovering a new form of God. Our questions about science can be based on future fact, fiction, or even matters of faith.



In Blade Runner, Rick Deckard (Harrison Ford) falls for Rachael (Sean Young), a genetically engineered artificial human.  
IMDB

On a more prosaic level, science fiction is used in educational practice – whether it's taking examples from Isaac Asimov's story collection *I, Robot* to help emerging scientists to develop better technical writing skills or inspiring a curriculum for design education. The related genre of fantasy fiction has been used to engage school children with astronomy through C.S. Lewis's *Narnia* chronicles, J.K. Rowling's *Harry Potter* books, and J.R.R. Tolkien's *Middle Earth*.

As tools to support education, engagement and advocacy, we should not be shy of taking advantage of the popularity and accessibility of science fiction and fantasy.

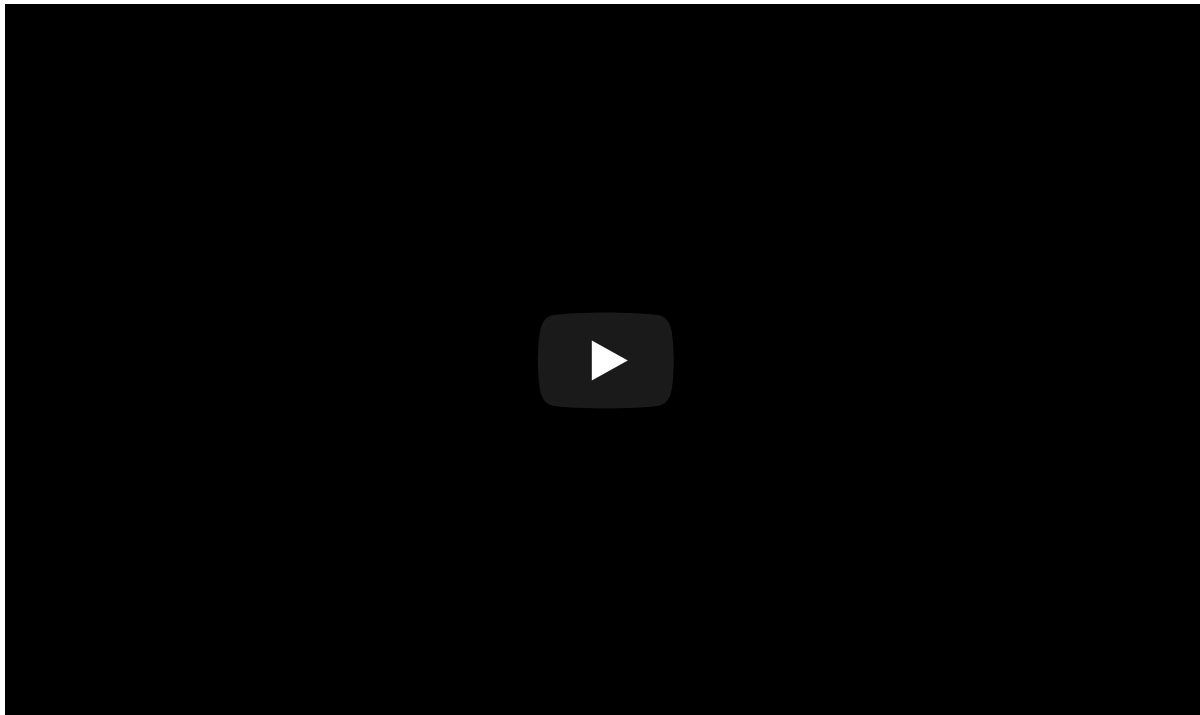
## Scientists in science fiction

Science fiction exploded in popularity towards the end of the 1920s when it became a staple of pulp fiction magazines. From early on, some authors aspired to utopian ideals and a better future for humankind, which is what science is about as well.

Over the years there have been plenty of scientists who have also engaged in science fiction, including Asimov, Arthur C. Clarke, Fred Hoyle, Geoffrey Landis and Carl Sagan.

The tradition of the writers with science backgrounds is very much alive today, and the technical writer Ted Chiang has had fictional stories published in the journal *Nature*. Chiang's work is a series of thought experiments that provide human perspectives on significant scientific questions.

His hard-science based, but accessible science fiction successfully made it to the big screen in *Arrival* (2016), one of the more cerebral science fiction films of recent years, and one of the highest rated by critics and viewers alike.



Arrival: Linguistics professor Louise Banks (Amy Adams) putting a human face to the fourth dimension.

Science fiction is very popular, both in writing and on film, and has gradually shifted from a literature of young men in the 1950s and 1960s to a more general appeal today. Respondents to my own 2015-16 survey of science fiction consumers were 54% female and representative of all age groups.

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Consumers of science fiction today share characteristics with the population in general, and are very interested in science. This provides researchers with a tremendous opportunity to engage a broader public with their work.

Science fiction has become so familiar as a tool for explaining science that NASA is helping fiction writers and filmmakers on works such as author William Forstchen's *Pillar to the Sky*, and the films *Europa Report* and *Gravity* (both 2013).



Mark Watney (Matt Damon) really did have a little help from NASA in the *The Martian* when he said: 'I'm gonna have to science the shit out of this.' 20th Century Fox

NASA also gave technical advice to makers of *The Martian* (2015) to make sure many of the film's technologies depicted were real.

This demonstrates how NASA thinks science fiction can inspire people about science, and it has been argued that science fiction can influence the direction in which science takes us.

Perhaps one day science fiction might lose its ability to inspire wonder, but for now the public engagement opportunities it offers researchers are unmatched.

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