

Secrets of Superhero Science

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The superhero genre has become one of the most popular in modern cinema. Since the 2000 film *X-Men*, numerous superhero-themed films based on heroes and villains from Marvel Comics and DC Comics have been released. This year sees the release of numerous superhero films including *Avengers: Infinity War*, *Deadpool 2* and *The Incredibles 2* featuring characters such as Black Widow, Deadpool, Iron Man and Spider-Man. As a measure of the popularity of superhero films, the 2012 film *The Avengers* grossed over \$1.5 billion at the box office worldwide.

Given the current high profile of the superhero genre, it is tempting to utilise superheroes as a platform to bridge the gap between academy and the general public. Since 2015, I have been using superheroes in my scientific communication and outreach activities, leading to numerous talks and workshops for the general public, at schools and at universities. I have spoken at the Galway International Arts Festival, the International Film Festival Rotterdam, the Institute of Physics Frontiers of Physics and Dutch Comic Con on the subject of superheroes and the possibility of superpowers in the near future.

In this talk I will introduce you to the world of superheroes, their origins and their films. Thereafter I will explore the science behind specific characters such as Hawkeye and Spider-Man to demonstrate how superheroes can be used to explain scientific and engineering concepts. I will also present my academic research on superheroes via publications in peer-reviewed journals, the self-publishing popular science books, writing online articles for BBC Science Focus Magazine and Futurism, and the establishment of an open access journal – *Superhero Science and Technology* – at TU Delft.

Are you ready for the *Secrets of Superhero Science*?

References:

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