

# Make People Better

## Discussion Guide

### THE FILM

In 2018, the Chinese scientist Dr. He Jiankui (known as JK) crossed a Rubicon in human evolution by implanting genetically modified embryos and bringing two babies to full term, the first born in the world. JK genetically enhanced the twins to be immune to HIV. Make People Better tells the story of the experiment and the whistleblower who revealed it all.

The documentary premiered at Hot Docs Film Festival in 2022 and has been screened at festivals around the world ever since.



[More info on how to watch here.](#)

# The Issue

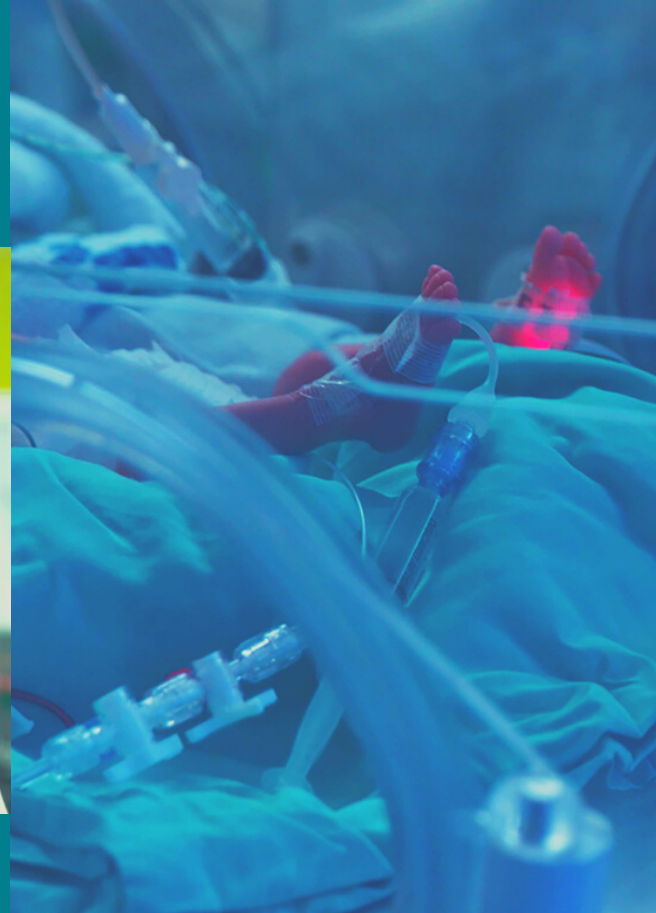
## How gene editing can benefit mankind:

Gene editing could help cure diseases like cystic fibrosis, congenital deafness, muscular dystrophy, and many others. Gene editing could also increase our understanding of diseases and allow scientists to work on new and affordable treatments and drugs that don't modify human beings. It has the potential to help us fight against climate change, combat pollution, and revolutionize our agricultural system.



## But we must consider the risks...

This technology has the potential to transform and disrupt society by opening the door to “designer babies.” We must consider the ethical and philosophical implications of this technology and have healthy discourse on how to regulate it moving forward.





## GERMLINE GENE EDITING:

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GERMLINE MODIFICATIONS ARE APPLIED TO EMBRYOS, SPERM, OR EGGS, AND ALTER THE GENES IN ALL THE RESULTANT PERSON'S CELLS.

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THE PERSON WHO RESULTS FROM THESE CHANGES CAN NOT CONSENT AND DID NOT EXIST BEFORE THE PROCEDURE.

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MORE POWERFUL APPLICATIONS THAN IN SOMATIC GENE EDITING, AS THE CHANGE IS MADE BEFORE THE EMBRYO DEVELOPS INTO A BABY AND THEN INTO AN ADULT. THESE CAN BE MEDICAL BUT CAN ALSO OPEN THE DOOR TO INCREDIBLE ENHANCEMENTS, LIKE TO INTELLIGENCE.

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AN INTERNATIONAL CONSENSUS CURRENTLY DOES NOT ALLOW IT FOR ETHICAL REASONS. HUMAN GERMLINE EDITING IS NEW AND THE ETHICAL, HEALTH, AND PHILOSOPHICAL IMPLICATIONS MUST BE CONSIDERED.

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IF THE PERSON HAS CHILDREN, THE EDITED GENE IS PASSED ON TO FUTURE GENERATIONS, WHICH WOULD AFFECT HUMANS IN THE FUTURE.

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## **SOMATIC GENE EDITING:**

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**DONE ON ADULTS AND CHILDREN WHO CAN CONSENT.**

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**SOMATIC THERAPIES TARGET GENES IN SPECIFIC TYPES OF CELLS (LUNG CELLS, SKIN CELLS, BLOOD CELLS, ETC). THEY ARE NOT EDITING THE COMPLETE DNA OF A PERSON.**

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**THE EDITED GENE IS NOT PASSED DOWN TO FUTURE GENERATIONS.**

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**SOMATIC CELL THERAPIES HAVE BEEN RESEARCHED AND TESTED FOR WAY LONGER THAN GERMLINE MODIFICATIONS.**

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**IT IS POSSIBLE TO DESIGN THERAPIES THAT WOULD ENHANCE INDIVIDUALS. (FOR EXAMPLE: STRENGTH OR IMMUNITY TO VIRUSES)**

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**THEY ARE GENERALLY ACCEPTED BY THE INTERNATIONAL MEDICAL COMMUNITY AS ETHICALLY RESPONSIBLE WHEN USED TO CURE MEDICAL CONDITIONS.**

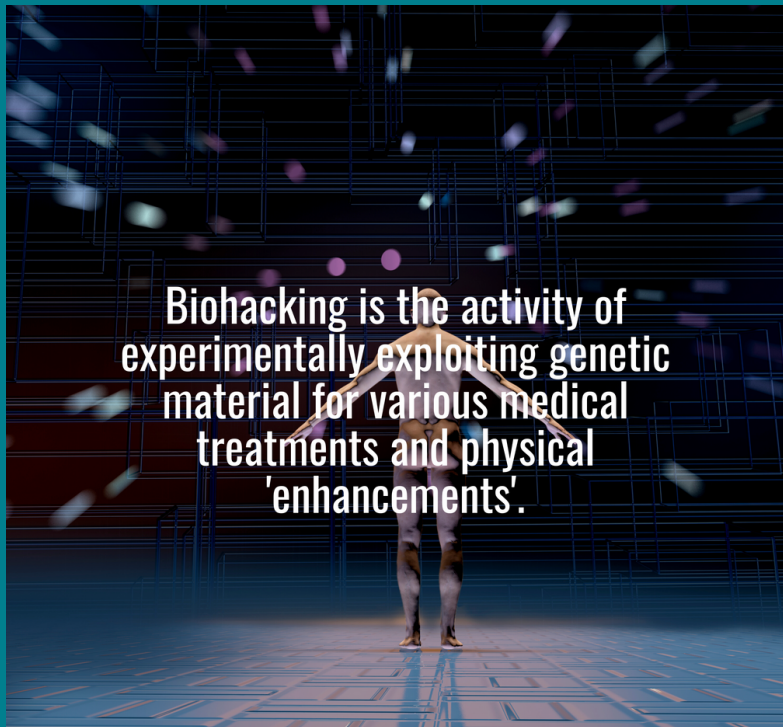
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# The Issue

## Biohacking

Biohacking is the act of altering DNA to treat disease or 'enhance' the human body. Though it sounds straight out of science fiction, biohacking is real and has been used to induce night vision, boost intelligence, and stimulate rapid muscle growth. Other biohackers hope to cure diseases like Alzheimer's for which science does not currently have a cure.



## Human spirit and technology

The discussions surrounding gene editing lead us to reevaluate our values as individuals and as a society. They challenge us to consider what we prioritize and hold dear.

The impact of technology and gene editing on the human spirit is a journey of discovery and introspection. As these advancements continue to unfold, it is essential to navigate them with a thoughtful and compassionate approach, honoring the complexity of the human experience and the world we inhabit.

# The Issue

## AI and gene editing

AI and gene editing are silently reshaping the world at a breathtaking pace, far beyond what many realize! Artificial Intelligence is powering innovations across sectors - from healthcare and finance to transportation and entertainment. Gene editing tools like CRISPR have unlocked the potential to alter DNA, promising cures for genetic diseases and personalized therapies.

However, as these technologies evolve, ethical dilemmas arise. Striking a balance between progress and responsible use becomes crucial. Education and awareness are vital in ensuring a positive impact on society!



## Equity and access to gene editing

CRISPR is being optimized to treat diseases human beings have long hoped to cure. But it's far from a black and white issue. The treatment to some of the worst diseases might only be an option for the wealthy.

It's critical that the world's leading scientists and policymakers tackle this nuanced issue and make gene editing more accessible and equitable to everyone in the future.



# The Impact Campaign

As part of the film's impact campaign, we'd love to help facilitate healthy discourse and even debate around the philosophical, ethical, and health implications of gene editing, as well as the role and use of these technologies within society.

## Make People Better Podcast

In 2018, the team behind this podcast uncovered that a Chinese scientist, Jiankui He (nicknamed “JK”), was creating the world’s first genetically enhanced babies. After three years in prison, JK sits down with us in our first episode to discuss his plans. But the story does not stop there. In recent years, gene editing has exploded into a technological revolution that is poised to transform society and redefine what it means to be human. In this 7-part podcast series, we investigate the race to unlock age reversal and immortality in humans, new tools that can re-engineer entire species of animals and plants in nature, the inevitability of bioterrorists creating synthetic viruses, an underground movement of do-it-yourself biohackers who are setting up labs in their garages, how pop culture has informed the genomic revolution, and much more.



# Questions to drive discussion and debate after watching the film / listening to the podcast:

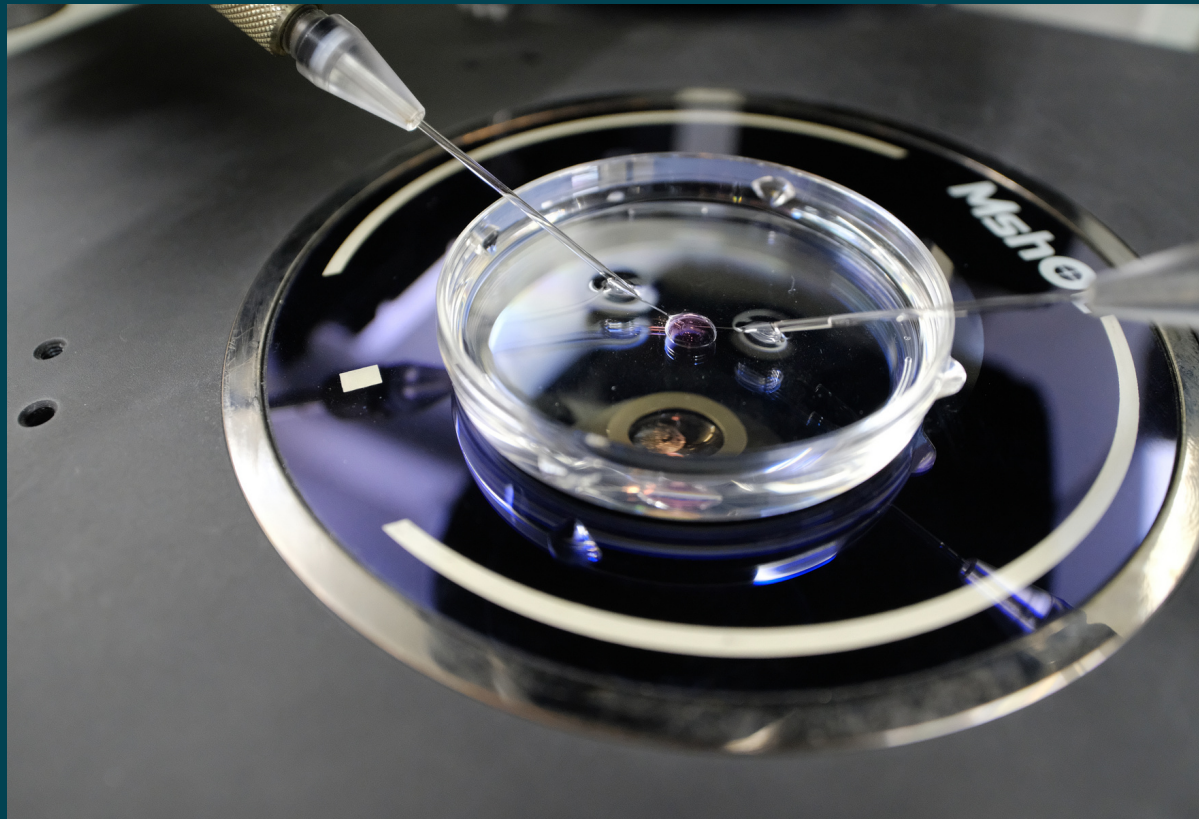
## Gene editing

1. In the future, the “designer baby” industry could allow parents to choose their new baby’s intelligence, athletic ability, musical ability, sex, eye and hair color, height, and to eliminate/lower certain health risks, and more. **Where should we draw the line when it comes to designer babies?**
2. Gene editing can help prevent and cure disease, but it will also unlock the door to selecting vanity traits like height, eye color, intelligence, athletic ability, and much more. **Should people be able to alter such traits in their children and potentially exacerbate inequalities in society?**
3. What does it mean to be a biological family? As we explore the possibilities of gene editing, this age-old question takes on new meaning. **Is a baby still your descendant if you change 10% of their genes? 70%?**
4. Gene editing is allowing scientists to make significant advances in our understanding of genetics and has the potential to revolutionize the way that we study, diagnose, and treat genetic diseases. However, we must all the benefits and negatives of this power technology. Healthy discourse amongst diverse stakeholders is SO important. **How can we help facilitate this type of thoughtful and respectful debate?**
5. Gene editing embryos will not only affect the edited children, but the generations of children who may come after them. **What are your thoughts on gene editing embryos and a future with designer babies?**



# Gene editing

6. **How do you think gene editing will transform society? Does it make you excited? Afraid? A little of both?**
8. **Gene editing embryos could be a band-aid for some of Earth's more pressing issues. There could be unintended ripple effects for the world and other species. If we make babies that are more resistant to climate change will we stop fighting climate change? Will it become less pressing? If we could make babies more intelligent or empathetic will we stop striving to be the best versions of ourselves and become apathetic as a society?**



## Equity and access

1. Some scientists are researching ways to extend lifespan and delay the aging process through the use of gene editing and other technologies. But gene editing technologies can be expensive and may not be widely available, raising concerns about access and equity. **How can we ensure equitable access to gene editing technologies?**

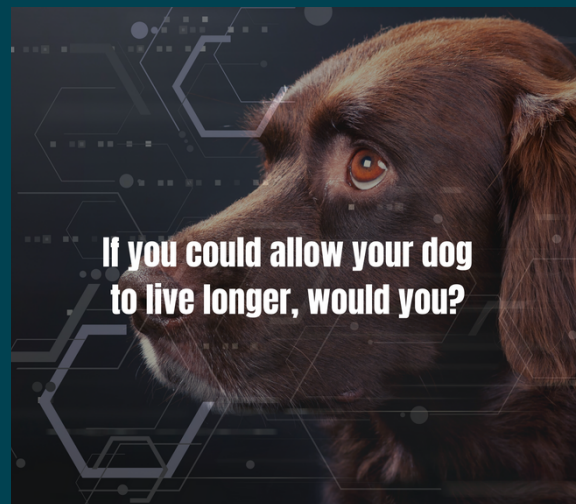
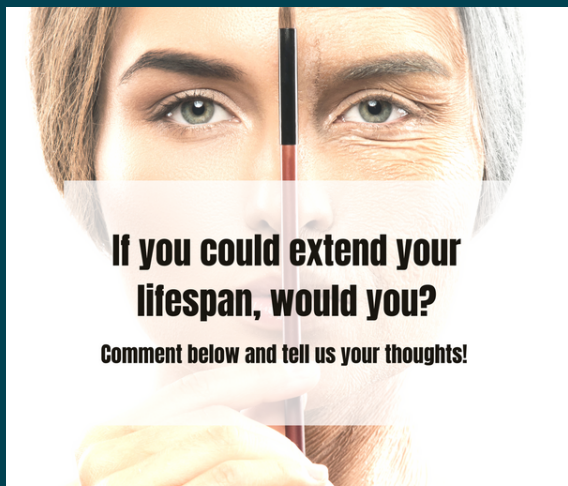


**How can we ensure  
equitable access to gene  
editing technologies?**



# Longevity, aging, and quest for immortality

1. What if we could use gene editing to extend the lifespan of your beloved furry friends? **Would you use gene editing so that your dog could have a longer life? Where do you think we should draw the line with genetic modifications?**
2. Immortality may seem like something out of a science fiction novel, but with the advances in gene editing, it's not as far-fetched as we once thought. **If you could, would you want to live forever? Should human beings be 'allowed' to eliminate death? How do we make decisions about when genetic editing is okay and when it isn't?**
3. Some people believe using CRISPR to extend lifespan is "playing God" and that we should let certain human realities be; others think that the next natural advancement in science would allow people to alter things like lifespan. **Is there a happy medium? Where do you stand?**
4. Genetic technologies could soon enable us to slow the process of aging. Some would even go further and wish to eliminate death. **What do you think would be the consequences if some people lived forever? How might this impact population growth and people's decisions to procreate? How might this lead to more inequalities within society?**



# Decision-making and regulation

1. **Who do you think should decide how we regulate gene editing technologies? Governments? Scientists? Ethicists? The general public?** As these powerful tools continue to advance, it's crucial that we have a thoughtful and inclusive conversation about how they should be regulated and governed.
2. **How should gene editing be regulated to ensure responsible and safe practices without stifling scientific progress?**
3. **How can the scientific community explore novel ways of self-regulation to enhance research integrity, transparency, and accountability while fostering innovation on gene editing?**
4. **Preparing policymakers to make informed decisions on gene editing involves providing them with the knowledge, tools, and resources necessary to understand the science, ethics, and societal implications of this rapidly advancing field. How do you think we can help policymakers prepare for the genomic revolution? Should there be international regulations governing gene editing, or should it be left to individual countries to decide?**



# Philosophy: Technology, identity and spirituality

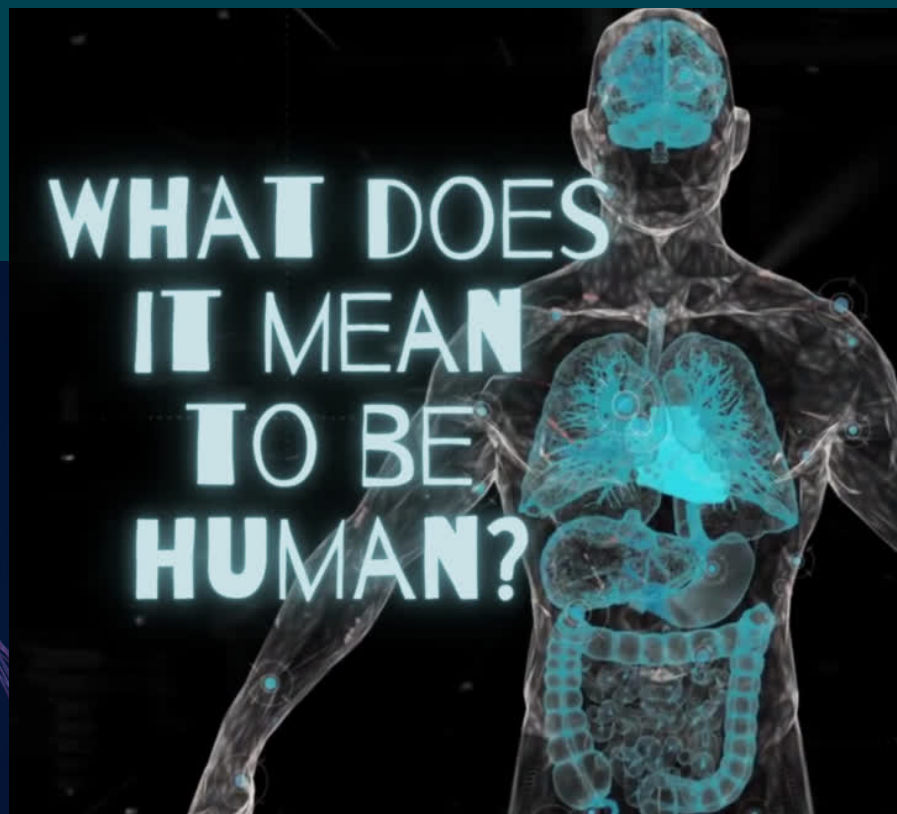
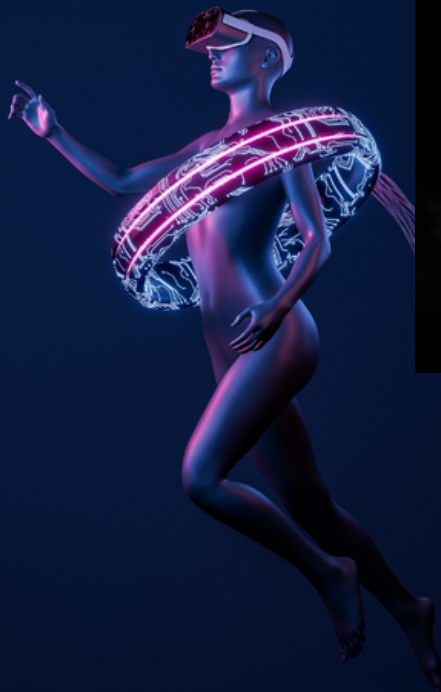
1. Taking control of evolution so that we can design people is something we have long dreamed of but have also been warned against. Gene editing has the power to cure most genetic diseases, but it can also open the door to designing people to serve the goals of commercialism or government agendas. **Is gene editing "playing God"?**
2. **What does it mean to be human?** As we explore the possibilities of gene editing, this age-old question takes on new meaning. Are we just the sum of our genetic code, or is there something more that defines us?
3. Pushing the boundaries of innovation is an essential to what makes us human, but **when how do we know when we've gone too far?**
4. People's religious and cultural backgrounds can strongly influence their views on gene editing. Some religious groups see it as interfering with the divine plan or consider certain genetic modifications morally unacceptable. Others may be more open to it, viewing it as a tool that can be used for the betterment of humanity. **How do your religious, spiritual and/or cultural beliefs influence your POV on gene editing?**
5. The integration of technology into everyday life has led to the creation of digital identities and online personas, raising questions about the boundaries between virtual and physical existence. **As humans increasingly interact with technology, there are concerns about a potential disconnect from the natural world and its consequences for well-being. How do you stay connected to the natural world as our society shifts more and more into the digital realm?**



## Philosophy: Technology, identity and spirituality

6. Some people believe humans have a responsibility to use their knowledge and technology to improve the human condition and address genetic diseases and suffering. **Do you agree? What are the limitations, if any in your point of view?**

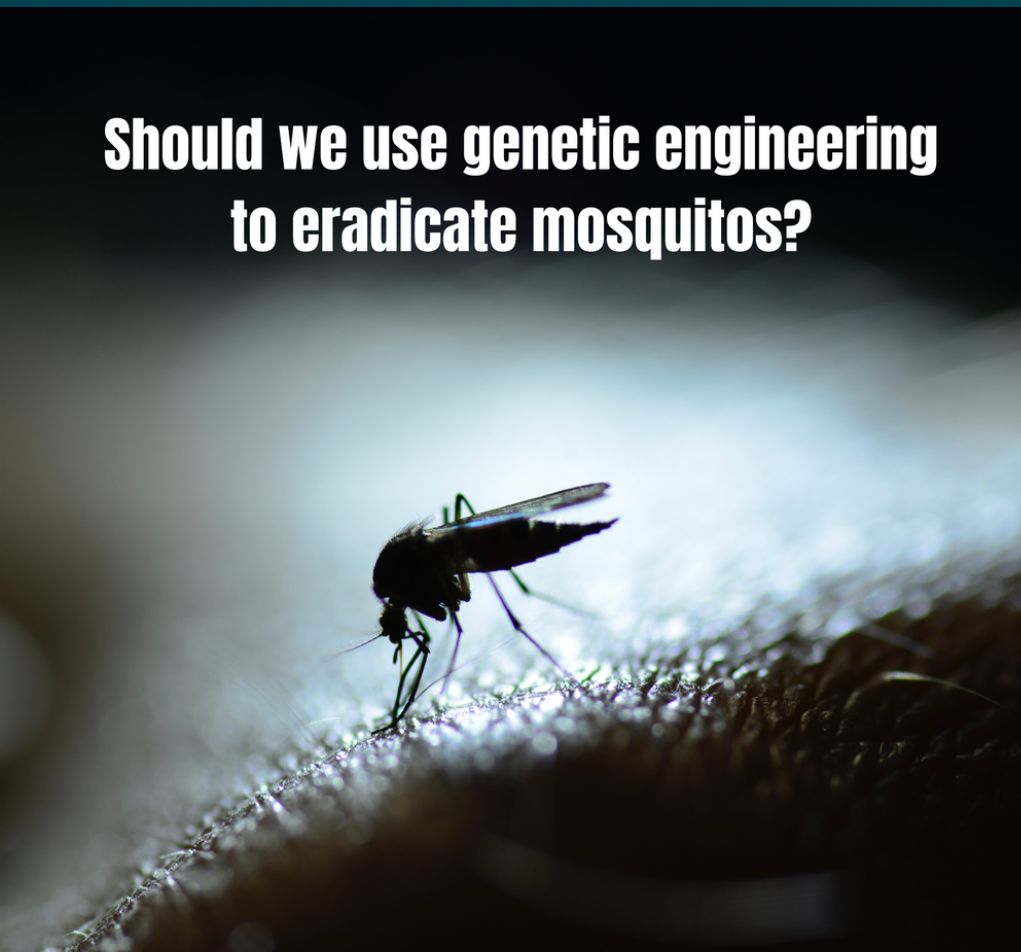
7. **How do you think gene editing will influence the concept of 'normal' or 'natural' in the future?**



# Gene editing and the environment

1. Should we use gene editing to wipe out mosquitos, which are known to carry dangerous diseases, and other disease-carrying species? **How do we draw the line between using gene editing to influence evolution in a way that benefits society and 'playing God' by overzealously influencing evolution in a way that could quickly become dangerous?**
2. Current research shows that mosquitos don't benefit the ecosystem, but others argue that this is an arrogant mindset. **What are your thoughts? Should we use genetic engineering to wipe out an entire species?**

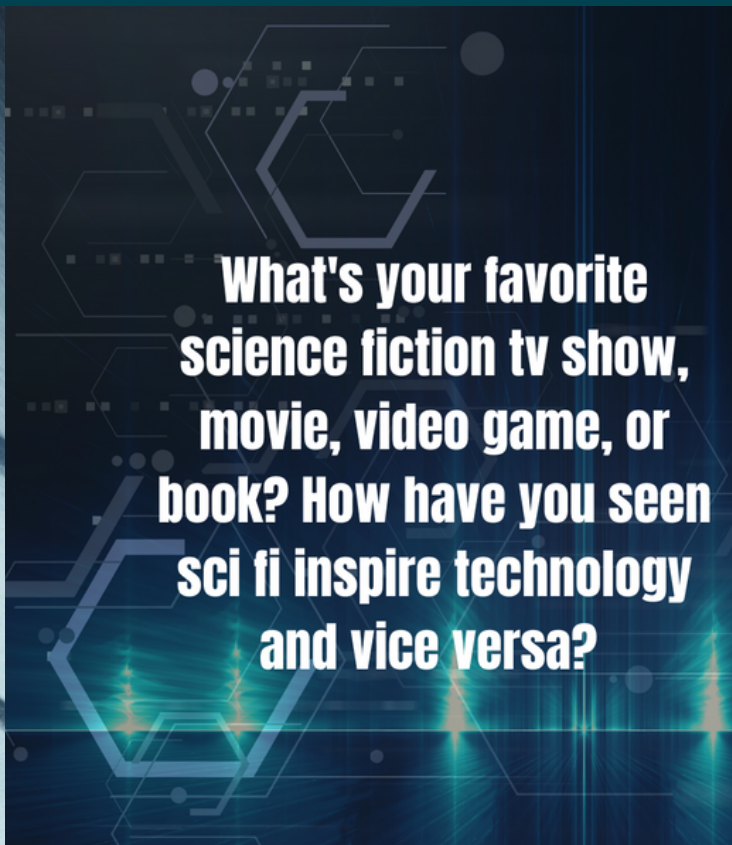
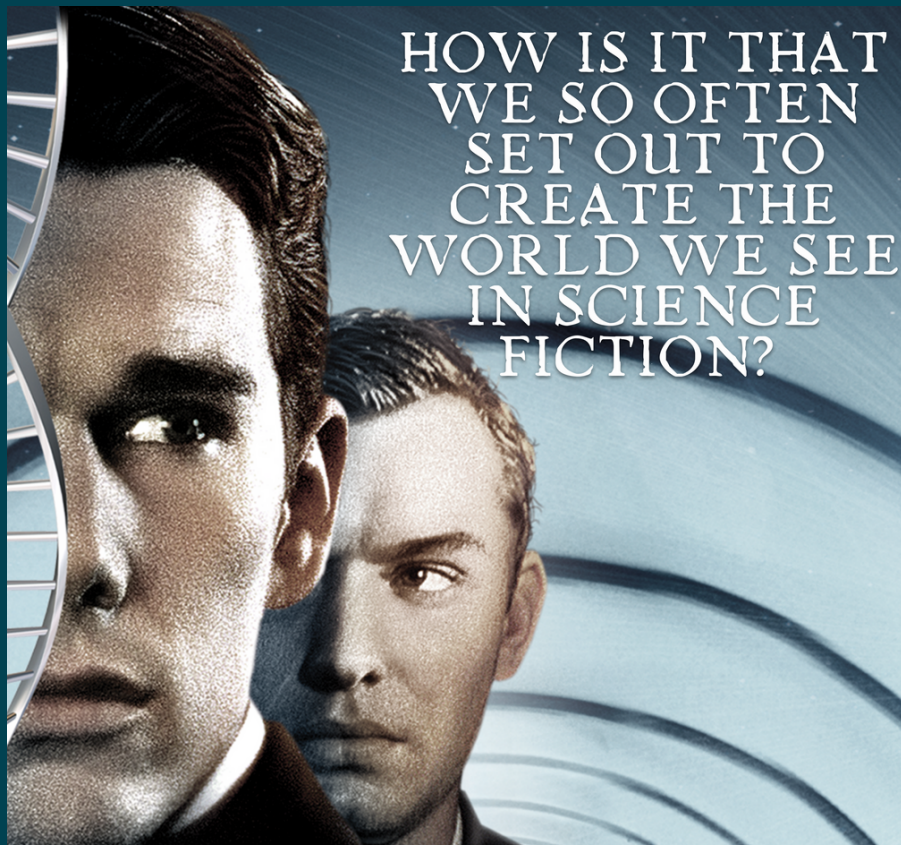
**Should we use genetic engineering to eradicate mosquitos?**





# Gene editing and pop culture

1. From Gattaca to Blade Runner, Hollywood has shaped our perception of genetic engineering, artificial intelligence, and other related topics. **What's your favorite film, tv show, video game, or book that explores these topics?**
2. The movie Gattaca raises important questions about the ethical implications of gene editing and the potential for it to be used to create a genetically "perfect" society. While the concept of gene editing may hold promise for curing genetic diseases, it also raises concerns about creating a society where only the genetically perfect are valued. **Have you seen Gattaca? Do you think films like this one have inspired the development of gene editing technologies?**





# WATCH THE FILM AND HOST A DISCUSSION IN YOUR COMMUNITY

Interested in bringing the film to your campus or community, either in-person or virtually? Please complete the form (click below) and someone from our team will be in touch shortly. This is simply an inquiry and not a commitment to host - just a request for information. Thank you for your interest!

## Make People Better Film Community Screening Interest

**Synopsis:** In 2018, the Chinese scientist Dr. He Jiankui (known as JK) crossed a Rubicon in human evolution by implanting genetically modified embryos and bringing two babies to full term, the first born in the world. JK genetically enhanced the twins to be immune to HIV. This doc tells the story of the experiment and the whistleblower who revealed it all.

As part of the film's impact campaign, we'd love to help facilitate healthy discourse and even debate around the philosophical, ethical, and health implications of gene editing, as well as the role and use of these technologies within society. We hope people contemplate questions like: *How can the scientific community explore novel ways of self-regulation to enhance research integrity, transparency, and accountability while fostering innovation on gene editing? Should we edit the genetic material of human embryos, which could pass the changes on to future generations? What does it mean to be human? Is it morally acceptable to modify the genetic makeup of humans or other organisms? How do we determine the boundaries of what can or cannot be edited? How do you think we should make decisions about when to use gene editing? Who should make these decisions?*

**We'll give you the resources to host a screening of the documentary followed by a discussion around these thought-provoking questions, and more! Interested in bringing the film to your campus or community, either in-person or virtually? Please complete the form below and someone from our team will be in touch shortly. This is simply an inquiry and not a commitment to host - just a request for information. Thank you for your interest!**