



UNITED NATIONS  
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SCIENCE AND  
TECHNOLOGY FOR  
DEVELOPMENT  
TOPIC BULLETIN

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# Academy Model United Nations

- THE TWENTY-FIRST ANNUAL CONFERENCE -

Dear Honorable Delegates,

It is my absolute pleasure to invite you all to participate in this year's AMUN. You have already been introduced to my co-chair Reese Conway, but let me tell you a little about me. I have been participating in Model United Nations since the very first trimester of my high school career. I love this club because there is something for everyone in it. Whether you are a good writer, good speaker, good thinker, or even a good social butterfly, this club can be your home. I have chaired a few Model UN conferences before, and I am hoping to make this year's AMUN my best!

Besides Model UN, my interests include watching Netflix, swimming, listening to music, and hanging out with my friends. I also love making new friends, so introduce yourself!

This topic guide should not be your only resource for research in this huge matter. With the current rise to technology infiltrating our everyday lives, genetic editing in humans and artificial intelligence has countless sides to it. We expect you to touch a majority of these, and we cannot wait to see how everyone presents and justifies their country's position on this issue.

Overall, Reese and I cannot wait to chair this year's committee of UNCSTD. See you all there!

Good luck,  
Enrica Kumar, Co-Chair, UNCSTD  
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Honorable Delegates,

It is my honor to welcome you all to the United Nations Commission on Science and Technology for Development. My Co-Chair and I look forward to a day full of stimulating, intellectual debates and valuable Model UN experience.

I will be serving as one of your Co-Chairs. My name is Riesling Conway, and I am a junior at Bergen County Academies. My Model UN experience has provided me with knowledge on world issues and experience debating meaningful topics. I hope that you are able to get just as much out of your experience as I have.

Yours sincerely,  
Riesling Conway, Co-Chair, UNCSTD  
[riecon21@bergen.org](mailto:riecon21@bergen.org)



## Topic A: Genetic Editing in Humans

### Overview

Though the topic of genetic editing has not arisen in many political debates, it is undeniably one of the most upcoming controversial issues in the modern world. Like many issues across the world, countries take a host of different stances on how to resolve the situation. Country leaders hold distinct concerns toward this issue, including ethical problems and changing what it means to be “normal”. As the means to achieve Genetic Editing become more prevalent, a multitude of questions arise towards the ethics of Genetic editing. Genetic editing in humans involves the editing of specific parts of a genome. It is used in two main ways: Gene Therapy and Germline Editing. Gene therapy involves editing the somatic cells of a child or adult to treat a disease or disorder, such as sickle cell anemia and cancer. Germline editing involves editing the DNA of an embryo, sperm, or egg. This is more controversial because the changes would be passed down to that person’s offspring. Many countries have banned human gene editing,



but scientists continue to pursue this technology. In our debate, the delegates will discuss the social and political aspects of this topic and determine how the United Nations should be involved in the continuation of this technology.

## Topic History

Though scientists have been able to edit genes since the 1970s, the development of CRISPR, a new scientific way to edit human somatic cells and embryos, has made way for more scientists to experiment in this division of science. In 1958, Arthur Kornberg performed DNA synthesis for the first time in his lab. One word spread, scientists around the world began to explore the structure and function of DNA parts, specifically using prokaryotic cells. In 1972, recombinant DNA (rDNA) was created. This type of DNA is the direct effect of combining the genetic material from different organisms and having it duplicate naturally. Fourteen years later, a new vaccine was introduced to the market for Hepatitis B., which was the first recombinant vaccine.

Recombinant vaccines are formed from rDNA. After this, for the later 1990s and early 2000s, the Human Genome Project, CRISPR, Dolly the sheep, and many other projects like this spread the word about genetic editing. Gene-targeted drug therapy and other therapies came into the market.

## Current Situation

Just last year, the first human trials for CRISPR were approved for an experimental trial to treat a blood disorder. In December of 2015, NASEM (National Academies of Sciences, Engineering, and Medicine) began an initiative to help monitor the usage of human gene-editing, whose efforts include an international summit, a professional study done by numerous experts, and public meetings. This initiative kept in mind the clinical, ethical, legal, and social effects of Genetic Editing by conferring with leaders and the general public. Besides the NASEM, the British Royal Society and Chinese Academy of Sciences worked together to hold the International Summit on Human



Gene Editing, which covered the history, background, regulations, and possible policies to help govern this new area of discovery.

## Possible Solutions

A solution to this issue must address the concerns that many countries share regarding the ethics and dangers of gene editing without restricting further scientific research. This solution should involve policies and laws that researchers must follow, as well as regulations to prevent dangerous technology from being used on human beings, as this could result in serious harm or death. These policies might require animal testing to begin, such as in the case of Dolly the sheep. Another aspect to consider is the possibility that weak initial regulations could result in death during experimentation, which could potentially set back research.

## Country Policy

There are many countries with specific regulations and legislation regarding gene editing. In the

United States, testing has been done with gene editing to create vaccines. Cloning is not banned. Gene therapy is regulated, but as we know it is used to treat cancer and other diseases. Many European countries have banned any germline editing (editing the genes in a sperm, egg, or embryo). South Korea and Japan have similar regulations to those of the United States. Many South American countries do not have legislation to regulate research involving gene editing but research is still being conducted. Many countries do not have the ability to perform this research or use the technology, so there are no specific laws regulating it yet. However, this technology is likely to become much more prominent in the future, so it is critical that legislation is put into place.

## Questions to Consider

Should the laws on genetic editing be effective throughout states, countries, or worldwide? Should



each country have a different stance, or one global international law?

How does the process of genetic editing currently affect your country?

Does your government have any programs that govern the policies for genetic editing?

Based on policies utilized by your country, what kinds of solutions can be applied on a more international scale?

How will the population of your country react to any type of enforced laws regarding genetic editing?

To what level should genetic editing be allowed in your country?

Will the individuals who are genetically- edited be treated different?

How can the international community adapt to and cope with different countries having different

policies on this topic?

What are the international repercussions of genetic editing? (Extreme or not).



## **Topic B: Monitoring the Use of Artificial Intelligence**

### **Overview**

Siri, Amazon’s Alexa, Cortana-- all of these are examples of AI’s. Though the definition of artificial intelligences are widely disputed, they all circulate the idea of machines that are “fully-autonomous” and can do “human” actions and think by themselves. Since these machines can act for themselves and think for themselves, the general public tends to get worried for obvious reasons. Multiple levels of ethics, economic effects, and many other elements factor into the inevitable growth of artificial intelligence in our daily lives. Due to this inevitability, efficient and effective monitoring should be put into place. This session of the UNCSTD will attempt to accomplish just that.

### **Topic History**

The first mention of artificial intelligence occurred in 1950 when british Alan Turing stated that it was possible for computers to use prior knowledge to complete future tasks, just like the average human



does. Using this idea, three researchers ran an unsuccessful conference that helped accelerate the future of AI's. During the process of AI's evolution, the ability of computers grew exponentially; for example, the ability to store more information and for that information to be accessed more efficiently. Federal agencies and other institutions drew their attention to the capabilities possible by artificial intelligence between 1957 to 1974. After that time, AI's dwindled in and out of the spotlight. When funding grew, institutions put forth their best researchers to work on this project. However, when funding was scarce, AI's were taken out of the spotlight. One huge milestone was when Edward Feigenbaum's expert systems allowed people to consult with non-experts for expert information, with the help of artificial intelligence. Between 1982 and 1990, Japan's Fifth Generation Computer Project (FGCP) devoted \$400 million with the goal to advance artificial intelligence. However, the funding quickly ran out for this slow progress. Now, it is a different question. Just like

Moore's Law predicted, computer storage and processing speed has now caught up with our ambitious views.

## Current Situation

Currently, computers have the ability to hold exponentially more information than humans can. For this reason, artificial intelligence has been able to improve itself, while improving other industries as well. For example, by giving work-intensive, mindless tasks to robots, humans have the ability to do their part by doing the jobs that actually use the brain. This adds jobs to the global economy. AI's enhance our everyday; some common examples include Siri, home security, and data entry. The usage of AI's will increase automation, which will cause industries to spend less on operational costs. However, this also has a downside. The need for low-skilled workers may diminish and countless people may be left jobless. The harms around artificial intelligence are captured through the myths, rumors, and sci fi movies. Amongst these, numerous problems, such as the ethical,



economical, social, and political issues, follow it. This meeting of the UNCSTD aims to introduce solutions that will effectively manage and monitor the growth and use of artificial intelligence.

## Possible Solutions

There are many factors to consider in finding a solution for this issue. Regulations to prevent job loss might be necessary, but they should not inhibit the rights of businesses to use technology to their advantage. In addition, regulations may need to be put in place to prevent the types of danger described in myths, rumors, and sci fi movies.

## Country Policy

Many countries already have policies to regulate artificial intelligence. In Canada, there is a national strategy called the Pan Canadian Artificial Intelligence Strategy. This strategy focuses on creating more skilled researchers and graduates to improve artificial intelligence. The United States launched the American AI Initiative

with the goal of improving artificial intelligence and ensuring that the next generations are prepared for the changing work environment. Most Western European countries also have national strategies. Russia has a strategy underway. India, Japan, China, and South Korea all have strategies. Except for Kenya, all African countries have not made national strategies yet. South American countries do not have strategies yet.

## Questions to Consider

How can the government help prepare the next generations for the changing work environment?

How can the government help protect workers who may lose their jobs in the near future?

Should the government be involved in improving artificial intelligence?

How can the government prevent the possible dangers associated



with artificial intelligence?

How can the UN ensure international expansion of artificial intelligence?

What kind of strategy does your country have for artificial intelligence, if any?

What kinds of repercussions could occur if there are no regulations in place?

How can artificial intelligence improve or worsen your country?

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### Topic A

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