# NMMUN 2021 BACKGROUND GUIDE

NMMUN

## FUTURISTIC COUNCIL 2021

## Confederation of outer space

# COUNCIL OVERVIEW

## MANDATE

The Futuristic Council has been designed to deal with a simulated crisis that could take place at any point in the foreseeable future. The aim of this committee, like that of any other committee, is to find a peaceful and diplomatic solution to the crisis.

This council has been convened by the United Nations Security Council, and as such shares the same powers and responsibilities as detailed in the Charter of the United Nations. There is little that is outside the ambit of the futuristic council.

The council has been established as a forum of debate and discussion on all issues pertaining to outer space. The United Nations Office for Outer Space Affairs (now dissolved) had been created for the problems the futuristic council now deals with. It is one of the pillars of the council.

Previous resolutions and documents adopted by the UN are a driver for the development of the Futuristic Council and should influence decisions and resolutions made within the council. Though not legally binding, the resolutions should offer guidance to States on how to conduct space activities.

## POWERS

This council deals with international problems and crises that may arise in the future and is focused on issues that arise in outer space. The powers of this council are the following:

a) The power to take disputed properties into its own hands until consensus is reached.
    - This includes mines,
    - public properties,
    - certain types of vehicles,
    - and specific technologies
b) Power to forcefully take control of a satellite breaking interspatial treaties such as:
    - Treaty of 2037 entailing espionage prevention with consensual surveillance
    - Treaty of 2042 limiting satellites around a planet: their type, size and function
c) The Futuristic Council also has all powers associated with the United Nations Security Council, having been convened by it.

# INTRODUCTION

Space is a commons. That was determined in the 1950s by a UN committee, and laid out a decade later in the Outer Space Treaty. No country can lay claim to the moon, asteroids or other celestial bodies; space is open to all for exploration. The language of early treaties is notably grand, with space referred to as the “province of all mankind”.

From the beginning of humanity's space endeavors, we have looked at the Red planet with a sort of awe and curiosity. And, from the 1960’s, we began making our dreams of going to Mars a reality. Starting off with flybys, then landing unmanned rovers, followed by the first human landing in 2030. Since then, we have proceeded to advance to great heights, unimagined by previous generations, and now have started colonizing the big Red planet, Mars.

Now, the question as we advance is, how should we equitably allocate land on Mars? What guidelines should we follow while making Mars our second home?

Now, in the 2050's, we are beginning to see once again the resource problem we saw before the Covid-19 pandemic of 5 years. Another question that arises is how we are going to take advantage of the resources we unlock from the recent colonization of Mars. How can we ensure that Mars does not become Earth number two, an overdrawn planet with us asking for more than it can give?
The topic for the council is Confederation of Outer Space, which will deal with issues ranging from how land is to be allotted on Mars to how to prevent weaponization of satellites and hostile takeovers of planets. We will deal with these wide-ranging issues and try to find the best possible solution that benefits all member States.

## KEY TERMS

Outer Space: There is no official definition of outer space, but it's something on which a United Nations working group is currently consulting member states. I suspect we will settle for a physical demarcation at the Karman Line, which is about 100km up, but it's also an option to go for a functional definition. This is where laws are defined based on the function of a space object rather than where it is in space.

Space wars: Space warfare is combat that takes place in outer space. The scope of space warfare therefore includes ground-to-space warfare, such as attacking satellites from the Earth; space-to-space warfare, such as satellites attacking satellites; and space-to-ground warfare, such as satellites attacking Earth-based targets.

Space exploration: the investigation, by means of crewed and uncrewed spacecraft, of the reaches of the universe beyond Earth's atmosphere and the use of the information so gained to increase knowledge of the cosmos and benefit humanity.

Exploitation: The act of making use of and benefiting from resources

## MAIN ISSUES

## COLONISATION

Land use policy is one of the most emotional and provocative areas of law. Humans have developed very strong feelings about what's theirs and what goes next to it. Now, while colonizing Mars, how will we set claims upon land there?

There are previous claims to land on Mars.

- In 1954, a group of Arkansas men founded a Planet Mars Development Corp. to start making claims.
- By 1956, the Japan Astronautical Society, organized to promote the country's interest in space travel, was giving away 80 acres stretches as part of its membership package.
- In the 1980s, Dennis Hope, an American entrepreneur, claimed Mars, along with the Moon, as his own; today it's possible to buy plots on Mars.

All these are schemes made by people wishing to own a part of space, but are these claims valid? If so, how will the United Nations decide what goes to whom, and who rules and governs the planet?

## COMMERCIALISATION

No part of space is supposed to be claimed as sovereign land. For the past 100 years, humans have explored space under the auspices of an international agreement, the Outer Space Treaty, in which signatories agreed: space was "the province of all mankind" and should be used "for the benefit and in the interests of all countries."
Though this treaty exists, people have proceeded to ignore it entirely and stake claims on land on Mars.

Many commercial companies such as SpaceX and NASA had promised that trips to Mars would be possible for visitors, but now that it is a possibility, how will this council handle interplanetary travel? There are many possibilities to be discussed such as **interplanetary visas**, and **travel permissions**, among other things. Importantly, where will these **"space tourists"** go on Mars? There needs to be accommodation for them to live, but what land can be designated for such purposes?

A question then raised is: what if two nations – or firms based in different countries – clash? If a Russian team of robots (or humans) is trying to dig in the same spot on the moon as an American entity, who will mediate? If one country sets up shop millimeters away from another, threatening to interfere in the latter's work, what happens then?

## MINING

Many countries have already set up research stations on Mars to find out about its climate, its topography, and most importantly, its ores. The data from these stations has been used primarily to begin terraforming Mars, but some governments are also making plans to mine Mars for its precious metals so they can get a profit.

This means that some mining companies have made ties with governments to send equipment to Mars to start mining. The governments of the USA, Turkey and Saudi Arabia are in support of this and are currently looking into finding ways to mine out resources on Mars and on nearby asteroids remotely.

This could cause a major problem if followed through, causing a similar problem on Mars as exists on Earth. Countries need to ensure that there will remain enough resources for sustainable development and that they look at matters from a long-term perspective rather than a short term one.

Another problem that can arise is that rich countries will be able to mine asteroids as well, causing them to extract precious metals and subsequently get richer, while poorer countries are unable to do anything due to their limited funds. So, the question here is: how do countries come to a consensus relating to resources in space so that any country is not starved of necessary resources?

A 2015 U.S. law, the Commercial Space Launch Competitiveness Act: if companies reach the celestial body they aim for, they can do what they want with the material they find.

That's because while the 1967 Outer Space Treaty forbids the declaration of sovereignty over parts of the heavens, it's been largely interpreted, in the West anyway, as being open-ended on what can be done with the resources found there.

The 2015 law was a godsend to U.S. private companies eyeing the moon or other parts of space, because it gave them some legal certainty for the economic development they wish to pursue. Luxembourg has passed a similar law, a gift to many European-based space companies seeking legal certainty for their work.

## NEW TREATIES

The relatively simple framework of the Outer Space treaty, which runs around 2,200 words, leaves unanswered many increasingly crucial questions about how people, companies and countries can operate in space.
That includes questions about acquiring and exploiting the resources found there, from water to gases to minerals, issues that might have seemed fanciful to the diplomats who negotiated the terms in the 1960s.

President Donald Trump had created a US Space Force, which still has the threat of violating the Outer Space Treaty. The US dismissed ideas proposed by other countries to explicitly ban traditional weapons from space, noting that Beijing has made "satellite killers" - projectiles that can destroy satellites.

Those who argue for new frameworks say that the present framework is not strong enough to prevent exploitation of space by private firms or even governments. There are many ways in which the existing treaties can be circumvented and exploited and thus there needs to be a unified, international approach to tackle this problem. Others oppose reopening the Outer Space treaty or coming up with new solutions and say that this treaty is enough for commercial and noncommercial activity beyond Earth.

Crafting a new treaty or amending the 1967 Treaty is not likely to happen given the deep political fractures among world powers. Those who oppose creating new treaties asay the norms and laws of space should be created piecemeal and would prefer to see bilateral agreements that tackle cooperation (The ISS is a great example of multilateral cooperation). This makes sense in part because it is impossible to anticipate every potential challenge or conflict that will arise.

Ultimately, a treaty is as strong as the country least willing to respect it, and that's if they sign up to it in the first place.

The 1979 Moon treaty, for example, states that the moon and its natural resources are the common heritage of humanity. It forbids the use of these resources except through an international regulatory body and suggests that developing countries should be given a share of the resources. But the largest three powers, USA, China and Russia, have refused to sign the moon treaty. The US in particular thinks that the moon should not be treated like a natural resource to be protected, but rather like the Wild West with much to offer in the ways of riches for those willing to risk the journey.

## CASE STUDY - CLAIMING LAND

Here are some proposed ideas for dividing up land on Mars, which were suggested in the 2010's:

1. Haqq-Misra, of the Blue Marble Space Institute, proposed "a simple solution" for determining land use on Mars: let the people who make it there hash it out for themselves, with no interference from Earth. This idea was part of a larger proposal to "liberate Mars from the start," he wrote in the Boston Globe. "Colonists arriving on a liberated Mars would relinquish their former status as earthlings and embrace a new planetary citizenship as Martians."

In this system, the new citizens of Mars would develop their own rules and regulations for land use (and every other form of law and order). No earthlings could own land on the planet, either. This system has the advantage of fitting with earth-bound legal precedents for making land claims—you have to live in the place first—and it excuses Earth from enforcing laws made on this planet more than 140 million miles away. This plan, though, has its drawbacks considering that since the USA reached Mars first, they can claim a whole planet for themselves, which would be quite disastrous.

2. An older idea for divvying up land on Mars, which Cockell, the Edinburgh professor, proposed back in 2004, would designate large chunks of the planet's surface as parks. Like parks on Earth, these "planetary parks" would be sites of scientific interest, natural beauty, or historical significance. They might protect areas where life is most likely to be found, the large volcanoes there that dwarf Mt. Everest, or the sites where Mars rovers landed. They'd be accessed only along predefined routes, by sterilized robots or people in sterilized suits, and no space vehicle would be allowed to land there. "It's a counterpoint of a libertarian, free enterprise view" that should govern the rest of the planet, says Cockell. "The conditions are so extreme that you want to minimize regulations." But there should also be some way to set aside at least some part of the planet where economic motivations don't take precedence. "Even though the surface of these planetary bodies is very large and it's not like anyone will overcrowd them, some sort of conservation ethic should be part of settling these places."
   This plan is also not practical since it means that land on Mars will not be used properly for living and will be useless for purposes of human expansion and would just end up being a tourism planet for the rich.

3. A few years ago, David Collins, a lecturer at City University, London, proposed a "limited form of first possession" as a model for Mars land use. Essentially, if you land on Mars, you're allowed control and use of land within a certain radius (Collins suggests 100 kilometers, or about 62 miles) from your landing spot.

4. Sara Bruhns proposed a “pragmatic approach” that combines these two ideas, of parks and limited possession. Their proposal stays more or less within the bounds of the Outer Space Treaty, because while it allows economic exploitation of Mars’ resources within a colony’s boundary, it does not establish sovereignty over those parcels of land. What that would mean, in practice, is that newcomers could camp out in an established colony, without permission. They would only have to negotiate use of resources within the colony’s borders.

## CASE STUDY 2 (COMMUNICATIONS)

### SSCS 2.0

In 2032, NASA had to develop another Space to Space Communications System, or SSCS 2.0 for short, so it could have a secure line of communication between the Earth, Mars, and various other space projects. This was due to the fact that during the first mars landing, the astronauts had lost contact with Earth for the duration of their landing, causing a loss of crucial data.

NASA got to work with in-house development of the system instead of contracting it, and this decision was two-fold. The first reason was that this was a one-of-a-kind system which had to be designed carefully, and the second reason was that it would cost an estimated $80 million less.

The engineers thought that this project would have similar problems as the first SSCS. But the major problem happened to be the distance between the different modules of the system, leading to unresponsiveness of the systems when deployed. After another 6 months testing and retesting the project, the problem was found to be with the RF (radio frequency). Now that the source of the

problem was known, the leading engineer Tom Ivanco worked hard with a specialized team to find a different RF which let the communication system work as intended.
Another 6 months later, the team, having solved all major problems with the SSCS 2.0, sent it for another test run, where things worked as expected, except for the same noises that were present in the first SSCS version as well. Having already thought about this, the team just activated state-of-the-art noise cancellation devices, which worked perfectly.

The USA did not share the SSCS 2.0 technology with its allies. This may be because the system is the most secure of its kind and has not been intercepted yet, while other communication systems are prone to being intercepted. Even now, the USA uses SSCS 2.0 since it is still one of the best communication systems to communicate with Mars.

So how can the futuristic council ensure that all countries have a secure system of communication, which will not be compromised? Will the US share its technology?

## TIMELINE

1957 AD - First artificial satellite is launched
This is the first endeavor into space that humans make after having stared at the night sky and wondered what is out there for centuries

1961 AD - First man in space
A legendary testament to technology of that time, a human was launched into space and brought back down alive.

1965 AD - First ever spacewalk and first pictures of mars
These piqued human interest in the big red planet, and were also a huge learning experience to what space is like

1969 AD - First man on moon

“A small step for man, a great leap for mankind.” This statement quite well summarizes the importance of this achievement.

1972 AD - Russians land spacecraft on Mars

This is the first of such landings on Mars, both showing the technological prowess of Russia and being a huge step towards Mars exploration

1976 AD - Viking 1 and 2 land on Mars

These spacecraft landed on Mars and sent information and pictures of Mars back to Earth, obtaining the first close up pictures of the Red planet for USA

1989 AD - Voyager 2 sends image of Uranus

This shows the now prominent space endeavors of the US, being able to send out a probe all the way to Uranus and being able to take pictures of it

1995 AD - Discovery of escolar planets

This discovery made humans look to the sky even more than before, speculating what could be on those planets, such as aliens, and started the search for a habitable planet

1998 AD - The ISS begins construction

This shows the unity of countries in making space a peaceful place to explore, rather than a place with potential for war

2001 AD - Spacecraft lands on asteroid

This opens up ideas of mining on asteroids, since they contain precious metals

2012 AD - Mars rover landing

A Mars rover landing could now let humans get more information about the planet and what was on it.

2016 AD - Mars rocket returns to earth

A returning Mars rocket was promising evidence that humans could travel there and back.

2025 AD - Covid-19 is eradicated completely and humans readjust to life on earth
Humans acquire a new outlook for the earth after Covid-19. We begin to live more sustainably and save more resources to protect our planet. We all pitch in the help clean the seas and try to fix the planet. But we did not realize that it was too late, and that the earth had been permanently scarred.

2030 AD - First human mars landing.
First human landing on Mars and setup of an outpost by the USA, followed shortly by China and Russia in 2031, and India in 2033.

2034 AD - Last traces of non-renewable resources begin to vanish
The scarring of the earth begins to be more evident with a scarcity of resources all over the world, oil prices skyrocketing, and multiple industries crashing. This expedited the race to colonise and shift to Mars

2041 AD - Initial mars colonization attempt.
The first mars colonization attempt by China, though a failure, was a great learning experience for countries all over the world to refine their methods.

2046 AD -successful attempt for mars colonization.
After years upon years of trying, SpaceX was able to set up a small human settlement on Mars. This meant people could now live on Mars permanently.

2050 AD - Mars land dispute and mining dispute
How should we deal with the problems coming up now, related to shifting to mars and settling there?

## IMPORTANT TREATIES

The treaties commonly referred to as the **"Seven United Nations treaties on outer space**" are:

- The "Outer Space Treaty" - Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies

- The "Rescue Agreement" - Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space

- The "Liability Convention" - Convention on International Liability for Damage Caused by Space Objects

- The "Registration Convention" - Convention on Registration of Objects Launched into Outer Space
- The "Moon Agreement" - Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

- The “Surveillance treaty” which entails espionage prevention with consensual surveillance, made in 2037

- The Satellite treaty, which is an expansion of the Broadcasting principles (see below), limits satellites around a planet with respect to their type, size, function and number. This treaty was ratified by most UN member states in 2042

**The five declarations and legal principles are:**

- The "Declaration of Legal Principles" - Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space

- The "Broadcasting Principles" - The Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting

- The "Remote Sensing Principles" - The Principles Relating to Remote Sensing of the Earth from Outer Space

- The "Nuclear Power Sources" Principles - The Principles Relevant to the Use of Nuclear Power Sources in Outer Space

- The "Benefits Declaration" - The Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries

## MAJOR PARTIES INVOLVED

**USA:** The United States of America has a lot of resources and were thus the first country to be able to land on mars. They have been collecting data about mars ever since. The first landing on Mars was done on July 20, 1976. The United States of America had sent people to mars to gather more data about Mars in 2030. By 2046 America had started sending people to inhabit Mars. By 2050 the people are living their lives normally on mars and more people are being sent to mars.

**China:** China has the most manpower out of all the countries. China has sent humans to Mars in 2031, a year after the USA, displaying their technological skill. China has attempted colonization on Mars in 2041 but was unsuccessful. They have learned a lot of information from this colonization attempt. They used all this information and successfully colonized mars in 2048, just 2 years after the USA. China has started sending more people on mars and the colony is growing rapidly. China has started to look for resources to mine on mars.

## OTHER PARTIES:

**Russia:** Russia was one of the first countries to have a mars mission, but they were not successful. They tried to be the first to get to mars, but they were unable to due to technological limitations. When the other countries got to Mars, Russia used their technology, following them to Mars a few years later in 2031. Russia has sent quite a few people to Mars till now and have set up their research station on Mars. They are planning to send more people and set up more research stations in the next 2 years.

**India:** India has had a probe orbiting Mars since 24th September 2014 and has been using this to gather information. It has gathered a lot of information and was successful in starting colonization in 2048 just a few months after China. India has set up their research center on Mars and it has started sending people to Mars as well. Like other countries, India has started to look for potential resources to mine on Mars.

**UK:** The United Kingdom did not want to fall behind other countries, and had thus started Mars projects in 2030, at the same time as the USA. They finally set up their colony on Mars in 2049 during December and have very few people on Mars till now. They have planned to send more people to Mars as soon as possible, and their motives for doing so are unknown.

## GUIDING QUESTIONS

- How can countries ensure there will no longer be conquest similar to colonialism?
- How should each country get allotted land?
- Deciding property rules on other planets

- Ensuring all present solutions can be applied to future space exploration
- How can we be sure a country does not decide to militarize a planet or the satellites around one?
- How can we maintain sustainable development on newly colonized planets?

## SAMPLE MODERATED CAUCUS TOPICS

Remember, these topics are suggestions and can be used in council, but it would be preferred if delegates can come up with their own topics

1. Confederation is both the cause of and the solution to our economic woes
2. Carrying the colonization mindset of the past to space, in the future?
3. People claiming property on Mars before even having reached Mars
4. Companies advertising space tourism

# HELPFUL SOURCES

Mars missions link:
https://www.space.com/13558-historic-mars-missions.html
UNOOSA link:
https://www.unoosa.org/oosa/en/ourwork/spacelaw/resolutions.html
Case Study link:
https://www.nasa.gov/offices/oce/home/features_case_study_3_10.html

Timeline link:
https://phys.org/news/2012-08-key-dates-history-space-exploration.html
Space Treaties link:
https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties.html
Space exploitation:
https://www.lemun.org/wp-content/uploads/2017/10/GA4-Responsible-exploitation-of-outer-space-by-private-parties.pdf
Mars travel:
https://www.scientificamerican.com/article/no-man-s-land-where-on-mars-should-astronauts-go/
Mining in space link:
https://www.orfonline.org/research/if-space-is-the-province-of-mankind-who-owns-its-resources-47561/?amp