

# 1 NC: MARS

## Statement Against the Resolution

Provide a short explanation of why the negative does not support the resolution.

*Because the costs in human health and federal funds of going to Mars would be too high, we negate.*

## Argument 1

Provide a claim for why the resolution should not be adopted.

REMEMBER - YOU DON'T HAVE TO READ ALL OF THESE ARGUMENTS. MAKE SURE YOU ADDRESS SOME OF THE OTHER TEAM'S ARGUMENTS IN THIS SPEECH

*Radiation in Space is too dangerous for a sustained human presence on Mars.*

*• Astronauts exposed to cosmic radiation for long periods of time could have nearly double the risk of cancer. According to NASA, "a healthy 40-year-old non-smoking American male stands a (whopping) 20% chance of eventually dying from cancer. That's if he stays on Earth. If he travels to Mars, the risk goes up... The added risk of a 6 months Mars mission lies somewhere between 1% and 19%. The greatest threat to astronauts in route to Mars is galactic cosmic rays - or "GCRs" for short... GCRs barrel through the skin of spaceships and people like tiny cannon balls, breaking the strands of DNA molecules, damaging genes and killing cells... Astronauts have rarely experienced a full dose of these deep space GCRs. Apollo astronauts traveling to the moon absorbed higher doses... but only for a few days during the Earth-moon cruise." By contrast, a round-trip mission to Mars would involve about two years of exposure to cosmic radiation.*

*• There are even greater radiation risks for female astronauts. Journalist Jerome Taylor writes, "High-energy proton particles would probably sterilize any female fetus conceived in deep space and could have a profound effect on male fertility." The present*

*'NASA', "Can People Go To Mars?", [http://science.nasa.gov/science-news/science-at-nasa/2004/17feb\\_radiation/](http://science.nasa.gov/science-news/science-at-nasa/2004/17feb_radiation/)*

## Argument 1 cont.

shielding capabilities would probably preclude having a pregnancy transited to Mars,' said radiation biophysicist Tore Straume of Nasa's Ames Research Center in an essay for the Journal of Cosmology. The DNA which guides the development of all the cells in the body is easily damaged by the kind of radiation that would assail astronauts as they journeyed through space. Studies on non-human primates have shown that exposure to ionizing radiation kills egg cells in a female fetus during the second half of pregnancy.' One would have to be very protective of those cells during gestation, during pregnancy, to make sure that the female didn't become sterile so they could continue the colony,' Dr Straume said."<sup>2</sup>

<sup>2</sup> Jerome Taylor, reporter for "The Independent", 2/14/2011 "Why infertility will stop humans colonising space", February 14th, 2011, <http://www.independent.co.uk/news/science/why-infertility-will-stop-humans-colonising-space-2213361.html>

## Argument 2

Provide a claim for why the resolution should not be adopted.

*The United States Should Not Waste Money On Mars*

• *The United States is nearly \$15 trillion in debt. The billions of dollars more that NASA would need to send astronauts to Mars for long periods of time could be better spent right here on Earth. Federal programs to help the homeless, give medical care to the poor and veterans, educate children, and take care of the elderly could make better use of this money than NASA. Gregg Easterbrook, a fellow at the Brookings Institute, writes, " Mars as a destination for people makes absolutely no sense with current technology. Present systems for getting from Earth's surface to low-Earth orbit are so fantastically expensive that merely launching the 1,000 tons or so of spacecraft and equipment a Mars mission would require could be accomplished only by cutting health-care benefits, education spending or other important programs--or by raising taxes. Absent some remarkable*

## Argument 2 cont.

discovery, astronauts, geologists and biologists once on Mars could do little more than analyze rocks and feel awestruck beholding the sky of another world."<sup>3</sup>

<sup>3</sup> Easterbrook 04<sup>4</sup> By Gregg Easterbrook (Easterbrook is a fellow at the Brookings Institution and author of the new book *The Progress Paradox*) Monday, Jan. 26, 2004 <http://www.time.com/time/magazine/article/0,9171,993172,00.html#ixzz1DVKF0ei> "Why We Shouldn't Go to Mars"

## Argument 2

Provide a claim for why the resolution should not be adopted.

Long-Term Confinement During The Trip To Mars

Threatens Astronaut Health

• Prolonged weightlessness during the trip to Mars will greatly reduce the effectiveness of astronauts on Mars. Discovery Channel News writes, "Let us count the ways that the human body falls apart without gravity: 1) Bone loss of one percent per month. 2) Fainting spells (women more than men) after re-entering a gravitational field. 3) Cognitive problems including Alzheimer's-like symptoms. 4) Weakness and lack of cardiovascular fitness. 5) Muscle atrophy. All of these medical conditions would make it tough for the crew to build a shelter when they land on the Red Planet, for example. 'What happens if they land on Mars and try to lift an object that's fairly or reasonably heavy, they could herniate their discs,' said Alan Hargens, an orthopedic surgeon at the University of California San Diego who studies the effects of gravity on astronauts.' One of the main issues is that when they arrive at Mars, there's nobody there to take care of them. If they have some issue due to de-conditioning in that six month period, they'll definitely have a problem."<sup>4</sup> If such an emergency should occur on Mars, the astronauts will be unable to get assistance from Mission Control back on Earth as it will take about 45 minutes for astronauts to receive a response after making an initial communication.

<sup>4</sup> Discovery Channel News, "How a mission to Mars could kill you", 7/18/11, <http://news.discovery.com/space/mission-to-mars-health-risks-10-7-11.html> When NASA's 30-year Space Shuttle Program ends on Thursday as Atlantis touches down for the last time, space-watchers will be looking toward our next step into space.

## Responses to 1 AC

Use your flow sheet...

Now I'd like to address some of the arguments my opponent made in his/her last speech...

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## Closing

I now stand ready for cross-examination.