Russia and the U.S. unite: Former enemies sign agreement to work on nuclear weapons to tackle the danger of ASTEROIDS

- **The two countries signed an agreement to research nuclear technology**
- **It claims the technology could one day be used as 'defense from asteroids'**
- **Plans build on existing research and computer simulations in California**
- **However, international treaties could prevent the plans becoming reality**

By Victoria Woollaston

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The two countries were once at loggerheads over the use of nuclear warheads, but now the U.S. and Russia have joined forces to develop the technology together - and the partnership could one day lead to weapons being used to destroy asteroids hurtling towards earth.

Last month an agreement between the two countries was signed outlining the use of technology to create 'international safeguards' and offer 'defense from asteroids.'

The move signals a step closer towards the technology being used for such projects and builds on the work of various leading nuclear experts who have been actively developing the idea in recent years.

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A meteor fireball, pictured, crashed into Russia in February, It was part of a 656-feet wide asteroid called 2011 EO40. Spanish astrophysicists analysed fragments of the meteor and claim it came from the Apollo asteroid that regularly crosses passed earth as it orbits the sun

Entitled the 'Agreement between the Government of the United States of America and the Government of the Russian Federation on Cooperation in Nuclear - and Energy-Related Scientific Research and Development', the document provides the legal framework needed to expand cooperation between U.S. and Russian nuclear research laboratories.

It was signed by the U.S. Secretary of Energy Ernest Moniz and Director General of the Russian Federation State Corporation Sergey Kirienko, on 16 September.

It is hoped the new agreement will complement provisions of the U.S.-Russian Agreement for Cooperation in the Field of Peaceful Uses of Nuclear Energy, that came into force in January 2011.

'This agreement supports President Obama's non-proliferation and climate priorities by providing a venue for scientific collaboration and relationship-building between the U.S. and Russian research and technical communities,' said Energy Secretary Moniz at the time.

HOW SERIOUS IS THE THREAT OF AN ASTEROID DESTROYING EARTH?

Nasa claims astronomers have detected more than 10,000 asteroids with orbits that could potentially bring them closer, or in contact, with earth since 1995.

Around 9 per cent of these are believed to be around 3,000 feet long, according to reports in **The Atlantic**.

The most threatening of these, predicted to strike only once every 700,000 to 100 million years, could desolate the planet.

This impact would be similar to that caused by the asteroid thought to have killed off the dinosaurs 65 million years ago.

A 60-foot asteroid damaged around 4,000 buildings in Russia when it exploded over the town of Chelyabinsk earlier this year.

Yet, objects this large are said to only plummet to earth once every 100 years or so.

Rocks around 460ft long, that would have 300 megatons of force, hit every 30,000 years.

'Jointly, these communities will work to further develop advanced technologies that can address some of our most pressing nuclear energy and nuclear security challenges.'

The original plans to join forces date back to 1995 when nuclear weapons designers from the Soviet Union and the U.S. met to discuss the imminent threat of asteroids and how technology could prevent it.

Since that time Nasa claims astronomers have detected more than 10,000 asteroids with orbits that could potentially bring them closer, or in contact, with earth.

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However, as Douglas Birch from the The Center of Public Integrity, explains: 'even smaller rocks between 460 and 3,170 feet wide can flatten cities or wreak havoc.'

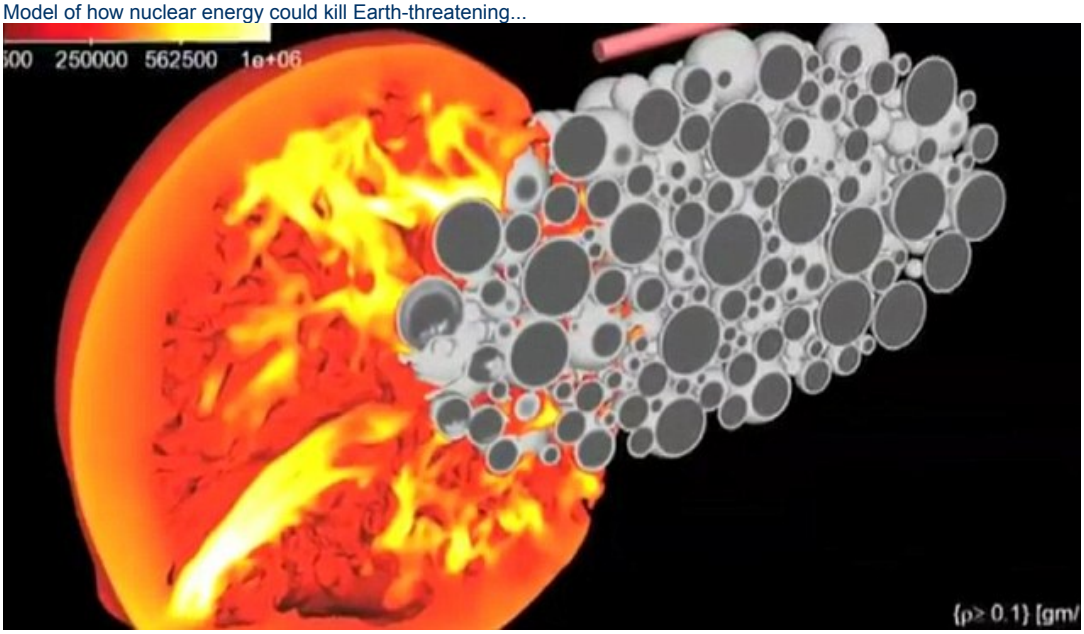
The theory has also been used in science fiction films, for example, in the 1998 blockbuster film Armageddon, an asteroid the size of Texas threatens earth and a team of astronauts, led by Bruce Willis, fly towards it and blow it up.

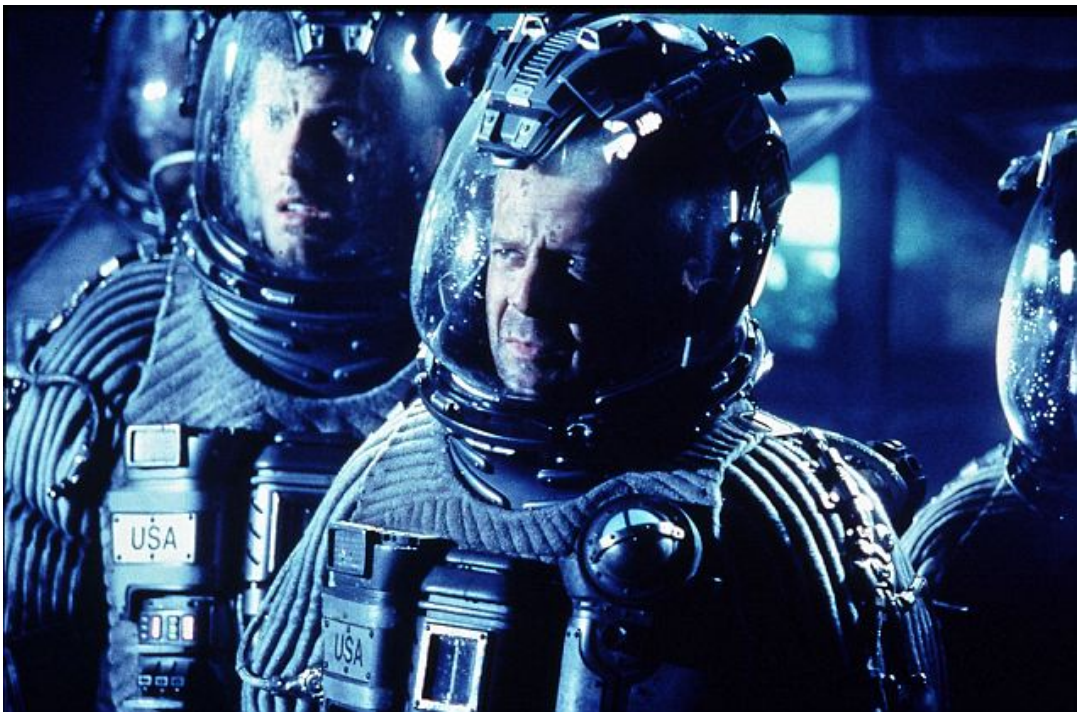
Two years ago, research physicist and nuclear weapons designer David Dearborn, from Lawrence Livermore National Laboratory in California received a discretionary grant for his work into solving how the weapons could be used.

His work runs parallel to that of the Los Alamos National Laboratory, where American nuclear weapons are designed.

Research scientist Robert Weaver, from the laboratory, has been studying the effects of detonations on asteroids since 2012 and has simulated explosions using the Energy Department's Cielo supercomputer.

Model of how nuclear energy could kill Earth-threatening...





In the 1998 blockbuster film Armageddon, an asteroid the size of Texas threatens earth and a team of astronauts, led by Bruce Willis, pictured, fly towards it and blow it up

Elsewhere, Keith Holsapple, from Washington University recently received a million-dollar research grant from Nasa to discover if an 'impact device or nuclear explosion could deflect an asteroid from its path.'

Holsapple told Douglas Birch from - who has conducted a **series of interviews with these leading experts** - he is using a device called a 'gas gun' set up at Nasa's Ames Research Center to study the impacter.

He explained that a complete nuclear deflection could work if researchers knew about the imminent danger around a decade in advance.

If the time to impact was closer than that, Hosapple added 'it would be too late for deflection but a carefully executed nuke strike would prevent most damage.'

A 60-foot asteroid damaged around 4,000 buildings when it exploded over Russia earlier this year. The city of Chelyabinsk, pictured, 900 miles east of Moscow and close to the Kazakhstan border, took the brunt of the impact. Objects this large are said to only plummet to earth once every 100 years or so

A 60-foot asteroid damaged around 4,000 buildings in Russia when it exploded over the town of Chelyabinsk earlier this year - although objects this large are said to only plummet to earth once every 100 years or so.

While rocks around 460ft long, that would have 300 megatons of force, hit every 30,000 years.

The likelihood of the plans being put into action, however, could be limited after President Obama announced in 2009 he is committed 'to seeking a world without nuclear weapons', and the plans could potentially go against the 1967 Outer Space Treaty signed by 129 countries, that prevents using nuclear weapons in space.

Concerns have been raised about radioactive debris falling to earth.

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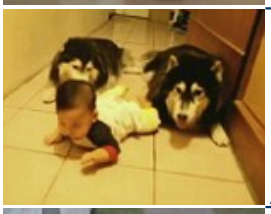
-  Adorable baby gets crawling support from pet huskies
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