

COLUMBIA MISSOURIAN

Steven Starr seeks to revolutionize views on nuclear weapons

By [Darren Milosevich](#)

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Steven Starr is an expert on nuclear weaponry. He has been trying to eliminate high-alert weapons for more than 30 years. The complexity of the scientific research regarding the issue is difficult to understand for outsiders, however. "The essence of my work is to make technical information understandable to people who are not scientists," Starr said about his work. Starr has spoken to the U.S. Senate, the United Nations in New York and Geneva and various universities. | JACOB BERR

we have better things to do than blow ourselves up."

Although that nuclear engineering class is long behind him, the experience has stayed with Starr all of his life. What started off as an interest many years ago has grown into a life's purpose: simplifying and spreading knowledge about the grave risks posed by nuclear weapons.

COLUMBIA — When Steven Starr was a *19-year-old college freshman, he thought he would grow up to be a nuclear engineer. But it took only a few weeks in an introductory nuclear engineering course before Starr had a change of heart.

"I just didn't want to make weapons for a living," he said. "I think

"The information isn't any good if it just sits in a journal," he said. "My motivation is to warn people. It's not just people that are at risk, it's all complex life forms."

Aside from publishing papers on topics such as abolishing high-alert nuclear weapons and the climate change associated with nuclear war, Starr has been asked to speak and present at conferences across America and internationally.

He most recently spoke in a panel discussion at the United Nations on May 12 and 13 his fourth trip to the U.N.

Although he is now considered by many to be an expert, getting to that point was no easy task. With a background in clinical laboratory sciences and technology, Starr's lifelong interest in nuclear weapons increased during the 1980s when astrophysicist Carl Sagan coined the nuclear winter theory.

Nuclear winter is a term used to describe the dramatic global climate change that could follow a nuclear war. According to Starr's [Web site](#), a hypothetical nuclear war between India and Pakistan fought with 100 Hiroshima-sized nuclear weapons would throw 5 million tons of smoke into the stratosphere, enough to block 10 percent of the sun's rays from reaching the northern hemisphere — shortening growing seasons and causing the lowest temperatures in 1,000 years. After 10 years, 40 percent of that smoke would still be in the stratosphere. The average nuclear warhead today is between eight and 50 times more powerful than the 15 kiloton bomb dropped on Hiroshima.

"Nuclear war is essentially suicide for humanity," Starr said.

Recognizing the catastrophic climate change that could result from a nuclear war, Starr became involved with the environmental movement to raise awareness about nuclear winter. By 1989, however, the initial momentum of nuclear winter theory began to die off in the media and public eye, Starr said.

Realizing he wanted to do something more about the issues, Starr began a serious study of nuclear weapons and their effects in the 1990s.

"(Starr) was a very concerned citizen that began finding out everything he could," said Robin Remington, MU professor emeritus of political science who researched U.S.-Russian nuclear relations during the Cold War. "It's like doing a whole Ph.D. program on his own."

Bill Wickersham, founder of the MU Nuclear Disarmament and Education Team, agreed with Remington. "He has a mind like a steel trap," Wickersham said. "He has a very good memory and very good analytical skills."

While his own science background and work ethic contributed to his mastering the complexities of nuclear science and climate change, Starr's relationship with one expert solidified his academic research and opened the door to being published for the first time.

Starr met British physicist [Alan Phillips](#) through a Yahoo.com nuclear abolition group. Phillips, who died in August 2008, helped develop radar during World War II before going on to publish work on nuclear weapons abolition. After corresponding and consulting with him for many years, Starr collaborated with Phillips in 2004 and published an article in the Bulletin of the Atomic Scientists about a U.S. launch-on-warning policy.

Starr said he viewed Phillips almost as a father figure during their time together.

“He was a great writer and had a brilliant mind,” Starr said.

After publishing numerous papers and gaining more credibility in the world of nuclear weapons, Starr was asked to speak at a United Nations panel in Sydney, Australia in 2006. Since then, he has presented at 14 conferences in the U.S., Canada, New Zealand and Finland.

Although the issues can be complex at times, Starr has a unique way of getting his message across to politicians and diplomats from around the world. Instead of standing at a podium and lecturing, Starr uses a PowerPoint presentation with graphs, photos and detailed charts to visually illustrate the consequences of nuclear war. Many of the visual elements can be found on his [Web site](#), which is currently being translated into the languages of the other eight countries that possess nuclear weapons.

“He has an excellent Web site and wonderful presentation skills,” Wickersham said. “Steve has taken the issue and made it very simple to understand.”

John Hallam of the Australia-based organization Nuclear Flashpoints can attest to Starr's effectiveness. Hallam has presented with Starr at multiple conferences and has seen the reaction of the audience during portions of Starr's presentation in which he uses a moving visual graphic to show how nuclear weapons would block sunlight throughout the world.

“There's an awful lot of quiet (in the room) when he shows the world going black,” Hallam said.

Perhaps the strongest indicator of his presentation effectiveness was a request Starr recently received while he was in Helsinki, Finland, speaking at a joint European-Russian symposium. After his presentation, Starr was approached by Russian Ambassador Grigoriy Berdennikov, who was a negotiator of the [Strategic Arms Reduction Treaty](#), and Russian parliament member Sergei Kolesnikov. Kolesnikov asked Starr for a copy of his presentation so he could present it to the Russian Foreign Ministry.

“Russia is the most important place besides the U.S. to start. We're the ones that are still on launch-on-warning and have high-alert nuclear weapons,” Starr said.

High-alert — sometimes referred to as hair-trigger — nuclear weapons are intercontinental ballistic missiles that can be quickly launched if either country is alerted to an incoming attack. The objective

would be to launch before the other country's missiles have a chance to destroy their targets. Armed with up to 12 nuclear warheads each, ICBMs can be launched in a matter of minutes, hitting targets more than 6,000 miles away in 30 minutes or less. Once launched, they cannot be recalled or aborted.

Starr is strongly opposed to keeping nuclear weapons on high-alert status because he doesn't believe there is enough time for the president to make a rational decision. After a missile is detected, by the time the news trickles up the chain of command and reaches the president, he has only a matter of minutes to decide whether or not to retaliate before those missiles reach the country, Starr said.

"There's only, at the most, three to 12 minutes" to make a decision, he said.

Starr also sees the danger of weapons systems and radar malfunctioning, [as has happened in the past](#), which could accidentally trigger a nuclear war.

Although he doesn't hold a formal degree in nuclear engineering, Starr said he is not intimidated when speaking in front of diplomats, some of which view him as an amateur.

"I'm not as nervous as I used to be because I know the material well," he said.

But Starr believes these individuals don't want to see the issues, especially those who strongly advocate nuclear deterrence.

"Talking about the consequences is the only way to get deterrence people to think outside of the box," Starr said. "You've got to think about what if deterrence fails. I want to get them to think outside the box."

"This is my way of being a political activist and changing the world in a positive way."