



Middlebury Institute of
International Studies at Monterey



James Martin Center for Nonproliferation Studies

Critical Issues Forum

Critical Issues Forum

2016 Spring Student-Teacher Conference

Organized by James Martin Center for Nonproliferation Studies (CNS)

***Global Nuclear Vulnerability:
Lessons for a More Secure and Peaceful World***



Clockwise from top left: Dr. Strangelove war room scene, NPT Review Conference at UN Headquarters, President Obama at Nuclear Security Summit 2016, Kennedy brothers at the White House during the Cuban Missile Crisis, Minuteman III ICBM assigned to the 90th Missile Wing in Northern Colorado, Kim Jong-un with a model of miniaturized atomic bomb, 19th Secretary of Defense - Dr. William J. Perry, H-bomb test in Marshall Islands, and CIF students from 2015 spring conference in Hiroshima

April 15-16, 2016

**Venue: Mary Johnson Recital Hall, Santa Catalina School
1500 Mark Thomas Dr., Monterey, CA**

April 15, 2016

Dear Participants in the Critical Issues Forum,

I would like to extend our warmest welcome to the 2016 Critical Issues Forum (CIF) Student-Teacher Conference in Monterey, California. It is my great pleasure to welcome the next generation of leaders in nonproliferation and disarmament, as well as dedicated teachers from Japan, Russia and around the United States.

I am glad to hear that all of you exerted yourselves studying this year's CIF topic, "Global Nuclear Vulnerability: Lessons for a More Secure and Peaceful World." This topic is very timely as the risk of nuclear use in some respects is greater today than it was during the Cold War.

I am very happy that our good friend, former U.S. Secretary of Defense, Dr. William J. Perry, and his daughter, Ms. Robin L. Perry, are joining the CIF conference and will participate in a conversation with our future leaders of nuclear nonproliferation and disarmament. I am looking forward to moderating this session on the second day of the conference. As many of you know; Dr. Perry, as Secretary of Defense, galvanized efforts to secure nuclear stockpiles inherited by several post- Soviet states, and presided over the dismantlement of more than 8,000 nuclear weapons. Since his retirement, Dr. Perry has been tirelessly working to reduce nuclear dangers. He founded the William J. Perry Project in 2013 to educate young people about nuclear threats and how to reduce them. I cannot think of a better speaker for our CIF Conference than Dr. Perry.

Over the past quarter century, the James Martin Center for Nonproliferation Studies (CNS) has dedicated itself to training the next generation of nonproliferation specialists at home and abroad, and has helped to raise global public awareness regarding weapons of mass destruction threats. The Critical Issues Forum has been an integral part of this educational effort and serves as an important and unique outreach program of the CNS. By involving young people in a discussion about nuclear disarmament, we hope to foster new and creative solutions for securing a more secure and peaceful world without nuclear weapons.

My CNS colleagues and I extend our sincere congratulations to you on your successful implementation of CIF projects. I hope that you will make use of this unique conference to get to know students and teachers from around the world and

build friendships that will contribute to better understanding across cultures. We are very proud of you and wish you the very best for a successful conference.

Sincerely,



Dr. William C. Potter
Director

James Martin Center for Nonproliferation Studies and
Sam Nunn and Richard Lugar Professor of Nonproliferation Studies
Middlebury Institute of International Studies at Monterey

History of the Critical Issues Forum

The James Martin Center for Nonproliferation Studies (CNS) began its high school educational outreach effort in 1997 in order to meet the needs of nonproliferation education among the high school students, which was practically non-existent. CNS initiated the Critical Issues Forum (CIF) in 1998 in partnership with the Lawrence Livermore National Laboratory's Science and Technology Education Program, and became the project leader of the CIF in 1999. The CIF aims to empower students to develop informed opinions and think critically about the proliferation of weapons of mass destruction, terrorism, and other crucial international issues of the 21st century.

- 1997-1998: Terrorism in the Nuclear World
- 1998-1999: Nonproliferation of Nuclear Weapons
- 1999-2000: The Disposition of Nuclear Materials
- 2000-2001: Chemical and Biological Weapons
- 2001-2002: Missile and Missile Defense
- 2002-2003: Weapons of Mass Destruction in the Middle East and South Asia
- 2003-2004: Nuclear Issues in Northeast Asia
- 2004-2005: Peaceful and Terrorist Use of Radioactive Materials
- 2005-2006: Nuclear Weapons and Nonproliferation
- 2006-2007: Outer Space: The Next Frontier for Proliferation or Forum for Cooperation?
- 2007-2008: Nuclear Renaissance: Benefits versus Risks
- 2008-2009: Nuclear Disarmament: Challenges, Opportunities, and Next Steps
- 2009-2010: Nuclear Nonproliferation: Global Opportunities and Regional Challenges
- 2010-2011: Nuclear Energy and Nuclear Weapons in the Middle East.
- 2011-2012: Nuclear Safety and Nuclear Security
- 2012-2013: Toward a World without Nuclear Weapons: Progress, Prospects, and Challenges
- 2013-2014: Nuclear Nonproliferation: Global Opportunities and Regional Challenges
- 2014-2015: Nuclear Disarmament: Humanitarian Approach
- 2015-2016: Global Nuclear Vulnerability: Lessons for a More Peaceful World

Acknowledgements

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United States-Japan Foundation
United States-Japan Foundation

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Participating Schools

U.S.

Choate Rosemary Hall, Wallingford, CT

Harker School, San Jose, CA

Dr. Olga Mohan High School, Los Angeles, CA

Pacific Grove High School, Pacific Grove, CA

Punahou School, Honolulu, HI

Rock University High School, Janesville, WI

Santa Catalina School, Monterey, CA

Japan

Hiroshima Jogakuin Senior High School, Hiroshima

Kansai Soka Senior High school, Katano

Kwassui High School, Nagasaki

Nagasaki Nanzan Senior High School, Nagasaki

Ritsumeikan Uji Senior High School, Kyoto

Soka Senior High School, Tokyo

Russia

Gymnasium No 41, Novouralsk

Gymnasium No 164, Zelenogorsk

Lesnoy, Lyceum

Agenda

Critical Issues Forum 2016 Spring Student-Teacher Conference

Global Nuclear Vulnerability: Lessons for a More Secure and Peaceful World

Santa Catalina School

Mary Johnson Recital Hall

1500 Mark Thomas Drive, Monterey, CA 93940

<https://www.santacatalina.org/upper-school/who-we-are/location>

Friday, April 15th

8:30 — 9:00 AM	Coffee and Tea served
9:00 — 9:05 AM	Opening of the Conference, Introduction of participating schools by MC Santa Catalina Students
9:05 — 9:10 AM	Opening Statement by Masako Toki, Project Manager of the Critical Issues Forum, James Martin Center for Nonproliferation Studies (CNS)
9:10 — 9:20 AM	Welcome Remarks by Dr. William C. Potter, Founding Director of James Martin Center for Nonproliferation Studies (CNS)
9:20 — 9:25 AM	Welcome Remarks by Dr. Kassandra Brenot, Head of Santa Catalina Upper school
9:25 — 9:45 AM	Presentation: Santa Catalina High School, Monterey, CA, U.S.
9:45 — 10:05 AM	Presentation: Kwassui High School, Nagasaki, Japan
10:05 — 10:20 AM	Break
10:20 — 10:40 AM	Presentation: Gymnasium No. 164, Zelenogorsk, Russia

10:40 — 11:00 AM	Presentation: Rock University High School, Janesville, WI, U.S.
11:00 — 11:20 AM	Presentation: Soka Senior High School, Tokyo, Japan
11:20 — 11:30 AM	Group Photo Session
11:30 — 12:40 PM	Lunch at Dining Hall
12:40 — 1:10 PM	Guest speaker, Mr. Erik Quam, US State Department Bureau of International Security and Nonproliferation
1:10 — 1:30 PM	Presentation: Dr. Olga Mohan High School, Los Angeles, CA, U.S.
1:30 — 1:50 PM	Presentation: Lyceum, Lesnoy, Russia
1:50 — 2:10 PM	Presentation: Nagasaki Nanzan Senior High School Nagasaki, Japan
2:10 — 2:30 PM	Presentation: Pacific Grove High School, Pacific Grove, CA, U.S.
2:30 — 3:00 PM	Group Activity by Santa Catalina School
3:00 — 3:15 PM	Break
3:15 — 3:30 PM	Guest Speaker via Skype, Dr. Benoit Pelopidas –Content Expert of Global Nuclear Vulnerability, University of Bristol
3:30 — 4:20 PM	MIIS/CNS Student Panel Sarah Bidgood, Ruby Russell, and Paul Alex Kynerd
4:20 — 4:40 PM	Presentation: Ritsumeikan Uji Senior High School, Kyoto, Japan
4:40 — 5:00 PM	Presentation: Punahou School, Honolulu, HI, U.S.
6:00 PM	Dinner in the Dining Hall

Saturday, April 16th

8:30 — 8:55 AM	Coffee and Tea served
8:55 — 9:00 AM	Announcements
9:00 — 9:20 AM	Presentation: Harker High School, San Jose, CA, U.S.
9:20 — 9:40 AM	Presentation: Kansai Soka Senior High School, Katano, Japan
9:40 — 10:00 AM	Presentation: Gymnasium No. 41, Novouralsk, Russia
10:00 — 10:20 AM	Presentation: Hiroshima Jogakuin Senior High School, Hiroshima, Japan
10:20 — 10:40 AM	Presentation: Choate Rosemary Hall, Wallingford, CT, U.S.
10:40 — 11:00 AM	Break
11:00 — 12:10 PM	Conversation with Former US Defense Secretary William Perry, and Ms. Robin L. Perry, Executive Director of the William J. Perry Project. Title: "A Personal Journey to Reduce the Nuclear Threat, and the Importance of Youth Education in that Endeavor" Moderated by Dr. William Potter, CNS Director
12:10 — 12:40 PM	Award Ceremony
12:40 — 12:55 PM	Closing Remarks and Overall assessment by Professor Mitsuru Kurosawa, Osaka Jogakuin University
12:55 — 1:45 PM	Lunch/Book Signing
1:45 PM	Start leaving for Aquarium Tour
2:30 PM	Meet at the Aquarium Group Entrance



Santa Catalina School Monterey, CA www.santacatalina.org/	
<i>Teacher</i>	Masha Serttunc
<i>Student</i>	Agnes Ames
<i>Student</i>	Monika GaxiolaArtola
<i>Student</i>	Amira Attia (MC)
<i>Student</i>	Catherine Lyche (MC)

Staircase to Global 1

Accidents happen, mistakes are made, and innocent civilians pay the price - this is global nuclear vulnerability. This problem can be avoided if we all work together to disarm the majority of the nuclear weapons in the world. Staircase to Global 1 is a step system to slowly disarm nuclear weapons while maintaining the feeling of safety for each country. Staircase to global 1 may be just an idea, but if executed correctly, it will become a solution.

Kwassui High School Nagasaki, Japan http://www.kwassui.ac.jp/chuko/index2.htm	
<i>Teacher</i>	Toshiro Kusano
<i>Student</i>	Nanako Nagaishi
<i>Student</i>	Kyoko Miyanaga

IT'S NEVER SECURE — The Myth of Nuclear Safety

We doubt the myth of nuclear safety. It's never secure.
We classify the problem of nuclear weapons as follows.

Case1: To use the nuclear weapons

We have concerns about the mini-nuclear weapon to be really used on the case of regional conflict and terrorism.

Case2: To scare others by the nuclear weapons

The logic of nuclear deterrence has spread among not only nuclear states but also nonnuclear states. But it has a great risk of "close call". There are many cases of "close call" in the history. We are afraid of the true accident that will happen someday.

Case3: To gain interest by the nuclear weapons

The military industry is the largest interest group in USA. The nuclear weapon is one of the profitable articles for them. We suspect they may prevent nuclear elimination. The same problems may happen in other countries. The nuclear weapons strengthen the political power of the state and the dictatorship of the leader. In the states without democracy, the nuclear weapon is necessary to maintain the interests of the leader. Those problems are not easily solved. But, we want to present a concrete idea about the following points -

- Promote the spirit of tolerance and the mutual trust.
- Keep strict watch on the nuclear weapons and the nuclear materials.
(Raise the transparency of the possession of nuclear weapons and nuclear materials)
- Reorganize the industrial structure properly.



Gymnasium 164 Zelenogorsk, Russia http://gym.zelenogorsk.ru/	
<i>Teacher</i>	Nelli Porseva
<i>Student</i>	Galina Salnikova

The Road to Take

The Efforts to Create a New Treaty to Ban Nuclear Weapons

The rhetoric of many contemporary politicians is full of hints at their readiness to use nuclear weapons as a means to achieve their political aims. The efforts of the international bodies as well as of civil society to ban nuclear weapons have little or no effect so far. That is why the topic of our research is as stated above.

The main goal of our research is to consider the necessity of nuclear disarmament, the efforts on it and the efficiency of these efforts.

The researched areas on nuclear disarmament can be divided into 4 groups:

- 1) The initiatives of the nuclear scientists, including the “fathers” of nuclear weapons;
- 2) The actions of Parties to the NPT and international organizations in this field;
- 3) The efforts of civil society;
- 4) The power of mass culture.



Rock University High School Janesville, Wisconsin http://www.janesville.k12.wi.us/	
<i>Teacher</i>	Jane Thompson
<i>Teacher, Dean</i>	Matt Wolf
<i>Student</i>	Gabriel Britt
<i>Student</i>	Kyira Romera

On the Reduction of Weapons-Grade Fissile Material via
Civilian Nuclear Power: The Efficacy of Arms Reduction
through a Civilian Nuclear Power Initiative

For the final presentation on global nuclear vulnerability and lessons for a more secure and peaceful world, Rock University High School will showcase an interactive website and a short presentation that will be able to educate people about the current challenges that we face, what we have learned from the past, and the many nuclear “close calls” throughout history. By raising awareness and boosting the message of global peace, we hope the issue of nuclear non-proliferation will become a conversation topic not only for those in positions of power, but for the ordinary citizens of the world. Our solution is as follows: Inspired by the “Megatons to Megawatts” program, we propose the introduction of an international agreement that would have nuclear states convert highly enriched uranium into usable reactor fuel through a process called “down blending”. Through this process, nations may convert the fissile material from nuclear weapons into safe, clean power. Each state would first down blend their weapons-grade uranium into low enriched uranium (LEU). Then, each state would sell their down blended material to entities in other signatory nations that are authorized to purchase reactor fuel, such the United States Enrichment Corporation, for example. Our website will outline our solution in greater detail and will describe how such a program would be beneficial not only to its signatories but how it would contribute to global nuclear disarmament.



Soka Senior High school Tokyo http://www.soka.ed.jp/english/tokyo/index.html	
<i>Teacher</i>	Masayoshi Ishino
<i>Student</i>	Shunji Fueki
<i>Student</i>	Miyu Fukuda

Let's Make a Paradigm Shift

It is said that the end of Cold War has transformed the structure of the global environment. The impact has affected the characteristics of the nuclear vulnerability. This change may also be regarded as an opportunity to promote a paradigm shift in the understanding of what the purpose, if any, of nuclear weapons is. It can be seen in the comparison between the two nuclear vulnerabilities in the Cold War era and the post-Cold War era: the Cuban Missile Crisis in the Cold War era and the Black Brant Scare in the post-Cold War era. The Cuban Missile Crisis became an important test case of nuclear deterrence during the Cold War. The tensions between the Soviet Union and the United States had the potential to put all human-beings on the brink of a nuclear war. However, it became impossible to distinguish who or what was responsible for the confrontation. On the other hand, the Black Blant Scare happened after the end of the Cold War, when the tension between the two super powers has significantly eased. However, this new international security environment contributed to lower people's awareness to the threats of nuclear weapons. An incident such as the Black Blant Scare could have caused an accidental nuclear war between the US and Russia. While the end of the Cold War reduced the possibility of an all-out war between the superpowers, it brought apathy on nuclear weapons issues to those who are related, directly or indirectly, to deployment of nuclear weapons around the world.

This difference in the characteristics and attitude of nuclear vulnerabilities has led us to a great opportunity to change to a new paradigm, one where we do not need nuclear weapons anymore and which is nothing but harmful to every human being. Indeed, in October 2013, two thirds of the member states of the United Nations agreed to the joint statement on the Humanitarian Consequences of Nuclear Weapons. Our proposal therefore is to make a paradigm shift; nuclear deterrence to the recognition that there is absolutely no value in having or creating any nuclear weapons.

Guest Speaker: Erik Quam**US Department of State****International Security and Nonproliferation**

Erik Quam is the acting-Team Chief for East Asia in the State Department Bureau of International Security and Nonproliferation's Regional Affairs Office. His areas of responsibility include U.S. nonproliferation and security policy with China and Taiwan and he oversees a team with responsibilities for nonproliferation and security policy across East Asia. He served as a China analyst for the Department of Defense from 2007-2010. He previously worked for the East Asia Nonproliferation Program at the Center for Nonproliferation Studies, as well as National Defense University's Center for the Study of Chinese Military Affairs. He earned a Master's Degree in International Policy Studies from the Monterey Institute of International Studies and a Graduate Certificate in Nonproliferation Studies from the Center for Nonproliferation Studies. He received graduate certificates from National Taiwan University and The Johns Hopkins University-Nanjing University Center for Chinese and American Studies. He received his Bachelor of Arts degree from the University of Minnesota in history, international relations and Chinese language and literature in 2003.



Dr. Olga Mohan High School Los Angeles, California http://www.mohanhs.org/	
<i>Teacher</i>	Andrew King
<i>Student</i>	Damian Davila
<i>Student</i>	Kimberly Nunez

A Case Study of a Nuclear-Armed North Korea: Its Potential Threats, Present Crisis, and Possible Solutions

When North Korea detonated their nuclear device earlier this year in January, and then subsequently launched potential ballistic missiles and artillery shells, a serious question was raised: How did the present crisis pose future potential threats in the realm of nuclear accidents, miscalculation, or rogue agents? The United States has spent billions of dollars on a command and control structure in an active effort to reduce nuclear accidents – yet, human error or technical glitches have resulted in near-nuclear launches. This case study explores the likelihood of a North Korean nuclear accident given North Korea's unreliable command and control structure, aggressive saber-rattling propaganda, and irrational and insecure political leadership.

The case study will also explore a nuclear North Korea as an obstacle to Global Zero – scenarios for both vertical and horizontal proliferation of nuclear weapons – and real solutions to stem North Korea's nuclear ambitions and potential threats. Including interviews with RAND North Korea Expert Bruce Bennett and UN Secretary-General Ban Ki Moon, this case study lays out the potential threats, present crisis, and possible solutions to the North Korean question.



Lyceum Lesnoy, Russia http://lyceum-lesnoy.ru/	
<i>Teacher</i>	Elena Rusakova
<i>Student</i>	Polina Aptikashева
<i>Student</i>	Semen Okunkov

Close Calls with Nuclear Weapons: Challenges and Possible Solutions

If you ask us a question: “How do you want the world to be in the 21st century? The answer will be quite simple: “Nuclear free!” It is impossible for people to forget about nuclear attacks on Hiroshima and Nagasaki, the disasters in Chernobyl and Fukushima, about people’s sufferings and deaths. Never! But during the past seventy years, the use of nuclear weapons was considered several times. Moreover, accidental launches of nuclear-tipped missiles have almost happened.

We are concerned about these problems as we are from a nuclear closed city where we were born, where we live with our families and friends. Our participation in the project will give us a unique chance to share opinions on the issue of nuclear vulnerability, to build friendships that will contribute to better understanding across cultures. We understand that no country can stop nuclear proliferation on its own, and that reducing nuclear threats of the 21st century requires broad international cooperation. We have found our own solutions for how to prevent any use of nuclear weapons, and how our study can enhance efforts towards the peace and security of a world free of nuclear weapons.

There may be reasons to be skeptical about a world free of nuclear weapons which include the current volatile political security circumstances in the world (for example, in the Middle East and South Asia), and the lack of much progress over the years on the issue. But the need of urgent action is clear. Today’s threats are dynamic. The response must be as well. We have investigated the close calls with nuclear weapons, examined how to reduce nuclear dangers and see the future of a world free from nuclear weapons!



Nagasaki Nanzan Senior High School Nagasaki, Japan http:// www.n-nanzan.ed.jp/	
<i>Teacher</i>	Tatsuya Suga
<i>Student</i>	Yoichiro Ohgai
<i>Student</i>	Takumi Tamaru

Understanding Nuclear Vulnerability and Our Efforts for a Peaceful World

In 1945, an atomic bomb was dropped on Nagasaki. The bomb named Fat Man brought disastrous damage to our city. In an instant, tens of thousands of people died. In the months following the attack, roughly 80,000 people died slowly as a result of radiation poisoning. The shocking human effects soon led many to cast doubts upon the use of the weapon, but even now, we are still exposed to the threat of nuclear power. Nuclear vulnerability can be explained from several points of view. There have been occasions when nuclear weapons were nearly used due to human error, machinery malfunction or various political issues. In addition, nuclear energy, which is intended to enrich our lives, has put us in serious danger. In 2011, Japan was devastated by the Great East Japan Earthquake. Nuclear energy had supplied us with abundant electricity, but after the horrendous earthquake, the energy suddenly became a great threat that endangers our lives. Although Japan has been making efforts to accelerate recovery from the earthquake, there are still a great number of people who have not been allowed to return to their homes because of radioactive contamination. It is said that it will take a great amount of time to let those people return home. Not only does nuclear power threaten safety but also it places a heavy economic burden on us. Japan has poured a huge amount of money into decommissioning nuclear reactors. The Japanese government estimates that it will cost 10 billion dollars to decommission Fukushima Daiichi Nuclear Power Station.

Because of our country's experiences, we, Japanese, understand the horror of nuclear power. In order to appeal for the abolition of nuclear weapons, our school, Nagasaki Nanzan, believes it important to deepen our understanding of each country's circumstances. Through Global Leadership Education (GLE) program, we have invited world-famous musicians from the Ukraine, Russia, and Israel to hold peace concerts at Urakami cathedral, which was destroyed by the atomic bomb. We have a strong belief that we can attract people's attention to world peace by having such famous musicians play for peace in Nagasaki. In preparing for the concert, we had a meeting on Skype with the Israeli Embassy, and after the concert we held a workshop with the musicians to exchange our opinions about world peace. Hoping to serve as an aid to the realization of the total abolishment of nuclear weapons, we plan to continue this program.



Pacific Grove High School Pacific Grove, CA pghigh.pgusd.org/	
<i>Teacher</i>	Karinne W. Gordon
<i>Student</i>	Sarah Bitter
<i>Student</i>	Eric Cuellar
<i>Student</i>	Henry Loh
<i>Student</i>	Zeus Marquez

Global Nuclear Security: An Environmental Perspective

The dropping of nuclear bombs on Hiroshima and Nagasaki created unprecedented environmental devastation. With the subsequent increase in both the power and number of nuclear weapons among only a handful of nations, our world faces the potential for global environmental catastrophe. We need to understand the long-term effects of nuclear fallout/radiation on human health, other biological life, soil, water, and the atmosphere, and we need to utilize safe methods for handling nuclear materials, in order to create a more secure environmental future.

Guest Speaker via Skype Dr. Benoit Pelopidas

Dr. Benoît Pelopidas is a lecturer (assistant professor with tenure) in International Relations at the University of Bristol (Global Insecurities Center), and an affiliate of the Center for International Security and Cooperation (CISAC) at Stanford University. For the year 2015-2016, he is a visiting fellow at the Princeton Institute for International and Regional Studies, working with their global systemic risk research cluster. He received his Ph.D. in politics from **The Paris Institute of Political Studies** (Sciences Po (Paris) and the University of Geneva.

He has been awarded two international prizes for his research - from the International Studies Association and the James Martin Center for Nonproliferation Studies. He also received the Swiss Network for International Studies' award for best dissertation of the year.

MIIS/CNS Student panel

Pursuing the peace and security of a world without nuclear weapons: educational and career opportunities in nonproliferation and disarmament

Sara Bidgood, MA in Nonproliferation and Terrorism Studies (2016)

Alex Kynerd, MA in Nonproliferation and Terrorism Studies (2016)

Ruby Russell, MA in Nonproliferation and Terrorism Studies (2016)

Sarah Bidgood is a master's degree candidate in James Martin Center for Nonproliferation and Terrorism Studies at the Middlebury Institute of International Studies at Monterey (MIIS). She is also a graduate research assistant at the Center for Nonproliferation Studies and the project manager for the Graduate Initiative in Russian Studies at MIIS. From January to May 2015, Sarah served as an intern at the UN Office for Disarmament Affairs in the WMD Branch, in which capacity she supported the Secretariat during the 2015 NPT Review Conference. Sarah holds a bachelor's degree in Russian from Wellesley College and a master's degree in Russian, East European, and Eurasian Studies from the University of North Carolina.

Alex Kynerd, born and raised in Mississippi, is pursuing a Master's degree in Nonproliferation and Terrorism Studies at the Middlebury Institute of International Studies at Monterey. He is currently a graduate research assistant at the James Martin Center for Nonproliferation Studies where he has worked on projects related to 3D modeling and export controls. In the fall of 2015, Alex interned at the United Nations Office for Disarmament Affairs and focused on issues including nuclear submarine proliferation and lethal autonomous weapons system development. Prior to enrolling in the Middlebury Institute, Alex conducted foreign and defense policy research in the DC think tank community and coordinated a Chinese language program for American high school students at the University of Mississippi. Alex received a B.A. in Chinese and a B.A. in International Studies from the University of Mississippi in 2013. His undergraduate thesis focused on China's role in Iran's ballistic missile program.

Ruby Russell is from Brooklyn, New York currently pursuing her Master's Degree in Nonproliferation and Terrorism Studies (NPTS) at the Middlebury Institute of International Studies at Monterey (MIIS). She received a BA in International Relations from the University of St. Andrews in Scotland, where she first became interested in the field of nuclear nonproliferation and disarmament. Following her graduation in 2013, Ruby returned to New York City where she spent a year working for a think tank

specializing in Iran's nuclear program. In addition to her studies at MIIS, Ruby works as a graduate research assistant at the James Martin Center for Nonproliferation Studies, and has also held internships at the Office of Multilateral Nuclear Security Affairs at the U.S. Department of State and the United Nations Office for Disarmament Affairs. In April 2015, Ruby had the opportunity to serve on the Chilean Delegation for the Nuclear Nonproliferation Treaty Review Conference at the United Nations Headquarters.



Ritsumeikan Uji Senior High School Kyoto, Japan http://www.ujc.ritsumei.ac.jp/uice/	
<i>Teacher</i>	Elliot Lui
<i>Student</i>	Akiko Mayumi
<i>Student</i>	Junna Muranishi

From the Past to the Future

We will focus especially on the four close calls we have chosen that we think we can learn different messages from each of them. The first close call we chose is the one that happened on October 25, 1962 during the Cuban Missile Crisis. This close call tells us how easily a simple mistake can lead people to face serious situations. Another close call of nuclear weapons happened a day after, due to a navigation error. This error caused an American pilot to fly over northern Siberia. From this close call we can learn how the United States and Soviet both think that nuclear weapons are powerful weapons. The third close call we will focus on was an unpredicted accident which almost could have led to a nuclear explosion. It happened on January 21, 1968. Nuclear explosion can happen anytime and the only way we can prevent it to happen is to ban the nuclear weapons. The last close call we will introduce happened on June 3, 1980. By providing the information that by the late 1970s, the United States and Soviets started using more computer systems, we will say that those new technologies can sometimes make mistakes and cause huge problems.

After introducing these close calls we will clearly state the need of banning nuclear weapons but at the same time how difficult it is to actually ban them completely. The main reasons of this are the relationships between countries (especially the United States and Russia) and the huge amount of money required to destroy nuclear weapons. We will focus on these two reasons. Lastly, we will introduce ways we think is the best to create a nuclear free world. We think that it is impossible to ban nuclear weapons completely within few years. While improving relationships between countries we think we should focus more on educating the next generation so these problems will be solved in the future. In addition, we should pass on the experience we had with the explosion in Hiroshima and Nagasaki.



Punahou School Honolulu, Hawaii https://www.punahou.edu/	
<i>Teacher</i>	Sergeant Major (Ret.) Gary Mobley
<i>Student</i>	Ryan Michael Ken Rossio
<i>Student</i>	Preston Breener Keneichi Wong

Nuclear Dangers and a Plan to Address Them

Punahou High School's Preston Wong and Ryan Rossio are uniquely placed to investigate the current situation of nuclear weapons and how it can be improved. Their research has included an interview with a survivor of the bombing of Hiroshima, experiencing the Sadako Peace Project, and information gathering from numerous sources. They have been exposed to a multitude of different perspectives on nuclear weapons and the danger they entail. Through their research Preston and Ryan have come to understand how the nuclear "near misses" that nearly led to the use of nuclear weapons occurred. They have created a description of how the world is vulnerable today, and shown the steps that can be taken to lessen the danger we all face. Their presentation, "Nuclear Dangers and a Plan to Address Them", is the product of their efforts.



Harker School San Jose, California https://www.harker.org/	
<i>Teacher</i>	Eric Nelson
<i>Student</i>	Manan Shah
<i>Student</i>	Tiffany Zhu

Historical Precedents and Policy Analysis in the Development of Proposed Nuclear Mishap Response Plans

Since 1945, the potential of nuclear proliferation has posed a major threat to global security and the balance of power. As the desire for nuclear weapons grew, so did their production, inevitably leading to a series of global nuclear mishaps for half a century. These mishaps were caused by a combination of technical errors and human negligence in scientific, military, and civilian incidents. The threat of these accidents is directly tied to the global nuclear inventory, with the size and age of nuclear weapons playing a key role in their vulnerability to mishaps.

Global nuclear vulnerability relies on a plethora of factors, many pertaining to the size and security of nuclear materials. Older nuclear states can glean major insights from their experience in preservation and maintenance of nuclear arsenals, but face new challenges pertaining to decaying armaments as well as emerging threats such as evolved terrorist networks and governmental actors who continue to develop cyber capabilities. Changing technological advancements and an evolving environment pose new challenges for security and require modern-day solutions that learn from past failures.

Significant changes must occur in the implementation of nuclear policy as well as the modernization of nuclear technology in order to reduce future risk of mishap and construct adequate response plans. A combination of eliminating the hair-trigger alert, reducing national reliance on nuclear weapons, and decreasing the number of deployed long-range weapons may provide a realistic countermeasure to the ever-increasing current threat of mutually assured destruction.



Kansai Soka Senior High school Katano, Japan http://www.soka.ed.jp/english/kansai/index.html	
<i>Teacher</i>	Ramon Paras
<i>Student</i>	Mahoko Yoshida
<i>Student</i>	Yuga Okamoto

Two humanistic weapons to transform global nuclear vulnerability

“Do not build your happiness upon the misfortune of others.” This is Kansai Soka Junior and Senior high school’s motto. Realizing this principle in today’s world is the mission of Kansai Soka students. Considering that the use and possession of nuclear weapons are the worst examples of building one’s happiness upon others’ misfortune, abolishing nuclear weapons is also the essential mission of Kansai Soka students. The focus of our final project is to identify a humanistic approach to abolishing nuclear weapons and transforming global nuclear vulnerability. Based on the motto of our school, we have concluded that Dialogue is the best action that citizens of the world, especially high school students, can take towards establishing a peaceful society, free of nuclear threat. Dialogue is an immensely powerful process, where we can find a common humanity, and bring out the best in both participants. Through our presentation, we will share specific methods for dialogue, and how to create new, positive value together, not just sharing opinions or words.



Gymnasium No. 41 Novouralsk, Russia http://gymnasium-41.narod.ru/	
<i>Teacher</i>	Liubov Shchekaleva
<i>Student</i>	Nikita Dvoriadkin
<i>Student</i>	Ivan Elin
<i>Student</i>	Iuliia Nikitenko

Nuclear Maze

We live in a nuclear world in which nuclear weapons is a major threat to the humanity. It is a new multipolar world with challenges that we can't ignore. One of the most important of them is the global nuclear vulnerability. The global nuclear vulnerability started in the 1960s. At that time it was ignored in the debates on the globalization of world politics. Now, the global nuclear vulnerability is on the agenda.

The number of nuclear weapons in global stockpiles is declining but the risks of a nuclear accident, accidental or unauthorized launches, misunderstandings or miscalculation, and radar or computer malfunctions appear to be growing. These risks can lead to unacceptable and terrifying humanitarian consequences.

Humanitarian impact of nuclear weapons is the most convincing argument for elimination of nuclear weaponry. Starting with the 2010 NPT Review Conference, governments officially expressed their "deep concern at the catastrophic humanitarian consequences of any use of nuclear weapons" and reaffirmed "the need for all States at all times to comply with applicable international law, including international humanitarian law".

How to find the right path in our nuclear maze?



Hiroshima Jogakuin Senior High School Hiroshima, Japan http://www.hjs.ed.jp/	
<i>Teacher</i>	Shogo Tsunemoto
<i>Student</i>	Moeko Nakayama
<i>Student</i>	Runa Imamura

Let's Get Out of the Nuclear Fuel Cycle!

Through research on nuclear vulnerability, we re-realized that there is no other way for us to survive than abolishing nuclear weapons. According to the Doomsday Clock, human beings are threatened to becoming extinct quite soon. There seems to be little time left for us. How we can get closer to a nuclear-free world? The first step we believe is for us to be "considerate to others" who we are living together with on this tiny planet named Earth. We believe that the younger generations can help change the current situation. Let's think about it together!



Choate Rosemary Hall Wallingford, Connecticut http://www.choate.edu/	
<i>Teacher</i>	James Davidson
<i>Student</i>	Arielle Landau
<i>Student</i>	Dylan Stafford

Global Nuclear Vulnerability: Threats Seen and Unseen

There is no doubt that nuclear weapons have played an important role in keeping the world safe and supporting the peace process in many ways for the past 70 years. There has not been a global war in part because of the prospect of destruction on a massive scale. The pain, suffering, and death that these weapons threaten have kept things in balance effectively, so effectively that the threat they pose, and in fact their very existence, is all but invisible to most people. Those few scholars and diplomats who are aware of the final document in the 2015 NPT Review Conference know that it expressed a continuing “deep concern at the continued risk for humanity represented by the possibility that these weapons could be used and the catastrophic humanitarian consequences that would result from their use.” In addition, the environmental and economic consequences of the mere existence of these weapons – and the fact that these weapons are sought by additional nations today – loom large, so large that they threaten the very balance that they are supposed to guarantee; they pose many threats, both seen and unseen. We will explore several of these threats that we see are especially critical, first to highlight some of the less obvious threats so that their significance can be understood and then to propose ways to diminish the threats, especially the lack of trust between nuclear weapons states – and states that feel that they must join that select “club” for their safety and prestige. We believe that the threat of nuclear weapons is real and must be brought to the attention of all peoples and nations so that it can be acknowledged and reduced.

We will also examine some of the uses – developmental assistance, education, disaster relief, and providing real relief for impoverished peoples – which the money that is currently spent on building, updating, securing and maintaining nuclear weapons could be redirected toward. We assert that such a redirection of funds would provide an even great degree of security for all concerned. We acknowledge that there are many hurdles in the way of even considering – let alone implementing – some of our proposals and redirecting the funds currently tied up in the militarization of nuclear technology. We acknowledge that such a venture seems idealistic, but assert that it is an ideal that must be pursued, given what is at stake.

Conversation with Former US Defense Secretary William Perry, and Ms.
Robin L. Perry, Executive Director of the William J. Perry Project.
A personal Journey to reduce the nuclear threat, and the importance of
youth education in that endeavor

Moderated by Dr. William Potter, CNS Director

Dr. William Perry, the 19th Secretary of Defense for the United States from February 1994 to January 1997, is the Michael and Barbara Berberian Professor (emeritus) at Stanford University. He is a senior fellow at the Freeman Spogli Institute and the Hoover Institution, and serves as the director of the Preventive Defense Project. He is the author of “My Journey at the Nuclear Brink.”

As secretary of Defense, Dr. Perry galvanized efforts to secure nuclear stockpiles inherited by former Soviet states and presided over the dismantlement of more than 8,000 nuclear weapons. Since then he has unrelentingly practiced a unique form of diplomacy that blends his warm personal relationships with officials in many countries with diplomatic initiatives focusing on the world's most critical security hotspots, including North Korea, Iran, Russia and China.

In 2007, Dr. Perry, George Shultz, Sam Nunn and Henry Kissinger together formed the Nuclear Security Project, to share the vision of a world free from nuclear weapons with urgent but practical steps that can be taken immediately to reduce nuclear dangers. To implement this imperative, Dr. Perry also founded the William J. Perry Project in 2013, educating a new generation of young people to understand the nuclear threat and work to eliminate it.

Dr. Perry was awarded the U.S. Presidential Medal of Freedom and has received decorations from the governments of Albania, Bahrain, France, Germany, Hungary, Japan, Korea, Poland, Slovenia, and Ukraine. He received a BS and MS from Stanford University and a PhD from Pennsylvania State University, all in mathematics.

Ms. Robin L. Perry is the Executive Director of the William J. Perry Project (<http://www.wjperryproject.org/>) whose mission is to educate and engage the public about the dangers of nuclear weapons in the 21st century. The Perry Project provides instructive content to stimulate an informed and broadly inclusive public conversation about the role of nuclear weapons in today's world. The Perry Project has worked closely with young people to learn how best to convey its urgent message to them and their peers. Ms. Perry is the editor of “My Journey at the Nuclear Brink.”

Overall Assessment

Professor Mitsuru Kurosawa

Osaka Jogakuin University

Dr. Mitsuru Kurosawa is Professor of the Osaka Jogakuin University and Professor Emeritus of the Osaka University. He is a pioneer of disarmament and nonproliferation education in Japan, and published numerous books, articles and book chapters. He is the founding president of the Japan Association of Disarmament Studies, and has served as an advisor to the Japanese delegation to the last five NPT Review Conferences. He was also a visiting scholar at the James Martin Center for Nonproliferation Studies in 2003-2004.



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Critical Issues Forum

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