

**United States Strategic Command  
Student Research Presentations  
USSTRATCOM Theater, Offutt AFB**

**8 MAY 2017**

**7:30-9:00 ARRIVAL and SETUP**

**9:00-9:20 OPENING REMARKS**

*Mr. Leo Florick, Deputy Division Chief, J55, U.S. Strategic Command*

**9:20-10:00 PRESENTATION #1: “Deterring China in Space: Protecting U.S. Satellite Infrastructure”**

Abstract: The objective of this paper is to call attention to the rising threat that China poses against the United States satellite defense systems and to offer recommendations on how best to deter this threat. Within the past ten years, China has expressed, invested, and tested its capability to destroy satellites, paralyze the systems, and take control of compromised satellites. This investment made by China is a major threat to the U.S. in the space theater, especially due to the current lack of defensive capabilities. In this paper, we would thoroughly examine the satellite infrastructure of the United States, with a major focus on the defensive capabilities of this infrastructure. Lastly, through our examinations we will offer recommendations on ways to improve the defensive capabilities of U.S. space assets and how this will deter China.

Presenters: Jennifer Hohenberger, Kelley McCaa, Attison Paxton,—University of Nebraska Omaha

Advisor: Dr. Lana Obradovic

**10:00-10:40 PRESENTATION #2: “Recapturing the Right Stuff: Another Step Towards a United States Grand Strategy for Space”**

Abstract: A new strategy and vernacular needs to guide US presence and leadership to shape and respond appropriately to escalatory actions within the Space Domain in order to enable continued other government, civil and commercial exploitation space operations while preserving US National Security advantages .

Presenter: Lt Col David Anderson—National Defense University

Advisor: Paul Bernstein

**10:40-11:00 BREAK**

**11:00-11:40 PRESENTATION #3: “The Future of Strategic Partnerships in East Asia”**

Abstract: As China grows its influence in the region and beyond, will existing alliances produce the needed partnerships for the future environment? How do engagements with current partners need to change/evolve to meet future security goals? Based on the changing world, the U.S. must be willing to critically examine its current partnerships, as well as be creative with establishing new, mutually beneficial, alliances.

Presenters: Joe Lindeman, Henry Imperial, Gavin Fusco —University of Nebraska Lincoln

Advisor: Dr. Christopher Bohn (ROTC)

**11:40-12:20 NO HOST LUNCH (STRATCOM CAFETERIA)**

**12:20-1:00 PRESENTATION #4: “Balancing Chinese Ambition with US Obligation in the South China Sea: A Future Scenario Analysis”**

Abstract: US and Chinese ambitions in the South China sea seem destined to clash. The US has decades old security agreements in the region but China has centuries old ambitions of territorial expansion. Will the rise of China precipitate the conflict that so many observers have warned about or is a peaceful rise possible? In this research project, we detail four possible future scenarios that could unfold over the next 20 years using a scenario planning methodology. We also highlight key areas of potential conflict and cooperation and propose key policy suggestions to help the US maintain its national security and economic interests in the South China Sea.

Presenters: Rachel Urban, Riley Barrett, Lauren Taylor, Tristan Hilderbrand, Kiera Welch—University of Nebraska Lincoln

Advisor: Dr. Tyler White

**1:00-1:40 PRESENTATION #5: “Hypersonic Weapons and Arms Control”**

Abstract: Hypersonic weapons have again become a weapon being actively developed by three states: the United States, Russia, and China. Hypersonic missiles are faster, longer-reaching, and fly at lower trajectories than ballistic missiles. Determining whether hypersonic weapons could fit into existing arms control agreements or whether hypersonic weapons need new agreements is valuable information for future policy decisions. Also, determining the interests of each state in the development of hypersonic weapons and why they are choosing to do so is valuable research. This paper asks three questions: Is it in the United States’ interest to control hypersonic weapons? How can the United States convince Russia and China that controlling hypersonic weapons is in their interest? What would hypersonic weapon control agreements look like? These questions will be researched by detailing capabilities of hypersonic weapons, reviewing current arms control agreements, outlining the interests of Russia and China with these weapons, and developing a framework for a successful arms control agreement regarding these weapons. Our initial hypotheses are that it is in the interest of the United States to develop arms control agreements for hypersonic weapons, Russia and China can be convinced to control the weapons, and bilateral agreements are the best agreements..

Presenters: Alex Coe, Melissa Throener, Janae Aune,—University of Nebraska Lincoln

Advisor: Dr. Rupal Mehta

**1:40-2:00      BREAK**

**2:00-2:40      PRESENTATION #6: “Integrated Deterrence Strategy of the Advancing Battlefield”**

Abstract: The purpose of this project is to assess a comprehensive, realistic and integrated deterrence strategy of nuclear, conventional, and cyber capabilities on the battlefield. Technology and weapons on the battlefield are advancing exponentially such as electromagnetic pulse ordinances (EMP), kinetic weapons, high energy weapons, robotic/sentry applications, and cyber attack capabilities. To maintain an effective deterrent strategy the US military requires the capability to defend and attack with these potential battlefield equalizers. Defending against these advancements in technology could partially be achieved by ensuring military training is not dependent upon technology in jobs such as infantry, armor, and motor transport as well as naval and air assets. An immediate but temporary solution to defend against these advancements in technology would be utilizing manual and mechanical means of communication, navigation, and weaponization where possible. Deploying counter cyber assets on the battlefield will be necessary to attack with and defend military assets in the near future. Department of Defense (DoD) spending and resource allocation may need to change to focus on developing military assets in this way. Maintaining a functional and capable military is vital to a comprehensive US deterrent strategy..

Presenter: Jacob Harberts—University of Northern Iowa

Advisor: Dr. Evan Renfro

**2:40-3:20      PRESENTATION #7: “Traditional Deterrence and “Gray Zone” Conflicts”**

Abstract: The object of this paper is to assess and analyze the threats and challenges that "Gray Zone" conflicts pose to the United States. While the United States has been the most dominant conventional military power since the end of the Cold War, in more recent years, an increasing number of nations are moving away from traditional warfare toward more calculated and deliberately designed strategies that remain below the threshold of conventional military conflict and open interstate war yet extremely aggressive and competitive. This paper will first define the "Gray Zone" by tracing the history of the concept and its practice. Next, by examining Iran's attempt to destabilize the Middle East and Chinese expansionism in the South China Sea, we will analyze and assess the application of the United States' deterrence strategy to "Gray Zone" conflicts. It will argue that although the United States' conventional military superiority might deter some, there is no "one size fits all" approach to "Gray Zones" as they all differ dramatically. More specifically, our national interests can be best protected by having regional subject matter experts working closely with small, rapid Special Operations Forces units to gain a better understanding of local conditions, identify political actors and provide support to friendly groups and movements that will neutralize the threat to our national interests. We propose sharing intelligence with friendly, concerned political actors, and providing ISR support for their activities so that they may more effectively counter “Gray Zone” threats..

Presenters: Devin Beck, Eunice Lopez, Juan Membreno,—University of Nebraska Omaha

Advisor: Dr. Lana Obradovic

**3:20-3:30**

**CLOSING REMARKS**

*Mr. Leo Florick, Deputy Division Chief, J55, U.S. Strategic Command*

**3:30**

**DEPART HQ USSTRATCOM**