Before We Get Started

Remember to register your attendance and complete session evaluations.

Session numbers are in your program.

Attendance

**Online Handouts**

Session Evaluations

Dr. Rich Edwards

- **Professor at Baylor University**

- **Former President, American Forensic Association**

- **College Debate Coach for 25 Years**

- **Member of the National Federation of High Schools and National Speech and Debate Association Hall of Fame**

- **Author of *Policy Debate Quarterly***

- **Author of *Competitive Debate: The Official Guide***
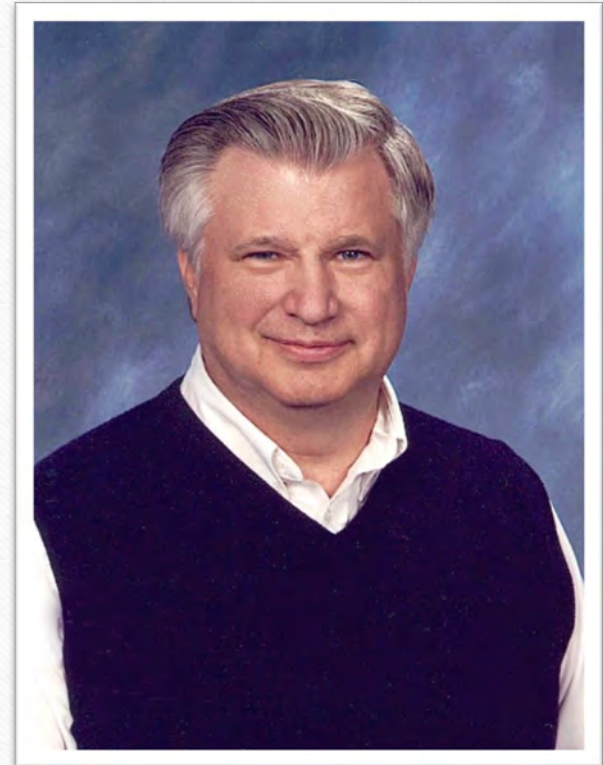
NATO/EMERGING TECHNOLOGIES TOPIC AFFIRMATIVE

Resolved: The United States federal government should substantially increase its security cooperation with the North Atlantic Treaty Organization in one or more of the following areas: artificial intelligence, biotechnology, cybersecurity.

What is "Security Cooperation With NATO?"

NATO & ARTIFICIAL INTELLIGENCE

NATO, SUMMARY OF THE NATO ARTIFICIAL INTELLIGENCE STRATEGY, 2021 (18 Standards)
https://www.nato.int/cps/en/natohq/official_texts_187617.htm

- ❖ 3. Identify and safeguard against the threats from malicious use of AI by state and non-state actors

- ❖ 4. AI applications will be developed and used in accordance with national and international law, including international humanitarian law and human rights law

- ❖ 4. Integrate AI in an interoperable way

- ❖ 5. Under the forthcoming Defence Innovation Accelerator for the North Atlantic (DIANA), national AI test centres could support NATO's AI ambition

- ❖ 9. Underpinning the safe and responsible use of AI, NATO and Allies will consciously put Bias Mitigation efforts into practice. This will seek to minimise those biases against individual traits, such as gender, ethnicity or personal attributes

- ❖ 16. AI can impact critical infrastructure, capabilities and civil preparedness

Ban lethal autonomous weapons systems (LAWS)

Harm: Violates international humanitarian law; lowers the threshold to war; escalation to nuclear war

Inherency: US opposition is a key obstacle to a ban

Solvency: US provides an example that will create momentum for a ban

Place to begin: https://www.hrw.org/news/2021/12/19/killer-robots-military-powers-stymie-ban

AI Interoperability

Harm: Failure to agree on ethical principles for the use of AI is blocking uptake. AI essential to deter war.

Inherency: U.S. leadership on ethical standards for AI is lacking

Solvency: Agreement on ethical principles = AI uptake in NATO

Place to begin: https://cepa.org/nato-leadership-on-ethical-ai-is-key-to-future-interoperability/

DEFENCE INNOVATION ACCELERATOR FOR THE NORTH ATLANTIC (DIANA)

Harm: NATO's failure to stay up to date with AI research will invite attack

Inherency: U.S. has not yet signed onto DIANA

Solvency: U.S. support will make the difference in making DIANA a success

Defence Innovation Accelerator for the North Atlantic (DIANA)

By Maria Vitoria Santana

Place to Begin: https://cepa.org/getting-nato-innovation-right/

REMOVING GENDER BIAS FROM MACHINE LEARNING SYSTEMS

Harm: Gender bias in military applications of AI promotes gender-based violence, enables deep fakes, and fails to consider the role of gender in engagement decision making.

Inherency: Military applications of AI currently embed gender stereotypes.

Solvency: A gender-based approach to human–machine interactions calls for a ban on military applications of AI that exacerbate gender-based harms.

Place to Begin: https://unidir.org/sites/default/files/2021-12/UNIDIR_Does_Military_AI_Have_Gender.pdf

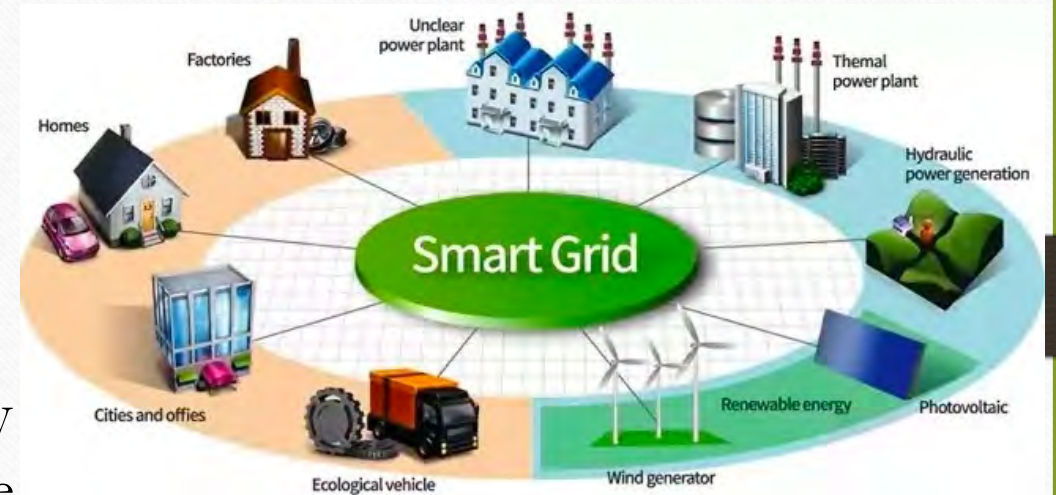Sex and Gender Bias in Artificial Intelligence

AI AND THE SMART ELECTRICAL GRID

Harm: The rate of climate change threatens human civilization and all life on Earth.

Inherency: At present, the state of the U.S. electrical grid hampers the development of renewable energy.

Solvency: A smart, AI-enabled electrical energy grid will speed the development of renewable energy and dramatically increase the positive impact of existing wind and solar installations.

Place to Begin: https://www.intel.com/content/www/us/en/newsroom/opinion/tech-can-solve-grids-climate-change-challenge.html#gs.3b79wz

Quantum Computing

Harm: Advances in quantum computing will massively increase China's power and influence; quantum computers will break all existing encryption and create financial chaos.

Inherency: The federal government currently undervalues quantum computing; the Quest Act was dropped from consideration.

Solvency: Pass the Quest Act

Place to Begin: https://www.theweek.co.uk/news/technology/955603/what-is-the-quantum-apocalypse

Autonomous Swarming Drones

Harm: Russian aggression is ongoing; the same devastation now visited on Ukraine will spread

Inherency: Biden administration defense stance is overly cautious on the use of swarming drones

Solvency: Develop and deploy AI-enabled swarming drones on NATO's eastern frontier

Place to Being: https://www.geopoliticalmonitor.com/warfare-evolved-drone-swarms/

Facial Recognition & Privacy Protection

Harm: Privacy is fundamental & is undermined at present by AI systems

Inherency: Privacy protections are inadequate at present

Solvency: The U.S. should follow the EU in the adoption of the General Data Privacy Regulation (GDPR)

Place to Being: https://9to5mac.com/2021/09/08/us-gdpr-style-federal-law/

Artificial General Intelligence & The Singularity

Harm: AI systems will continue an exponential growth rate, reaching the singularity and ending human life on Earth.

Inherency: Current failure to regulate AI

Solvency: All necessary steps (kill switches, etc.) must be taken to maintain human control of AI.

Place to Being: https://interestingengineering.com/technological-singularity-an-impending-intelligence-explosion
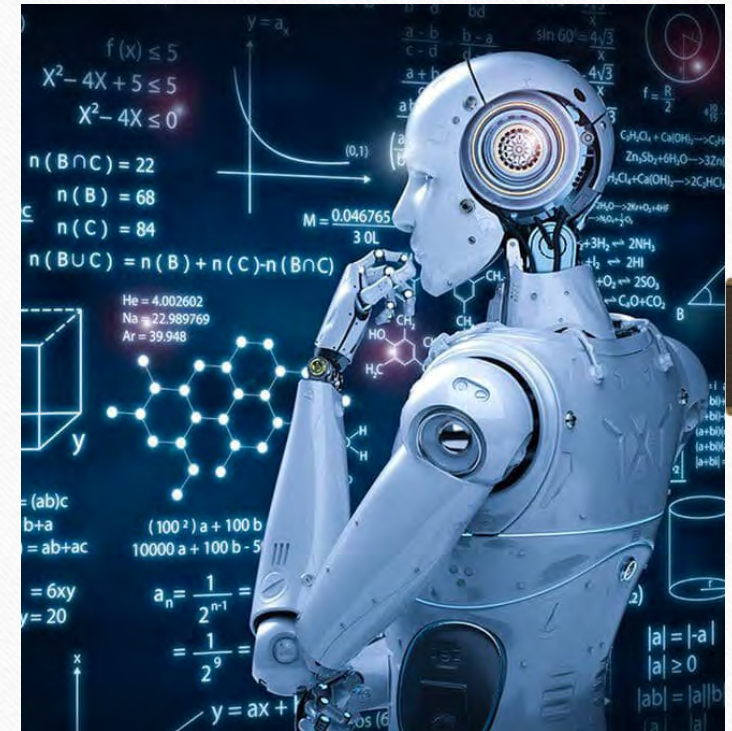
NATO & Biotechnology

Gitanjali Adlakha-Hutcheon, et al. (NATO Science & Technology Organization), BIOTECHNOLOGY, HUMAN ENHANCEMENT AND HUMAN AUGMENTATION: A WAY FORWARD FOR RESEARCH AND POLICY, Dec. 2021. https://www.sto.nato.int/publications/STO%20Technical%20Reports/Forms/Technical%20Report%20Document%20Set/docsethomepage.aspx

Needed: An agreed legal framework for the use of biotechnologies for human enhancement. The absence of such effort will impact on interoperability between allies and maneuverability against the adversary.

NATO Allied Command, PANDEMICS AND INTERNATIONAL SECURITY: THE OUTLOOK FOR NATO, 2022. https://www.sipotra.it/wp-content/uploads/2022/02/Pandemics-and-international-security-The-outlook-for-NATO.pdf
NATO was already committed to improve the resilience of Allies, for instance by articulating in 2016 the baseline requirements for national resilience including civil preparedness. Covid-19 showed how a pandemic can challenge such resilience, also by exposing nations' limits and difficulties to cooperate. In light of this experience, the Alliance is reflecting on how to improve its capacity to help member states to face pandemics, also by reviewing the aforementioned resilience requirements, and should move forward in this regard.

Ban Germline Genetic Engineering

Harm: Eugenics, dehumanization, playing God with the gene pool

Inherency: No current ban exists; while public funding is banned, private funding is allowed.

Solvency: Ban germline genetic engineering in the U.S.

Place to Begin: https://time.com/5550654/crispr-gene-editing-human-embryos-ban/

Biological Enhancement of Soldiers

Harm: Military personnel are subjected to loss of limbs, chemical contamination, etc.

Inherency: Current federal restrictions on genetic engineering hamper research on protecting military personnel.

Solvency: The federal government should increase funding for genetic engineering research.

Place to Begin: https://www.army.mil/article/198685/army_scientists_regrowing_limbs_could_be_the_future_for_military_medicine

Development of Vaccines

Harm: Covid-19 pandemic killed millions and devastated economies; future pandemics will be worse.

Inherency: The U.S. government is not prepared for the next pandemic.

Solvency: Adopt and fully fund the Apollo Program for Biodefense

Place to Begin: https://biodefensecommission.org/reports/ the-apollo-program-for-biodefense-winning-the-race-against-biological-threats/
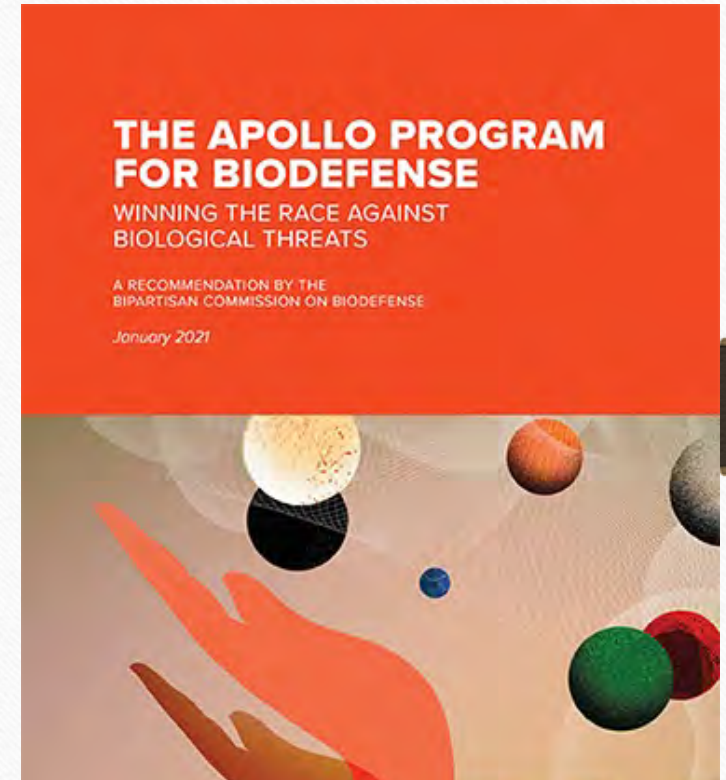
NATO & Cybersecurity

NATO, BRUSSELS SUMMIT COMMUNIQUE, (Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Brussels 14 June 2021), June 14, 2021. Retrieved Feb. 16, 2022 from https://www.nato.int/cps/en/natohq/news_185000.htm

We remain committed to act in accordance with international law, including the UN Charter, international humanitarian law, and international human rights law as applicable. We will promote a free, open, peaceful, and secure cyberspace, and further pursue efforts to enhance stability and reduce the risk of conflict by supporting international law and voluntary norms of responsible state behaviour in cyberspace.

NATO & Cybersecurity

NATO, NATO CYBER DEFENCE, Apr. 2021. Retrieved Mar. 10, 2022 from
https://www.nato.int/nato_static_fl2014/assets/pdf/2021/4/pdf/2104-factsheet-cyber-defence-en.pdf

Cyber defence is part of NATO's core task of collective defence . . . Allies keep full ownership of these capabilities – just as Allies own tanks, ships and aircraft.

As in all other domains, in cyberspace NATO's actions are defensive, proportionate and in line with international law.

Allies agree that we all stand to benefit from a rules-based, predictable, open, free, and secure cyberspace. While each Ally is responsible for its own cyber defences, NATO serves as a platform for Allies to consult on cyber defence issues, share information on cyber threats, exchange best practice, and coordinate activities.
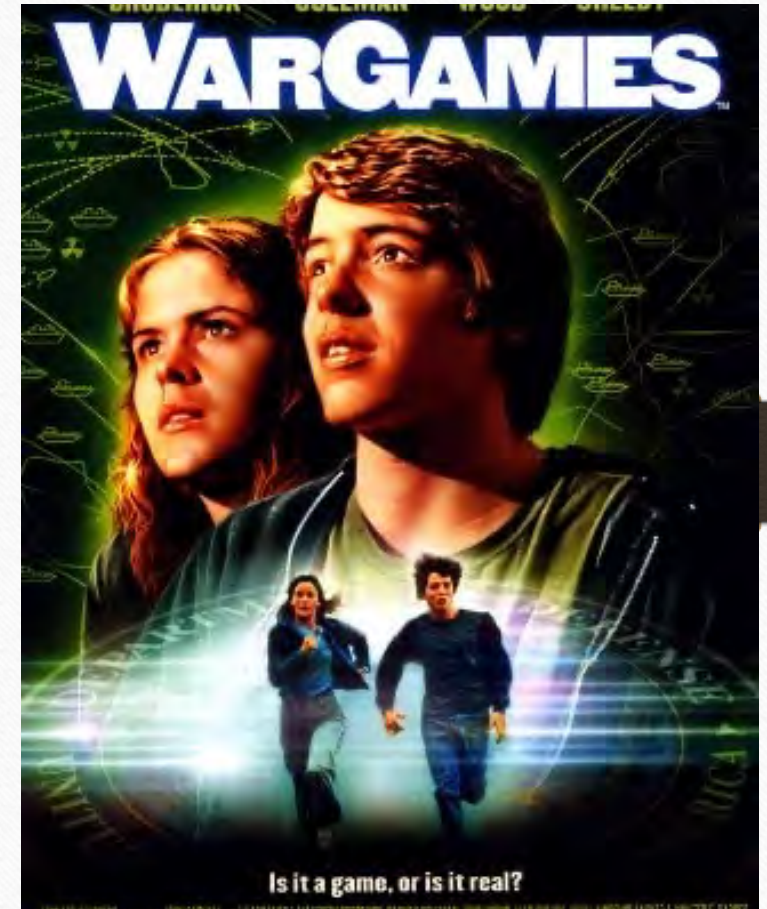
Ban Offensive Cyber

Harm: Offensive cyber attacks risk escalation – they are seen as a prelude to attack. Attacks on missile systems are especially risky.

Inherency: Both the Trump and Biden administrations are committed to offensive cyber attacks

Solvency: Banning offensive cyber attacks reduces the risk of war

Place to Begin: https://ciss.org.pk/offensive-cyber-operations-and-nuclear-weapons/

Increase Defensive Cyber

Harm: Cyberattacks cause major economic harm and threaten U.S. national security

Inherency: The U.S. spends $6 on offensive cyber for every $1 spent on defensive

Solvency: Refocus U.S. priorities on cyber defense

Place to Begin: https://www.rand.org/pubs/perspectives/PEA512-1.html

Designate Space as Critical Infrastructure

Harm: U.S. space assets are vulnerable; cyber attacks in space threaten U.S. national security

Inherency: Biden administration refuses to designate space as a critical infrastructure

Solvency: Designating space as a critical infrastructure would decrease the risk of war; attackers would be on notice

NOVEMBER 2021

Designating the U.S. Space Sector as Critical Infrastructure

Place to Begin: https://www.insaonline.org/wp-content/uploads/2021/11/INSA_WP_Space_v3.pdf

Cybersecurity Education

Harm: Cybersecurity shortage; inadequate diversity in STEM education

Inherency: Federal support for STEM education & STEM diversity is inadequate

Solvency: Pass the Supporting STEM Learning Opportunities Act (H.R. 6521)

Place to Begin: https://www.csis.org/blogs/perspectives-innovation/us-should-strengthen-stem-education-remain-globally-competitive
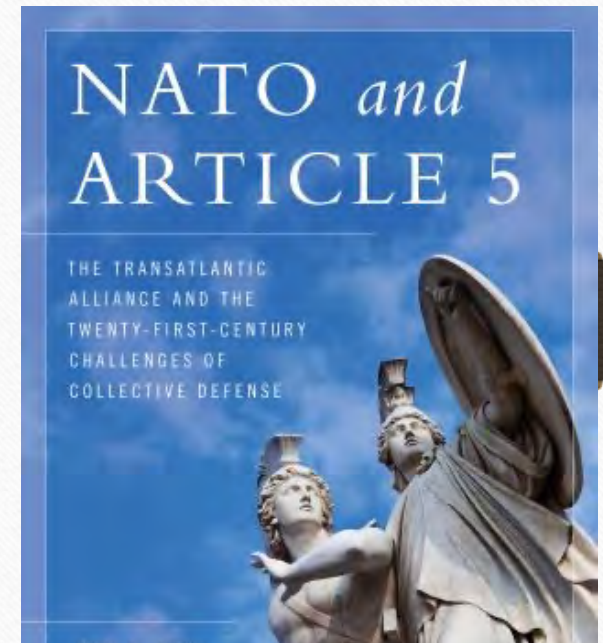
Agreement on the Cyber Attack Trigger for Article V

Harm: Ambiguity about what type of cyberattack might trigger Article V will lead to war with Russia.

Inherency: The current declaration about cyber attacks and Article V is ambiguous

Solvency: The U.S. should lead NATO in a consensus that cyber attacks should receive a cyber response, not the triggering of Article V

Place to Begin: https://www.politico.com/news/magazine/2022/04/27/nato-credibility-cyber-defense-pledge-russia-ukraine-00027829

NATO *and* ARTICLE 5

THE TRANSATLANTIC ALLIANCE AND THE TWENTY-FIRST-CENTURY CHALLENGES OF COLLECTIVE DEFENSE

Cyber Attribution (Naming & Shaming)

Harm: Cyber attacks abound, risking financial and national security.

Inherency: Cyber attribution is used ineffectively at present.

Solvency: Cyber attribution will effectively deter if done meeting proper international evidence standards.

Place to Begin: https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=2980&context=ils

Protecting Elections From Cyber Attacks

Harm: Actual and potential cyber attacks undermine confidence in U.S. elections

Inherency: Funding for election security is inadequate.

Solvency: Proper protection of voting systems will preserve confidence in American democracy.

How Can We Increase Confidence in Election Security?

Place to Begin: https://www.rand.org/pubs/perspectives/PEA512-1.html

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