

## Dr. Rich Edwards

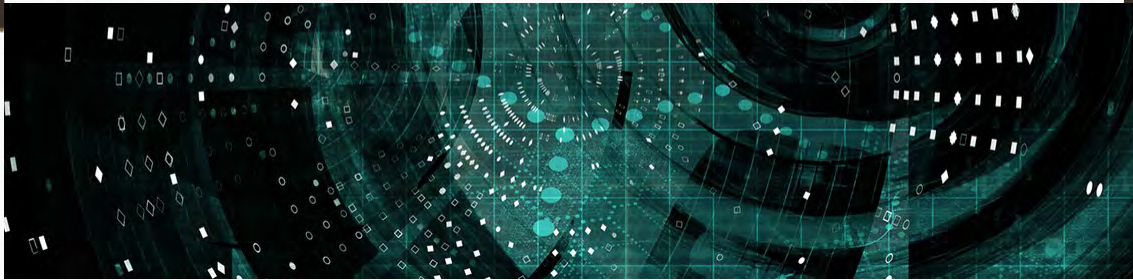
- Professor at Baylor University
- Former President, American Forensic Association
- College Debate Coach for 25 Years
- Member of the National Federation of High Schools and National Speech and Debate Association Hall of Fame
- Author of *Policy Debate Quarterly*
- Author of *Competitive Debate: The Official Guide*



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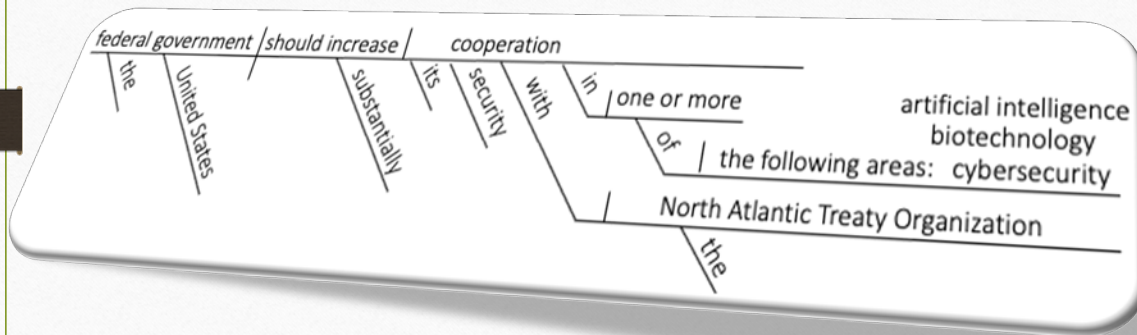
## NATO/EMERGING TECHNOLOGIES TOPIC AFFIRMATIVE

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.



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## WHAT IS “SECURITY COOPERATION WITH NATO?”



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## 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](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

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## 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>



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## 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/>



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## 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

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



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## 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](https://unidir.org/sites/default/files/2021-12/UNIDIR_Does_Military_AI_Have_Gender.pdf)



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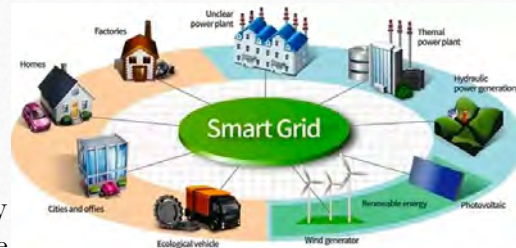
## AI AND THE SMART ELECTRICAL GRID

**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>



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## 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>



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## 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/>

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## 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/>

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## 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>



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## 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.

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## 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/>

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## 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](https://www.army.mil/article/198685/army_scientists_regrowing_limbs_could_be_the_future_for_military_medicine)

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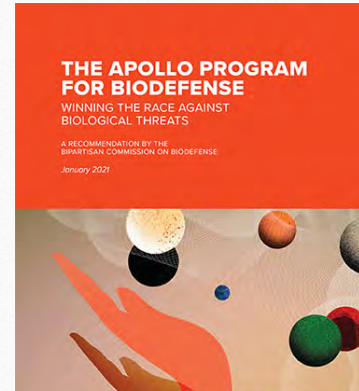
## DEVELOPMENT OF VACCINES

**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/>



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## 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](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.

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## 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](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.

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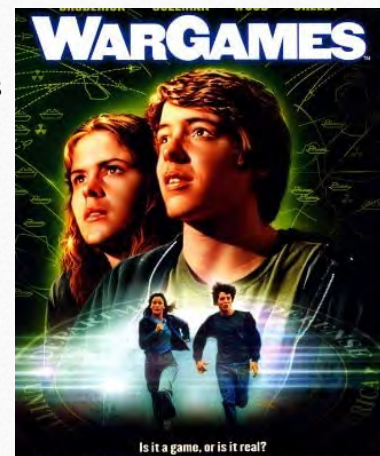
## BAN OFFENSIVE CYBER

**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://ciiss.org.pk/offensive-cyber-operations-and-nuclear-weapons/>



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## 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>

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## 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



**Place to Begin:** [https://www.insaonline.org/wp-content/uploads/2021/11/INSA\\_WP\\_Space\\_v3.pdf](https://www.insaonline.org/wp-content/uploads/2021/11/INSA_WP_Space_v3.pdf)

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## 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>



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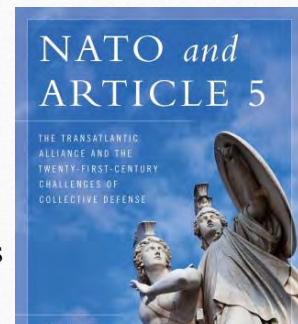
## AGREEMENT ON THE CYBER ATTACK TRIGGER FOR ARTICLE V

**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>



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## 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>



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## 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.

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



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