# CNA

# Artificial Intelligence in Nuclear Operations

*Rapporteur: Kaia Haney*

On April 20, 2023, CNA's National Security Seminar (NSS) series hosted a virtual panel discussion on the challenges, opportunities, and risks presented by the incorporation of artificial intelligence (AI) into nuclear operations (see recording here). The event was centered on a recently released CNA report exploring this topic. The US State Department's Assistant Secretary for the Bureau of Arms Control, Verification, and Compliance, Mallory Stewart, provided opening remarks. The event also featured Dr. Timothy McDonnell, research analyst with CNA, nuclear weapons policy expert, and the lead author of the report. He was joined by Dr. Paul Scharre, vice president and director of studies at the Center for a New American Security. After Dr. McDonnell shared key findings from the report and Dr. Scharre presented some initial remarks on the military uses of AI, the two engaged in a robust discussion and answered questions from the audience. The event was moderated by Dr. Larry Lewis, an AI expert and principal research scientist with CNA. Resources referenced during the event and other relevant research are linked below.

# Additional Resources

Paul Scharre, "AI's Human Advantage," War on the Rocks, Apr. 10, 2023, https://warontherocks.com/2023/04/ais-inhuman-advantage/.

**US State Department**

"Political Declaration on Responsible Military Use of Artificial Intelligence and Autonomy," US Department of State, Feb. 16, 2023, https://www.state.gov/political-declaration-on-responsible-military-use-of-artificial-intelligence-and-autonomy/.

**US Department of Defense**

"DOD Adopts Ethical Principles for Artificial Intelligence," US Department of Defense, Feb. 24, 2020, https://www.defense.gov/News/Releases/Release/Article/2091996/dod-adopts-ethical-principles-for-artificial-intelligence/.

DOD Responsible AI Working Council, *Responsible Artificial Intelligence Strategy and Implementation Pathway*, US Department of Defense, June 2022, https://media.defense.gov/2022/Jun/22/2003022604/-1/-1/0/Department-of-Defense-Responsible-Artificial-Intelligence-Strategy-and-Implementation-Pathway.PDF.

 "2022 Nuclear Posture Review" in *2022 National Defense Strategy,* US Department of Defense, Oct. 2022, https://s3.amazonaws.com/uploads.fas.org/2022/10/27113658/2022-Nuclear-Posture-Review.pdf.

**CNA Research**

Tim McDonnell, Mary Chesnut, Tim Ditter, Anya Fink, Larry Lewis, and Annaleah Westerhaug, *Artificial Intelligence in Nuclear Operations: Challenges, Opportunities, and Impacts*, CNA, IRM-2023-U-035284, Apr. 14, 2023, https://www.cna.org/reports/2023/04/ai-in-nuclear-operations.

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Andy Ilachinski and Dave Broyles, "AI with AI," CNA podcast, https://www.cna.org/our-media/podcasts/ai-with-ai.

More information on CNA's nuclear research program can be found here.

More CNA research on strategic competition can be found here.

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