

# Amy J. Nelson, Ph.D.

David M. Rubenstein Fellow | Foreign Policy Program | The Brookings Institution  
Research Associate | Center for International Security Studies at Maryland | School of Public Policy  
Adjunct Faculty | Department of Defense and Strategic Studies | Missouri State University

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## CAREER SUMMARY

- Ph.D. in political science with research and policy experience in defense innovation, emerging and evolving dual-use technologies, nonproliferation, the evolution of arms control, new European defense initiatives, and transatlantic cooperation.
- Strong track record of research, funding, media and publication. Background in neuroscience of decision-making; extensive experience utilizing scientific and technical information to inform policy recommendations.
- Policy experience within U.S. Department of Defense on arms control verification regimes and violation management, and within U.S. Department of State representing U.S. interests abroad in international fora, negotiating arms control agreement updates, and implementing domestic and international arms traffic regulations; reported violations of the Arms Export Control Act to Congress. Top Secret clearance.

## WORK EXPERIENCE

September 2021- **Brookings Institution, Washington, D.C.**

Present **Foreign Policy Program and the Center for Security, Strategy and Technology**

*David M. Rubenstein Fellow*

Research and analysis on arms control, nonproliferation, emerging technologies, defense innovation, and transatlantic relations.

June 2020- **Department of Defense and Strategic Studies, Missouri State University, Fairfax, VA**

Present *Adjunct Faculty*

Teach courses to graduate students: “Science, Technology and Defense Policy” and “Arms Control Theory and Practice.”

September 2019- **Missile Dialogue Initiative, International Institute for Strategic Studies**

Present *Advisory Board Member*

The aim of the Missile Dialogue Initiative is to strengthen international discussion and to promote a high-level exchange of views on missile technologies and related international security dynamics.

August 2018- **National Defense University, Fort McNair, Washington, D.C.**

August 2021 **Center for the Study of Weapons of Mass Destruction,**

*Research Fellow*

Research, policy advising and education on issues at intersection of emerging technologies and arms control in a changing security landscape. Deputy Director of Graduate Fellows Program. Advised student research, teach NDU course on deterrence, policy support to DTRA OB on future treaty verification regimes. Innovated “WMD Educator’s Forum” to bridge gaps in WMD education in professional military education and academia.

- July 2017 –  
July 2018      **Robert Bosch Foundation Fellow, Berlin, Germany**  
**Deutsche Gesellschaft für Auswärtige Politik e.V. (DGAP, German Council on Foreign Relations)**
- Researched German development of emerging and dual-use weapons technologies, impact on transatlantic relations, prospects for U.S.-German cooperation in coproduction and codevelopment of novel weapons systems, merits of competition in these areas of innovation, as well as potential for U.S.-German partnership in leading a new endeavor to prevent the spread of emerging weapons technologies.
- November 2016-  
Present      **Center for International Security Studies at Maryland (CISSM)**  
**School of Public Policy, University of Maryland College Park**  
*Research Scholar*
- Currently:* CISSM Seed Grant (with Dr. Naoko Aoki) for research paper on how the Quadrilateral Security Dialogue (the Quad) can best cooperate on innovation in the realm of emerging technologies. *Previously:* Carnegie Corporation of New York-funded project on public-private partnerships in defense innovation and impact on nonproliferation: comparative study of national models of dual-use innovation in US and Germany; Stanley Foundation-funded research on digital diffusion of emerging and evolving weapons and dual-use technologies; UMD-funded working paper on the impact of uncertainty about security on arms control negotiations and effectiveness of negotiated agreements on managing uncertainty.
- September 2016-  
December 2017      **The Stimson Center, Washington, DC**  
*Nonresident Fellow*
- September 2015-  
Present      **The Council on Foreign Relations, Washington, DC**  
*Stanton Nuclear Security Fellow*
- Began book manuscript on next-generation arms control, focusing on best practices for negotiations, historical trends, and the changing nature of security threats and countermeasures. Project uses empirical analysis of a novel dataset, case studies and employs a new theoretical approach that considers the effect of missing information on the negotiation of arms control agreements and the ability of those agreements to manage uncertainty in the long run. Worked on policy issues pertaining to nuclear safeguards, emerging technologies, the defense trade, defense cooperation agreements, the export of sensitive weapons technical data, and innovation in the defense sector.
- December 2013-  
August 2015      **U.S. Department of State, Directorate of Defense Trade Controls, Washington, DC**  
*Policy Analyst, Contractor*
- Evaluated the impact of emerging technologies on existing export regulations and assessed the compatibility of regulations with international treaty and alliance obligations. Coordinated policy with treaty and alliance partners and intra-agency counterparts. Worked with policy team to update to the International Traffic in Arms Regulations (ITAR) per the President's Export Control Reform (ECR) Initiative. Detailed to Compliance Office: directly supported deputy assistant secretary in reporting violations of the Arms Export Control Act (AECA) to Congress.
- September 2012-  
October 2013      **SIPRI North America and the Stimson Center, Washington DC**  
*Visiting Research Fellow in Residence*

Conducted research on the effect of uncertainty on the negotiation of arms control agreements for dissertation. Built a new dataset of bilateral and multilateral arms control negotiations and agreements (nuclear, conventional, biological and chemical weapons agreements) to test for factors critical to 1) the ability to reach an arms control agreement and 2) the durability of resulting agreements. Conducted in-depth case study analysis of successful and unsuccessful conventional and nuclear arms control negotiations. Acquired significant knowledge of less common types of arms control negotiations, including defensive weapons and space policy, safeguard agreements and test bans. Presented work.

September 2012-  
September 2013 **The Johns Hopkins School of Advanced International Study (SAIS), Washington DC**  
**Conflict Management Program**  
*Visiting Research Associate*

September 2011-  
December 2011 **U.S. Department of State**  
**U.S. Mission to the Organization for Security and Cooperation in Europe, Vienna, Austria**  
*Arms Control Delegation Intern*

Participated in ongoing arms control negotiations and modernization of the Conventional Forces in Europe (CFE) Treaty with the U.S. delegation to the OSCE. Attended and prepared documents for inter-agency OSCE meetings (including the Forum for Security Cooperation, the Joint Consultative Group and the Open Skies Consultative Commission), weekly consultations with NATO allies, bilateral consultations, and annual ministerial meeting. Liaised directly with members of other states' delegations. Drafted cables. Provided general support to lead arms control delegates.

Summer 2007  
& 2009 **Institute of International Studies, University of California, Berkeley, CA**  
*Graduate Research Fellow, Biological Weapons Research Group*

Investigated U.S. policy on the research and development of biological weapons. Produced written report on role of biotechnology and dual-use biological materials. Researched material tradeoffs between security, intellectual property and firm-level goals. Investigated how and why dual-use biological materials suitable for weaponization tend to elude state ownership per international norms.

March 2003 -  
December 2004 **New York University, New York, NY**  
*Research Assistant in Laboratory of Neuroeconomics*

Ran an experiment investigating the neuroscientific foundations of human decision-making. Spearheaded use of human functional Magnetic Resonance Imaging (fMRI) as an analytic tool in this laboratory. Correlated economic theories of choice with neural activity using statistical analysis. Performed data acquisition and analysis using data analysis software, and risk assessment and psychometric testing of the decision-making behavior of 15 individual subjects.

September 2000 -  
August 2001 **Stanford University, Stanford, CA**  
*Research Assistant in Laboratory of Vision and Imaging (fMRI)*

Used fMRI to perform experiments investigating human visual perception and consciousness. Assisted project teams with data acquisition, preparation and analysis.

## EDUCATION

- December 2013 **Ph.D. in Political Science, University of California, Berkeley, CA**  
**Dissertation:** “Improving the Efficacy of Arms Control: From Risk Reduction to Uncertainty Management,” Committee: Steven Weber (chair), Robert Jervis (Columbia), Mark Bevir, Laura Stoker, Lara Buchak. Subfields: International Relations, Research Methodology, and Contemporary Political Theory
- May 2007 **M.A. in Political Science, University of California, Berkeley, CA**  
**MA Essay:** “Conceptual Frameworks for Rational Theories of International Relations”
- September 2002 **M.A. in French Studies, Columbia University, Reid Hall, Paris, France**  
**Concentration:** Modern French Intellectual History.  
**Thesis:** “Written History as a System of Representation: Systems Theory and Return of Liberalism”
- June 2000 **A.B. in Philosophy with Honors, Stanford University, Stanford, CA**  
**Thesis:** “What Attention Studies Reveal about Cognitive Architecture: Linking Cognitive Science to the Philosophy of Mind”

## PUBLICATIONS

- “The Cost of Uncertainty: European Strategic Autonomy and U.S.-E.U. Relations,” in Policy Roundtable: The Future of Trans-Atlantic Nuclear Deterrence, *Texas National Security Review*, August 23, 2021. <https://tnsr.org/roundtable/policy-roundtable-the-future-of-trans-atlantic-nuclear-deterrence/>
- “The Rise of the Futurists: The Perils of Predicting with Futurethink,” with Dr. Alexander Montgomery, *Brookings Institution Report Series on AI and National Security*, November 2020. <https://www.brookings.edu/research/the-rise-of-the-futurists-the-perils-of-predicting-with-futurethink/>
- “Innovation and Its Discontents: National Models of Military Innovation and the Dual-Use Conundrum,” CISSM Working Paper, July 8, 2020. <https://spp.umd.edu/research-impact/publications/innovation-and-its-discontents-national-models-military-innovation-and>
- “Inevitable Bedfellows? Cooperation on Military Technology for the Development of UAVs and Cruise Missiles in the Asia-Pacific,” with Thomas X. Hammes, Research Discussion Paper for the International Institute for Strategic Studies, July 28, 2020. <https://www.iiss.org/blogs/research-paper/2020/07/cooperation-military-technology-development-uavs-cruise-missiles--asia-pacific>
- “The death of the INF Treaty has lessons for arms control,” *Bulletin of the Atomic Scientists*, November 4, 2019. <https://thebulletin.org/2019/11/the-death-of-the-inf-treaty-has-lessons-for-arms-control/>
- “Situating Weapons of Mass Destruction in Our Interagency Thinking,” co-editor with Dr. John Mark Mattox, special issue *The Interagency Journal*, Vol. 10, No. 2, Summer 2019.
- “The INF Treaty: A Spectacular, Inflexible, Time-Bound Success,” *Strategic Studies Quarterly*, May 28, 2019. [https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-13\\_Issue-2/Anderson.pdf](https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-13_Issue-2/Anderson.pdf)
- “To Improve Transatlantic Relations Look to History and Identity,” *The National Interest*, September 25, 2018. <https://nationalinterest.org/feature/improve-transatlantic-relations-look-history-and-identity-31992>
- “‘De-Nuking’ in Trump-Land: Where There’s a Will There’s a Way?” *Inkstick*, June 18, 2018.

- <https://inkstickmedia.com/de-nuking-in-trump-land-where-theres-a-will-theres-a-way/>
- "New European Defense Initiatives," Looking Ahead, Forum for the Arms Trade Blog, December 19, 2017. <https://www.forumarmstrade.org/looking-ahead-blog/new-european-defense-initiatives>
  - "Digital Dilemmas: Nuclear weapons, Emerging Technologies, and Global Governance," Stanley Foundation Commissioned Policy Brief, June 2017.
  - "Relax: the Iran Nuclear Deal is Doing its Job," The National Interest, December 19, 2016, with Laicie Heeley. <http://nationalinterest.org/feature/relax-the-iran-nuclear-deal-doing-its-job-18790>
  - "Nuclear Arms Control for the 21<sup>st</sup> Century," The National Interest, March 25, 2016. <http://nationalinterest.org/feature/nuclear-arms-control-the-21st-century-15603>
  - "How to Build an Alliance: U.S.-Indian Defense Cooperation and the Rise of China," Foreign Affairs, February 11, 2016, with Ashlyn Anderson. <https://www.foreignaffairs.com/articles/india/2016-02-11/how-build-alliance>
  - "The Logic of North Korea's Nuclear Ambitions," CFR.org, January 12, 2016.
  - "The Truth about 3-D Printing and Nuclear Proliferation," War on the Rocks, December 14, 2015. <http://warontherocks.com/2015/12/the-truth-about-3-d-printing-and-nuclear-proliferation/>
  - "The Iran Deal is Actually Far from Over," the Monkey Cage, the Washington Post, December 5, 2015. <https://www.washingtonpost.com/news/monkey-cage/wp/2015/12/05/the-iran-nuclear-deal-isnt-over-until-its-over-keep-an-eye-on-its-future/>
  - "Is the Nonproliferation Agenda Stuck in the Cold War?" the Monkey Cage, the Washington Post, October 29, 2013. <https://www.washingtonpost.com/news/monkey-cage/wp/2013/10/29/is-the-nonproliferation-agenda-stuck-in-the-cold-war/>
  - "What are the Arms Control Implications of Syria's Chemical Weapons Deal?" International Business Times, October 7, 2013. <http://www.ibtimes.com/what-are-arms-control-implications-syrias-chemical-weapons-deal-1415720>
  - "U.S. and Russia at Odds over European Treaty," International Business Times, August 8, 2013. <http://www.ibtimes.com/us-russia-odds-european-treaty-1370661>
  - "Of BOLD Claims and Excessive Fears: A Call for Caution and Patience Regarding Political Neuroscience," Political Psychology (special issue) 33:1, February 2012, with Alexander G. Theodoridis.
  - "Book Review: Biosecurity Interventions," by Andrew Lakoff and Stephen J. Collier, Millennium Journal of International Studies, December 39:585-588, 2010.
  - "Neural Representation of Subjective Value under Risk and Ambiguity," Journal of Neurophysiology, 103: 1036-1047, 2010, with I. Levy, J. Snell, A. Rustichini, and P. Glimcher.

## AWARDS & FELLOWSHIPS

David M. Rubenstein Fellowship, Brookings Institution (2021-2023)  
 CISSM Seed Grant with Dr. Naoko Aoki, University of Maryland (2021)  
 Strategic Trends Research Initiative, Defense Threat Reduction Agency (2021)  
 Carnegie Corporation of New York, project grant (2018-2020)  
 Bosch Foundation Fellowship, Berlin, Germany (2017-2018)  
 Stanton Nuclear Security Fellowship, Council on Foreign Relations, Washington, D.C. (2015-2016)  
 Institute for Global Conflict and Cooperation National Nuclear Security Administration Dissertation Fellowship (2012-2013)  
 Marshall Foundation Berkeley-Austria Grant (2011)  
 Finishing Fellowship, U.C. Berkeley Department of Political Science (2011)  
 Institute for Global Conflict and Cooperation Graduate Fellowship (2010-2011)

The Dean's Normative Time Fellowship, UC Berkeley (2009-2010)  
Carnegie Corporation Training Grant for participation in IGCC workshop (2008)  
French Cultural Studies Scholarship, Columbia University (2001-2002)  
Honors College, Stanford University (1999-2000)  
Undergraduate Research Opportunities Grant, Stanford University (1999-2000)  
Research Experience for Undergraduates Fellow, the Santa Fe Institute (1999)  
Summer Undergraduate Research Fellowship, the Rockefeller University (1997)

## SELECTED CONFERENCES, WORKSHOPS & SPEAKING ENGAGEMENTS

- "New START: What Next?" invited speaker, International Institute of Strategic Studies, February 5, 2021.
- "Transatlantic Disruption: Challenges and Opportunities," Perry World House at the University of Pennsylvania, invited speaker on the topic of European defense innovation, January 25, 2021.
- "Prospects for the Future of Arms Control," University of Pittsburgh's Chapter of Women in International Security Conference, invited speaker, October 6, 2020.
- "Emerging Technology and the Global Non-Proliferation Architecture," Wilton Park, invited speaker on trends in regime erosion and dual-use technology innovation, August 25, 2020.
- "2019. Capturing Technology. Rethinking Arms Control," invited participant, Federal Foreign Office, Berlin, Germany, March 15, 2019.
- "Verification in Crisis – the Crisis of Verification: New Technology as a Hurdle to and Enabler of Verification in Arms Control," invited speaker, International Workshop, Peace Research Institute Frankfurt, September 21-22, 2018.
- "In Times of Eroding Cooperative Security: How to Save Conventional Arms Control," invited panelist, Protestant Academy in Loccum, Germany, June 13-15, 2018.
- "German Indigenous Additive Manufacturing Capacity and Implications for Defense and Security," invited panelist, Stanley Foundation's Additive Manufacturing and Nuclear Nonproliferation Workshop, Berlin, Germany, April 24, 2018.
- "Emerging Technologies and their Impact on Arms Control Regimes," invited lecturer, ISODARCO, Andalo, Italy, January 7-14, 2018.
- U.S.-Portugal Trade Commission, invited speaker on the U.S. Defense Trade, the Arms Export Control Act and International Trafficking in Arms Regulations, Porto, Portugal, June 26-28, 2017.
- "A World with Low Nuclear Numbers Workshop," invited workshop participant and panelist, Cornell University, Ithaca, NY, November 11-12, 2016.
- "Briefing and Panel on Report to Strengthen Compliance on the Iran Nuclear Deal," invited panelist, Public Affairs Alliance of Iranian Americans (PAAIA), Washington, D.C., October 27, 2016.
- "North Korea's Nuclear Ambitions," invited speaker, Pacific Council Member's Weekend, Los Angeles, CA, October 15, 2016.
- "Convergence and Emergence Workshop: Exploring the Impact of Emerging Technologies on the WMD Space," invited speaker, National Defense University, Washington, D.C., October 13-14, 2016.
- Wilton Park: Rethinking Deterrence and Assurance: Russia's strategy, NATO's response, invited participant, May 11-14, 2016.
- United States Naval Academy's Institute of Nuclear Materials Management: Technical Meeting on Nuclear Energy and Cyber Security, invited panelist on nuclear/cyber nonproliferation policy issues, April 19, 2016.
- The Foreign Service Institute (FSI), invited lecturer on "Negotiation's Best Practices" for arms control and non-proliferation course, November 2014.

- "Arms Control Negotiations from 1945-2010: Empirical Findings," Forum for the Arms Trade: Conventional Arms Control Brown Bag Series, invited presenter, October 18, 2013.
- ISA ISSS-ISAC Joint Annual Conference. "Data in the Service of Disarmament," panel co-chair, "Risk, Uncertainty and Arms Control: A New Dataset," paper presentation. "The Future of Arms Control and Disarmament," panel chair. "Women in International Security," panel participant. October 4-6, 2013, Washington, DC.
- The Stimson Center, talk. "Arms Control Negotiations from 1945-2010: Empirical Findings," September 3, 2013.
- "Uncertainty, Risk and Arms Control from 1945-2010: The Dataset," Annual Meeting of the International Studies Association, San Francisco, CA, April 4, 2013.
- "Improving the Efficacy of Arms Control: From Risk Reduction to Uncertainty Management across Conventional and Non-Conventional Weapons," American Political Science Association Annual Meeting, New Orleans, LA, August 31, 2012, presenter.
- "Taming Ambiguity: Understanding the Effect of Uncertainty on the SALT I Talks," American Political Science Association Annual Meeting, September 2010, presenter.
- Empirical Implications of Theoretical Models workshop, UC Berkeley, 2010, selected participant.
- "Biowelfare: International Norms and the Control of Biological Materials," Annual Meeting of the International Studies Association, New Orleans, LA, February 2010, presenter.
- "Liberal Theory, Liberal Mechanisms: Gleaning Insight from the Intellectual History of Liberalism," October 17, 2009, Millennium Journal Conference, London School of Economics, England, presenter.
- "Expected Utility Provides a Model for Choice Behavior and Brain Activation in Humans," Annual Meeting of the Society for Neuroscience, October 2004, presenter.

#### **ADDITIONAL TRAINING AND CERTIFICATIONS**

- International Nuclear Safeguards Policy and Information Analysis Course, Middlebury Institute of International Studies at Monterey, June 11-14, 2016.
- Inter-University Consortium for Political and Social Research Summer Course: Models for Categorical Outcomes Using Stata: Specification, Estimation and Interpretation, UC Berkeley, 2011.
- Public Policy and Biological Threats, training course at The University of California, San Diego's Institute for Global Conflict and Cooperation, San Diego, CA, 2008.

#### **LANGUAGES**

Speak, read and write German and French