

Jon R. Lindsay

A. **BIOGRAPHICAL INFORMATION**

1. **PERSONAL**

- Name: Jon Randall Lindsay
- Address: 315 Bloor Street West, Toronto, Ontario, M5S 0A7
- Email: jon.lindsay@utoronto.ca
- Website: www.jonrlindsay.com
- Phone: (416) 946-8866
- Citizenship: Canada and USA

2. **DEGREES**

- PhD (political science) - 2011 - Massachusetts Institute of Technology
Thesis: “Information Friction: Information Technology and Military Performance”
Committee: Barry Posen (chair), Wanda Orlikowski, Kenneth Oye, Merritt Roe Smith
- MS (computer science) - 1996 - Stanford University
- BS (symbolic systems) - 1995 - Stanford University

3. **EMPLOYMENT**

University of Toronto

- Munk School of Global Affairs & Public Policy (primary appointment)
- Assistant Professor of Digital Media and Global Affairs - 2015-present
- Assistant Professor, Department of Political Science (cross appointment) - 2017-present
- Interim Director, Trudeau Centre for Peace, Conflict, and Justice - 2017-18

University of California San Diego

- Visiting Assistant Professor - 2020
- Assistant Research Scientist, Institute on Global Conflict and Cooperation - 2013-15
- Assistant Adjunct Professor, School of International Relations & Pacific Studies - 2013-15
- Postdoctoral Scholar, Institute on Global Conflict and Cooperation - 2011-13

United States Navy

- U.S. Naval Reserve, Information Dominance Warfare Officer - 2005-2014
- U.S. Navy (active duty), Intelligence Officer - 1996-2003

4. **HONOURS**

- 2011 IEEE Life Members' Prize in Electrical History from the Society for the History of Technology for best paper in the history of electro-technology: Jon R. Lindsay, “War Upon the Map: User Innovation in American Military Software,” *Technology and Culture* 51, no. 3 (2010): 619-651

5. **PROFESSIONAL AFFILIATIONS AND ACTIVITIES**

- U.S. Cyberspace Solarium Commission, Adviser - 2019-2020

B. **ACADEMIC HISTORY**

6. A. **RESEARCH ENDEAVOURS**

- Strategic implications of information technology, quantum computing, and artificial intelligence
- Organizational factors in military power and intelligence effectiveness
- Political and military complexity in deterrence and grand strategy (cross-domain deterrence)

B. **RESEARCH AWARDS** (grants, contracts, fellowships) during preceding 5 years:

- "Deterring Complex Threats: The Effects of Asymmetry, Interdependence, and Multi-polarity on International Strategy," U.S. Department of Defense Minerva Initiative, co-PI with Erik Gartzke - USD \$5,235,843 - 2013-2019
- "An Empirical Approach to Cross-Domain Deterrence," Minerva Initiative, co-PI with Erik Gartzke - USD \$237,691 - 2015-2017

C. **PATENTS** awarded during past 5 years.

N/A

C. **SCHOLARLY AND PROFESSIONAL WORK**

7. Refereed publications.

A. Articles

- 1) Jon R. Lindsay, "Cyber Conflict vs. Cyber Command: Hidden Dangers in the American Military Solution to a Large-Scale Intelligence Problem," *Intelligence and National Security* (Forthcoming), <https://www.tandfonline.com/doi/full/10.1080/02684527.2020.1840746>
- 2) Erik Gartzke and Jon R. Lindsay, "The Influence of Seapower on Politics: Domain- and Platform-Specific Attributes of Material Capabilities," *Security Studies* (Forthcoming), <https://www.tandfonline.com/doi/full/10.1080/09636412.2020.1811450>
- 3) Lennart Maschmeyer, Ronald Deibert, and Jon R. Lindsay. "A Tale of Two Cybers: How Threat Reporting by Cybersecurity Firms Systematically Underrepresents Threats to Civil Society," *Journal of Information Technology & Politics* (Forthcoming) <https://www.tandfonline.com/doi/full/10.1080/19331681.2020.1776658>
- 4) Jon R. Lindsay and Erik Gartzke, "Politics by Many Other Means: The Comparative Strategic Advantages of Operational Domains," *Journal of Strategic Studies* (Forthcoming) <https://www.tandfonline.com/doi/full/10.1080/01402390.2020.1768372>
- 5) Jon R. Lindsay, "Demystifying the Quantum Threat: Infrastructure, Implementation, and Intelligence Advantage," *Security Studies* 29, No. 2 (2020), 335-361. <https://www.tandfonline.com/doi/full/10.1080/09636412.2020.1722853>
- 6) Jon R. Lindsay, "Surviving the Quantum Cryptocalypse," *Strategic Studies Quarterly* 14, no. 2 (2020): 49–73. https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-14_Issue-2/Lindsay.pdf
- 7) Jon R. Lindsay, "Target Practice: The Amplifying Bias of Data Friction in Counterterrorism," *Science, Technology, and Human Values* 42, No. 6 (2017): 1061-1099 <https://journals.sagepub.com/doi/10.1177/0162243917727353>
- 8) Jon R. Lindsay, "Restrained by Design: The Political Economy of Cybersecurity," *Digital Policy, Regulation and Governance* 19, no. 6 (2017): 493-514. <https://www.emerald.com/insight/content/doi/10.1108/DPRG-05-2017-0023/full/html>
- 9) Erik Gartzke and Jon R. Lindsay, "Thermonuclear Cyberwar," *Journal of Cybersecurity* 3, No. 1 (2017): 37-48 <https://academic.oup.com/cybersecurity/article/3/1/37/2996537>
- 10) Jon R. Lindsay, "Tipping the Scales: The Attribution Problem and the Feasibility of Deterrence against Cyberattack," *Journal of Cybersecurity* 1, No. 1 (2015), 53-67. <https://academic.oup.com/cybersecurity/article/1/1/53/2354517>
- 11) Erik Gartzke and Jon R. Lindsay, "Weaving Tangled Webs: Offense, Defense, and Deception in Cyberspace," *Security Studies* 24, no. 2 (2015): 316-348 <https://www.tandfonline.com/doi/full/10.1080/09636412.2015.1038188>
- 12) Stephan Haggard and Jon R. Lindsay, "North Korea and the Sony Hack: Exporting Instability through Cyberspace," *AsiaPacific Issues* No. 117 (May 2015) https://www.jstor.org/stable/resrep06456?seq=1#metadata_info_tab_contents
- 13) Jon R. Lindsay, "The Impact of China on Cybersecurity: Fiction and Friction," *International Security* 39, no. 3 (Winter 2014/2015): 7–47. https://www.mitpressjournals.org/doi/abs/10.1162/ISEC_a_00189
- 14) Jon R. Lindsay, "Stuxnet and the Limits of Cyber Warfare," *Security Studies* 22, no. 3 (2013): 365-404. <https://www.tandfonline.com/doi/full/10.1080/09636412.2013.816122>
- 15) Jon R. Lindsay, "Reinventing the Revolution: Technological Visions, Counterinsurgent Criticism, and the Rise of Special Operations," *Journal of Strategic Studies* 36, no. 3 (2013): 422–453. <https://www.tandfonline.com/doi/full/10.1080/01402390.2012.734252>

- 16) Jon R. Lindsay, "War Upon the Map: User Innovation in American Military Software," *Technology and Culture* 51, no. 3 (2010): 619-651
https://www.jstor.org/stable/40927989?seq=1#metadata_info_tab_contents

B1. Books

- 1) Jon R. Lindsay, *Information Technology and Military Power* (Ithaca: Cornell University Press, 2020).
<https://www.jstor.org/stable/10.7591/j.ctvq2w0mp>

B2. Book Chapters

- 1) Jon R. Lindsay, "Cyber Espionage," in *The Oxford Handbook of Cyber Security*, ed. Paul Cornish (New York: Oxford University Press, Forthcoming).
- 2) Jon R. Lindsay and Erik Gartzke, "Introduction: Cross-Domain Deterrence, from Practice to Theory," in *Cross-Domain Deterrence: Strategy in an Era of Complexity*, ed. Jon R. Lindsay and Erik Gartzke (New York: Oxford University Press, 2019), 1–25.
- 3) Jon R. Lindsay and Erik Gartzke, "Conclusion: The Analytic Potential of Cross-Domain Deterrence," in *Cross-Domain Deterrence: Strategy in an Era of Complexity*, ed. Jon R. Lindsay and Erik Gartzke (New York: Oxford University Press, 2019), 335–71.
- 4) Erik Gartzke and Jon R. Lindsay, "The Cyber Commitment Problem and the Destabilization of Nuclear Deterrence," in *Bytes, Bombs, and Spies: The Strategic Dimensions of Offensive Cyber Operations*, ed. Herb Lin and Amy Zegart (Washington, DC: Brookings, 2018), 195-234.
- 5) Jon R. Lindsay and Erik Gartzke, "Coercion through Cyberspace: The Stability-Instability Paradox Revisited," in *Coercion: The Power to Hurt in International Politics*, ed. Kelly Greenhill and Peter J. P. Krause (New York: Oxford University Press, 2018), 179-203.
- 6) Erik Gartzke and Jon R. Lindsay, "Windows on Submarines: The Dynamics of Deception in the Cyber and Maritime Domains," in *Issues in Maritime Cyber Security*, ed. Joseph DiRenzo III, Nicole K. Drumhiller and Fred S. Roberts (Washington, DC: Westphalia Press, 2017), 417-432.
- 7) Jon R. Lindsay and Erik Gartzke, "Cross-Domain Deterrence and Cybersecurity: The Consequences of Complexity," in *US National Cybersecurity: International Politics, Concepts and Organization*, ed. Damien van Puyvelde, Aaron F. Brantley (New York: Routledge, 2017), 11-27.
- 8) Jon R. Lindsay, "China and Cybersecurity: Controversy and Context," in *China and Cybersecurity: Espionage, Strategy, and Politics in the Digital Domain*, ed. Jon R. Lindsay, Tai Ming Cheung, and Derek S Reveron (New York: Oxford University Press, 2015), 1-26.
- 9) Jon R. Lindsay and Tai Ming Cheung, "From Espionage to Innovation: Acquisition, Absorption, and Application," in *China and Cybersecurity: Espionage, Strategy, and Politics in the Digital Domain*, ed. Jon R. Lindsay, Tai Ming Cheung, and Derek S. Reveron (New York: Oxford University Press, 2015), 51-86.
- 10) Jon R. Lindsay and Derek Reveron, "Conclusion—The Rise of China and the Future of Cybersecurity," in *China and Cybersecurity: Espionage, Strategy, and Politics in the Digital Domain*, ed. Jon R. Lindsay, Tai Ming Cheung, and Derek S Reveron (New York: Oxford University Press, 2015), 333-354.
- 11) Jon R. Lindsay and Roger Petersen, "Varieties of Insurgency and Counterinsurgency in Iraq, 2003-2009," *CIWAG Case Study Series 2011-2012*, ed. Andrea Dew and Marc Genest (Newport, RI: US Naval War College, Center for Irregular Warfare and Armed Groups, 2012), 1-80.
- 12) Staci Strobl and Jon R. Lindsay, "Lost in Transition: Khobar Towers and the Ambiguities of Terrorism in the 1990s," in *A New Understanding of Terrorism: Case Studies and Analysis*, ed. Maria Haberfeld and Agostino von Hassell (New York: Springer, 2009), 283-307.

C. Edited Volumes

- 1) Jon R. Lindsay and Erik Gartzke, eds., *Cross-Domain Deterrence: Strategy in an Era of Complexity* (New York: Oxford University Press, 2019)
- 2) Jon R. Lindsay, Tai Ming Cheung, Derek Reveron, eds., *China and Cybersecurity: Espionage, Strategy, and Politics in the Digital Domain* (New York: Oxford University Press, 2015)

8. Non-Refereed Publications.

- 1) Jon R. Lindsay, "Military Organizations, Intelligence Operations, and Information Technology," in "Policy Roundtable: Cyber Conflict as an Intelligence Contest," *Texas National Security Review* 3, No. 4 (September 2020), <https://tnsr.org/roundtable/policy-roundtable-cyber-conflict-as-an-intelligence-contest/#essay3>
- 2) Erik Gartzke and Jon R. Lindsay, "Military Means and Political Ends," *Owl in the Olive Tree*, The Minerva Initiative Blog, 22 June 2020. https://minerva.defense.gov/Owl-In-the-Olive-Tree/Owl_View/Article/2227785/military-means-and-political-ends/

- 3) Avi Goldfarb and Jon R. Lindsay, “Artificial Intelligence in War: Human Judgment as an Organizational Strength and a Strategic Liability,” report, Brookings Institution (forthcoming)
- 4) Jon R Lindsay, Review: Michael Poznansky, *In the Shadow of International Law: Secrecy and Regime Change in the Postwar World*, H-Diplo ISSF Roundtable (forthcoming)
- 5) Jon R Lindsay, Review: Lindsey O’Rourke, *Covert Regime Change: America’s Secret Cold War*, H-Diplo ISSF Roundtable (forthcoming)
- 6) Jon R Lindsay, Roundtable: Robert Mandell, *Global Data Shock: Strategic Ambiguity, Deception, and Surprise in an Age of Information Overload*, H-Diplo ISSF Roundtable 11-3 (15 March 2020). <https://networks.h-net.org/node/28443/discussions/5975729/h-diploissf-roundtable-11-13-global-data-shock-strategic>
- 7) Jon R Lindsay, “Why is Trump funding quantum computing research but cutting other science budgets?” *The Washington Post*, 13 March 2020. <https://www.washingtonpost.com/politics/2020/03/13/why-is-trump-funding-quantum-computing-research-cutting-other-science-budgets/>
- 8) Jon R. Lindsay, “Digital Strangelove: The Cyber Dangers of Nuclear Weapons.” *Lawfare*, 12 March 2020. <https://www.lawfareblog.com/digital-strangelove-cyber-dangers-nuclear-weapons>
- 9) Jon R Lindsay, Review: Robert Mandell, *Global Data Shock: Strategic Ambiguity, Deception, and Surprise in an Age of Information Overload* in *Perspectives on Politics* 18, no. 1 (March 2020), 336-337. <https://www.cambridge.org/core/journals/perspectives-on-politics/article/global-data-shock-strategic-ambiguity-deception-and-surprise-in-an-age-of-information-overload-by-robert-mandel-stanford-ca-stanford-university-press-2019-272p-9000-cloth-3000-paper/D546E50F4C67F003DA2E59FEFADDDE1E>
- 10) Jon R Lindsay, “Cyber Operations and Nuclear Weapons,” Nautilus Institute for Security and Sustainability, 20 June 2019. <https://nautilus.org/napsnet/napsnet-special-reports/cyber-operations-and-nuclear-weapons/>
- 11) Jon R Lindsay, Review: Peter F. Cowhey and Jonathan D. Aronson, *Digital DNA: Disruption and the Challenges for Global Governance* in *Perspectives on Politics* 16, no. 4 (December 2018), 1139-1141. <https://www.cambridge.org/core/journals/perspectives-on-politics/article/digital-dna-disruption-and-the-challenges-for-global-governance-by-peter-f-cowhey-and-jonathan-d-aronson-new-york-oxford-university-press-2017-320-p-3995-cloth/403F3560AE838A6E2982E81AA8AF4E41>
- 12) Jon R Lindsay, Roundtable: Ben Buchanan, *The Cybersecurity Dilemma: Hacking, Trust, and Fear Between Nations* in *International Security Studies Forum*, H-Diplo ISSF Roundtable 10-6 (19 January 2018). <https://issforum.org/roundtables/10-6-cybersecurity-dilemma>
- 13) Jon R Lindsay, Roundtable: “Russia and the 2016 U.S. Presidential Election,” H-Diplo ISSF Roundtable 1-7 (26 March 2017). <https://networks.h-net.org/node/28443/discussions/173096/issf-policy-roundtable-1-7-russia-and-2016-us-presidential>
- 14) Erik Gartzke and Jon R Lindsay, “The U.S. wants to stop North Korean missiles before they launch. That may not be a great idea,” *The Washington Post*, 15 March 2017. <https://www.washingtonpost.com/news/monkey-cage/wp/2017/03/15/the-u-s-wants-to-stop-north-korean-missiles-before-they-launch-that-may-not-be-a-great-idea/>
- 15) Jon R Lindsay, Roundtable: Brandon Valeriano and Ryan C. Maness, *Cyber War versus Cyber Realities: Cyber Conflict in the International System* in *International Security Studies Forum*, H-Diplo ISSF Roundtable 9-7 (5 December 2016). <https://issforum.org/roundtables/9-7-cyber>
- 16) Jon R Lindsay, Review: Monroe E. Price, *Free Expression, Globalism and the New Strategic Communication* in *Perspectives on Politics* 14, no. 4 (December 2016): 1275-1277. <https://www.cambridge.org/core/journals/perspectives-on-politics/article/free-expression-globalism-and-the-new-strategic-communication-by-monroe-e-price-new-york-cambridge-university-press-2015-286p-8800-cloth-3399-paper/F60D8954C6ECDFFEE4C7ACA205352AD9C>
- 17) Jon R Lindsay, “Eye in the Sky: New War, Old Problems,” *Political Violence @ A Glance*, 6 April 2016. <https://politicalviolenceataglance.org/2016/04/06/eye-in-the-sky-new-war-old-problems/>
- 18) Jon R Lindsay, Roundtable: “Why Isn’t There More Scholarly Evaluation of U.S. Wars?” H-Diplo ISSF Roundtable 13 (4 March 2016) <https://networks.h-net.org/node/28443/discussions/113632/issf-forum-13-%E2%80%9Cwhy-isn%E2%80%99t-there-more-scholarly-evaluation-us-wars%E2%80%9D>
- 19) Jon R Lindsay, “The Real Cyberespionage Rule: Don’t Get Caught,” *Policy Forum*, Asia & the Pacific Policy Society, January 2016. <https://www.policyforum.net/the-real-cyberespionage-rule-dont-get-caught/>
- 20) Jon R Lindsay, Correspondence: “Debating the Chinese Cyber Threat,” *International Security* 40, no. 1 (Summer 2015). https://www.mitpressjournals.org/doi/abs/10.1162/ISEC_c_00208#.WLib9IXyuUk
- 21) Jon R Lindsay, “Exaggerating the Chinese Cyber Threat,” *Policy Brief*, Belfer Center for Science and International Affairs, Harvard Kennedy School, May 2015. <https://www.belfercenter.org/publication/exaggerating-chinese-cyber-threat>
- 22) Tai Ming Cheung, Jon R Lindsay, and Derek S. Reveron, “Will China and America Clash in Cyberspace?,” *The National Interest*, April 12, 2015. <https://nationalinterest.org/feature/will-china-america-clash-cyberspace-12607>

- 23) Jon R. Lindsay, Roundtable: "Is This the Best Response to China's Cyber-Attacks?," *ChinaFile Conversation*, 19 May 2014. <https://www.chinafile.com/conversation/best-response-chinas-cyber-attacks>
- 24) Jon R Lindsay, Correspondence: "A Cyber Disagreement," *International Security* 39, no. 2 (Fall 2014): 181–92. https://www.mitpressjournals.org/doi/abs/10.1162/ISEC_c_00169?journalCode=isec
- 25) Jon R Lindsay and Austin G. Long, Correspondence: "Assessing the Synergy Thesis in Iraq," *International Security* vol. 37, no. 4 (Spring 2013): 173–198. https://www.mitpressjournals.org/doi/abs/10.1162/ISEC_c_00118
- 26) Jon R. Lindsay and Derek Reveron, "China: Cyber Threat and Cyber Threatened," *New Atlanticist Policy and Analysis Blog*, 7 August 2012 <https://www.atlanticcouncil.org/blogs/new-atlanticist/china-cyber-threat-and-cyber-threatened/>
- 27) Zhuge Jianwei, Gu Liang, and Duan Haixin, "Investigating China's Online Underground Economy," ed. Jon Lindsay, *IGCC Working Paper*, July 2012
- 28) Jon R. Lindsay, "China and Cybersecurity: Political, Economic, and Strategic Dimensions," Report from Workshops held at the University of California, San Diego, April 2012
- 29) Jon R. Lindsay, "Defense Transparency: Seeking a Definition for a Paradoxical Concept," *UC Institute on Global Conflict and Cooperation, Defense Transparency Project Policy Brief*, October 2011 <https://escholarship.org/uc/item/3485013j>
- 30) Jon R. Lindsay, "Does the 'Surge' Explain Iraq's Improved Security?" *MIT Center for International Studies, Audit of the Conventional Wisdom*, September 2008. https://www.files.ethz.ch/isn/92236/Audit_09_08_lindsay.pdf

9. Manuscripts in preparation and/or submitted to publishers but not yet accepted.

- 1) BOOK MANUSCRIPT IN PROGRESS: Jon R. Lindsay, *Age of Deception: Cybersecurity, Intelligence, and Democracy in the 21st Century*
- 2) Jon R. Lindsay, "Quantum Computing and Classical Politics: The Ambiguity of Cryptologic Advantage," in *The Politics of Cyber Security: Socio-Technological Transformations, New Political Responses*, ed. Myriam Dunn-Cavelty and Andreas Wenger.
- 3) Jon R. Lindsay, "Cyber Operations and Nuclear Weapons," in *Nuclear Command, Control, and Communications: Strategies for a Digital Age*, ed. James J. Wirtz and Jeffrey A. Larsen.
- 4) Avi Goldfarb and Jon R. Lindsay, "Prediction and Judgment: Artificial Intelligence and Human Decision Making in Military Affairs"
- 5) Jon R. Lindsay, "The Logic of Deception in International Relations"
- 6) J. Andres Gannon, Erik Gartzke, and Jon R. Lindsay, "After Deterrence: Explaining Conflict Short of War"
- 7) Jon R. Lindsay, "The First Cyber Campaign: Bletchley Park and the 'Extraordinary' Conditions for Intelligence Effectiveness"

10. Papers presented at meetings and symposia.

- 1) Jon R. Lindsay, "The First Cyber Battle: Bletchley Park and the Dawn of Digital Warfare," International Studies Association Annual Meeting, Honolulu, 28 March 2020
- 2) Jon R. Lindsay, "The First Cyber Battle: Bletchley Park and the Intelligence Logic of Cybersecurity," American Political Science Association Annual Meeting, Washington DC, 31 August 2019
- 3) Lennart Maschmeyer, Ronald Deibert, Jon R. Lindsay, "On the Front Lines of Cyber Conflict - Triangulating Targeted Digital Threats to Civil Society," International Studies Association Annual Meeting, Toronto, 29 March 2019
- 4) J. Andres Gannon, Erik Gartzke, Jon R. Lindsay, "After Deterrence: Explaining Conflict Short of War," American Political Science Association Annual Meeting, Boston, MA, 1 September 2018
- 5) Erik Gartzke and Jon R. Lindsay, "Timing and Headspace: The Dynamics of Covert Strategies for Prevention and Preemption," International Studies Association 59th Annual Convention, San Francisco, 4-7 April 2018
- 6) Jon R. Lindsay, "Information Technology and Grand Strategy," Bridging Asia: Double Down or Come Home? American Grand Strategy and East Asia in the 21st Century, Center for International Studies, University of Southern California, Los Angeles, 19 March 2018
- 7) Jon R. Lindsay, "Foreign Entanglements: Quantum Cryptography and the Problem of Information in International Relations," Workshop on Emerging Technologies and Strategic Stability, Hoover Institution, Stanford University, Stanford, 8 December 2017
- 8) Jon R. Lindsay, "Restrained by Design: Sociotechnical Disincentives for Cyber Warfare," 3rd Annual Workshop, Internet Governance Project, Georgia Tech School of Public Policy, Atlanta, 11-12 May 2017
- 9) Jon R. Lindsay, "Drones and the Mediation of War," American Political Science Association Annual Meeting, Philadelphia, 2 September 2016
- 10) Erik Gartzke and Jon R. Lindsay, "Deterrence across Domains: How the Choice of Means Affects Strategic Ends," American Political Science Association Annual Meeting, Philadelphia, 1 September 2016

- 11) Jon R. Lindsay and Jiakun Zhang, "Information Infrastructure: Cyberspace, Outer Space, and the U.S.-China Security Relationship," Midwest Political Science Association, Chicago, 9 April 2016
- 12) Jon R. Lindsay, "Restrained by Design: The Political Economy of Cybersecurity," Society for Military History Annual Meeting, Ottawa, 15 April 2016
- 13) Jon R. Lindsay, "Restrained by Design: The Political Economy of Cybersecurity," International Studies Association Annual Convention, Atlanta, 17 March 2016
- 14) Erik Gartzke and Jon R. Lindsay, "Cybersecurity and Cross Domain Deterrence: Consequences of Complexity," International Studies Association Annual Convention, Atlanta, 17 March 2016
- 15) Erik Gartzke and Jon R. Lindsay, "Cyberwar in a Thermonuclear World," Stanford Cyber Policy Program Workshop on Strategic Dimensions of Offensive Cyber Operations, March 3-4, 2016
- 16) Jon R. Lindsay, "Anarchy and the Demand for Control," International Studies Association Annual Convention, New Orleans, 21 February 2015
- 17) Jon R. Lindsay and Jiakun Zhang, "Information Infrastructure: Cyberspace, Outer Space, and U.S.-China Security Relations," International Studies Association Annual Convention, New Orleans, 21 February 2015
- 18) Jon R. Lindsay and Jiakun Zhang, "Hypergoverned Spaces: The Interdependence of Cyberspace and Outer Space as a Restraint on Sino-American Security Competition," American Political Science Association Annual Convention, Washington D.C., 30 August 2014
- 19) Erik Gartzke and Jon R. Lindsay, "Deterring Complex Threats: The Effects of Asymmetry, Interdependence, and Multipolarity on International Strategy," American Political Science Association Annual Convention, Washington D.C., 30 August 2014
- 20) Erik Gartzke and Jon R. Lindsay, "Cross-Domain Deterrence: Strategy in an Era of Technological Complexity," International Studies Association Annual Convention, Toronto, 26 March 2014
- 21) Jon R. Lindsay, "The Unblinking Eye? How Military Organizations Use Information Technology to Undermine Performance," International Studies Association Annual Convention, Toronto, 27 March 2014
- 22) Jon R. Lindsay, "Instruments of Control: The Technological and Institutional Regulation of Political Behavior," International Studies Association Annual Convention, San Francisco, 5 April 2013
- 23) Jon R. Lindsay, "Proxy Wars: Third Party Constraints on Military Effectiveness on Land and in Cyberspace," International Studies Association Annual Convention, San Francisco, 5 April 2013
- 24) Jon R. Lindsay, "Fiction and Friction: The Strategic Logic of Cybersecurity," American Political Science Association Annual Meeting, New Orleans, 3 September 2012
- 25) Jon R. Lindsay, "The Reinvention of the Revolution in Military Affairs as Counterterrorism," International Studies Association Annual Convention, San Diego, 1 April 2012
- 26) Jon R. Lindsay, "Stuxnet and the Ambiguous Nature of Cyberwar," International Studies Association Annual Convention, San Diego, 3 April 2012
- 27) Jon R. Lindsay and Roger Petersen, "Varieties of Counterinsurgency: A Case Study of Iraq, 2003-2009," Center for Irregular Warfare and Armed Groups Symposium, Naval War College, Newport, RI, 22 June 2011
- 28) Jon R. Lindsay, "The Pacemaker of Bureaucracy: Information Technology Usage in Military Organizations," International Studies Association Annual Convention, Montreal, Canada, 16 March 2011
- 29) Jon R. Lindsay, "Participant or Observer? Opportunities and Challenges in Wartime Ethnography," International Studies Association Annual Convention, Montreal, Canada, 16 March 2011
- 30) Jon R. Lindsay, "The Political Economy of Intelligence," International Studies Association Annual Convention, New Orleans, February 2010
- 31) Jon R. Lindsay, "Commandos, Advisors, and Diplomats: Special Operations Forces and Counterinsurgency," International Studies Association Annual Convention, New York, February 2009
- 32) Evan Economo, Jon R. Lindsay, Zhang Qiaoting, Liu Ying, and Liu Honghai, "Guns or Butter: Aggregation, Functional Differentiation, and Conflict in Biological and Social Systems," Santa Fe Institute Complex Systems Summer School Proceedings, Qingdao, China, September 2004.

11A. Invited Lectures

- 1) "Information Technology and Military Power," United Kingdom Ministry of Defence, 16 September 2020
- 2) "Information Technology and Military Power," Albritton Center for Grand Strategy, The Bush School of Government and Public Service, Texas A&M University, 24 July 2020
- 3) "Understanding Cyber Warfare," Canadian Forces College, Toronto, 3 December 2019
- 4) "Demystifying the Quantum Threat to Cybersecurity," School of Global Policy Studies, University of California San Diego, 23 May 2019
- 5) "Shifting the Fog of War: Information Technology and Practice in Military Operations," Cyber Research Group, Stanford University, 24 January 2019
- 6) "Why Quantum Cryptology will not Destabilize International Security," Centre for Technology and Global Affairs, Oxford University, United Kingdom, 25 September 2018
- 7) "Cross-Domain Deterrence: Politics by Many Means," King's College London, United Kingdom, 24 September 2018

- 8) "Why Quantum Computing Will Not Destabilize International Security: The Political Logic of Cryptology," U.S. Naval War College, Newport, RI, 5 June 2018
- 9) "Grand Strategy in the Twenty-First Century: Information, Technology, and Politics," Joint Professional Military Education II lecture, U.S. Naval War College, Newport, RI, 5 June 2018
- 10) "How I learned to stop worrying and love cyberwar," John Quincy Adams Society Lecture, Syracuse University, 17 April 2018
- 11) "Restrained by Design (or how I learned to stop worrying and love cyberwar)," Guelph University, 29 January 2018
- 12) "Nothing Makes Sense in Cybersecurity Except in the Light of Intelligence," University of Pittsburgh, Graduate School of Public and International Affairs, 27 February 2017
- 13) "Technology and War," the NATO Association of Canada, Toronto, 30 November 2016
- 14) "Epistemic Prosthetics: Rough Knowledge and Precision Weapons," guest lecture for Brian Cantwell Smith, University of Toronto, 22 November 2016
- 15) "Restrained by Design: Cybersecurity and the Attenuation of War," Einaudi Center Distinguished Speaker Series, Cornell University, Mario Einaudi Center for International Studies, 26 October 2016
- 16) "Restrained by Design: Cybersecurity and the Attenuation of War," Massachusetts Institute of Technology, Security Studies Program, 5 October 2016
- 17) "Restrained by Design: The Political Economy of Cybersecurity," The University of Chicago Harris School of Public Policy, Program on International Security Policy, 19 April 2016
- 18) "The role of cybersecurity in Chinese foreign policy," Australian National University National Security College and College of Asia and the Pacific, 18 February 2016
- 19) "Cross-Domain deterrence," Australian National University National Security College, 16 February 2016
- 20) "Tipping the Scales: The Attribution Problem and the Feasibility of Deterrence against Cyber Attack," George Washington University, Cyber Deterrence Symposium, 3 December 2015
- 21) "China and Cybersecurity" and "Cross Domain Deterrence," National Defence Headquarters, Ottawa, Canada, 2 December 2015
- 22) "How New and Dangerous are the Cyber Threats We Face?" Canadian Security and Intelligence Service, Ottawa, Canada, 23 February 2015
- 23) "Information Infrastructure: Cyberspace, Outer Space, and U.S.-China Security Relations," George Washington University, Institute for Security and Conflict Studies, Security Policy Workshop, 6 October 2014
- 24) "Cyber and Cyber War: Strategy, Deterrence, and Implications" and "China, Cyber, and Cybersecurity: Strategy, Espionage, Tech Transfer, and Policy," National Air and Space Intelligence Center, Dayton, OH, 18 July 2014
- 25) "Chinese Perspectives on Cyber War," S. Rajaratnam School of International Studies, Nanyang Technological University, Singapore, 3 March 2014
- 26) "Seminar on Privacy and Security in Cyberspace," Beijing University of Posts and Telecommunications, Beijing, 13 August 2013
- 27) "Intelligence, National Security, and War", U.S. Naval War College, Newport, RI, 25-27 March 2013
- 28) "The Strategic Logic of Cybersecurity," Osher Institute for Lifelong Learning, UC San Diego, 12 March 2013
- 29) "Political and Economic Tradeoffs in Cybersecurity Policy," Beijing University of Posts and Telecommunications, Beijing, 13 June 2012

11B. Panel and Roundtable Participation

- 1) "NATO Technological Superiority at 2030," NATO Defense College, Rome, 28 October 2020
- 2) "Information Technology and Military Power," The CATO Institute, Book Roundtable Discussion, 19 October 2020
- 3) "Quantum Supremacy and Its Many States of National Insecurity," Conference of Defence Associations Institute, 10 July 2020
- 4) "Will COVID-19 bring us together or blow us apart? The global security implications of the pandemic," Munk School of Global Affairs, Innovation Policy Lab, 7 July 2020
- 5) "Propelled by the Pandemic: Explosive Digital Growth, 5G Adoption and Beyond," Canadian International Council, 22 June 2020
- 6) "Cyber conflict as an intelligence contest," Strauss Center at the University of Texas, 3 April 2020
- 7) "How States Fight: Explaining Change in the Means and Methods of Interstate War," International Studies Association Annual Meeting, Honolulu, 28 March 2020
- 8) "Strategic Stability and Cyber Vulnerabilities of Nuclear Command and Control," International Studies Association Annual Meeting, Honolulu, 28 March 2020
- 9) "ISA-Canada Distinguished Scholar Award Panel Honoring Ronald J. Deibert," International Studies Association Annual Meeting, Honolulu, 25 March 2020
- 10) "The Next Phase in the Restraint Debate," Bush School of Government and Public Service, Texas A&M University, 18 February 2020

- 11) “Workshop on Emotions as Strategic Resources in Society-Centric Warfare,” Massachusetts Institute of Technology, 22 November 2019”
- 12) “Bridging the Gap: Workshop on Cyber Conflict,” Cyber Conflict Studies Association (CCSA) and Columbia University SIPA, 12 November 2019
- 13) “Weapons Governance and International Security,” American Political Science Annual Meeting, Washington DC, 30 August 2019
- 14) “Future Warfighting Symposium,” U.S. Naval War College, Newport, RI, 8 August 2019
- 15) “Strategic Competition in Cyberspace: Challenges and Implications,” Center for Global Security Research, Lawrence Livermore National Laboratory, July 10-11, 2019
- 16) “Shared Perspectives on NATO, Cybersecurity, and Command and Control,” Chatham House and the Stanley Foundation, Brussels, Belgium, 3 June 2019
- 17) “China and Russia in Global Cyberspace,” Institute of Security and Global Affairs, Leiden University, The Hague, Netherlands, 7-8 May 2019
- 18) “Cyber Deterrence,” Strategic Studies Group, School of Global Policy Studies, University of California San Diego, 30 April 2019
- 19) “Cross-Domain Deterrence: Strategy in an Era of Complexity,” book roundtable, International Studies Association Annual Meeting, Toronto, 29 March 2019
- 20) “Cyber Operations and Nuclear Weapons,” NC3 Systems and Strategic Stability, Nautilus Institute, Stanford University, 23 January 2019
- 21) “Why Quantum Cryptology will not Destabilize International Security,” State of the Art of Cybersecurity and Cyberconflict Research Conference, Center for Security Studies, ETH Zurich, Switzerland, 27-29 September 2018
- 22) “A Very Brief Introduction to Nuclear and Cyber Debates in International Relations Theory,” Plutonium, Silicon & Carbon: Cybersecurity risks of nuclear weapons systems, Centre for the Study of Existential Risk, Cambridge University, United Kingdom, 21 September 2018
- 23) “Why Quantum Computing Will Not Destabilize International Security: The Political Logic of Cryptology,” Digital Issues Discussion Group, online presentation, 29 June 2018
- 24) “The Unexpected Impacts of Intervention,” Munk School of Global Affairs, University of Toronto, 23 March 2018
- 25) “Quantum Computing, Communication, Control and Intelligence,” The University of Sydney, 15-17 February 2018
- 26) “Northeast Asia Peace and Cooperation Forum 2017,” Ministry of Foreign Affairs, Republic of Korea, and the Sejong Institute, Seoul, 16-17 November 2017
- 27) “Cross-Domain Deterrence Table Top Exercise,” Lawrence Livermore National Laboratory, 25 October 2017
- 28) “Understanding American Liberty and American Interests in the 21st Century,” Institute for Humane Studies, San Francisco, 30 August 2017
- 29) “Cybersecurity,” Southern Methodist University, Dallas, 22 April 2017
- 30) “(In)securitization,” Munk School of Global Affairs, University of Toronto, 19 April 2017
- 31) “Decoding the Digital Debate,” University of Toronto, Munk School of Global Affairs, 31 March 2017
- 32) “Lessons from the Iraq Surge: 10 Years Later,” panelist, International Studies Association Annual Conference, Baltimore, 25 February 2017
- 33) “Strategy, Skepticism, and the Cyberwarfare Debate,” panelist, International Studies Association Annual Conference, Baltimore, 25 February 2017
- 34) “Opening the Black Box of Cyber-Operations: A New Paradigm for Understanding Cyber-Enabled Conflict and International Relations,” discussant, International Studies Association Annual Conference, Baltimore, 22 February 2017
- 35) “Cross-Domain Deterrence Conference,” Lawrence Livermore National Laboratory, 15-17 November 2016
- 36) “Reassessing Deterrence in the 21st Century, War Studies Conference,” U.S. Military Academy, West Point, 13-15 November 2016
- 37) “Cyber Resilience: A Holographic Perspective on Continuing Threats and Potential Solutions,” The MacKenzie Institute, Massey College, University of Toronto, 25 October 2016
- 38) “Cross-Domain Deterrence Table Top Exercise” Naval Postgraduate School, Monterey, 20-21 October 2016
- 39) 62nd General Assembly of the Atlantic Treaty Association, NATO Association of Canada, Toronto, 11-12 October 2016
- 40) Canadian Association for Security and Intelligence Studies Annual Symposium, Ottawa, 23 September 2016
- 41) “Cyber and Conflict: Transformative Change or Status Quo Dynamics?,” panelist, American Political Science Association Annual Meeting, Philadelphia, 2 September 2016
- 42) “Emerging Domains and the Future of War– Unmanned Systems, Space, and Cyber,” panelist, conference, Defence Engagement Program, Canadian Department of National Defence, 9-10 June 2016
- 43) “Cross-Domain Deterrence,” Vice Chairman of the Joint Chiefs of Staff General Paul Selva, Pentagon, Washington, DC, 4 December 2015
- 44) “Cyber Deterrence,” Los Alamos National Laboratory, 13 October 2015

- 45) "Gray Zone Conflict: Aggression below the Threshold," Minerva Research Symposium, Washington DC, 10 September 2015
- 46) "China and Cybersecurity," Naval Postgraduate School, Monterey CA, 26 August 2015
- 47) "The Cyber Domain," 18th MIT Senior Congressional and Executive Office Branch Seminar, Cambridge, Mass., April 8-10, 2015
- 48) "The Crisis in Ukraine: A Panel Discussion of its Causes and Consequences," UC San Diego International Affairs Group, 19 May 2014
- 49) "Definitions of Life: How does Biocentrism Cloud our View," Earth Life Science Institute, Tokyo Institute of Technology, Tokyo Japan, 27 January 2014
- 50) "East West Differences and Opportunities" at "Global Cyber Security Capacity Centre Opening and Inaugural Conference," Oxford Martin School, University of Oxford, 25 November 2013
- 51) "Strategy and Statecraft in Cyberspace," Australian National University Crawford School of Public Policy, Canberra, 8 November 2013
- 52) "Red Alert: Is the US Responding to the Perception or Reality of China's Cyberthreat?," Indiana University Center for Applied Cybersecurity Research, Indianapolis, 21 October 2013
- 53) "2013 Minerva Meeting and Program Review," Department of Defense Minerva Initiative, Washington, DC, 11-12 September 2013
- 54) "Academic Symposium on Privacy and Security in Cyberspace," Institute of Internet Governance and Law, Beijing University of Posts and Telecommunications, Beijing, 12 August 2013
- 55) "Political and Economic Tradeoffs in Cybersecurity Policy," Institute of Defense Economics and Management, Central University of Finance and Economics, Beijing, 9 August 2013
- 56) "The Political Economy of Cybersecurity," Osher Institute for Lifelong Learning, UC San Diego, 5 August 2013
- 57) "The Origin of Life as the Origin of Intentionality: Phenomenology, Information, and Sociotechnology Systems," Earth-Life Science Institute, Tokyo Institute of Technology, Tokyo, 15 May 2013
- 58) "How Should We Evaluate the Threat of Cyber War? A Conversation between Jon Lindsay and Timothy Junio," Stanford University Center for International Security and Arms Control, 16 April 2013
- 59) "Cyber Power, National Security and Collective Action in Cyberspace", Air University Air Force Research Institute, Montgomery, AL, 28-29 August 2012
- 60) "Workshop on International Security, Technology and Economic Development," Central University of Finance and Economics, Institute of Defense Economics and Management, Beijing, 8-12 June 2012
- 61) "Operationalizing Cyber Strategies", U.S. Naval War College, Newport, RI, 2-3 May 2012
- 62) "China Minerva Scholars Conference: Research on Chinese Security and Technology by Emerging Scholars and Analysts," University of California Washington Center, Washington, DC, 27 January 2012
- 63) "Cyber Deterrence and National Security", Dartmouth College, Hanover, NH, 20 October 2011
- 64) "Irregular Warfare and Armed Groups: Threats and Opportunities", U.S. Naval War College, Newport, RI, 21-22 June 2011
- 65) "Cybered Conflict, Threat Perceptions, and Institutional Responses: A Comparative Analysis", U.S. Naval War College and Brown University, Newport, RI, 25-26 May 2011

D. **LIST OF COURSES** (in preceding 5 years)

12. Major responsibility for design of course.

A. Undergraduate courses taught

- POL486H1 Grand Strategy: The International and Domestic Sources of National Security Policy (Fall 2018, graduate and upper division undergraduate)
- POL211H1: Intelligence, Disinformation, and Deception: Challenges of Governance in the Digital Age (Planned Fall 2020, undergraduate)

B. Graduate courses taught

- GLA1003H Global Security (2016-2020, graduate)
- GLA2024H Intelligence and Covert Action (Fall 2016, 2019, graduate)
- GLA2091H Grand Strategy and Global Threats (Winter 2017, 2018, 2020, graduate)

C. Theses supervised. Indicate whether primary or secondary supervisor.

Doctoral Students (secondary supervisor)

- Ryder McKeown, "The Weaponization of the Social: Emerging Practices of Strategy in Space, Cyberspace and International Law," ongoing
- Jasmine Chorley Foster, TBD, ongoing
- Benjamin Smalley, TBD, ongoing
- Valerie Kindarji, TBD, ongoing
- Michael Kunz, TBD, ongoing
- Lennart Maschmeyer, "Slow Burn: Subversion and Escalation in Cyber Conflict and Covert Action," 2016-2020
- Charles Larratt-Smith, "Counterinsurgency and Embedded Social Networks in Colombia," 2020
- Shannon Nash, "Perception vs Reality: The Idea of Al Qaeda Sleepers as a Threat to American National Security," 2017

C. Other teaching and lectures given (in preceding 5 years)

University of California San Diego, School of Global Policy and Strategy
(Formerly International Relations and Pacific Studies)

- International Politics and Security (2020, graduate)
- Strategic Studies (2013-2015, graduate)
- Comparative Strategy and Defense Politics (2013-2015, graduate)

Massachusetts Institute of Technology, Program in Science, Technology and Society

- War, Technology, and the American Experience (co-taught with Merritt Roe Smith, 2009)
- Science, Technology, and Public Policy (Teaching Assistant, 2009-2010)

Stanford University

- Introduction to Computer Science (Teaching Assistant, 1996)

E. **ADMINISTRATIVE POSITIONS**

(indicate period of service and function)

13. A. Positions held and service on committees and organizations within the University.

- Graduate Department Academic Appeals Committee 2020-21
- School of Graduate Studies Awards Committee, SSHRC Doctoral (Social Science) Awards 2019-20
- Interim Director, Trudeau Centre for Peace and Conflict Studies and the Peace, Conflict and Justice Program, Munk School of Global Affairs 2017-18
- Postdoctoral Scholar Program Coordinator, Munk School of Global Affairs 2017-18
- Faculty Adviser to Toronto International Security Film Festival, Munk School 2016-17

B. Positions held and service on committees and organizations outside the University of scholarly and academic significance.

Journal Referee

- Asian Security
- British Journal of Political Science
- European Journal of International Security
- Foreign Policy Analysis
- Georgetown Journal of International Affairs
- IEEE Annals of the History of Computing
- International Affairs
- International Interactions
- International Journal
- International Organization
- International Security

- International Studies Review
- Journal of Cyber Policy
- Journal of Cybersecurity
- Journal of Global Security Studies
- Journal of Peace Research
- Journal of Strategic Studies
- Organization
- Philosophy of Technology
- Political Science Quarterly
- Politics
- Research and Politics
- Review of Policy Research
- RUSI Journal
- Security Dialogue
- Security Studies
- Science, Technology, and Human Values
- Technology and Culture

Book Manuscript Review

- Cambridge University Press
- Cornell University Press
- Georgetown University Press
- Harvard University Press
- The Johns Hopkins University Press
- The MIT Press
- Oxford University Press
- Routledge

F. OTHER RELEVANT INFORMATION

Parental leave 2017-18