



## **DR. CHRIS C. DEMCHAK**

US Naval War College

*RDML Grace M. Hopper Professor of Cyber Security*

Director, Center for Cyber Conflict Studies

Strategic Research Department

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### **EDUCATION**

- Ph.D. University of California, Berkeley; Political Science (Organization Theory/Public Administration, American politics, African politics).
- M.A. University of California, Berkeley; Energy Resources Group (Energy systems analysis and engineering).
- M.P.A. Woodrow Wilson School of Public & International Affairs, Princeton University, (Economic development).

### **DISSERTATION AND THESIS**

- Ph.D. War, Technological Complexity and the U.S. Army.  
Todd M. LaPorte (chair), Nelson Polsby, Richard Abrams (History).
- M.A. Complexification and Organizational-Institutional Design: The Case of the U.S. Radioactive Waste Program. John Holdren (advisor).

### **RESEARCH FIELDS**

Comparative Studies of National and International Security Structures, Complexity, Surprise, Cybered Conflict Resilience in Critical Socio-Technical-Economic Infrastructures; Collaboration and Knowledge in Cyberspace Wars and Change in International System, Globalization, Information Networks, and New Security Threats  
Largescale Organizational Operations, Security, and Experimentation using Advanced Technologies (*virtuality*)

### **POSITIONS HELD**

Strategic and Operational Research Department, US Naval War College (formerly Strategic Research Department)  
RDML Grace M. Hopper Professor of Cyber Security, 2014 – present  
Full Professor, 2011 – present  
Associate Professor, 2009 – 2011  
Center for Cyber Conflict Studies, US Naval War College  
Director, September 2015- present  
Co-Director, 2011 – 2015 August  
School of Government and Public Policy, University of Arizona  
Associated Faculty, 2011 – present  
Associate Professor (on leave) 2009 – 2011  
Oxford Martin School, Global Centre for Cyber Security Capacity Building  
Oxford Martin Associate, Expert Advisory Panel, 2015-present  
Oxford Martin Associate, WG1 National Cyber Policy and Defence, 2013–2015  
School of Public Administration and Policy, University of Arizona  
and (joint) Department of Political Science, University of Arizona  
Associate Professor, 1998 – 2009.  
Assistant Professor, 1991 - 1998  
Department of Social Sciences, U.S. Military Academy,  
Assistant Professor (comparative governments and security) and active duty Officer, 1987 - 1990.  
Officer, US Army Reserve (retd 2006).

### **HONORS AND AWARDS**

The Leonard D. White Award for best dissertation in public administration, public policy and related areas for 1987-1988, APSA (American Pol Sci Assn).  
NSF Grant Scholar (various grants), 1996-2004 (see <http://cyprg.arizona.edu> )  
Teaching Award, University of Arizona Eller College of Management, 1999, 2001  
Udall Fellow, 1993  
MacArthur Fellow, 1990-1991; Fulbright Scholar, Israel, 1992

## PUBLICATIONS

### **Books and Scholarly Monographs**

- Demchak, Chris C., 2011. Wars of Disruption and Resilience: Cybered Conflict, Power, and National Security, Athens: University of Georgia Press (international relations and technology series)
- . 2010 Designing Resilience: Preparing for Extreme Events. Pittsburgh: University of Pittsburgh Press. (with Louise Comfort and Arjen Boin, co-eds)
- . 1991. Military Organizations, Complex Machines: Modernization in the U.S. Armed Forces, Cornell University Press, security studies series 1991.
- . Lessons of the Gulf War: Ascendant Technology and Declining Capability, Institute of International Studies, University of California, Berkeley, number 39, 1991. (with Gene I. Rochlin),

### **Refereed Journal Articles and Book Chapters**

- Demchak, Chris C., 2017 forthcoming. "Cybered War, States in the 21st Century International System". In A.M. Dorman and D. Dunn, eds. War and the State in the 21st century. Palgrave. (with Peter Dombrowski)
- . 2014. "Cyber Westphalia: Asserting State Prerogatives in Cyberspace." In Catherine Lotrionte, ed, Georgetown Journal of International Affairs, special issue on cyber, edition 3, March. (with Pete Dombrowski)
- . 2014. "Cyberwar, Cybered Conflict and the Maritime Domain." Naval War College Review. March. (with Peter Dombrowski).
- . 2013. "Political and Economic Coercion and a Rising Cyber Westphalia" In K. Ziolkowski, ed. Peacetime Regimes for Governmental Cyber Operations: International Law, Foreign Affairs and Cyber-Diplomacy. Tallinn, Estonia: NATO CCD COE Publication. Pp.595-620.
- . 2012. "Resilience and Cyberspace: Recognizing the Challenges of a Global Socio-cyber Infrastructure (GSCI)" In Louise K., ed. Journal of Comparative Policy Analysis. special Issue "Designing Disaster Resilience and Public Policy: Comparative Perspectives, Part II". 14:3 (June), 254-269.
- . 2012, "North American Regionalism in Defence" In Croft, Stuart. Governance Regionalism in Defence. Springer-Verlag. (with Stephanie von Hlatky)
- . 2011. "Applied Virtual Environments: Applications of Virtual Environments to Government, Military and Business Organizations." Journal of Virtual World's Research. 4:1. July. (with Patrick D. Allen)
- . 2010. "Lessons from the Military: Surprise, Resilience, and the Atrium Model." In Designing Resilience: Preparing for Extreme Events, eds. L. Comfort, A. Boin and C. Demchak. Pittsburgh: University of Pittsburgh Press.
- . 2009. "'Institutionalizing Behavior-Based Privacy". Administration and Society. Vol 41 (783-814), November (with Kurt D. Fenstermacher)
- . 2007, "Exploring the Knowledge Nexus", Security Studies Quarterly. 1:2 (December). (With Eric Werner.)
- . 2006. "Ensuring Privacy While Maximizing Knowledge Management". Proceedings of Secure Knowledge Management Workshop (SKM) 2006. Polytechnic University Brooklyn NY,- September 28-29, 2006 (with Murray Jenson and Kurt Fenstermacher).
- . 2005. "Key Rules of Thumb for Complexity and Culture Change in Intelligence Agencies" in Tomes, Robert, ed. The Faces of Intelligence Reform, refereed monograph, Washington DC: Center for Emerging National Security Affairs (CENSA) monograph, December.
- . 2005. "Where Personalization, Privacy, and Security Meet". Proceedings of 2005 (PEP) Privacy Enhanced Personalization Workshop published online, International User Modeling (M) conference , Edinburgh, Scotland, 25 July. (with Kurt Fenstermacher) <http://www.isr.uci.edu/pep05/papers/w9-proceedings.pdf>
- . 2004. "Wars of Disruption." In Goldman, Emily, ed. National Security in the Information Age. London: Frank Cass, 73-113.
- . 2004. "Balancing Security and Privacy in The 21st Century." In Chen, H., Moore, R., Zeng, D.D., Leavitt, J. (Eds.), Intelligence and Security Informatics. New York: Springer Verlag. 3073(summer)335-345. (with Kurt Fenstermacher).
- . 2003. "Wars of Disruption: International Competition and Information Technology-Driven Military Organizations". Contemporary Security Policy: 24:1(April) 75-112.
- . 2003. "'Atrium" - A Knowledge Model for Modern Security Forces in the Information and Terrorism Age". Lecture Notes in Computer Science Proceedings Intelligence and Security Informatics (First annual NSF/NIJ Symposium, ISI 2003). Springer-Verlag: Heidelberg. 2665:2003 (January) 223 - 231
- . 2003. "Creating the Enemy: Worldwide Diffusion of an Electronic Military" In Goldman, Emily and Leslie C. Eliason, eds. The Diffusion of Military Knowledge from the Napoleonic Era to the Information Age. Stanford, California: Stanford University Press.

- 2002. "Democracy and Bureaucracy in the Age of the Web". Administration and Society. 34:4 (September) 411-446. (with Todd M. LaPorte, and Martin de Jong)
- 2002. "Complexity and a Midrange Theory of Networked Militaries." In Farrell, Theo, and Terry Terriff. 2002. The Sources of Military Change: Culture, Politics, Technology. New York: Lynne Rienner Publisher.
- 2001. "Webbing Governance: Global Trends Across National Level Public Agencies". Communications of the ACM. Special issue on Democracy in an IT-Framed Society. (January). (with Todd M. La Porte and Christian Friis).
- 2001. " Webbing Governance: National Differences in Constructing the Public Face" In G. David Garson, ed. Handbook of Public Information Systems. New York: Marcel Dekker Publishers. (with Christian Friis and Todd M. La Porte).
- 2000. " Watersheds in Perception and Knowledge: Security and Technology in the past Twenty Years." In Stuart Croft and Terry Terriff, Eds, Critical Reflections on Security and Change. London: Frank Cass.
- 2000. "Revolution in Military Affairs in Developing States: Botswana, Chile, and Thailand Dilemmas of Image, Operations, and Democracy". National Security Studies Quarterly. 6 (Autumn 2000): 1-45.
- 1999. "New Security" in Cyberspace: Emerging Intersection between Military and Civilian Contingencies " Journal of Contingencies and Crisis Management. 7:4 (December) 181-198.
- 1999. "Watersheds in Perception and Knowledge". Contemporary Security Policy. 20:3 (December).
- 1998. "Configuring Public Agencies in Cyberspace: A Conceptual Investigation." IN I.Th.M. Snellen and W.B.H.J. van de Donk, Public Administration in an Information Age: a Handbook. Amsterdam: IOS Press. Research not published elsewhere. (with Christian Friis and Todd M. La Porte).
- 1996. "Tailored Precision Armies in Fully Networked Battlespace: High Reliability Organizational Dilemmas in the 'Information Age'," Journal of Contingency and Crisis Management 4:2, June 1996.
- 1996. "Numbers or Networks: Organizational and Modernization Dilemmas in the Israeli Defense Forces," Armed Forces and Society 23:2, winter 1996.
- 1995. "Coping, Copying, and Concentrating: Organizational Learning and Modernization in Militaries (Case Studies of Israel, Germany and Britain), Journal of Public Administration Research and Theory 5:3, July 1995.
- 1995. "Modernizing Militaries and Political Control in Central Europe," Journal of Public Policy 15:2, 1995.
- 1994. "Colonies or Computers: Modernization and Organizational Challenges to the Future British Army," Defence Analysis (British academic journal on technology and defense studies), 10:1, April 1994.
- 1992. "Complexity, Rogue Outcomes, and Weapon Systems," Public Administration Review 52:4 (July-August).

### **Other Scholarly Publications**

- Demchak, Chris C. 2016 "Uncivil and Post-Western Cyber Westphalia: Changing interstate power relations of the cybered age", Cyber Defense Review. 1:1 (38-62) Spring.
- 2016. "Cybered Forms of Warfare." In Phil Williams, ed. Strategic Studies Institute (SSI) Special Issue on Cybersecurity, US Army War College.
- 2015. "Thinking Systemically about Security and Resilience in an Era of Cybered Conflict," In Jean-Loup Richet, ed., Cyberwarfare and Cybersecurity Policies: A State of the Art (Springer Verlag) (with Pete Dombrowski)
- 2014. "Rise of a Cybered Westphalian Age: The Coming Decades," in M. Mayer, M. Carpes, and R. Knoblich., eds, Global Politics of Science and Technology. Bonn: Springer Verlag. (with Peter Dombrowski).
- 2014. "Forward: On the Cusp of a Cybered Conflict Age", in JanFrederik Kremer and Benedikt Müller, eds. Cyberspace and International Relations: Theory, Prospects and Challenges. Bonn: Springer Verlag
- 2012. "Resilience, Disruption, and a "Cyber Westphalia": Options for National Security in a Cybered Conflict World". In Nicholas Burns and Jonathon Price, eds, Securing Cyberspace: A New Domain for National Security, Washington, DC: The Aspen Institute. 59-94.
- 2012. "Weaknesses of US and European models of cyber defense," American Interest (ACUS republished). September 25. <http://www.atlanticcouncil.org/blogs/natosource/weaknesses-of-us-and-european-models-of-cyber-defense>
- 2012 "Cybered Conflict and the Need for a Security Resilience Strategy". In Reveron, Derek, ed. 2012. Cybersecurity. Washington: Georgetown University Press.
- 2012. "Dilemmas of Arms Control and Cybersecurity". In Paul Viotti and Robert Williams, eds., Arms Control. New York: Praeger-ABC-CLIO.
- 2011. "Rise of a Cybered Westphalian Age". Strategic Studies Quarterly. March. 5:1 31-62. (with Peter Dombrowski)
- 2011. "Hacking the Next War: Evolutions in Asymmetric Cyber Power of States". World Politics Review online. April 18.

- 2011. "Key Operational Distinctions of Cybered Conflict, Hybrid Warfare, and a New Strategic National Response." In Robert Tomes, et al eds., "Hybrid Warfare: Transnational Threats and Policy Choices for an Era of Persistent Conflict", monograph, Washington DC: Council for Emerging National Security Affairs (CENSA)
- 2010. "Conflicting Policy Presumptions about Cybersecurity: Cyber-Prophets, -Priests, -Detectives, and -Designers, and Strategies for a Cybered World", essay, Atlantic Council (ACUS) Issue Brief. August 12 <http://www.acus.org/publication/strategies-cybered-world>
- 2007. "Privacy-sensitive tracking of behavior with public information systems: Moving beyond names in a globalizing mass society" In G. David Garson, ed. Modern Public Information Technology Systems: Issues and Challenges. New York: IGI Global (computer science publisher). (with Kurt Fenstermacher).
- 2007. "Exploring the Knowledge Nexus--Lessons from India in Terrorism-Driven Institutional Growth." In "Civil-Military Coordination in Multinational Missions," ed. Witold M. Patoka. Conference Report of the Forum for Security Studies, Swedish National Defence College, Stockholm, January 18-19, 2007. (With Eric Werner.) <http://www.scribd.com/doc/20606401/2007-ConferenceReportCivMi-Compresed>.
- 2006. "A Theory of Action in Iraq: The Three State Partition and A "Mirror the Mix" Strategy". The Forum, an online journal of applied research in contemporary politics. 4:23 (December).
- 2005. "Terrorism and Information Age Militaries. In G. David Garson, ed. Handbook of Public Information Systems, 2e. New York: Taylor & Francis.
- 2005. "Hotlinked Governance Across Cultures." In G. David Garson, ed. Handbook of Public Information Systems, 2e. New York: Taylor & Francis. (with Todd La Porte).
- 2004. "Balancing Security and Privacy in the Information and Terrorism Age: Distinguishing Behavior from Identity Institutionally and Technologically." The Forum, an online journal of applied research in contemporary politics. 2:2 (summer) 6. (with Kurt Fenstermacher). <http://www.bepress.com/forum/vol2/iss2/art6>
- 2003. "The Palestinian/Israeli Cyber War." Military Review. 83:2 (March-April) (with Patrick D. Allen).
- 2002. "State Security Paths in a Digital Mass Society: New Internet Topologies and Security Institution Obligations". Cambridge Review of International Affairs (online). peer-reviewed online journal.
- 2002. "Un-Muddling Homeland Security: Design Principles for National Security in a Complex World". The Forum, 1:2(fall). <http://www.bepress.com/forum/vol1/iss2/art2>
- 2001. "Modernizing Defence in Small Nations: Israel, Taiwan and the "Atrium" Model of a Future Military." Taiwan Defense Affairs. (summer). 6-33.
- 2001. "Technology and Complexity: The Modern Military's Capacity for Change." in Crane, Conrad C. Transforming Defense. [Carlisle Barracks, PA]: Strategic Studies Institute, U.S. Army War College.(with Patrick D. Allen)
- 2001. "Technology's Knowledge Burden, the RMA, and the IDF: Organizing the Hypertext Organization for Future 'Wars of Disruption'". Journal of Strategic Studies. 24:2 (June).
- 2001. "Technology's Knowledge Burden, the RMA, and the IDF: Organizing the Hypertext Organization for Future 'Wars of Disruption'". In Bar-Joseph, Uri (ed). 2001. Israel's National Security Towards the 21<sup>st</sup> Century. London: Frank Cass Publishers.
- 2001. "Cyber Hot War: The Palestinian/Israeli Hacker Conflict." Proceedings of the 69<sup>th</sup> Military Operations Research Society Symposium. Annapolis, MD. June. (with Patrick D. Allen)
- 2001. "An IO Conceptual Model and Application Framework". Military Operations Research Journal, Special Issue on IO/IW. 6:2 (June special issue) 9-22. (with Patrick D. Allen)
- 2000. "The Need for, and Design of, an IO Federation of Models," Proceedings of the Standards Interoperability Workshop, (March). (with Patrick D. Allen)
- 2000. "Recommendations on Higher-Echelon Organizational Behavior Models for Information Operations". Proceedings of the Computer Generated Forces Conference. May. (with Patrick D. Allen)
- 1999. "Public Administration on the WWW - Evaluating Openness" (Offentlig forvaltning på World Wide Web: Evaluering af åbenhed). In K. V. Andersen, C. S. Friis, J. Hoff, & H. W. Nicolaisen (Eds.), Informationsteknologi, organisation og forandring - den offentlige sektor under forvandling (Information Technology, Organization and Change - Transforming the Public Sector). Translated into Danish. København (Copenhagen): DJØF-forlaget. (with Christian Friis and Todd M. La Porte).
- 1997. "Information Warfare, Complex Organizations and the Power of Disruption," invited essay, Enjeux Atlantiques (European defense journal) 14, February.

### **Works in Progress**

Demchak, Chris C. forthcoming submissions:

- Cyber Westphalia: Redefining States, Economies, and Conflict for a deeply Cybered World-- book length manuscript intended to provide a baseline framework explaining the rise of national efforts to re-establish effective political

and economic jurisdictional control of globally shared cyberspace. The manuscript integrates of concepts of complexity, cultural variations, economics, security legacies, and resilience, with the longwave implications for national wellbeing and strategies in the rising deeply cybered world. Draft prospectus has interested the editor at senior academic press. Prospectus and Chapter due March 2015. Submission of final expected August 2015.

- "The Emperor of the Internet and China's Good Son" (with Shazeda Ahmed) - research essay using Mandarin sources indicating the Chinese approach to the internet as a US design done poorly from their perspective and the cultural genesis of that perspective with consequences for today
- "Evolution of the National Computer Response Team: Changing Structures and Missions across Nations" (with Francesca Spidalieri) -- empirical study of the differing structures and mission creep into traditionally viewed national security arenas as the original concept has been adapted and instantiated across different cultures and political (socio-technical-economic) systems.
- "Coding in Mandarin: Implications for Sharing and Shifting Conflict" (with Shannon Knight) -- research on implications of coding with Mandarin linguistic structures and translation challenges as China becomes the major source of advanced networked hardware, firmware, and deep technical expertise.
- Cyber blog for International Studies Association journal, International Security Perspectives monthly blog (to begin March, 2015) -- focus on longterm trends due to rapid changes in the underlying cyberspace substrate from technological, demographic, and economic forces across the globe.
- "Navy Culture and Cyberspace", (with Matt Tattar – early stages) essay on the convergence and divergence of deep cultural institutions in the US Navy and the resilience requirements of a complex, surprising, and turbulent cybered international system.
- "Playing it Through: Using Simulations Operationally to Adapt to Surprise", review of the current state of knowledge (currently on hold to finish book and other projects),

## **Scholarly Activities**

### ***Invited Essays and Reviews and Blogs***

- Demchak, Chris C. 2012. "Organiser sa défense à l'ère du cyberconflit : un point de vue étatsunien" ("Organizing for Defense in the Cybered Conflict Age - the case of the United States"), La Revue internationale et stratégique. Number 87. Paris, France: Institut de Relations Internationale et Strategiques. Autumn, pp. 103-110.
- 2012. "Hacking the Next War", essay, American Interest. 1:8. September/October.
- 2010. "Cybered Conflict" series of short essays (edited invited blog), Atlantic Council of the US (ACUS), online. www.acus.org "Cybered, not Cyber", "Cybered Conflict as a New Frontier", (the following forthcoming) "Is Security Changing in the Cybered Era?", "Stuxnet Cometh: True Beginning of the Next Era in Conflict", forthcoming "What we don't know about Stuxnet", "What Really is Cyber Power?", "Why Cyber Crime Matters to National Security"
- 2003. Review essay of The Mind of War: John Boyd and American Security. Grant T. Hammond. 2001. London: Smithsonian Institution Press. In Contemporary Security Policy.
- 2002. "Technology and Complexity: The Modern Military's Capacity for Change," US Army War College Annual Strategy Conference. Proceedings of Annual Strategy Conference: Transforming Defense in an Era of Peace and Prosperity. April 17-20, 2001. Carlisle, Pennsylvania. (with Patrick D. Allen)
- 2000. Book review of Military Leadership. Taylor, Robert L. and William E. Rosenbach, eds. 1996. 3<sup>rd</sup> edition. Boulder, CO: Westview Press. In Journal of Contingency and Crisis Management. 8:1 (March).
- 1999. "End Run: A Simulation Architecture for Information Warfare Report," McLean Research Corp., DARPA SBIR DAAH01-99-C-R113, December. (with Patrick D. Allen)
- 1998. book review of Fundable Knowledge The Marketing of Defense Technology. A. D. van Nostrand. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers, 1997. In Journal of Policy Analysis and Management, 17:4 (June) 745-748.
- 1997. "Modems, Miracles and Mixed Blessings," invited essay, Initiative, newsletter of the Udall Center for Studies in Public Policy, University of Arizona 8:1, summer.
- 1995. "Complex Adaptive Systems, Chaos, and Contemporary Policy Making," invited essay and book review of organizational change in large technical systems, Policy Studies Journal 23:2, fall 1995.
- 1995. "Computers as Substitute Soldiers?" invited essay, Communications of the ACM, February. (with Seymour E. Goodman).
- 1994. book review (expanded) of Changing Large Technical Systems. Jane Summerton, ed., Boulder, CO: Westview Press, 1994, 348 pages. In Policy Studies Journal, 23:2, 1995.
- 1994, "Cyberspace and Emergent Body Politic: Tough Issues, Murky Structures and Unknowns of the "Net-Polis," invited essay, Policy Currents, Policy Section newsletter, APSA (American Pol Sci Assn), 4:4, Nov 1994.

- 1994. book review of Bureaucracy in Crisis: Three Mile Island, the Shuttle Challenger, and Risk Assessment. Maureen Hogan Casamayou. Boulder, CO: Westview Press, 1993, 215 pages. In Policy Currents, Policy Section newsletter, APSA (American Pol Sci Assn), 4:1 February 1994.
- 1994. book review of The Japanese Prime Minister and Public Policy. Kenji Hayao. Pittsburgh: University of Pittsburgh, 1993, 349 pages. In Policy Studies Review, December 1993.
- 1994. book review of War in the Age of Intelligent Machines. Manuel De Landa, New York: Zone Books, 1991, 271 pages. In Armed Forces and Society, journal of the Inter-University Seminar on Armed Forces and Society, December 1993.
- 1994. book review of Winning the Next War: Innovation and the Modern Military. Stephen Peter Rosen, Cornell University Press, 1991, 287 pages. In Survival, journal of the International Institute for Strategic Studies, winter 1992-93.
- 1992. book review (expanded) of The Foundations of Defensive Defence. Anders Boserup and Robert Neild (eds.), London: The MacMillan Press Ltd., 1990, 201 pages. In Survival, journal of the International Institute for Strategic Studies, spring 1992. (with Gene I. Rochlin).
- 1991. "The Gulf War: Technological and Organizational Implications," invited essay, Survival, journal of the International Institute for Strategic Studies, May/June 1991.
- 1991. book review of Armed Services and Society. Martin Edmonds. Boulder, CO: Westview Press, 1990, 226 pages. In American Political Science Review, March 1991.

### **Seminars/ Lectures**

- Demchak, Chris C. 2015. "*Political and Economic Coercion and a Post-Western Cybered World*". Academic keynote, 5th Annual International Cybersecurity Conference. June 23-24. Sponsored by Blavatnik Interdisciplinary Cyber Research Center (ICRC), Yuval Ne'eman Workshop for Science, Technology and Security, Tel Aviv University and the Israeli National Cyber Bureau, Prime Minister Office. Tel Aviv University. <https://www.youtube.com/watch?v=bV6ywJjbGlo>
- 2012-2014 multiple workshop/conference presentations on cybered resilience and conflict across multilateral and senior conferences held in Brussels, Tallinn, Zurich, Tel Aviv, London, Paris, Stockholm, Budapest, Washington, Boston, San Francisco, Toronto, and Singapore among other cities. List can be provided if requested. In addition, I have given academic lectures at universities and military academies in Europe as well as the US.
- 2012, "Cyberspace and the Rise of the Systemic Cybered Conflict Age", US Naval War College, Corporate Round Table Seminar, Newport, RI, September 18.
- 2012.. "Gaming versus Exercises: Designing Surprise-resilient Organizations for a Cybered World", ENISA (European Network and Information Security Agency), First International Conference on Cyber Exercises, Paris, France, June 27.
- 2012.. "Cyber Security: Understanding Resilience and Disruption in the Socio-Technical Systems forming Cyberspace and inducing Cybered Conflict", lecture, University of Paris (VIII), Research Futures Forum, Paris, France, June 20.
- 2012. "Studying Resilience and Disruption in Socio-Technical Systems creating Cyberspace and Cybered Conflict", Lecture. Oxford University, Center for Cybersecurity (Dr. S. Creese). Oxford, UK. May 30.
- 2012.. "Surprise Resilience and Socio-Technical Systems Responses behind a Rising Cyber Westphalian System ", MIT-Harvard Cybersecurity Seminar, Belfer Center, Harvard University, Cambridge, Massachusetts, April 11.
- 2012. "Rethinking "First Strike" across Cyberspace ", 2012 Harvard National Security Journal Symposium, Harvard University, Cambridge, Massachusetts, April 6.
- 2012, "Alternative View of the Emergent Global Cyberspace: A Cyber Westphalian System ", French-American Defense Foundation: Symposium on Cyber Security, Washington DC, April 2-3.
- 2012.. "Cyberspace and Three Key Issues with the Rise of the Systemic Cybered Conflict Age ", 2012 WCD Global Institute Annual Conference, panel "Creating Advantage: What's the Next Paradigm Shift in Technology.", New York City, New York, April 1-2.
- 2012. "Thinking and Teaching Cybered Security Resilience". Lecture, German Defense Academy, Hamburg, Germany March 26-28.
- 2011. "Westphalia in Cyberspace", Challenges in Cybersecurity – Risks, Strategies, and Confidence-Building International Conference, Federal Foreign Office, Berlin, Germany, December 13-14.
- 2011. "Resilience, Disruption, and a "Cyber Westphalia": Options for National Security in a Cybered Conflict World ", Aspen Strategy Group annual seminar "Cyber Security", Aspen, Colorado, August 5-10.
- 2011. "Cybered Conflict and Rise of Cyber Westphalia ", International Security Forum, Zurich, Switzerland, June 1-2.

- 2011. "Games versus Exercises for Cyber Security: Designing a Surprise-resilient Organization", ONR GMU Third Workshop on Cyber Security and Global Affairs, Budapest, Hungary, May 31-June 1.
- 2011. "Thinking and Teaching Cybered Security Resilience". Lecture. German Defense Academy, Hamburg, Germany March 31.
- 2010. "Cybered Conflict and a Security Resilience Strategy", Lecture, Kings College, London, UK November 4
- 2010. "STUXNET Cometh: Security Resilience for the Emerging Cybered Conflict Age". Lecture. UK Defence Academy, Swindon, UK. November 2
- 2010. 2011. "Cybered Security Resilience and Institutions". Lecture. International Bulletproof Hosting Workshop, German Defense Academy, Hamburg, Germany October 6.
- 2010. "The Assertion of Sovereignty in Cyberspace: Formation of Cyber Commands" Lecture, International Institute for Strategic Studies, London, UK. July 16
- 2010 "Institutionalizing National CyberSecurity Resilience" Lecture, USNWC Lecture of Opportunity (LOO), Newport, RI, April 24.
- 2010. "Institutionalizing National Cybersecurity Resilience: Creating Cybercommands or Cyber-agencies for a world of Complex, Surprising, and Deeply Cybered Conflicts," Lecture, German Defence Academy, Hamburg, Germany, March 23.
- 2010. "Organizational and National "Security Resilience" underpinning a Cybersecurity Strategy" Lecture, UK Defence Academy, Shrivenham, UK, March 4
- 2010. "Organizational and Societal Resilience as a Cybersecurity Strategy", Lecture, University of Reading, Reading, UK, March 3
- 2009. "Envisioning and Forming Military Cybercommands", Lecture, German Ministry of Defense Cybersecurity elements. Bonn, Germany, October 8
- 2009. "Learning Cyber-sensitivity", Lecture, German Defence Academy, Hamburg, Germany, October 7.
- 2009, "Organizational and Societal Resilience as a Cybersecurity Strategy" Lecture. Part of the series "Cyber International Relations," sponsored by the joint Harvard-MIT research project "Explorations in Cyber International Relations.
- 2004. "Complex Systems Approach to Global Mujahedin Security Challenge" Strategic Issues for Intelligence in the 21<sup>st</sup> Century (Session IV: What Does the Future of Science and Technology Hold for the Practice of Intelligence?). Scholars workshop sponsored by Harvard Kennedy School, State Department, CIA Sherman Kent School for Intelligence Analysis and Sandia National Lab. Santa Fe, NM. 6-8 December.
- 2003. "'Atrium' - A Knowledge Model for Modern Security Forces in the Information and Terrorism Age. Intelligence and Security Informatics (ISI): presentation. First annual NSF/NIJ Symposium, ISI 2003, Tucson, Arizona (June 2-3) 223 - 231
- 2000. invited to teach seminar, "Organizational Elements, Implications, and Alternatives to the 'Revolution in Military Affairs.'" George C. Marshal European Center, "Leaders for the 21<sup>st</sup> Century" Course 00-5. Garmisch-Partenkirchen, Germany. 23 October. (family medical emergency intervened)----- 1999. invited talk, "Implications for Global Military Community of Technological Advances in Militaries over the past Twenty Years," National Intelligence Committee, office of NIO BG Landry (retired), 13 November 1999, Washington DC.
- 1994. invited, Information Systems panel, U.S. Army "Information Warfare and Army Force 2000," Ft. Huachuca, Arizona, January.
- 1993. invited, "Complex Organizations, Complex Machines: Comparative Perspective," Udall Center, University of Arizona, May.
- 1993. invited, "Colonies or Computers: Modernization and Organizational Challenges to the Future British Army," British Military Studies seminar, London, March.
- 1992. invited, international seminar on "Regional Security Regimes: Israel and Its Neighbors," Bar-Ilan University, Israel, June.
- 1992. invited, international seminar on "Future European Security Regimes," Friedrich Ebert Stiftung, London, January.
- 1991. invited, seminar on "Threat Perceptions and Military Doctrines," Eotvos Lorand University, International Law Department, Budapest, Hungary, April

### ***Conferences (not otherwise listed under talks)***

Demchak, Chris C. 2012-2015 multiple presentations on cybered resilience and conflict across multilateral and senior conferences held in Brussels, Tallinn, Zurich, Tel Aviv, London, Paris, Stockholm, Budapest, Washington, Boston, San Francisco, Toronto, and Singapore among other cities. List can be provided if requested.

- 2011. Chair and participant, panel "Global Governance, Security, and Strategies for Cyberspace", International Studies Association annual conference, Montreal, Canada. March 16-19.
- 2010. panel Chair, "Is Cybered Conflict More than Cyber War?" International Security Studies Section separate annual meeting, International Security Assn, Providence, RI, October 15-16.
- 2010. Panel Chair and discussant." Cyber-Security: Classic Concepts in a New Milieu", International Security Studies Section separate annual meeting, International Security Assn, Providence, RI, October 15-16.
- 2010. "Cybered Conflict: Organizational Responses Within and Across Nations" Presentation. German MOD BulletProof Hosting- Botnet Conference second annual, Hamburg, Germany, Oct 6
- 2010. "Resilience and the Emerging Global Socio-Technical Infrastructure (GSTI) creating Cyberspace" paper presentation. GSPIA University of Pittsburgh and International Public Policy Studies, "Designing Disaster Resilience" conference. Pittsburgh, PA. April 22. (with Sandro Gaycken)
- 2010. "Resilience in the Emerging Global Socio-Technical Infrastructure (GSTI)" paper presentation, International Studies Association Annual conference, New Orleans, LA (with Sandro Gaycken) March 17
- 2009." Envisioning and Forming Military Cybercommands", German MOD "BulletProof Hosting- Botnet Conference", Oberammergau, Germany, Oct 14.
- 2009. "Globalization, Wars of Disruption, and New Knowledge in the Search for Security" paper presentation, APSA (American Pol Sci Assn) annual conference. Washington DC. Sep 3
- 2007. "Wars Of Disruption and Resilience In A World Of Chronic Violent Threats" International Security Studies Section separate annual meeting, International Security Assn, Montreal, Canada, October 18-20.
- 2007. panel chair, "Collaborative Capacity" Public Management Research Association annual conference, Tucson, Arizona, October 25-27.
- 2007. panel chair, "Governance, Security and Foreign Policy", International Security Studies Section separate annual meeting, International Security Assn, Montreal, Canada, October 18-20.
- 2007. invited presentation, international conference sponsored by University of Leiden and ECMA and intended results for an edited book, "Resilience", 8-10 June, Leiden, Netherlands.
- 2007. invited participation, conference on "New Challenges for Public Organizations. Building High Reliability Research and Legacy of Todd R. LaPorte", sponsored by University of California, Berkeley, April 12-14
- 2007. invited presentation "Institutionalizing a "Nexus of Knowledge" in Civil-Military Counterterrorism Operational Planning -- Case of India" " conference on "Civil-Military Cooperation in Multinational Missions", hosted by Forum for Security Studies, Swedish National Defence College, Stockholm, Sweden. January 18-19.
- 2006. " 'Knowledge Nexus': Learning Security in the Information and Terrorism Age", (with Eric Werner, UA senior undergraduate) (70%) International Security Studies Section separate annual meeting, International Security Assn, Tucson, October 26-28.
- 2006. "Tacit Knowledge, Complex Militaries, and the ATRIUM". Presentation for The Patuxent Summer Institute workshop, "Future Roles of the U.S. Navy", St. Mary's College of Maryland, 5-7 June 2006.
- 2006. "Embracing Surprise in Critical Infrastructure: Lessons in Crisis Management from Military History". Paper presentation for International Workshop on "Future Challenges for Crisis Management in Europe", sponsored by SEMA (Swedish Emergency Management Agency), Stockholm, 4-5 May.
- 2006. "Security Dilemmas and the Public Face of Covert Organizations: Tracking Terrorists in the Internet, paper on indicators of organizational structures behind covert, semi-covert, and overt websites for the International Studies Association annual conference late March 2006 in San Diego.
- 2006. "Noticing Unknowns in Self-Surprising Systems". Paper presentation for Workshop on sponsored by ECMA (EU Crisis Management Agency) and University of Pittsburgh Graduate School of Public and International Affairs, Pittsburgh, PA. 5 March.
- 2005. panel chair, "Manifestations of Terrorism" International Security Studies Section separate annual meeting, International Security Assn, Denver, October 28-29.
- 2005 panel chair. "Multilateral Military Issues (updated)". International Security Studies Section separate annual meeting, International Security Assn, Denver, October 28-29.
- 2005. "Ensuring Security, Enhancing Privacy: Modeling an Institutional and Technical Compromise for the Information and Terrorism Age" ". National Public Management Research Conference, USC, Los Angeles, CA, 29-30 Sep. (with Kurt Fenstermacher)
- 2005. panel chair: "Offensive Realism, Global Jihadi Networks and the Power of Preemption", APSA (American Pol Sci Assn) Annual Meeting, Washington DC. 1-4 September.
- 2005. "Where Personalization, Privacy, and Security Meet". International User Modeling Conference, workshop on Privacy Enhanced Personalization, Edinburgh, Scotland, 25 July. (with Kurt Fenstermacher)



- 2004. "Channeling Trends in Knowledge and Security Organizations" Harvard Kennedy School, NSF and CIA sponsored conference, "Strategic Issues for Intelligence Practice in the 21st Century". Santa Fe, NM (7-8 December).
- 2004 "Comparative Security and Midrange Theory of Latitude". Law, Criminal Justice and Security Seminar. University of Arizona Law School. (4 November).
- 2004. panel chair, "Multilateral Military Issues." International Security Studies Section separate annual meeting, International Security Assn, Washington DC Oct 29-30.
- 2004. panel chair: "'What determines military success?', special panel sponsored by Committee for the Analysis of Military Operations and Strategy, APSA (American Pol Sci Assn) Annual Meeting, Chicago, IL 2-5 September.
- 2004. presenter, roundtable: "'Complexity Theory, Security, and the International System.'" APSA (American Pol Sci Assn) Annual Meeting, Chicago, IL 2-5 September.
- 2004. "Balancing Security and Privacy in The 21<sup>st</sup> Century." National Science Foundation Symposium on Intelligence and Security Informatics for National and Homeland Security, Second Symposium on Intelligence and Security Informatics (ISI 2004), Tucson, AZ. June 10-11.
- 2003. "Have Networked Information Technologies Made a Difference to Government Performance? An Assessment of Administration, Participation, and Management". 7th National Public Management Research Conference. Georgetown, Washington DC (October 9-10). (with Todd La Porte, presenter, and Chris Weare).
- 2003. panel chair, "Roundtable: Why not break up Iraq: Realist, Institutional and Constructivist Practical Debate", International Security Studies Section separate annual meeting, International Security Assn, Carlisle PA, Oct 31-1 Nov.
- 2003. presenter, roundtable: "Complex Theory, Security and the International System", APSA (American Pol Sci Assn) Annual Meeting, Philadelphia, 28 August-2 September.
- 2003. "ATRIUM: a Knowledge Model." ISI Intelligence and Security Informatics for National and Homeland Security, First Symposium on Intelligence and Security Informatics (ISI 2003), Tucson, AZ. June 2-3.
- 2003. discussant on senior scholar roundtable: "Offensive Realism, Radical Nationalism, and the Bush Doctrine of Preemption", APSA (American Pol Sci Assn) Annual Meeting, Philadelphia, 28 August-2 September.
- 2003. "Atrium" a Knowledge Model for Security Forces in the Information and Terrorism Age". International Studies Assn annual conference. Portland, Oregon (February 23-26).
- 2002. "Wars of Disruption: International Competition and Information Technology-Driven Military Organizations". Conference on "Security in the Information Technology Age" sponsored by the University of California Joint Center for International and Security Studies (JCISS) and Center for Security Studies and Conflict Research, Swiss Federal Institute of Technology, Zurich. Livermore, CA: Lawrence Livermore Lab. (April 19).
- 2001. invited presentation. Security and the Internet – Small Panel Symposium. University of Aberystwyth. October 25-26. United Kingdom. (symposium postponed to 2002 due to attack of September 11, 2001. and then later cancelled)
- 2001. "Management and Human Factors". OECD Workshop: Information Security in a Networked World. Conference jointly organised by Organisation for Economic Co-operation and Development (OECD) and the Government of Japan (GOJ). Tokyo, Japan: 12-13 September.
- 2002 (April). "Conflict and Warfare in the Information Age". Presentation for Redefining Security in the Information Age conference sponsored by Joint Center for International and Security Studies (JCISS). December. University of California Davis.
- 2001. "Information Warfare, Surprise, and Changing Leadership Presumptions". Presentation for Army Research Institute (ARI) conference on "Leadership at a Distance". October 18-20, Scottsdale, Arizona. (with Emily Goldman and Patrick D. Allen).
- 2001. "Egovernance, Ecommerce and Daunting Social Challenges across Levels of Government: Local, National and International". Sixth National Public Management Research conference. University of Indiana. October 19-21. (presented by coauthor Todd M. La Porte)
- 2001. "The RMA and Organizing the Israeli Defense Force for future "Wars of Disruption"". paper presentation at the APSA (American Pol Sci Assn) Annual Meetings, September. San Francisco, California. Sep 2.
- 2001. "Hotlinked Governance: A Worldwide Assessment, 1997-2000". paper presentation at the APSA (American Pol Sci Assn) Annual Meetings, September. San Francisco, California. Sep 2. (presented by coauthor Todd M. La Porte)
- 2001. "Cyber Hot War: The Palestinian/Israeli Hacker Conflict," 69<sup>th</sup> Military Operations Research Society Symposium, Annapolis, MD. June. (presented by coauthor Patrick D. Allen)

- 2001. "E-Commerce and E-Governance: Mutual Catalysts or Separate Spheres?". Fifth International Research Symposium on Public Management. Barcelona, Spain. April 9-11, 2001. (presented by coauthors Todd M. La Porte and Christian Friis)
- 2001. "State Security Paths in a Digital Mass Society: New Internet Topologies and Security Institution Obligations". Cambridge Review of International Affairs Seminar on State Security and the Internet. London, May 18-19.
- 2001. "Technology and Complexity: The Modern Military's Capacity for Change," US Army War College Annual Strategy Conference. "Transforming Defense in an Era of Peace and Prosperity". April 17-20, 2001. Carlisle, Pennsylvania. (with Patrick D. Allen)
- 2000. invited panel chair. "New Global Threat Analysis". Conference on Globalization and Security. International Studies Assn, International Security Studies Section annual conference. Denver, CO. 9-11 November.
- 2000. "Democracy and Bureaucracy in the Age of the Web." International Political Science Assn annual meeting, Montreal, Canada, Aug 5. (presented by coauthors Todd M. LaPorte, Christian Friis, and Martin de Jong).
- 2000. "Trapped in the Net: Roundtable Presentation on Rochlin's 1998 book on implications of web technologies." APSA (American Pol Sci Assn) annual conference. Washington DC. Sep 3.
- 2000 "The Need for, and Design of, an IO-ISR Federation of Models". Paper submitted for presentation and publication in proceedings. Simulation Interoperability Standards Organization's (SISO) annual conference and proceedings, Mar 2000, Orlando, Florida. (presented by coauthor Patrick Allen). Award: SISO certificate as one of ten best papers presented at this conference.
- 2000. "An Information Operations (IO) Conceptual Model and Application Framework." paper submitted to Military Operations Research Society (MORS) Symposium, 20-22 June 2000 Air Force Academy, Colorado Springs, CO (presented by coauthor Patrick Allen).
- 2000. "Beginning of New Governance? Data Patterns in Web Use by Middle Eastern Governments." University of Arizona Middle East Center Conference on Internet and the Middle East. April 11. Tucson, Arizona.----- 1999. "Public Organizations on the World Wide Web: Empirical Correlates of Administrative Openness". National Public Management Research Conference. December. College Station, Texas. (presented by coauthors Todd M. LaPorte, and Martin de Jong).
- 1999. Revolution in Military Affairs in Developing States: Botswana, Chile, and Thailand Dilemmas of Image, Operations, and Democracy" National Security Studies Quarterly Conference, "Technology Diffusion, International Military Modernization, and the International Response to the Revolution in Military Affairs", sponsored by National Security Studies Program of the Edmund A. Walsh School of Foreign Service, Georgetown University. October 13-14. Washington DC.
- 1999. "Security and Technology in the past Twenty Years" International Studies Assn, International Security Studies Section annual conference, 12-13 November, Washington DC
- 1999. "'E-space' Evolution: US-defined Emergent Models for National Security and Agency Governance". paper presented at the APSA (American Pol Sci Assn) Annual Meetings, September. Atlanta, Georgia.
- 1998. invited Panel Chair, "Past and Future Perspectives on Security Policymaking," International Studies Assn, International Security Studies Section annual conference, 6-7 November, Monterrey, California.
- 1998. invited speaker, "Governance and the Internet" and "Creating the Enemy: Worldwide Diffusion of an Electronic Military", University of California Davis, Joint Center for International and Security Studies, Davis, California, 4-5 November.
- 1998. " Diffusing Models of IW Militaries, the RMA and the Inter/Intra-Net", paper presented at the APSA (American Pol Sci Assn) Annual Meetings, September. Boston, Massachusetts.
- 1998. " Evaluating Openness in Agencies with the Web: Conceptual Black Holes and Partial Solutions ", paper presented at the APSA (American Pol Sci Assn) Annual Meetings, September. Boston, Massachusetts.
- 1998. invited participant/author, annual conference European Group on Public Admin, Tilburg, Netherlands. May.
- 1997. invited Panel Chair, "Models of Militaries in the Post-Cold War Era," International Studies Assn, International Security Studies Section annual conference, November.
- 1997. invited, "Public Agencies and Operational Uses of the Web," National Public Management Research Conference, October.
- 1997. "Mis-Anticipation of War through "Operations without Organizations": Trading Information for Mass in Emergent Military Socio-Technical Systems," APSA (American Pol Sci Assn) annual conference, September.
- 1997. invited Panel Chair, "Models of Proliferation and Deterrence with Small Forces," APSA (American Pol Sci Assn) annual conference, September.
- 1996. "Constructing the Enemy: Military Structuration and Autopoesis in International Security," International Studies Assn, International Security Studies Section annual conference, November.
- 1996. invited Panel Chair, "Strategic Forces in the Post-Cold War Era," ISSS conference, November.

- 1996. "Operations without Organizations: Security Implications of Information Warfare and Military Structures," APSA (American Pol Sci Assn) annual conference, September.
- 1995. invited, "Complex Technologies, Organizational Implications, and Force Structures," Conference on Armed Conflict into the 21st Century: Politics, Strategy and Technology, Bar Ilan University, Tel Aviv, Israel, November.
- 1995. invited, "Postmodern Advantages of Premodern Public Structures: Likely Systems Fit of American and European Public Agencies in Cyberspace," National Public Management Conference, October.
- 1995. invited panel organizer and chair, "Cyberspace and Emergent Networked Society," APSA (American Pol Sci Assn) annual conference, September.
- 1995. "Cyber-Crats" among "Cyber-Orgs"? Public Organizations' Paradox of Participation in Regulating Transnational Networks," APSA (American Pol Sci Assn) annual conference, September.
- 1995. "High Reliability Implications of Military Modernization: Will Defense Leaders Want What They Get when They Get It?" APSA (American Pol Sci Assn) annual conference, September.
- 1995. "Fully Networked Battlespace: Uncertainty and the "Information Age" Army," 14th European Conference on Operational Research, Jerusalem, Israel, July.
- 1994. "Complex Technologies, Conflicted Organization: Modernization-Driven Changes in the Israeli Defense Force," APSA (American Pol Sci Assn) annual conference, September.
- 1993. invited, "Coping, Copying and Concentrating: Organizational Learning and Modernization in Militaries (Israel, Germany and Britain), National Public Management Conference, October.
- 1992. Chair, panel on Arms Control and Disarmament, International Studies Assn, International Security Studies Section (ISSS) annual conference, November.
- 1991. "High Tech' Arms and Democracies: Political Control of Modernized Militaries (applications to central Europe)," APSA (American Pol Sci Assn) annual conference, September.
- 1990. "Advanced Technologies and Modern, Smaller Defense Organizations: Germany, Israel and Britain," APSA (American Pol Sci Assn) annual conference, September.

### ***Other Workshops organized (selected)***

- 2011, 2013, 2015. Organizer and participant, biennial Cybered Conflict Gaps in Thinking workshop co-hosted with the Watson Institute of Brown University, spring, Newport RI and Providence, RI.
- 1995. invited participant, "Inadvertant Organizational Effects of Modernization," Office of the Chief of Staff of the Army, Army Digitalization Office, Pentagon, Washington D.C., April .
- 1995. and Helen Ingram, co-organizers, "Cyberspace and Emergent Body Politic: Tough Issues, Murky Structures and Unknowns of the "Net-Polis," cosponsored by the International Studies Assn, the Udall Center for Public Policy of the University of Arizona, the University of Arizona's School of PA and Policy, and the University of Arizona's Political Science Department, April, Tucson.
- 1990. invited discussant, panel on comparative military and civilian organizations, Military Organization Workshop, National Research Council, Commission on Behavioral and Social Sciences and Education, San Francisco, California. September.

## **COURSES TAUGHT**

- US NWC "Cybersecurity and Cybered Conflict" graduate course since spring 2011 annually
- PA 236 Globalization and Security. Undergraduate, spring 2009.
- PA/POL/LAW 419/519 Governance and Security (Formation of State, War, and Response to Terrorism), undergraduate and graduate level, fall 2002 to present.
- PA/POL 411 Comparative Security Systems, fall 2008 to present
- PA 597A Public and Nonprofit Management Information Systems Practicum, MPA/graduate skill required course. Spring 2008 to present.
- PA/MAP/POL 435/535 International Management, undergraduate fall 1991-2005, graduate 1992-2000
- PA 501 Organization Theory, MPA core course, 1991-1997
- PA 502 Organization Behavior and Information Systems Management, MPA core course, spring 1992-1999
- PA/POL/IRLS 502 Public and Nonprofit Management Information Systems, MPA/graduate skill requirement elective, 2000-2007
- PA/POL/MIS 496/596B Organizations, Privacy and Security (OPS), co-taught, undergraduate and graduate level, 2004-2006.
- MIS 470 Strategic Management and MIS, spring 1999.
- PA/POL 406 Bureaucracy, Politics, and Policy (Security and Institutions emphasis), undergraduate spring 1999-2007
- PA/POL 480, Public Policy, undergraduate spring 1992-1998

## CENTER FOR CYBER CONFLICT STUDIES (C3S/NWC) ACTIVITIES

Host and Co-Sponsor, Biennial Cybersecurity Workshop (with Watson Institute for Public and international Affairs, Brown University):

- 2011. "Cybered Conflict, Threat Perceptions, and Institutional Responses: A Comparative Analysis". May 25-26
- 2013. "Gaps in Thinking about Cybered Conflict and Governance" June 6-7
- 2015. "Cyber Futures and Security-Governance Implications" September 21-23

## OTHER ACTIVITIES

Invited participant expert, 2011-2015, multiple workshops sponsored by IISS, NATO, various universities including MIT, Harvard, and US allied governments, Most current 2015Dec5 Dept of State INR and DOD NIC workshop on cybersecurity and challenges of implementation of norms

Others include for example: workshop on a National Cybersecurity Strategy, Swedish Crisis Management Agency, Stockholm, Sweden, August 16-17, 2012, Cybersecurity professionals seminar, Yuval Ne'eman Institute, Tel Aviv University, Tel Aviv, Israel. June 7, 2012. –

IISS special workshop "Cyber Power" London, UK October 29, 2010

ODNI – Monitor Group special workshop "Cybersecurity", San Francisco, CA June, 2010

ODNI—CENSA "Cyber Deterrence" Washington DC, February 2010

ODNI – CENSA "Cyber Privacy" Washington DC, September 2009

Harvard CENSA Cybersecurity Cambridge, MA, May 2009

DOD SHARP (Summer Hard problems) program, June 2007

International Working Groups:

Working Group Fellow, WG1 "National Cyber Policy and Defence), Global Centre for Cyber Security Capacity Building at the Martin School in Oxford University, UK (co-directors, Dr. Paul Cornish, Exeter; Dr. Ivan Toft, Oxford) 2013-2016

Boards:

Cyber Conflict Studies Association (CCSA), 2012 - present

ISAC Elected Section Chair, 2000 -2005, Board Member 1996-1999 and 2006-2015. APSA (American Pol Sci Assn), International Security and Arms Control section. Program Chair, 2003, (Emeritus status now)

ISA Elected Board Member, 2002-2006, 2007-2015 International Studies Assn, International Security Studies Section. Program Chair, annual ISSS-ISAC conference 2002.

Editorial Board and Program Committee, Intelligence and Security Informatics (ISI). First (and each subsequent) annual NSF/NIJ Symposium, ISI 2003-2008 (in Tucson, Arizona and other venues).

Editorial Boards::

Intelligence & Security Informatics (Springer journal) 2005 - 2010

Strategic Studies Quarterly, 2007 – 2010

Administration and Society 2005 --- 2013

The Forum: A Journal of Applied Research in American Politics Sep 2001-2007.

Program and Steering Committees:

ICERM Steering Committee, workshop Brown University, in response to Presidential Policy Directive PPD21 on Critical Infrastructure Security and Resilience and Executive Order 13636 on Improving Critical Infrastructure Cybersecurity.- POC Dr. Jill Pipher, 2013-2014

Minerva Cyber Norms annual workshop hosted at MIT, 2011, 2012, 2016

Intelligence and Information Science (ISI) annual program committee, 2003-2008

CSS 2000 Steering Committee Steering Committee, 1999-2000, , online Computers and the Social Sciences 2000 annual conference, G. David Garson (UNC) chair.

Major Grants:

Smith-Richardson co-Investigator, 2014-16, project on the Hathaway Cyber Readiness Index applied across nations.

NSF Principal Investigator, 1996-2002, project on Web Diffusion across Governments of the World,

Field Investigator, 1999-2000. Critical Infrastructure Project (Y2K), National Research Council.

Research Groups:

CoFounder, Center for Cyber Conflict Studies, US Naval War College, starting in 2011

Founder, Cyberspace Policy Group (CyPRG), University of Arizona (with colleague T. LaPorte, GMU) 1996-2009

Online Web Development:

Webmaster, 1997-2002. home page for International Studies Assn, International Security Studies Section, w3.arizona.edu/~isssisac.

Webmaster, 1997-2002. home page for APSA (American Pol Sci Assn), International Security and Arms Control Section w3.arizona.edu/~isssisac.

Other Local Services

Numerous local talks to area groups on topics of security in Africa, Balkans (Kosovo), and Middle East (Israel and Iraq)

Languages and Travel experience:

English fluent, French fluent, German moderate, Swedish/Danish/Hungarian/Hebrew limited, Fortran/LISP very rusty  
Professional travel extensive in Europe and North America, occasional Middle East (Israel) & Asia (Japan, Singapore)