

## THE FLETCHER SCHOOL OF LAW AND DIPLOMACY

DHP P215

**Prof. Francesca Giovannini**

**Office: Cabot 609**

**Office Hours: Thursday 4.00-5.00 pm (by appointment)**

**Phone: (617) 627-3120**

Email: [Francesca.giovannini@tufts.edu](mailto:Francesca.giovannini@tufts.edu)

### **Nuclear Dossiers: U.S Priorities, Dilemmas and Challenges in a Time of Nuclear Disorder**

#### SEMINAR

Francesca Giovannini<sup>1</sup>

Nowhere has the United States exercised more vigorous leadership than in the nuclear realm where the country has devoted unprecedented resources to establish and maintain a global order.

Since the advent of the nuclear revolution that changed the fundamentals of global politics and the nature of the international system, the United States has been entangled in an all-out mission to prevent the spread of nuclear weapons, to avoid catastrophic nuclear collisions with other great powers, to impair terrorists from getting access to nuclear material and to control the export of sensitive technology without precluding access to nuclear technology for peaceful purposes.

In order to accomplish these goals, and at each turn of history (frequently marked by a shock or a major security crisis), the United States has faced deep dilemmas that required hard choices in an ever evolving strategic environment.

And as the world grows increasingly multifaceted, so should the role and leadership of the United States adapt to respond to existing and emerging challenges. The rise of nuclear terrorism for instance requires a new approach to safety and security of material and critical infrastructures and simultaneously demands stronger border control policies around the world. The continuous peril posed by rogue states in the development and acquisition of nuclear weapons and increasingly sophisticated delivery means calls for robust cooperation between the U.S. and regional and great

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<sup>1</sup> Program Director for Global Security and International Affairs, American Academy of Arts and Sciences; Associate of Managing the Atom at the Belfer Center for Science and International Affairs, Affiliate (Non-in-Residence) to the Center for International Security and Cooperation – CISAC at Stanford University

powers with which the U.S. is concurrently in an arm wrestle geo political competition. Finally principles, such as strategic stability and nuclear deterrence, upon which the nuclear relation among superpowers have rested until now are fast eroding as nuclear weapons states revise their nuclear posture or acquire conventional capabilities that put in jeopardy the already frail global nuclear balance.

How are these dilemmas being currently tackled by existing U.S. policies? How should young scholars approach these problems? What are the most relevant explanatory frameworks for examining nuclear ambitions among states and non-state actors? And what principles should guide the U.S. nuclear policies and strategies in the future?

The proposed seminar offers an in-depth analysis of selected nuclear issues that today top the U.S. nuclear agenda. The course seeks to explain the genesis and the evolution of these issues and to examine and debate the appropriateness of current policies.

The course offers both theoretical and policy perspectives of the issues so as to encourage students to experiment with different theoretical lenses and to familiarize with the constraints and limits of policy-formulation in the face of complex and pressing dilemmas.

### **Seminar Structure**

All seminars seek to address a specific question and are structured in a way as to offer students space to learn, interact and discuss. Each seminar opens with a short 30-40 minute-lecture by the instructor that frames the conversations. Students are expected to contribute to the discussion by providing articulated and informed position based on the assigned readings as well as independent research and additional readings of their own choice. The question for each class is marked by an asterisk.

### **Seminar Assignments**

Students are expected to complete two assignments:

1. A class presentation on an assigned policy document
2. A 2-3 page op-ed to be submitted first in a draft form after the spring break and in final form on the last day of class

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## Tufts Policy

In accordance with the federal and state law, Tufts University provides for reasonable accommodation to students with documented learning disabilities. If you believe you have a disability requiring accommodation, please contact Nora Moser McMillan, Registrar and Manager of Student Academic Programs, Goddard 212, (617) 627-2405.

## Suggested Schedule of Topics

### Seminar #1:

#### **Nuclear Energy and Nuclear Weapons: The Governance Challenge**

The lecture serves as an introduction to basic knowledge related to nuclear power. It explains the difference between a military and a civilian nuclear program, it examines the difference between a nuclear weapons and a nuclear power state and sheds light on the dual-use nature of nuclear technology and the challenges to its governance. It also offers some working definitions of concepts that will be employed throughout the seminar. Finally it seeks to introduce students to the main debates on nuclear weapons as they will be further developed throughout the semester.

✚ Are nuclear weapons the great stabilizers or the greatest obstacle to global peace?

### Required readings:


- Bernard Brodie, ed., *The Absolute Weapon: Atomic Power and World Order*, New York: Harcourt, Brace, and Company, 1946, pp. 21-83;
- Robert Jervis, *The meaning of the nuclear revolution: Statecraft and the Prospect of Armageddon*, Cornell University Press, 1989, Chapter 4-5;
- Colin S. Gray, *Nuclear Strategy: The Case for a Theory of Victory*, *International Security* Vol. 4, No. 1 (Summer, 1979), pp. 54-87.

Additional readings (if interested):

- Douglas J. MacEachin, *The Final Months of the War With Japan: Signals Intelligence, U.S. Invasion Planning, and the A-Bomb Decision* (Washington: Center for the Study of Intelligence, December 1998). Read up to appendices.  
Available at: <http://www.odci.gov/csi/monograph/4253605299/csi9810001.html>
- Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966).
- Marc Trachtenberg, *History and Strategy* (Princeton: Princeton University Press, 1991), 100-152.
- Richard Rhodes, *The Making of the Atomic Bomb* (New York: Simon and Schuster, 1986), p. 29-275 and 712-747
- Scott D. Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton: Princeton University Press, 1993), 3-155; 250-279.

## **Seminar #2: The United States Nuclear Strategy**

The lecture will explain the main principles that are currently underpinning the US nuclear strategy and examine the historical evolution of the American nuclear doctrine from nuclear warfighting to deterrence and limited nuclear war planning.

 What are the main strengths and weaknesses of the US nuclear strategy?

### **Required readings:**

- Bernard Brodie, *The Development of a Nuclear Strategy*, *International Security*, Vol. 2, No. 4, Spring 1978;
- Keir A. Lieber and Daryl Press, *The Rise of US Nuclear Primacy*, *Foreign Affairs*, March/April 2006 Issue;
- Charles L. Glaser and Steve Fetter, *Should the United States Reject MAD? Damage Limitation and U.S. Nuclear Strategy toward China*, *International Security*, Vol. 41, No. 1 (Summer 2016), pp. 49–98

- Hans M. Kristensen, Matthew McKinzie & Theodore A. Postol, *How US Nuclear Force Modernization Is Undermining Strategic Stability: The BurstHeight Compensating Super-Fuze*, Bulletin of Atomic Scientists, March 2017
- US Modernization: <https://www.armscontrol.org/factsheets/USNuclearModernization>


**Policy document to be discussed in class:**

- US Nuclear Posture Review 1994
- US Nuclear Posture Review 2005
- US Nuclear Posture Review 2010
- US Nuclear Posture Review 2018 (unclassified draft)

**Seminar #3:**

**The most difficult relation? Understanding the U.S.-Russia Nuclear Interaction**

The lecture explores the complex, multi-faceted nuclear relation between the United States and Russia. We will examine the evolution of nuclear postures of the two former Cold War rivals (from mutual assured destruction - MAD to flexible response to the current nuclear interface) and investigate how the nuclear interplay between the two countries is changing in light of modernization efforts of their respective nuclear arsenals and geo-political crises in which they are involved.

 Are the two countries truly committed to maintaining strategic stability?

**Required readings:**

- Richard Pipes, Why the Soviet Union Thinks It Could Fight and Win a Nuclear War Commentary; New York, N. Y. Vol. 64, Iss. 1, (Jul 1, 1977): 21.
- Fritz W Ermarth, Contrasts in American and Soviet Strategic Thought, International Security, Vol 3, no. 2 (Fall 1978), pp. 138-155
- Frank Gavin, *The myth of flexible response: United States strategy in Europe during the 1960s*, The International History Review, 2001;

### Policy Papers to be discussed:

- James Acton, Entanglement: Chinese and Russian Perspectives on Non-Nuclear Weapons and Nuclear Risks (Chapter by Alexey Arbatov and Vladimir Dvorkin)
- Russia National Security Strategy 2016

### Additional readings

- Graham Allison, Conceptual models and the Cuban missile crisis, *The American Political Science Review*, Volume 63, Issue 3, Sep., 1969, 689-718;
- Thomas C. Schelling, *Arms and Influence*, New Haven: Yale University Press, 1966;
- John Mueller, The essential irrelevance of nuclear weapons: Stability in the postwar world *International Security*, Vol. 13, No 2, Fall 1988;
- McGeorge Bundy, George Kennan, Robert McNamara and Gerard Smith: Nuclear weapons and the Atlantic alliance, *Foreign Affairs*, Vol. 60/4, Spring 1982, 753-768
- Robert Jervis, Why nuclear superiority doesn't matter, *Political Science Quarterly*, 1979;

### Seminar #4-5:

#### **A New Cold War? China's Nuclear Hedging and the U.S. pivot to Asia**

The two lectures will examine the past and current nuclear interplay between the United States and China as emerging great power. A conventional IR Theory argues that the rise of great powers is always accompanied by major wars waged by status-quo powers seeking to prevent a shift in the global distribution of power. Will we face a new cold war, this time between China and the United States?

✚ How should the United States position itself to stabilize the nuclear triangulation with China and Russia? What principles should its nuclear posture adopt? What posture?

### Required readings:

- Nicola Horsburgh, Change and innovation in Chinese nuclear weapons strategy, *China Information*, 26 (2) , 2012, pp. 185-204;

- Fu Ying: How China sees Russia, Foreign Affairs, January/February 2016 Issue
- Taylor Fravel and Evan S. Medeiros, *China's Search for Assured Retaliation: The Evolution of Chinese Nuclear Strategy and Force Structure*, International Security Journal, Vol. 35, No. 2, Fall 2010
- Caitlin Talmadge, *Would China go Nuclear? Assessing The Risk of Chinese Nuclear Escalation in a Conventional War with the United States*, International Security Journal, Vol. 41, No. 4, Spring 2017

### Policy Papers to be discussed

- China National Security Strategy 2015: [http://news.xinhuanet.com/english/china/2015-05/26/c\\_134271001.htm](http://news.xinhuanet.com/english/china/2015-05/26/c_134271001.htm)
- China Statements at the NPT Review Conference 2015

### Additional readings:

- Elbridge A. Colby and Abraham M. Denmark, Nuclear Weapons and U.S.-China Relations: A Way Forward, PONI working group, 2013, accessible here: [http://csis.org/files/publication/130307\\_Colby\\_USChinaNuclear\\_Web.pdf](http://csis.org/files/publication/130307_Colby_USChinaNuclear_Web.pdf)
- Robert Zoellick, Whither China: From Membership to Responsibility? , Department of State Deputy Secretary of State, Remarks delivered to the National Committee on the United States and China Relations, New York City, September 21, 2005;
- Jeffrey Lewis, Chinese nuclear posture and force modernization, The Nonproliferation Review, Vol. 16, No. 2, July 2009
- Wang Jisi, *China's search for stability with America*, Foreign Affairs, September/October 2005 Issue;
- Lora Salmaan, *China and the U.S. Nuclear Posture Review*, Carnegie Paper accessible online, February 28, 2011: <http://carnegieendowment.org/2011/02/28/china-and-u.s.-nuclear-posture-review>
- Morton Halperin, China and the Bomb: Chinese nuclear strategy, The China Quarterly, Vol. 21, March 1965, pp. 74-86

- Brad Roberts, Nuclear Multipolarity and Stability, Institute for Defense Analysis, Document D -2539, November 2000
- Zalmay Khalilzad, Abram N. Shulsky, Daniel Byman, Roger Cliff, David T. Orletsky, David A. Shlapak, Ashley J. Tellis: The United States and a Rising China, RAND REPORT 1999, accessible online:  
[https://www.rand.org/content/dam/rand/pubs/monograph\\_reports/2007/MR1082.pdf](https://www.rand.org/content/dam/rand/pubs/monograph_reports/2007/MR1082.pdf)
- William Burr and Jeffrey Richelson, “Whether to “Strangle the Baby in the Cradle”: The United States and the Chinese Nuclear Program 1960-1964, International Security, Vol. 25, No. 3, Winter 2000/2001;

### Seminar #6-7

#### Extended Deterrence, Alliances and Nuclear Guarantees

Outside of the bilateral relations with Russia and China respectively, the United States is also entangled in a series of regional and trans-national alliances, frequently reliant on the U.S. nuclear umbrella for protection and security. The two most important alliances are in Europe – through NATO and in Asia through a series of bilateral accords with Japan, Taiwan and South Korea respectively. The lecture will offer an overview of the structure of these alliances systems and will explore whether their endurance is today a driver of stability or a cause of potential conflict with great powers.

✚ **Key question to be debated during group discussion:** Are alliances helpful to nuclear stability or are they undermining it?

#### Required readings:

- The North Atlantic Treaty, 4 April 1949:  
[http://avalon.law.yale.edu/20th\\_century/nato.asp](http://avalon.law.yale.edu/20th_century/nato.asp)
- Matthew Kroenig, *Facing Reality: Getting NATO Ready for a New Cold War*, Survival: Global Politics and Strategy, February–March 2015



- Keith B. Payne, *New Threat Realities and Deterrence Requirements Adapted from remarks at the “Strategic Weapons in the 21st Century” Conference, Ronald Reagan Building and International Trade Center, Washington, DC, January 26, 2017*
- Matthew Fuhrmann, TS Sechser, Signaling Alliance Commitments: Hand-Tying and Sunk Costs in Extended Nuclear Deterrence, *American Journal of Political Science*, Vol. 00, No. 0, 2014, Pp. 1–17

#### Additional readings

- James Baker, Russia in NATO, *The Washington Quarterly*, winter 2002;
- Richard C. Bush III, Vanda Felbab-Brown, Martin S. Indyk, Michael E. O'Hanlon, Steven Pifer and Kenneth M. Pollack, U.S. Nuclear and Extended Deterrence: Considerations and Challenges, *Brookings Report* 2010, accessible: <http://www.brookings.edu/research/papers/2010/06/nuclear-deterrence>
- Nobory Yamaguchi, The Utility of Nuclear and Conventional Forces in the Second Nuclear Age: A Japanese Military Perspective, *Asia Policy*, No. 19, January 2015
- Stephen Walt, Alliances in a Unipolar World, *World Politics* 61:1, January 2009, pp.86-120;
- Stéfanie von Hlatky, Andreas Wenger, *The Future of Extended Deterrence: The United States, NATO, and Beyond*, Georgetown University Press, 2015, Part 1
- David Shambaugh, China and the Korean peninsula: Playing for the long term, *The Washington Quarterly*, 2003
- David Albright, Colin Gay, Taiwan: Nuclear nightmare averted, *Bulletin of the Atomic Scientists*, 1998
- T.V. Paul, *Complex Deterrence: Strategy in the Global Age*, The University of Chicago Press, 2009, Chapter 5-6-7

#### **Seminar #8:**

## **Dangerous Nuclear Quarter: The United State, China, India and Pakistan**

One of the most dangerous nuclear relation in the world is the India-Pakistan nuclear dyad. The relation has grown increasingly dangerous and unstable riddled with deep-seated mistrust and rivalry. Both countries continue to expand their arsenal amid rising fundamentalist threats and geopolitical pressures. Pakistan in particular might soon become the world 3 largest nuclear arsenal in the world. The United States has played a critical role in mediating between the two nuclear rivals but this strategy is becoming costly under many vantage points.

✚ What role should the United States play in the complex nuclear interplay between India and Pakistan?

### **Required Readings:**

- Michael Krepon and Julia Thompson, Deterrence stability escalation control in south Asia, Stimson Center, April 2015, Chapter 1-2-5-6;
- PK Singh, The India-Pakistan Nuclear Dyad and Regional Nuclear Dynamics, Asia Policy, No 19, January 2015;

### Additional readings

- Paul Bracken, The Second nuclear age, Foreign Affairs, January/February 2000
- Sumit Ganguly, S. Paul Kapur, India, Pakistan, and the Bomb: Debating Nuclear Stability in South Asia, Columbia University Press, 2010, Chapter 2-3-4-5;
- Mohan Malik, The China factor in the India-Pakistan conflict, Parameters Spring 2003
- Todd Sechser, Matthew Fuhrmann, Crisis bargaining and nuclear blackmail, International Organization, Vol. 67, No. 1, 2013, pp. 173-195
- Paul Kapur, India and Pakistan unstable peace: Why nuclear South Asia is not like cold war Europe, International Security, Vol. 30, Fall 2005
- Toby Dalton, A Normal Nuclear Pakistan, Report of the Carnegie Endowment for International Peace 2015
- Bruce Riedel, Avoiding Armageddon: America, India, and Pakistan to the Brink and Back, Brookings Institute, 2013, Chapter 5-6-7-8
- Viping Narang, What does it take to deter? Regional power nuclear postures and international conflict, Journal of Conflict Resolution, 2013

- Itty Abrahams *Contra-Proliferation: interpreting the meanings of India nuclear tests in 1974* in Scott Sagan, *Inside Nuclear South Asia*, Stanford Security Studies., Stanford University Press, 2009, Chapter 3

### **Seminar #9-10:**

#### **Proliferation and Nuclear terrorism**

The seminars focus on the strategies and policies adopted by the United States and by international organizations to prevent states from acquiring nuclear weapons. Some of these instruments include the Nuclear Non Proliferation Treaty (NPT), the IAEA Additional Protocol and the Proliferation Security Initiative and Resolution 1540. We will study the origin and function of these institutions, their strengths and shortcomings and we will explore their effectiveness in light of major proliferation crises including Libya, Iraq, Iran and Syria.

✚ In what ways should the next president of the United States address the problem of nuclear proliferation and terrorism?

#### **Required readings:**

- The Treaty on the Non-Proliferation of Nuclear Weapons (NPT): <http://www.un.org/en/conf/npt/2005/npttreaty.html>
- Scott D. Sagan (1996/97) *Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb*. *International Security*. 21(3)Winter, 54–86
- Jacques E. C. Hymans (2010) *When Does a State Become a “Nuclear Weapons State”?* An Exercise in Measurement Validation. In Potter and Mukhatzhanova *Forecasting Nuclear Proliferation Volume 1*. chapter 6, 102–123
- Alexander H. Montgomery (2005) *Ring in Proliferation: How to Dismantle an Atomic Bomb Network*. *International Security*. 30(2)Fall, 153–187

**Policy Papers to be discussed**

- UN Resolution 1540:  
[http://www.un.org/en/ga/search/view\\_doc.asp?symbol=S/RES/1540\(2004\)](http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/1540(2004))
- Statement of Interdiction principles, Proliferation Security Initiative:  
<https://www.state.gov/t/isn/c27726.htm>

Additional readings:

- Chaim Braun and Christopher Chyba (2004) Proliferation Rings: New Challenges to the Nuclear Nonproliferation Regime. *International Security*. 29(2)Fall, 5–49
- Graham Allison, How to Stop Nuclear Terrorism, *Foreign Affairs*, January February 2004
- Siegfried S. Hecker and William Liou (2007) Dangerous Dealings: North Korea’s Nuclear Capabilities and the Threat of Export to Iran. *Arms Control Today*. 37(2)March, 8
- David Albright and Corey Hinderstein, Unraveling the A. Q. Khan and Future Proliferation Networks, *The Washington Quarterly* Vol. 28, Spring 2005, pp. 111–128.
- Matthew Bunn, Martin B. Malin, Nickolas Roth, and William H. Tobey, *Advancing Nuclear Security: Evaluating Progress and Setting New Goals* (Cambridge, Mass.: Project on Managing the Atom, Belfer Center for Science and International Affairs, Harvard University, March 2014):  
<http://belfercenter.ksg.harvard.edu/files/advancingnuclearsecurity.pdf> (pp. 49-60).

**Seminar #11:**

**The Nuclear Renaissance and its consequences**

Since 1999, emerging countries such as Vietnam, the United Arab Emirates, Malaysia, Ghana, Nigeria, Jordan, and Turkey among others have sought to acquire nuclear technology for energy production. The race to establish nuclear power plants around the world has been defined the Nuclear Renaissance. The nuclear industry that seems to be stagnating in developed countries has found revived enthusiasms among developing and energy-stricken countries. The spread of nuclear technology around the world bears critical consequences in terms of nuclear proliferation and nuclear terrorism risks.

✚ According to the NPT, access to nuclear technology is an inviolable right of state parties to the treaty. How can the spread of nuclear technology be made more proliferation resistant?

#### Required Readings:

- Scott D. Sagan (2010) Nuclear Latency and Nuclear Proliferation. In Potter and Mukhatzhanova Forecasting Nuclear Proliferation Volume 1. chapter 5, 80–101
- Matthew Kroenig (2009) Importing the Bomb: Security Threats, Sensitive Nuclear Assistance, and Nuclear Proliferation. Journal of Conflict Resolution. 53(2)April, 161–180
- Matthew Fuhrmann, Taking a walk on the supply side, The Determinants of Civilian Nuclear Cooperation, The Journal of Conflict Resolution, January 2009
- United States Institute of Peace, the Iran Primer,  
<http://iranprimer.usip.org/resource/timeline-irans-nuclear-activities>

#### Policy Papers to be discussed

- The Joint Comprehensive Plan of Action (JCPOA)/The Iran Agreement Text

#### Seminar #12:

#### **Into the future: Cyber, Space, and Conventional Capabilities in an already fragile nuclear order**

In the 21<sup>st</sup> century, nuclear risks are increasingly coupled with risks from other emerging sophisticated technologies such as cyber and bio ones. These technologies might further destabilize an already fragile nuclear order.

✚ What should cyber-strategists learn from the Nuclear Order?

## Required readings

- James P. Farwell and Rafal Rohozinski, The New Reality of Cyber War, *Survival*, 54 (4), August/September 2012, pp. 107–120.
- Gary McGraw, “Cyber War is Inevitable (Unless We Build Security In),” *Journal of Strategic Studies*, 36 (1), February 2013, pp. 109–119.
- Erik Gartzke, “The Myth of Cyberwar,” *International Security*, 38 (2), Fall 2013, pp. 41–74.
- Steven Lambakis, *On the Edge of Earth: The Future of American Space Power*, University Press of Kentucky, 2001, Part II and Part III
- WC Martel, T Yoshihara, Averting a Sino-US space race, *Washington Quarterly*, 2003

## Additional readings

- Thomas Rid, “Cyber War Will Not Take Place,” *Journal of Strategic Studies*, 35 (1), February 2012, pp. 5–32.
- United States, 2016 Cyber Security Strategy
- Dennis Gormely, *Winning on Ballistic Missiles But Losing on Cruise: The Missile Proliferation Battle Arms Control Today*, 2009
- Dennis Gormely, *The Path to Deep Nuclear Reductions: Dealing with American Conventional Superiority*, IFRI Proliferation Papers, Fall 2009

## Seminar #13: How will the global nuclear order look like in 20 years?

The final seminar will look at how new conventional military capabilities and increasing competition in space might affect the current global nuclear order and the defense policies of major nuclear weapons states.