



# PASCC

PROJECT ON ADVANCED SYSTEMS AND CONCEPTS  
FOR COUNTERING WEAPONS OF MASS DESTRUCTION



# 2012 ANNUAL REPORT



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# EXECUTIVE SUMMARY

In 2011, the Defense Threat Reduction Agency (DTRA) established a research unit at the Naval Postgraduate School to plan and conduct strategic and future-oriented research studies — The Project on Advanced Systems and Concepts for Countering Weapons of Mass Destruction (PASCC) was born. These studies support DTRA's mission to counter the full spectrum of threats posed by WMD.

The creation of PASCC marked a transformation in the way DTRA sponsors research on emerging WMD challenges, to be more efficient and effective in helping policymakers tackle tough issues.

**Roots in Forward-Looking Research** PASCC is based in Monterey, California. At the nexus of the academic and military worlds, the project is housed at the Center on Contemporary Conflict (CCC) at the Naval Postgraduate School (NPS). The CCC serves as the program planning and implementation office, research center, and intellectual clearinghouse for PASCC.

With over a decade's experience providing forward-looking research and organizing international seminars and Track II dialogues, the CCC was a natural partner for the PASCC mission. CCC faculty in the Department of National Security Affairs bring an array of expertise, academic tools, and research networks to deepen program outcomes.

**Delivering Answers to Tough Questions** Understanding the predominance of inbox issues, PASCC is charged with issues that are not well understood or well developed in the existing literature. PASCC supports and awards projects that increase strategic analysis and foresight. The research links social science and technical domains to investigate and anticipate WMD capabilities, intentions and countermeasures 5 to 20 years out.

Project success stems from research objectivity, accountability, and high-quality products that have immediate value to the government and the public. In today's budget austerity, PASCC aids resource planning and forecasts for a broad set of government stakeholders. Some of the overarching research questions include:

- How can we strengthen cooperation across state and non-state actors?
- How do we apply deterrence and assurance in an age of precise conventional weapon systems?
- What are new methods of confidence building and information sharing?
- What are risk management strategies for bio-security?

**Merit-Based Project Selection** PASCC sponsors innovative futures studies in collaboration with a diverse set of research partners. PASCC's annual merit-based, peer-review process for selecting projects ensures that DTRA and other stakeholders benefit from the most rigorous research by the best in the field. Launching the first full project cycle in 2012, after a review of over 200 proposals, NPS gave 28 projects awards to 15 different institutions. Project awards totaled approximately \$6,250,000.

Examples of such research include "Anatomizing the Behavior of Chemical and Biological Non-State Adversaries," a project examining the potential chemical or biological terrorist adversary from a behavioral and organizational standpoint, and the U.S.-China dialogues that increase mutual understanding and further security objectives with a range of strategic actors in the two countries.

# PASCC GLOBAL AND FUNCTIONAL SPREAD

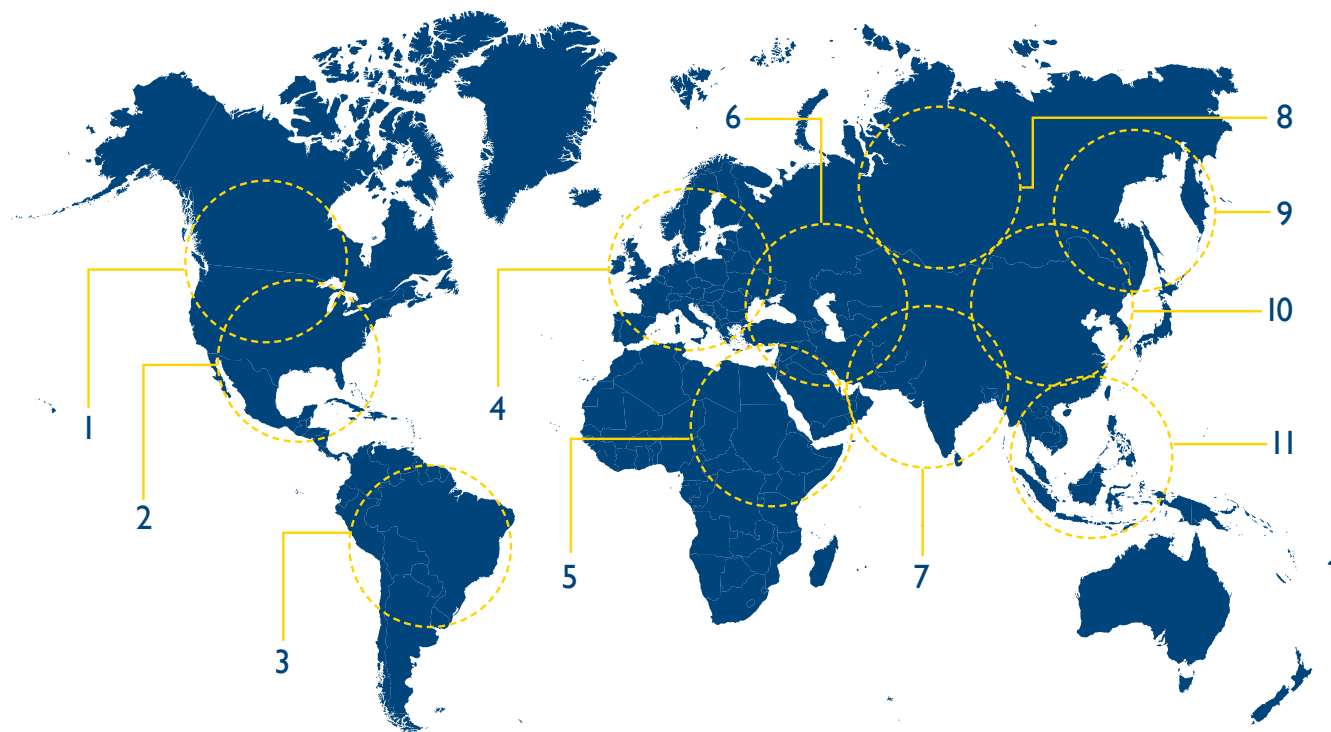
## Global Analyses include:

Illicit Nuclear Trade  
 Military Applications of Nanotechnology  
 Terrorist Innovation in WME

Private Solutions to Proliferation  
 Space and Nuclear Deterrence

Rationality, Culture, and Deterrence  
 Chemical Weapons Convention  
 Penaid Nonproliferation

Chem-Bio Adversary Behavior  
 WMD Proliferation Networks



### 1

- Coercive Nuclear Campaigns
- Allied Security and an Integrated Satellite Network
- Assessing the Impact of Low Nuclear Numbers

### 2

- Controlling Border Spaces in the Americas

### 3

- Strategic Resource Conflicts in the Americas
- U.S. and Brazil Perspectives Workshop

### 4

- U.S.-UK-France Nuclear Dialogue
- NATO Defense Posture Review
- Assuring NATO-Europe

### 5

- African Security Challenges: Now and Over the Horizon

### 6

- Nuclear Alerts and Strategic Signaling
- U.S.-Turkey Dialogue
- Rogue Regimes and Deterrence: Lessons from Iraq
- International Biosecurity in MENA

### 7

- U.S.-India Strategic Dialogue
- U.S.-Pakistan Strategic Dialogue
- Asian Stability Workshop

### 8

- U.S.-Russia and the Future of Arms Control
- U.S.-Russia Nuclear Security Dialogue

### 9

- Japan's Nuclear Consciousness
- Eliminating North Korea WMD
- U.S.-ROK-Japan Dialogue

### 10

- U.S.-China Nuclear Dialogue
- U.S.-China Strategic Lexicon and Concepts
- Nuclear Security Dialogue

### 11

- Emerging Infectious Disease Surveillance
- Prospects for Nuclear Proliferation in Southeast Asia

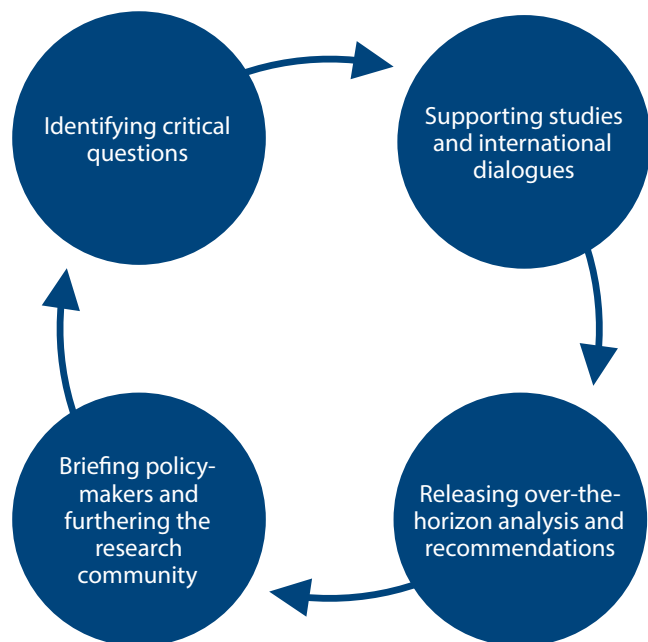
# MISSION

In 2011, the Director of the Defense Threat Reduction Agency, Kenneth Myers, ordered a transformation in the way DTRA sponsors research on emerging WMD challenges to be more efficient and effective in bringing the best research to the policy making process. DTRA created the Project on Advanced Systems and Concepts for Countering WMD, referred to as PASCC, at the Naval Postgraduate School (NPS) Center on Contemporary Conflict (CCC). The CCC is planning and executing the strategic studies and dialogues program.

PASCC established new innovative mechanisms to fund research through competitively awarded grants. The value-add and cost-effectiveness of each proposal is taken into account. PASCC also supports organizations that are prohibited from direct competition but whose projects are deemed highly merit-worthy. As a result, DTRA funded approximately 30 studies through PASCC in FY12. About one-third of the awards fund strategic dialogues with important allies and partners to explore emerging WMD issues and areas for cooperation. The remaining two-thirds of awards support strategic research on future and emerging WMD threats, strategic stability, and options for managing related dangers.

PASCC has the mission to serve the public with valuable findings, conclusions, and recommendations for countering the threats emanating from mass destruction technologies. Research products are shared at the maximum level possible so that peer researchers and the broader community can benefit from these investigative efforts. Through its peer-review evaluation and selection process, PASCC preserves research independence and transparency.

On July 19, 2012, NPS President Oliver signed the Memorandum of Agreement (MOA) between NPS and DTRA. The MOA formalized the transfer of the DTRA mission formerly executed by the Agency's Advanced Systems and Concepts Office (ASCO) to NPS. This agreement designates PASCC as DTRA's "primary functional program planning and implementation office, research unit, and intellectual clearinghouse for the execution of analysis and strategic engagement, subject to the guidance and approval of Director (J2/5/8R), on future-oriented studies and dialogues." (NPS-DTRA MOA page 4 Subpar. 7d. (2)). DTRA, as the PASCC sponsor, provides all funding for the management and operation of PASCC, as well as programs and services conducted as part of PASCC.



# LEADERSHIP

PASCC is directed by the Associate Chair for Research of the Department of National Security Affairs (NSA). This position is a rotating position held by a faculty member of the Department, usually for two years. The Associate Chair for Research also serves as the Director of the CCC. Since its inception, PASCC has been directed by Anne L Clunan, Ph.D., an Associate Professor in the NSA Department.

PASCC governance involves the Senior Steering Group (SSG), which assists the PASCC Director in setting research priorities. SSG membership consists of U.S. government experts on WMD and strategic issues. Over 2011–2012, the SSG was chaired by the PASCC Director and included two representatives from DTRA, subject matter experts from the Department of Health and Human Services, the U.S. Air Force Strategic Deterrence and Nuclear Integration division, and the U.S. Department of State, as well as faculty members from the National Defense University (NDU) and Naval Postgraduate School. The SSG meets biannually to provide strategic guidance and thought leadership to PASCC.

The PASCC Director convenes a Proposal Review Committee during the annual evaluation of project proposals. The Proposal Review Committee is composed of U.S. government subject experts including two DTRA representatives, a detailee from the Department of State, and subject matter experts from the National Defense University and Naval Postgraduate School. The evaluation and review process is monitored by a non-voting DTRA representative to ensure that the review process is impartial and transparent.

PASCC is supported by a partnership between NPS, DTRA, and NDU. Beginning in February 2012, program advisement from the National Defense University focused on outreach and relationships with the diverse set of USG stakeholders. NDU faculty members also assist in monitoring project execution and facilitating or observing project events, in addition to their involvement in the SSG and Proposal Review Committee.

## Meet An Expert

**Anne L. Clunan**  
*Naval Postgraduate School*

Ph.D., Political Science,  
University of California  
at Berkeley

**Director of PASCC**  
*2011–2012*

### Areas of Expertise

- Ungoverned spaces
- Biological weapons attribution
- Russian national security policy
- Globalization and non-state actors

# SUMMARY OF ACCOMPLISHMENTS

During the establishment and first year of PASCC, NPS accomplished the following milestones:

**PASCC Launch** After the decision to establish PASCC at NPS in mid-March 2011, NPS quickly implemented a transition of DTRA's strategic research and dialogues portfolio to PASCC, including external communications, alignment of staff, and an immediate solicitation of FY12 project ideas. PASCC was launched prior to its May 15 target date, holding its first Senior Steering Group Meeting, issuing the request for FY12 ideas, and completing its first round of white paper reviews by May 19. Throughout its first year, PASCC laid new groundwork in administrative and programmatic processes at NPS and with external partners. PASCC and DTRA began drafting the Memorandum of Agreement governing the relationship between NPS and DTRA in April 2011; the MOA was executed in July 2012.

**Hiring** In order to manage the portfolio of PASCC projects, including NPS and external performers, the CCC hired a new full-time Program Manager. The CCC also hired a Finance Associate to monitor and coordinate financial transactions at the program and project level. These new staff members came on board on September 26, 2011.

**Selection of FY12 Projects** PASCC issued a request for ideas in May 2011. Over 220 white papers were received. After two rounds of white paper review, the Proposal Review Committee met in August 2011, and achieved consensus on an evaluation and ranking of FY12 project submissions. The process led to 29 projects recommended for award. During FY12, PASCC issued its own Broad Area Announcement to invite proposals for FY13 awards by the U.S. Fleet Logistics Center, San Diego (FLCSD). This BAA "NPS-BAA-12-003" is available at [www.grants.gov](http://www.grants.gov) by searching for the keyword PASCC. The full announcement details application procedures, eligibility, and the FY13 research priorities.

Think tanks, other universities, Federally Funded Research and Development Centers, for-profit organizations, and NPS faculty were eligible to submit projects for review. NPS faculty must compete for project funding in the same manner as all other competitive applicants.

**External Awards** PASCC awarded 18 external (non-NPS led) projects during FY12. The majority of these projects are continuing into FY13. NPS does not have its own grant authority so it leverages an arrangement with the FLCSD. During FY12, there were several delays in the grant award process stemming from government-wide conference scrutiny as well as FLCSD's limited staffing experience with research grants. With the patience of all involved, awards were completed in July 2012.

**Quality Assurance** PASCC leadership and staff routinely mitigated issues during project execution and enforced high standards for research quality. This activity included responsiveness to stakeholder needs, participation in international workshops, and review of project milestones. Beginning in 2011, the PASCC Director and Program Manager met with external awardees to discuss their projects and highlight PASCC expectations and processes for deliverables.

In addition to launching PASCC, per DTRA's request, NPS established centralized oversight of the subset of ASCO-awarded FY10 and FY11 projects that were led by NPS-affiliated principal investigators.

**Knowledge Management** PASCC inherited legacy materials from DTRA ASCO and developed solutions for archiving and releasing over 500 project reports to the public and U.S. government community. Many of these are available at [www.hsdl.org](http://www.hsdl.org) or [www.dtic.mil](http://www.dtic.mil). The PASCC team collaborates with the NPS Dudley Knox Library and maintains a Knowledge Management Plan to document these processes and the intersections of multiple online and NPS-based repositories.



**Outreach** One of the important responsibilities of PASCC is to market and distribute PASCC research in order to increase stakeholder interest and promote the value of research to the counter-WMD community. The PASCC Director met with offices at the National Nuclear Security Administration, Office of the Secretary of Defense, and other U.S. government (USG) agencies as well as private sector think tanks and foundations. Researchers briefed other USG policymakers in addition to DTRA. In September 2012, NPS in collaboration with NDU held the first PASCC research colloquium with a focus on Asia. PASCC also developed web and traditional informational materials to increase awareness of project activities in the community.

**Sponsor Communications** PASCC implemented regular reporting mechanisms to inform DTRA on all aspects of activity. These included monthly progress reports, meetings at DTRA and NPS, memorandums for the record, and regular conference calls. The PASCC team also regularly coordinates with NPS and external research investigators, providing DTRA a complete picture of continued progress.

# PASCC-FUNDED RESEARCH

## PROJECT PORTFOLIO

PASCC produces cutting-edge research, analysis and outreach to address critical issues of U.S. national and global security. The portfolio of projects link social science and technical domains to investigate and anticipate WMD capabilities, intentions, and countermeasures **5 to 20 years out**. The research emphasizes the identification, integration, and further development of strategic thinking and analysis on the most intractable and future problems related to combating WMD and weapons of mass effects (WME). Policymakers face new challenges in the areas of national defense, nuclear nonproliferation, and technological and scientific advancements with respect to land, sea, cyber, and space. The focus of PASCC is on whether and why states and non-state actors can tilt the balance of power and relative peace in the international arena.

### Strategic Funding Opportunities

The PASCC grant to the Stimson Center's Managing Across Boundaries program provided the seed for a million dollar effort that now combines funding from multiple sources.

The project's Task Force for Partners in Prevention brings together experts from four industries (dual-use technologies, radiopharmaceuticals, shipping, and insurance).

These research efforts seek to maximize understanding of anticipated or emerging issues that represent the full spectrum of WMD problems or have the significant potential to affect strategic stability. PASCC particularly supports research and analysis on issues that are not prominent or well developed in the existing literature. PASCC also seeks to balance research across a spectrum of strategic, applied, and technical topics and supports interdisciplinary research that combines these areas. In all cases, PASCC is interested in Western and non-Western definitions of WMD/WME issues; societal, organizational, and political responses to these issues; and the intersection of economic, social, political, military, and technological factors related to the emergence of threats from WMD use or proliferation.

While a core research focus remains nuclear issues, PASCC has broad and sustained interest in non-nuclear aspects of WMD and threat reduction. Geographic areas of interest include established and non-established WMD states and regions that are potential sources or recipients of WMD materials, and their delivery systems. In the last decade, the emergence and resurgence of key countries with increasing economic and military capacity has brought new states in to the equation of maintaining peace and security. The rise of non-state actors and rapid advancements in the life, physical, and information sciences have expanded the potential threats and opportunities in

# FISCAL YEAR 2012 IN REVIEW

The following timeline presents critical milestones and project events. Events associated with NPS-led FY10 and FY11 DTRA funded research are included, as they are managed by PASC since the June 2011 closure of DTRA-ASCO.

## APRIL 2011

- PASC Senior Steering Group meeting in Monterey establishes FY12 research priorities
- DTRA/NPS Memorandum of Agreement drafted

## MAY 2011

- Official Launch of PASC
- Request for Ideas issued
- 220 white papers received
- Round 1 Proposal Review Committee Meeting
- PASC assumes management responsibilities for DTRA-ASCO-funded FY10 and FY11 projects executed by NPS faculty members

## JUNE 2011

- NPS U.S.-China Strategic Lexicon Dialogue held in Hawaii\*
- PASC Director outreach to Intelligence Community on research themes and collaboration

## JULY 2011

- NPS U.S.-Israel Dialogue held in Jerusalem\*

## AUGUST 2011

- PASC Director briefings on PASC to DTRA Director, PDASD OSD-P (GSA), AAS DOS/ISN, DASD OSD-P (Space), DASD OSD-P (Plans), AASD OSD-P (APSA)
- Round 2 Proposal Review Committee Meeting

## SEPTEMBER 2011

- NPS U.S.-Pakistan Strategic Dialogue held in Thailand\*
- NPS Monterey Strategy Seminar held in Monterey\*
- NPS China-India-Pakistan Trilateral Relations Seminar held in Thailand\*

## OCTOBER 2011

- Notifications to RFI FY12 project proposers regarding funding recommendations

- PASC Senior Steering Group meeting in Monterey solidifies program timeline and objectives, streamlines proposal review process, and initiates discussion of FY13 research themes
- NPS Weapons of Mass Effect and Terrorist Innovation Conference held in Edinburgh\*

## NOVEMBER 2011

- Initial PASC research funding received and allocated to 10 new projects
- DTRA-ASCO document archives arrive at NPS

## DECEMBER 2011

- PASC Style Guide issued for project reports
- Full proposals submitted to NPS BAA

## JANUARY 2012

- FY12 DTRA funds arrive for allocation to remaining projects
- CCC launches new financial system to monitor project funds

## FEBRUARY 2012

- Pacific Forum U.S.-ROK-Japan Dialogues held in Hawaii
- PASC Senior Steering Group meeting in Washington increases NPS/DTRA coordination on operational issues
- National Academy of Sciences Workshop on Trends Related to the Chemical Weapons Convention held in Geneva
- Stimson Center Space and Deterrence Roundtable held in Washington

## MARCH 2012

- NPS Multilateral Cooperation for Non-proliferation Workshop held in Monterey\*

## APRIL 2012

- PASC Broad Area

Announcement issued for FY13 project solicitations

## MAY 2012

- 107 white papers received for consideration of funding in FY13

## JUNE 2012

- NPS U.S.-China Strategic Dialogue held in Hawaii
- NPS NATO Deterrence and Defense Posture Workshop held in Rome

## JULY 2012

- RAND Penetration Aid and Nonproliferation Workshop held in Washington
- Second Stimson Center Space and Deterrence Roundtable held in Washington
- PASC panel at the CWMD Global Synchronization Conference
- Final grant for FY12 projects is issued
- Proposal Review Committee Meeting on FY13 projects

## AUGUST 2012

- NPS U.S. and Brazilian Perspectives Workshop held in Brasilia
- Notifications to FY13 applicants regarding funding recommendations
- Full proposals submitted to PASC BAA

## SEPTEMBER 2012

- Stimson Center Managing Across Boundaries workshop held in Washington
- RAND North Korea Tabletop held in Seoul
- PASC Research Colloquium, "Strategic Stability, Rebalancing in Asia, and Next Steps in Countering WMD," held at NDU
- National Academy of Sciences U.S. China Nuclear Dialogue held in Beijing

\*DTRA/ASCO funded and PASC managed

countering the weaponization of technological advances. This calls for new strategic approaches to maintaining a nuclear-free world, assuring our allies, and maintaining a strong and robust defense force ready to respond to existing and emerging threats.

PASCC projects awarded in FY12 have contributed key information to policymakers, USG officials and the public's knowledge of emerging and perceived threats. This information includes opportunities for collaboration and dialogue, awareness of the implication of new scientific and technological developments in the private sector on deterrence and nonproliferation policy, and continued efforts to dissuade non-nuclear states from acquiring nuclear weapons in the face of changing landscapes in regional politics.

The keys to PASCC's success are research objectivity, responsiveness during project execution, and high-quality products capable of passing peer review. In selecting projects, PASCC also rewards innovative questions, methodologies, and policy solutions. For the first full PASCC project cycle in FY12-13, PASCC evaluated over 220 project ideas and awarded 28 projects: ten strategic dialogues and eighteen studies that contribute to the following five areas:

1. 21st Century Deterrence,
2. Anticipating Threats and Opportunities,
3. Countering WMD/WME,
4. Nuclear Weapons and Nonproliferation Policy, and
5. Strategic Dialogues

For further information on the FY12 solicitation, please see Appendix A. Each project supports the DTRA mission to safeguard the United States and its allies from global WMD threats by integrating, synchronizing, and providing expertise, technologies, and capabilities across all operating environments. The findings of the studies and dialogues are published according to project timelines and briefed to selected experts and USG officials.

Projects selected in FY12 deliver innovative, future-oriented and policy focused outcomes in response to these five areas. The following paragraphs illustrate a sampling of PASCC projects, with a full listing provided below.

**21st Century Deterrence** While the threat of global destruction through nuclear obliteration has decreased to a near-zero probability, the number and diversity of threats have increased. National security in the 21st century faces a host of new challenges stemming from changes in the rise of new global powers (China and India), rogue states, non-states actors, tactical nuclear weapons, and continued WMD proliferation calling for more coordinated efforts in meeting those challenges head on. PASCC research is offering new frameworks for understanding what drives the foreign policy decisions of states and the implications for deterrence planning and operations. Investigators are answering questions such as, is the concept of extended deterrence also applicable to space.

**Anticipating Threats and Opportunities** Growing numbers of countries are accessing space for both military and commercial purposes, opening new avenues for state and non-state sponsored attacks on the U.S. and its allies. The interception of different sectors: finance, science, technology private and public sectors require a strong collaboration and partnerships between the public and private sectors. Projects are engaging targeted scientific communities abroad to address gaps in bio-surveillance and hosting international technical discussions to further develop strategic thinking and analysis on chemical weapons. These efforts help decision-

## Meet An Expert

**David Albright**  
*Institute for Science and International Security (ISIS)*

Founder and President, ISIS

### Areas of Expertise

- Secret nuclear weapons
- Nuclear weapons production, detection, and inspection

## Meet An Expert

**Margaret Kosal**  
*Georgia Institute of Technology*

Assistant Professor

### Areas of Expertise

- Emerging sciences and security
- Nanotechnology
- Nonproliferation and arms control

makers and policy experts broaden the scope of U.S. national security policy formulation and the incorporation of sectors once deemed non-national security specialties, such as the use of nuclear, biological and technical technologies in the private sector and the possibility that they can be sold in the black market.

**Countering WMD, WME** New nuclear technologies, advancements in biotechnology and desire of new emerging powers all pose real and perceived threats. Terrorist groups and U.S. adversaries have shown sophisticated ways and means to acquiring technologies and necessary components to develop WMD and WME. PASC research is looking at future threats from illicit nuclear trade in order to recommend policy actions that minimize these developments. Studies in this area include a deep look at the intent of perpetrators to acquire chemical and biological weapons from a behavioral and organizational standpoint. Anticipating the aftermath of a potential collapse of the North Korean government is an example of PASC's future-oriented foresight in U.S. readiness to address both technical and political aftermath.

**Nuclear Weapons and Nonproliferation Policy** “The greatest threat to the U.S. and global security is no longer a nuclear exchange between nations, but nuclear terrorism by violent extremists and nuclear proliferation to an increasing number of states” — this statement, made by President Obama in 2010, captures the essence of the issues facing U.S. nuclear weapons and nonproliferation policy. Preventing nuclear proliferation and nuclear terrorism is one of the top priorities of the U.S. NPS is evaluating the intersections between policy and public opinion in an in-depth look at Japan. Another PASC project is answering the question, what are the most promising ways to limit proliferation of sophisticated countermeasures to missile defenses, known as penetration aids.

**Strategic Dialogues** Sponsored dialogues reflect U.S. defense and foreign policy strategies. Of the ten dialogues in FY12, four are in Asia, five are in Europe/Eurasia, and one is in Latin America. Discussions are structured to encompass increased information sharing while furthering mutual understanding on policy-relevant issues. These meetings identify misperceptions regarding each side's nuclear strategy and doctrine and highlight potential areas of cooperation or confidence building measures. Importantly, PASC research projects often directly feed into the substance of the dialogues.

Track II dialogues create an unofficial setting for scholars, former officials, and other thought leaders to discuss security concerns and questions. The level of direct U.S. government involvement in, or observation of, each dialogue varies from one dialogue to another. PASC supports dialogues with U.S. allies, nuclear states, emerging powers, and countries in unstable regions. Some of the PASC-funded dialogues have been taking place for many years while others are newly developed as a result of changes on the global stage.

**Summary** Collectively awarded research studies and dialogues contribute to DTRA's mission to safeguard the U.S. and its allies from the threats posed by chemical, biological, radiological, nuclear and high-yield explosives (CBRNE) WMD, by providing capabilities to reduce, eliminate, and counter those threats and mitigate their effects. PASC research provides long-term (5–20 year) analytical perspectives to help DTRA leadership identify, plan, and persuasively communicate what is needed to achieve strategic threat anticipation goals inherent in the agency's mission.

The following table provides the name, performing organization, primary thrust area, and cost of each project. See Appendix B for more detail.

## Meet An Expert

**Ralph Cossa**  
*Pacific Forum CSIS*

President

### Areas of Expertise

- U.S.-China relations
- U.S. security policy in the Asia-Pacific

## Meet An Expert

**S. Paul Kapur**  
*Naval Postgraduate School*

Professor

### Areas of Expertise

- Nuclear weapons proliferation
- Deterrence
- Ethno-religious violence
- South Asian security

PI, AFFILIATION	PROJECT TITLE	PRIMARY THRUST AREA	APPROVED FUNDING
Ackerman, Gary, UMD START and Victor Asal, CUNY Albany	Anatomizing the Behavior of Chemical and Biological Non-State Adversaries	Countering WMD/WME	\$642,806 (Years 1 and 2)
Albright, David, Institute for Science and International Security	Projecting the Future World of Illicit Nuclear Trade and Developing Countermeasures	Countering WMD/WME	\$158,610
Bennett, Bruce, RAND Corporation	Eliminating North Korean WMD After a Government Collapse	Countering WMD/WME	\$244,457
Clement, Victoria and Ryan Gingeras, NPS	U.S.-Turkey Strategic Dialogue	Strategic Dialogue	\$255,033
Colby, Elbridge Center for Naval Analyses	The 1973 Yom Kippur War: Nuclear Alerts and Strategic Signaling	21st Century Deterrence	\$225,000
Cossa, Ralph and Brad Glosserman Pacific Forum CSIS	Assurance of U.S. Allies	Strategic Dialogue	\$289,799
Cossa, Ralph and Brad Glosserman Glosserman, Pacific Forum CSIS	U.S.-China Nuclear Dialogue	Strategic Dialogue	\$264,225
Finlay, Brian Stimson Center	Managing Across Boundaries: Promoting Private Solutions to the Proliferation Threat	Anticipating Threats and Opportunities	\$74,623
Hughes, Kathryn National Academy of Sciences	International Workshop on Trends in Science and Technology Relevant to the Chemical Weapons Convention	Anticipating Threats and Opportunities	\$104,579
Kapur, Paul, NPS	U.S.-India Strategic Dialogue Phase VII	Strategic Dialogue	\$241,308
Khan, Feroz, NPS	Asian Stability Workshop	Strategic Dialogue	\$251,380
Knopf, Jeffrey W., NPS and the Monterey Institute of International Studies	Rationality, Culture, and Deterrence	21st Century Deterrence	\$82,782
Kosal, Margaret, Georgia Institute of Technology	Military Applications of Nanotechnology: Implications for Strategic Cooperation and Conflict	Anticipating Threats and Opportunities	\$122,198
Krepon, Michael, Stimson Center	Space and Nuclear Deterrence	21st Century Deterrence	\$85,003
Lieber, Keir, Georgetown University and Daryl Press Dartmouth College	Coercive Nuclear Campaigns in the 21st Century: Understanding Adversary Options and Incentives	21st Century Deterrence	\$99,808
Lowenthal, Micah, National Academy of Sciences	Security Dialogue with China	Strategic Dialogue	\$250,000
Lowenthal, Micah, National Academy of Sciences	Security Dialogue with Russia	Strategic Dialogue	\$150,000
McMahon, Scott and Richard Speier RAND Corporation	Penaid Nonproliferation: New Measures to Dissuade WMD Proliferation and Reinforce Deterrence	Nuclear Weapons and Nonproliferation Policy	\$403,235 (Tasks 1 and 2)
Moltz, Clay, NPS	Assessing the Impact of Low Nuclear Numbers on Strategic Stability: A Regional Analysis	Anticipating Threats and Opportunities	\$185,316
Murdock, Clark and Frank Miller, CSIS	CSIS European Trilateral Nuclear Dialogues	Strategic Dialogue	\$264,225

PI, AFFILIATION	PROJECT TITLE	PRIMARY THRUST AREA	APPROVED FUNDING
Neureiter, Norman, American Association for the Advancement of Science (AAAS)	International Biosecurity: Engagement between American and MENA Scientists	Anticipating Threats and Opportunities	\$237,138
Payne, Keith and Kurt Guthe, National Institute for Public Policy	Assuring NATO-Europe as the Role and Number of U.S. Nuclear Weapons are Reduced	21st Century Deterrence	\$151,258
Sagan, Scott, Stanford University	Deterring Rogue Regimes: Rethinking Deterrence Theory and Practice	21st Century Deterrence	\$197,637
Trinkunas, Harold and Thomas Bruneau, NPS	U.S. and Brazilian Perspectives on Global and Regional Security	Strategic Dialogue	\$249,613
Tsyarkin, Mikhail, NPS	U.S.-Russian Track II Workshop: The Future of Arms Control	Strategic Dialogue	\$165,151
Twomey, Chris and Michael Glosny, NPS	U.S.-China Strategic Lexicon and Concepts Dialogue	Strategic Dialogue	\$161,937
Weiner, Rob, NPS and Yuki Tatsumi, Stimson Center (grant for \$111,814)	Strategic Impact of Shifting Nuclear Consciousness in Japan Phase 2: Will Populism Destabilize the Nonnuclear Status Quo?	Nuclear Weapons and Nonproliferation Policy	\$220,640
Yost, David, NPS	Interpreting and Implementing NATO's Deterrence and Defense Posture	21st Century Deterrence	\$185,929

### PERFORMER ORGANIZATIONS

As shown above, in addition to NPS faculty-led projects, PASC funded projects with a variety of Federally Funded Research and Development Centers, universities, and non-governmental research institutes. This web of researchers creates a powerhouse community of experts.

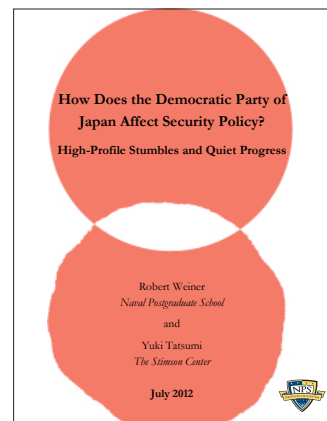
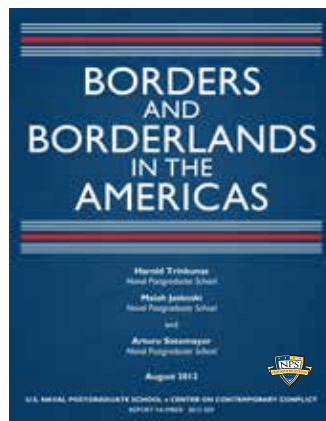
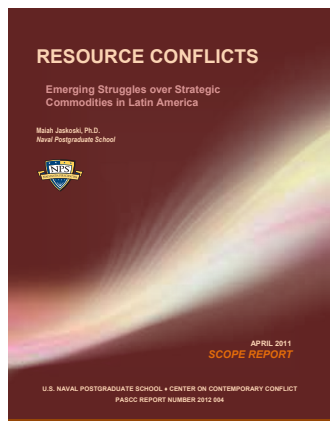
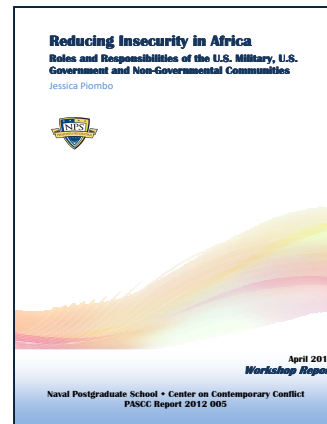
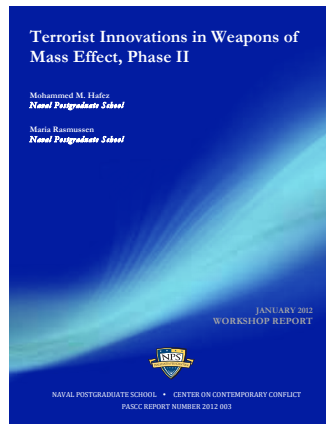
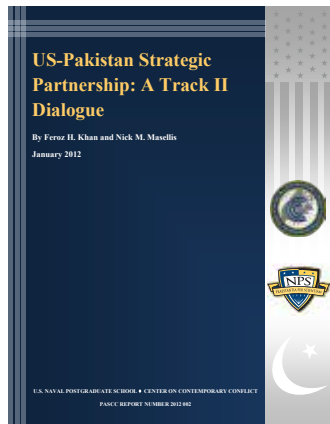


**DELIVERABLES**

The following PASCC reports were released during FY12. They are all publically accessible at [www.hsd1.org](http://www.hsd1.org).

2012 001	U.S.-China Strategic Dialogue, Phase VI: An NPS and Pacific Forum Conference, June 2011
2012 002	U.S.-Pakistan Strategic Partnership: A Track II Dialogue, October 2011
2012 003	Terrorist Innovations in Weapons of Mass Effect, Phase II
2012 004	Resource Conflicts: Emerging Struggles Over Strategic Commodities in Latin America
2012 005	Reducing Insecurity in Africa: Roles and Responsibilities of the U.S. Military, U.S. Government and Non-Governmental Communities
2012 006	U.S.-ROK Dialogue, February 2012
2012 007	U.S.-Japan Dialogue, February 2012
2012 008	How Does the Democratic Party of Japan Affect Security Policy?
2012 009	Borders and Borderlands in the Americas

**SAMPLE OF PASCC REPORTS**

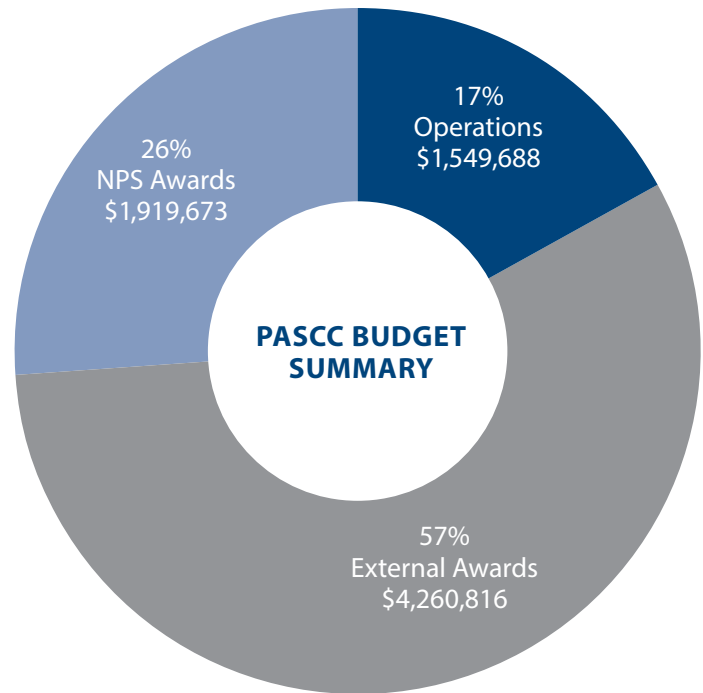


# BUDGET

PASCC was funded by DTRA J2/5/8R for the 17-month period from May 2011 through September 2012. Initial funding for this seventeen-month period covered the PASCC transition and start-up efforts as well as normal operations at a level of \$1,817,795. PASCC operational costs are primarily labor for PASCC leadership and staff but also include NPS indirect charges, travel to PASCC meetings and events, and a small amount of equipment.

Total costs for PASCC operations and infrastructure through FY12 were less in actuality than initially budgeted. During execution in FY12, the PASCC team identified an amount of operational savings that could be put toward external research awards—an additional \$568,107.

Research funding for individual projects was transferred to PASCC in two iterations in November 2011 and January 2012. The total amount marked by DTRA for FY12–13 research was \$5,729,000. After adding the savings from the operations budget, the total amount of FY12 funded research was \$6,297,107. Individual project budgets were described above but overall, as of the time of this publication, NPS-led research totaled \$1,919,673 and externally-led research totaled \$4,260,816. The NPS project led by Rob Weiner included an external grant to the Stimson Center. One project did not succeed in a grant award in FY12 due to performer capacity; those funds are being repurposed to an FY13 award as part of the next cycle of projects.



# CONCLUSION

DTRA is committed to continuing PASCC into FY13 and the out-years. PASCC is tasked with increasing outreach and dissemination of research products to gain increasing awareness, satisfaction, and results among USG stakeholders and the broader weapons of mass destruction and strategic community.

Starting October 1, 2012, NPS Professor Dr. James Clay Moltz will assume directorship of PASCC. His contact information is [jcmoltz@nps.edu](mailto:jcmoltz@nps.edu) or 831-656-1039.

## Meet An Expert

**James Clay Moltz**  
*Naval Postgraduate School*

Ph.D., Political Science,  
University of California  
at Berkeley

Professor

### Areas of Expertise

- Space security
- Nuclear proliferation and nonproliferation
- Russian and Northeast Asia security
- U.S. national security policy



# APPENDIX A: FY12 REQUEST FOR IDEAS

The following Request for Ideas (RFI) was released in May 2011.

## *INTRODUCTION AND BACKGROUND*

The Naval Postgraduate School's Center on Contemporary Conflict is the research wing of the Department of National Security Affairs (NSA) and specializes in the study of international relations, security policy, and regional studies. The CCC houses the Project Advanced Systems and Concepts for Combating WMD (PASCC). PASCC is supporting research on behalf of the Defense Threat Reduction Agency (DTRA).

DTRA's mission is to safeguard the United States of America and its allies from the threats posed by chemical, biological, radiological, nuclear and high-yield explosives (CBRNE) WMD by providing capabilities to reduce, eliminate, and counter those threats and to mitigate their effects. PASCC provides long-term (5-20 year) analytical perspectives to help DTRA leadership identify, plan, and persuasively communicate what is needed to achieve strategic threat anticipation goals inherent in the agency's mission. PASCC emphasizes the identification, integration, and further development of strategic thinking and analysis on the most intractable and future problems related to combating WMD and weapons of mass effects (WME).

## *SCOPE*

This Request for Ideas is an intramural and extramural endeavor focused on innovative and future-oriented research activities and related study efforts that advance state-of-the-art knowledge and understanding of overarching challenges for combating WMD/WME.

## *PURPOSE*

The purpose of this RFI is to solicit ideas and information for PASCC program requirements. These requirements are informed by the following goals:

PASCC seeks to cultivate interconnected, mutually supportive national and international strategic research community partnerships across all domains. This goal demonstrates our commitment to continue developing relationships and cooperative efforts within and understanding of the Global Security Environment (GSE). Objectives include developing new and expanding existing bilateral and multilateral engagements; supporting the cooperative prevention, control, and elimination of WMD/WME threats abroad; improving security and accountability of vulnerable nuclear, biological, and chemical material globally; strengthening interagency and international partnerships; improving strategic global situational awareness to respond to emerging threats and uncertainty; understanding social, political, and economic challenges and opportunities affecting WMD/WME proliferation, use, and response; and examining the potential for technological surprise (both its opportunities and challenges).

A second goal is to bring scientific, technical and social science faculty/experts to look well into the future and help understand and anticipate WMD/WME capabilities to meet emerging and future threats and challenges. Objectives within this goal include improving the effectiveness of arms control and other cooperative arrangements as a means to prevent/counter proliferation and use of WMD/WME; enhancing Combatant Commanders' ability to eliminate and respond to WMD/WME threats and vulnerabilities; providing operational and technical support for a safe, secure, and effective nuclear deterrent; developing a robust reach-back capability to facilitate USG counter WMD/WME operations; and developing analytical tools and technol-

ogy to detect, characterize, confront, defeat, protect against, mitigate and recover from the effects of the full spectrum of CBRNE and WME threats. This also includes examining operational and technical capabilities to improve WMD forensics and attribution.

### **REQUEST FOR IDEAS FOR RESEARCH AND TECHNOLOGY STUDIES TO COMBAT WMD AND WME**

PASCC solicits ideas for the development of innovative products that encourage new thinking, address current technology gaps, identify developing threats, and improve strategic and operational capabilities to respond to WMD/WME threats including, but not limited to:

- **Research Thrust Area One: 21st Century Deterrence** Research activities that focus on the new meaning of deterrence in the second nuclear age. This topic will examine deterrence of WMD/WME through an exploration of relevant strategies, operational/technical capabilities and actions, and combinations thereof that the United States may consider in order to discourage or prevent a broad spectrum of threats by potential adversaries, which the United States as well as its friends and allies may face in a dynamic security environment.
- **Research Thrust Area Two: Anticipating Threats and Opportunities** Research projects and activities that analyze, model and forecast threats and opportunities across the spectrum of WMD, to include the dissection of proliferation forms and pathways, and the use of social science research and methodologies therein. This portfolio examines new and novel threats “over the horizon,” including innovative research projects that consider potential threat forms and technologies, alternative futures, so-called “black swans,” “bolts from the blue,” and other forms of strategic surprise, which include weapons of mass disruption. This portfolio also seeks to expand knowledge at the intersection of countering WMD capabilities with cyber, space, and other concerns in the global commons. Focus areas include the nexus of manmade and natural threats, the potential of new threat forms, the increasing influence of private and nongovernmental actors in the production and diffusion of technologies capable of mass destruction, effect and disruption and potential opportunities to counter these threats, while adhering to national and international standards of conduct.
- **Research Thrust Area Three: Countering WMD Proliferation and Terrorism** Research that examines the nexus of nonproliferation, counterproliferation, and counterterrorism. Research focuses on understanding various terrorist threats as well as the strategies and capabilities across the range of national power to prevent, dissuade and respond to terrorist groups that may seek WMD/WME.
- **Research Thrust Area Four: Nuclear Weapons and Nonproliferation Policy** Research that examines existing and emerging nuclear weapons policies, nonproliferation activities, arms control, disarmament, pathways and the politico-economic and technical capabilities required to sustain these. This portfolio also examines the role of nuclear weapons in national security, sustainment of nuclear capabilities and strategies on the path to global zero and its potential implications for other strategic capabilities.
- **Research Thrust Area Five: Track II Strategic Dialogues on Threat Reduction** As highlighted in the 2010 Nuclear Posture Review Report, the US is pursuing high-level bilateral talks on strategic stability with Russia and China, which are aimed at fostering more stable, resilient, and transparent strategic relationships. Research projects in this area help to sustain these dialogues and establish similar informal discussions on topics of mutual interest with a range of countries along the Pacific Rim and South Asia as well as other nations where the United States seeks to improve mutual understanding and build cooperative enterprises on countering WMD/WME issues of mutual interest.

### ***SUBMISSION OF PROJECT IDEAS***

Those submitting project ideas should submit a one-page narrative explaining their project objective, background and assessed need, scope, deliverables and timeline, as well as biographies of principal investigators, as outlined in the attached template. Individuals belonging to formal governmental and nongovernmental institutions can submit multiple project ideas. They will be informed by June 15th of the status of their project recommendation.

### ***DEADLINE***

Project ideas are due by May 15, 2011.

### ***APPLICATION PROCEDURES***

All applicants should send their one-page project ideas, using the attached template, with the email header “FY12 RFI Submission” to:

PASCC  
FY12 RFI Submission  
pascc@nps.edu

# APPENDIX B: RESEARCH IN PROGRESS

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## Anatomizing the Behavior of Chemical and Biological Non-State Adversaries

Performer: University of Maryland, National Consortium for the Study of Terrorism and Responses to Terrorism (START)  
Project Leads: Gary Ackerman and Victor Asal  
Project Cost: \$642,806  
Fiscal Year(s): 2012–2013

**DEMAND** Much attention has been paid to chemical and biological (CB) weapons over the last decade. Yet, relatively little attention has been paid to the characteristics, decision making, and behaviors of potential perpetrators. Given the high impact such weapons can have, it is crucial to make our analytical models of their use as accurate as possible. Policymakers and intelligence analysts can then more proactively identify attackers.

**OBJECTIVE** The START research team will explore in detail the potential CB terrorist (or criminal) adversary from a behavioral and organizational standpoint, and develop means of identifying the most likely future CB perpetrators. As a consequence, both strategic and operational risk analysis and net assessment operators can become better informed on the threat.

**APPROACH** The project will focus on the identification of adversaries most likely to acquire and use chemical or biological weapons against U.S. targets. After holding an expert elicitation workshop, the team will generate indicators, behavior profiles, and a ranked list of likely future perpetrators. The team will also develop a Chemical and Biological Non-State Adversaries Database and Bayesian model. START's findings, produced in a final report, will be briefed to policymakers in Washington, DC and at Combatant Commands.

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## Projecting the Future World of Illicit Nuclear Trade and Developing Countermeasures

Performer: Institute for Science and International Security (ISIS)  
Project Lead: David Albright  
Project Cost: \$158,610  
Fiscal Year(s): 2012–2013

**DEMAND** The WMD capabilities of adversarial state and non-state actors remain a clear and present danger to American and international security. Rarely are these capabilities developed solely indigenously. Instead, sophisticated and often well-hidden illicit trade networks funnel WMD materials and related items to interested buyers. Some networks have been destroyed or otherwise disabled; however, the ongoing diffusion of power throughout the globe means the threat remains.

**OBJECTIVE** The objective of the project is to produce a monograph evaluating the world of illicit nuclear trade 5-10 years from now. The project will advance this body of knowledge and improve the chances of detect-

ing covert nuclear programs, potentially delaying the development of nuclear programs of proliferant states, and providing more time for counter-WMD activities to succeed.

**APPROACH** ISIS will use a variety of research methodologies to produce the monograph, including the hosting of two expert, off-the-record workshops; one addressing emerging nuclear technologies and their national origins, and the other focused on characterizing future threats and developing countermeasures. Researchers will determine which nations and actors are likely to become suppliers or facilitators to proliferant states, the expected technical methods to acquire nuclear weapons, and the states or non-state actors that will seek or spread them. Once the monograph is complete, ISIS briefings to U.S. government stakeholders will recommend policy actions to minimize the threats posed by these developments.

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## Eliminating North Korean WMD After a Government Collapse

Performer: RAND  
Project Leads: Bruce Bennett  
Project Cost: \$244,457  
Fiscal Year(s): 2012–2013

**DEMAND** The likelihood of a sudden North Korean collapse has risen significantly in 2012. If central government control fails, individual commanders and others may decide to use or proliferate North Korean WMD. This type of scenario represents a multitude of threats to U.S. and regional security, including a heightened risk of nuclear terrorism and the spread of WMD knowledge to other rogue states. Despite these risks, U.S. Forces Korea (USFK) has concluded that it is not prepared to secure North Korean WMD in the expeditious manner that is required during a sudden collapse.

**OBJECTIVE** Project lead Bruce Bennett will identify the various tasks that must be performed to locate and secure or destroy North Korean WMD and related items. It will increase the U.S. and ROK Combined Forces Command's (CFC) understanding of the WMD risks that the United States and its regional allies face, and it will also identify force enhancements that will most effectively reduce identified risks.

**APPROACH** Tabletop seminars to refine solutions and assure operational feasibility will be held in Seoul and Washington, DC, with military commanders and experts. Follow-on briefings and a final report will specifically examine: What is the nature and potential threat of the WMD to be eliminated? What gaps exist in CFC capabilities to eliminate the threat? And, how should we locate, secure, and prevent the proliferation of WMD components, delivery systems, and expertise?

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## U.S.-Turkey Strategic Dialogue

Performer: NPS  
Project Lead: Victoria Clement and Ryan Gingeras  
Project Cost: \$255,033  
Fiscal Year(s): 2012–2013

**DEMAND** Positioned on prime geostrategic real estate, Turkey pursues a foreign policy seeking zero problems with its neighbors, yet its neighborhood is increasingly menaced by conflict. The need for a U.S.-Turkey dialogue is forward looking. Turkey has become a role model for secular democracy in the Middle East, and as a NATO member with regional expertise, Turkey stands ready to be a potential contributor to global nonproliferation missions.

**OBJECTIVE** The primary objectives of this effort are twofold: to better understand and identify solutions to the current and potential challenges to U.S. national security interests in the Middle East, and to enhance understanding of and cooperation with Turkey through a Track II dialogue. The dialogue will provide policymakers with accessible intelligence, informed by on the ground discussions with relevant stakeholders in Turkey.

**APPROACH** Participants in the dialogue, slated to take place in Turkey, will serve as subject-matter experts and provide presentations, expertise, and/or consultation. Dialogue discussions will assess each nation's perception of the regional security environment, the perceived value of extended deterrence, and the regional threat of WMD proliferation and how to encourage more active efforts to counter this danger. Insights gained will be circulated independently and without attribution, as well as being briefed to U.S. defense and diplomatic establishments.

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## The 1973 Yom Kippur War: Nuclear Alerts and Strategic Signaling

Performer: Center for Naval Analyses (CNA)  
Project Leads: Elbridge A. Colby  
Project Cost: \$225,000  
Fiscal Year(s): 2012–2013

**DEMAND** In the lexicon of nuclear deterrence and crisis behavior, signaling features prominently as a tool of conveying critical information to adversaries and allies. During the 1973 Yom Kippur War, both Israel and the United States raised the alert status of their nuclear forces in order to signal political resolve. Little historical research regarding the use of nuclear alerts for signaling purposes actually exists. With newly declassified material available though, a 1973 Yom Kippur War case study can provide useful lessons for future nuclear crises.

**OBJECTIVE** CNA will research the role of nuclear weapons and nuclear signaling in the 1973 Yom Kippur War. Particular attention will be paid to why Israel and the U.S. relied on nuclear alerts and who the alerts intended audiences were. Given the importance of nuclear alerts in crisis bargaining, this analysis will highlight the opportunities and dangers inherent in the use of such alerts.

**APPROACH** Instead of the theoretical and logic based arguments of previous studies on nuclear alerts, the produced monograph will primarily rely on recently declassified archival material from the Nixon Administration as well as from Russia. By comparing untested theories with the empirical record, a more realistic appraisal of the utility of nuclear alerts will be reached. Briefings with Combatant Commands and the Office of the Secretary of Defense will follow a “murder board” review by CNA of the report’s findings.

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## Assurance of U.S. Allies

Performer: Pacific Forum CSIS  
 Project Leads: Ralph A. Cossa and Brad Glosserman  
 Project Cost: \$289,800  
 Fiscal Year(s): 2012–2013

**DEMAND** The East Asian security environment is entering a period of acute uncertainty. Leadership change in North Korea and Beijing’s increasingly militarized nationalism are occurring at the same time as the United States pushes for nuclear disarmament and budget cuts are reducing capability gaps in Asia. This confluence of events is leading some in South Korea and Japan to openly question the reliability of America’s nuclear umbrella—a disconnect quite troubling to advocates of regional stability.

**OBJECTIVE** The project’s main purpose is the reassurance of South Korea and Japan that the United States is committed to their defense and that our extended deterrent remains credible at a time of profound changes in Asia. The dialogues hosted by the Pacific Forum will also offer a chance for decision makers from the United States, South Korea, and Japan to assess areas of further cooperation on nuclear deterrence and related subjects.

**APPROACH** Over a year, the Pacific Forum will host a Track II bilateral U.S.-South Korean Strategic Dialogue and a separate U.S.-Japan Strategic Dialogue. In addition, a one day mini-trilateral Japan-U.S.-South Korean dialogue will be held to discuss opportunities for trilateral cooperation. Briefings will be held in Tokyo, Washington, and Seoul following the dialogues, and multi-lingual conference reports will be distributed.

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## U.S. China Nuclear Dialogue

Performer: Pacific Forum CSIS  
 Project Leads: Ralph Cossa and Brad Glosserman  
 Project Cost: \$264,225  
 Fiscal Year(s): 2012–2013

**DEMAND** An acknowledged weakness in China-US deliberations is the lack of official dialogue on nuclear weapons issues. Given the general lack of interaction and cooperation between security forces of the two countries, dialogue is needed to help moderate the US-China relationship, and to promote cooperation and transparency while increasing mutual understanding of shared interests in nonproliferation and nuclear security.

**OBJECTIVE** Pacific Forum CSIS will organize and host a Track 1.5 meeting to reduce misperceptions on both sides and help the two militaries and respective security specialists better understand the other’s policies and concerns. This dialogue and the NPS Track II meeting in Hawaii complement and build from one another.

**APPROACH** Pacific Forum CSIS will select approximately 20–25 multidisciplinary experts who are knowledgeable about Asian regional nuclear weapons issues and their impact on national decision-making. Senior PLA and US military officers will be invited to attend in their private capacities or as observers.

This Track 1.5 dialogue will take place in Beijing and focus on practical and policy oriented issues related to the role of nuclear weapons.

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## Managing Across Boundaries: Promoting Private Solutions to the Nonproliferation Threat

Performer: The Stimson Center  
 Project Leads: Brian Finlay  
 Project Cost: \$74,623  
 Fiscal Year(s): 2012–2013

**DEMAND** An array of private sector entities have begun to trouble security analysts who are concerned with the greater proportion of dual use technologies being pushed into private hands. The ability of industry to contribute — knowingly or unwittingly — to the WMD supply chain is surging. This challenge also provides an opportunity to develop innovative, public-private partnerships for proliferation prevention. Engagement will be crucial, and can help create template “best practices” for WMD facilitator industries.

**OBJECTIVE** The initiative will study and engage with four distinct industry sectors on the proliferation supply chain: the radiopharmaceutical sector, the shipping industry, dual-use technologies, and the financial/insurance sector. This effort, Partners in Prevention, will be an industry-led model to produce nonproliferation engagement more likely to be embraced by private actors across diverse industry sectors.

**APPROACH** The project will identify industry interests, capabilities, and responsibilities in preventing the movement of WMD and related items. Scalable initiatives that prevent proliferation through facilitator industries will be identified from expert workshops with industry. The Stimson Center will summarize the findings of the workshops and provide recommendations in a report and briefings to relevant Federal agencies as well as to the public.

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## Workshop on Trends in Science and Technology Relevant to the Chemical Weapons Convention

Performer: The National Academies: Division on Earth and Life Studies  
 Project Lead: Kathryn J. Hughes  
 Project Cost: \$104,579  
 Fiscal Year(s): 2012–2013

**DEMAND** Every five years, the signatories to the Chemical Weapons Convention (CWC) meet to consider its implementation and enforcement. The third such conference is slated for 2013. In a constantly changing threat environment, there is a need to anticipate threats and further develop strategic thinking and analysis on chemical weapons and their use.

**OBJECTIVE** In order to prepare positions and topics of discussion for the 2013 CWC conference, The National Academies: Division on Earth and Life Studies will hold a workshop prior to the conference. This will provide an opportunity for necessary technical discussions and scientific input concerning evolving efforts in the nonproliferation of chemical weapons.

**APPROACH** A three day international conference will be held, and its proceedings communicated in a follow-on report and briefings to the U.S. government community. The approximately 75 attendees will be drawn from the scientific community, chemical enterprises, and relevant government agencies in developed and developing states. As a result of the decreasing focus on the destruction of chemical weapons, particular attention will be paid to the management of materials and information with potential dualuse implications.



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## U.S.-India Strategic Dialogue, Phase VII

Performer: NPS  
Project Lead: S. Paul Kapur  
Project Cost: \$241,308  
Fiscal Year(s): 2012–2013

**DEMAND** The United States and India consider themselves strategic partners. In India, the United States finds shared interests in managing China's rise, combatting terrorism, avoiding the outbreak of Indo-Pakistani war, and pursuing nuclear nonproliferation. The newness of this partnership though means that uncertainties remain in the extent and durability of U.S.-India shared interests.

**OBJECTIVE** The 2012 Strategic Dialogue will provide an important forum to elucidate and resolve these uncertainties. This conference will examine the current state and future trajectory of U.S.-India strategic relations, particularly as they pertain to the likelihood of nuclear proliferation or confrontation in South Asia. The conference will mitigate the potential for misunderstanding between the two sides, and see that opportunities for joint gains are not easily squandered.

**APPROACH** In coordination with an Indian think-tank, NPS will hold the two-day meeting in New Delhi. It will bring together experts in the fields of diplomacy, the military, journalism, and academia for a series of off-the-record discussions. Topics covered will include trends in the U.S.-India relationship, nuclear stability and crisis escalation in South Asia, Sino-Indian relations, and the security environment in Pakistan. Following the meeting, NPS will release a conference report and hold briefings with government stakeholders.

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## Asian Stability Workshop

Performer: NPS  
Project Lead: Feroz H. Khan  
Project Cost: \$251,350  
Fiscal Year(s): 2012–2013

**DEMAND** As the United States begins its strategic pivot to the Pacific, there exists a deepening need to bridge communication gaps, nurture détente, and highlight areas of cooperation with and among Asian countries. To that end, a deeper understanding of threat perceptions among Asian states and roles of the international community in promoting regional stability is needed.

**OBJECTIVE** NPS will organize a workshop to discuss overarching concerns related to stability in Asia. The workshop and follow-on reports will help provide prescriptions to build strategic stability, WMD arms control, and global cooperation.

**APPROACH** Experts on Asian security matters will be invited for a three day workshop. The workshop will facilitate open dialogue among participants on salient topics related to security, cooperation, and stability in Asia. Lessons learned will be published and shared with Combatant Commands and government agencies via briefings from the project lead.

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## Rationality, Culture, and Deterrence

Performer: NPS and the Monterey Institute of International Studies  
 Project Lead: Jeffrey W. Knopf  
 Project Cost: \$82,782  
 Fiscal Year(s): 2012–2013

**DEMAND** Why does Tehran believe it needs nuclear weapons? How will China react to America's pivot toward Asia? Diplomats and defense analysts constantly calculate what drives a potential enemy's decision making. For decades, only two frameworks for interpreting state actions have dominated, the rational choice model and the cultural model. However, states are seemingly as unpredictable as ever and a new framework may be needed.

**OBJECTIVE** The project lead Jeffrey Knopf will explore alternative frameworks for understanding what drives the foreign policy decisions of states. The research will seek to identify and integrate different bodies of relevant existing scholarship and to assess the implications for deterrence planning and operations.

**APPROACH** This academic effort will provide a review of the existing dominant approaches, and judge the strengths and weaknesses of their alternatives. Newly relevant psychological and neuroscience frameworks will receive special attention. A written paper summarizing the project lead's findings will be the prime deliverable; briefings to various agencies and Combatant Commands will provide a more comprehensive approach to understanding decision making.

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## Military Applications of Nanotechnology: Implications for Strategic Cooperation and Conflict

Performer: Georgia Tech, Center for International Strategy, Technology, and Policy  
 Project Lead: Margaret E. Kosal  
 Project Cost: \$122,198  
 Fiscal Year(s): 2012–2013

**DEMAND** With over \$1.6 billion invested annually, it is clear that the U.S. government has embraced nanotechnology. We are not alone though. Russia, Turkey, Israel, Iran, and China are aggressively pursuing similar research. Commentary on the matter tends to focus on non-defense issues; those few that have contain glaring disconnects between technical capability and limitation or offensive intentions. To assess the dangers and opportunities arising from emerging nanotechnology and nanotechnology-enabled weapons, a comprehensive analytical outlook is needed.

**OBJECTIVE** The project will advance critical thinking on the potential role and impact of nanotechnology on defense policy. It will view nanotechnology through the prism of international cooperation and competition, examining whether emerging nanotechnology will exacerbate or mitigate regional security challenges.

**APPROACH** Research will focus on the national approaches and capacities for advancing nano-technology military applications. This includes offensive versus defensive force postures and operations, the formation of incentives among competitors, the strategic conditions under which conflict or cooperation will prevail, and the international requirements for enhancing strategic stability and managing the proliferation of nano-weapons. The project lead Margaret Kosal will issue a final report and brief federal agencies and military combatant commands.

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## Space and Nuclear Deterrence

Performer: The Stimson Center  
Project Lead: Michael Krepon  
Project Cost: \$85,003  
Fiscal Year(s): 2012–2013

**DEMAND** Analytical product related to space deterrence is sparse and yet U.S. dependency on space assets for national and economic security is growing. Interest and capabilities related to space denial and space deterrence are also growing, particularly in China and Russia.

**OBJECTIVE** The project lead Michael Krepon will convene a Distinguished Advisory Group to sharpen and address questions such as: What key elements of nuclear deterrence are most applicable to space deterrence? What key elements are least applicable? Is the concept of extended deterrence also applicable to space? What declaratory, testing, deployment, or diplomatic policies are most likely to strengthen space deterrence?

**APPROACH** The project lead will convene a Distinguished Advisory Group to sharpen and address questions such as: What key elements of nuclear deterrence are most applicable to space deterrence? What key elements are least applicable? Is the concept of extended deterrence also applicable to space? What declaratory, testing, deployment, or diplomatic policies are most likely to strengthen space deterrence?

The project will produce commissioned essays and a monograph highlighting areas of consensus, disagreement, and subjects deserving of additional analytical focus.

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## Coercive Nuclear Campaigns in the 21st Century: Understanding Adversary Incentives and Options for Nuclear Escalation

Performer: Georgetown University and Dartmouth College  
Project Leads: Keir A. Lieber and Daryl G. Press  
Project Cost: \$99,808  
Fiscal Year(s): 2012–2013

**DEMAND** Since the Cold War's end, the United States has maintained a conventional force far superior to any potential enemy. This fact has driven adversaries to unconventional tactics, but what happens if a weaker adversary has nuclear capabilities? Coercive escalatory incentives for nuclear weapon use do exist for weaker adversaries in conflict with America. There is a need for a comprehensive understanding of the strategic alternatives of weak nuclear weapon states. In East Asia and the Middle East the United States faces related strategic predicaments, and thus this project will provide much needed analysis.

**OBJECTIVE** The project leads will examine why and how regional powers armed with nuclear weapons may employ them coercively during a conventional war. More specifically, a set of research questions will provide insight on the paths of nuclear escalation, weak state strategies of coercive escalation, and the type of targets regional powers may strike to pursue escalatory strategies.

**APPROACH** The central deliverable will be a final written report and a set of briefing slides. The monograph will rely on a mining of literature on escalation during crises and wars, and analyze a set of research questions through two plausible conflict scenarios regarding American conflict with North Korea and an Indo-Pakistani war.

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## A National Academy of Sciences Nuclear Security Dialogue with China

Performer: National Academy of Sciences, Committee on International Security and Arms Control (CISAC)  
 Project Leads: Micah D. Lowenthal  
 Project Cost: \$250,000  
 Fiscal Year(s): 2012–2013

**DEMAND** China is both a strategic partner and potential adversary of the United States. While many dialogues between the two countries can suffer from the perennial disruptions of Sino-U.S. ties, previous National Academy of Sciences dialogues have not. This is due to their technical focus and nongovernmental nature. Keeping the lines of communication open in this way gives U.S. policymakers an informal link to China's technical community of nuclear-weapon laboratories that advise Beijing.

**OBJECTIVE** The project aims to hold Track II dialogue meetings between a National Academy of Sciences group and a counterpart group in China, on technical aspects of security issues, particularly nuclear security. The meetings among technical, military, and policy experts address arms control problems from a technical perspective and identify the most promising opportunities for collaboration through official channels.

**APPROACH** The products of the dialogue are the ideas and perspectives shared with the countries' respective governments through briefings. This year's dialogue will examine technical aspects of the Comprehensive Nuclear Test Ban Treaty, nuclear terrorism, technical issues related to interdicted nuclear material, the P5 nuclear security glossary effort, and regional security and nonproliferation in South Asia and the Korean Peninsula.

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## National Academy of Sciences Nuclear Security Dialogue with Russia

Performer: National Academy of Sciences, Committee on International Security and Arms Control (CISAC)  
 Project Leads: Micah D. Lowenthal  
 Project Cost: \$150,000  
 Fiscal Year(s): 2012–2013

**DEMAND** The 2010 Nuclear Posture Review highlighted the importance of strategic dialogue on nuclear issues with Russia, and while New START has created some space for formal dialogue, more informal engagement is needed. It is quite unlikely that formal negotiations will occur between the United States and Russia on nuclear arms control until after both nations' elections. The lines of communication must be kept open though, and the current pause is an opportunity to lay a foundation for formal negotiations that may follow.

**OBJECTIVE** CISAC enables a unique Track II dialogue among technical, military, and policy experts that addresses arms control problems from a technical perspective, and identifies the most promising opportunities for collaboration via official channels. The overall goal of the dialogue is the maintenance and reinforcement of a resilient and transparent strategic stability with Russia.

**APPROACH** The 2012 dialogue series is between the National Academy of Sciences and the Russian Academy of Sciences. A series of technical exchanges and meetings will be held with four or five experts from each side. Topics to be explored include ideas for improving the verification regime for the Comprehensive Nuclear

Test Ban Treaty; potential methods of establishing a path for reduction, control and verification of non-strategic nuclear weapons; the monitoring and safeguarding of nuclear materials; and efforts to prevent nuclear terrorism. CISAC will release post-dialogue briefings and a report

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## Penaid Nonproliferation: New Measures to Dissuade WMD Proliferation and Reinforce Deterrence

Performer: RAND  
Project Leads: K. Scott McMahon and Richard Speier  
Project Cost: \$403,235  
Fiscal Year(s): 2012–2013

**DEMAND** Reductions in the U.S. nuclear deterrent may have to be offset in the future by an increased reliance on missile defenses. Potential adversaries recognize this, and thus we see an increased proliferation of sophisticated countermeasures to missile defenses (also known as penetration aids and hereafter referred to as pen aids). The United States is concerned with the spread of pen aids to North Korea and Iran, and even more concerned with who is developing these pen aids for export, namely Russia and China. A timely nonproliferation initiative may reduce the impending pen aid threat.

**OBJECTIVE** To reduce the impending threat, the project will inform U.S. policymakers on the pen aid technologies of greatest concern and discuss potential policies to restrict them. By so doing, RAND can assist U.S. agencies in discouraging WMD proliferation and strengthening deterrence.

**APPROACH** Four overarching questions will guide the research: What technologies and equipment, if proliferated, would constitute the emerging pen aid threat to the United States, and what are their national sources? What are the current and potential sources of those technologies and equipment? What policy options might reduce the threat? And, what are the most promising ways to sequence U.S. efforts to limit pen aid proliferation? The project leads will conduct research, perform interviews, and host a workshop leading to a final report and follow-on briefings to U.S. officials and combatant commands.

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## Assessing the Impact of Low Nuclear Numbers on Strategic Stability: A Regional Analysis

Performer: NPS  
Project Leads: James Clay Moltz  
Project Cost: \$185,316  
Fiscal Year(s): 2012–2013

**DEMAND** In Europe and East Asia there is growing concern regarding U.S. assertions to reduce our nuclear deterrent force. Thus, while U.S. rhetoric on “zero nuclear weapons” is appealing at a global level, considerably more work is required at the regional level to even begin to approach such conditions. Up until now deductive logic has been the only tool used to analyze reductions. An important requirement for further nuclear arms reductions is a more comprehensive understanding of regional nuclear dynamics, and how lower levels of U.S. nuclear weapons may affect regional strategic stability.

**OBJECTIVE** Project lead James Moltz will identify the potential problems of low nuclear numbers on a region-by-region basis, and develop policy recommendations for decision makers faced with a goal of lowering nuclear numbers in various geographic regions.

**APPROACH** The report will analyze the impact of cuts in U.S. nuclear forces under conditions of scaled reductions to levels of 1,000, 500, and 100 deployed strategic weapons. It will rely on the expertise of experts in European, Northeast Asian, South Asian, and Middle Eastern regional nuclear dynamics. An internal workshop will be held at NPS for project experts to review and discuss findings, before a final workshop is held at the Pentagon and the report is published.

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## European Trilateral Nuclear Dialogue

Performer: Center for Strategic and International Studies (CSIS)  
Project Leads: Clark Murdock and Frank Miller  
Project Cost: \$264,225  
Fiscal Year(s): 2012–2013

**DEMAND** The P-3, consisting of France, Great Britain, and the U.S., face a combination of pressure on defense budgets and renewed emphasis on a world without nuclear weapons. In this context, the potential increases for infighting among allies on nuclear issues. Additionally, as France is not a member of the Nuclear Planning Group in NATO, no candid formal forum exists to collaborate among the P-3 on nuclear issues within NATO. The increasingly uncertain strategic environment necessitates a higher level of P-3 coordination.

**OBJECTIVE** The Trilateral Nuclear Dialogues organized by CSIS have a track-record of convening successful and candid meetings that provide policymakers with insights and recommendations that contribute to P-3 unity on nuclear issues. In addition to building unity and sense of purpose among the P-3, the organized dialogues work to promote cooperative nonproliferation efforts and enhance scholarship on the challenges these critical allies face.

**APPROACH** Three trilateral dialogues will be held in London, Paris, and Washington, DC. The actual meetings are at the Track 1.5 level due to the participation of high-level government representatives; still, consensus policy statements signed solely by the Track 2 participants will be fashioned. Discussions will include NATO's nuclear deterrence posture vis-à-vis a nuclear Iran, P-3 positions on the Nuclear Nonproliferation Treaty, and future threats in the space and cyber realm.

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## International Biosecurity: Engagement between American and MENA Scientists

Performer: American Association for the Advancement of Science (AAAS),  
Center for Science, Technology, and Security Policy (CSTSP)  
Project Lead: Norman Neureiter  
Project Cost: \$237,138  
Fiscal Year(s): 2012–2013

**DEMAND** Many in the security and terrorism studies community are concerned with the diffusion of biological knowledge, tools, and techniques. As the U.S. government expands biosecurity efforts, it has the opportunity to develop sustainable engagement with local scientific communities that cultivates local threat prevention and

response programs. There is unmet need for such efforts in the MENA (Middle East and North Africa) region, where states have increased funding for the biological sciences at the same time as the Arab Spring generates uncertainty and insecurity.

**OBJECTIVE** CSTSP will provide guidance concerning the development of scientific engagement approaches to MENA countries. This will encourage partnerships on bio-surveillance or infectious disease response between the United States and regional scientific stakeholders and address gaps in scientific engagement initiatives in the region across U.S. agencies.

**APPROACH** Two 2-day meetings will be held in North Africa and the Middle East with influential scientists who work on infectious disease research, biosurveillance and response, and laboratory biosafety and biosecurity. AAAS will also issue two small, collaborative sub-grants for scientific engagement. Final reports will identify regional security and capability gaps, effective methods of increasing biosecurity training, and areas for further biosecurity cooperation.

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## Assuring NATO-Europe as the Role and Number of U.S. Nuclear Weapons are Reduced

Performer: National Institute for Public Policy (NIPP)  
Project Leads: Keith Payne and Kurt R. Guthe  
Project Cost: \$151,258  
Fiscal Year(s): 2012–2013

**DEMAND** The U.S. nuclear deterrent is in a state of flux. Nuclear modernization plans are on hold, the current administration is pushing for further weapon reductions, and even our NATO allies are reconsidering the status of their nuclear deterrents. Given these and other developments, NATO members are understandably concerned with a potential weakening of America’s “supreme guarantee” of extended deterrence. The question is what specific means can reassure NATO that the U.S. nuclear deterrent remains credible?

**OBJECTIVE** The project will examine steps the United States can take to ensure the credibility of its security commitments to allies in Europe, as reductions in the role and number of U.S. nuclear weapons are pursued in the years ahead.

**APPROACH** The report produced for the project will delineate the views of key NATO allies regarding issues that bear on the credibility of U.S. commitments. Where the analysis uncovers areas of allied concern, the report will provide options, nonmilitary as well as military, which national security decision makers might use to maintain or strengthen allied confidence. The NIPP will produce commissioned essays and a monograph that will be briefed to relevant U.S. government agencies.

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## Deterring Rogue Regimes: Rethinking Deterrence Theory and Practice

Performer: Stanford University, Center for International Security and Cooperation  
 Project Lead: Scott D. Sagan  
 Project Cost: \$197,637  
 Fiscal Year(s): 2012–2013

**DEMAND** Many theories on nuclear weapons and deterrence were developed with the USSR in mind. Today, nuclear armed rogue states are the persistent threat. Traditional deterrence theory relies on an accurate understanding of an adversary's cost-benefit calculus, but rogue regimes consistently do not behave as predicted. Instead of relying on a potentially outdated logic, the wealth of newly available documents from Saddam Hussein's Iraq is an opportunity to develop a candid understanding of how rogue regimes truly operate within the domain of deterrence theory.

**OBJECTIVE** The objective of this research project is to re-evaluate traditional deterrence theory and practice in light of the threats posed from rogue regimes by examining new evidence on decision-making in Saddam Hussein's Iraq. This will provide comparative lessons for U.S. deterrence policy regarding new and existing rogue regimes seeking nuclear weapons.

**APPROACH** The research will culminate in a workshop held in the Middle East with former U.S. officials, former senior members of Iraq's Revolutionary Guard Corps, and several members of Saddam Hussein's inner circle. The workshop and follow-on report will center efforts on understanding Iraqi decision-making regarding WMD, and American and Iraqi perceptions of each other's military intentions and capabilities throughout the Saddam era. From this, lessons for future U.S. policy toward rogue regimes can be ascertained.

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## 2012 U.S. and Brazilian Perspectives on Global and Regional Security

Performer: NPS  
 Project Leads: Harold Trinkunas and Thomas Bruneau  
 Project Cost: \$249,613  
 Fiscal Year(s): 2012–2013

**DEMAND** The need for a workshop with Brazil is compelling given the growing importance of Brazil as a global power — a state that has achieved significant mastery of nuclear technology and is a contributor to global non-proliferation. Brazil is one of the few countries to have mastered the complete nuclear fuel cycle. It is able to export significant nuclear technologies, yet it is also critical of aspects of the international nuclear nonproliferation regime as it now stands. This workshop will deepen mutual understanding of the ways in which each nation views its most critical security concerns and the domestic debates that shape those views.

**OBJECTIVE** The workshop will discuss ways in which to diminish the threat of weapons of mass destruction, promote international non-proliferation, and address regional security in the Americas by informing the decision-making of defense and diplomatic policymakers in both countries. The two-day event will be held in Brasilia, Brazil, and will bring together approximately 15 academics, former military officers, former defense officials, and former diplomats that specialize in international security, U.S.-Brazil relations, global non-proliferation, and nuclear issues.



**APPROACH** The format of this event will be a meeting designed to informally and unofficially explore issues of mutual interest related to each state's national security in an off the record venue. The questions addressed by subject matter experts will include: clarifying views on U.S.-Brazil relations during the Obama administrations; exploring U.S. and Brazil's current international strategies; understanding U.S. and Brazil's visions on international non-proliferation of chemical, biological, radiological, and nuclear weapons as well as sensitive nuclear technology; and discussing possible solutions to current and potential regional and global challenges to U.S. and Brazil's national security interests. NPS will produce a final report and brief US government officials in the region and in Washington.

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## U.S.-Russian Strategic Dialogue: The Future of Arms Control

Performer: NPS  
Project Lead: Mikhail Tsypkin  
Project Cost: \$165,151  
Fiscal Year(s): 2012–2013

**DEMAND** The path to further nuclear weapon reductions remains clouded at the moment and Russia and the United States still retain the ability to unleash global destruction. Despite the success of the New START treaty, the recent decision by Moscow to plow ahead with a new heavy MIRV ICBM is reversing strategic stability, and is emblematic of the inability of Russian and American experts to meet eye to eye on arms control. This widening gap necessitates efforts to identify and build upon areas of potential cooperation and agreement through continued and vigorous dialogue.

**OBJECTIVE** NPS will conduct a U.S.-Russian workshop on future directions and goals of the arms control process, to find, in cooperation with Russian experts, possible ways for a further reduction of dangers inherent in the existing arsenals. Of special note will be discussions on joint U.S.-Russia modeling of strategic stability under various arms control/reductions regimes.

**APPROACH** The workshop will bring together a group of Russian and American experts and government officials. Primary focus areas will be missile defense, methodology for nuclear weapon proliferation threat assessments, joint strategic stability modeling, and nuclear force reductions. The project aims to produce a report based on the workshop proceedings, with concrete policy recommendations for the U.S. government regarding the future paths to U.S.-Russian and multilateral nuclear arms reductions.

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## U.S. China Strategic Dialogue

Performer: NPS  
Project Leads: Christopher Twomey and Michael Glosny  
Project Cost: \$161,937  
Fiscal Year(s): 2012–2013

**DEMAND** The Sino-American relationship is perhaps the most important security issue of the 21st century. As the regional and global activities of both countries come into increasingly closer contact, there is a greater chance of escalation during a crisis. Misunderstanding in the nuclear and strategic realm could lead to catastrophic inadvertent escalation, whereas deeper mutual understanding could enhance stability and deterrence. Mutual strategic understanding can provide a stronger foundation for a positive, cooperative, and comprehensive bilateral relationship.

**OBJECTIVE** Now in its seventh iteration, NPS will organize and host a Track-II meeting to deepen understanding of Chinese and American commonalities and differences on strategic and nuclear terms and concepts. This dialogue and the Pacific Forum CSIS Track 1.5 meeting in Beijing complement and build from one another.

**APPROACH** The Track-II meeting will include approximately eight Chinese participants and 20 American participants. NPS will develop a list of potential topics and concepts based on discussions at the 2011 meeting, follow-up discussions with USG officials and both Chinese and America experts, as well as short commissioned memos from both Chinese and American contributors. NPS will lead a dialogue in the summer of 2012, followed by briefings and a report to U.S. government stakeholders.

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## Strategic Impact of Shifting Nuclear Security Consciousness in Japan, Phase 2

Performer: NPS; The Stimson Center  
Project Lead: Robert J. Weiner and Yuki Tatsumi  
Project Cost: \$220,640  
Fiscal Year(s): 2012–2013

**DEMAND** Japan and the United States are crucial security partners. Since the two countries' signing of their Mutual Security Treaty in 1951, Japan has hosted U.S. military bases critical to U.S. strategic interests in the Asia-Pacific region and beyond. In return, the U.S. has committed itself to defend Japan from external aggression. In the area of nuclear weapons, however, Japan's alliance relationship with the United States has always been an uneasy one. In recent years, this tension has grown only more complex. Changing public attitudes and the emergence of new threats have begun to open a once-taboo dialogue about Japan's own nuclear capabilities.

**OBJECTIVE** This project extends research completed during Phase I to ask, "Will populism and natural disaster destabilize the US-Japan nuclear bargain?" NPS aims to fill an important gap in existing research by assessing the volatility of Japanese public opinion toward nuclear power and weapons; the degree to which this influences (or is influenced by) Japanese security policymakers; the resulting impact on the likelihood Japan will maintain its "strategically rational" nonnuclear policy stance and on its confidence in the US alliance; and "red flag" indicators and leverage points that allow the U.S. to detect and respond to shifts in these factors.

**APPROACH** NPS, collaborating with The Stimson Center, will perform qualitative research using primary and secondary sources in Japanese and English. Primary research will chiefly involve in-depth interviews in Japan with key politicians and policymakers from the ruling DPJ, opposition LDP, smaller parties (whose influence is amplified by a continuing divided-government stalemate), and mid- to senior-level bureaucrats in the Ministries of Defense and Foreign Affairs, the National Police Agency, and the Cabinet Secretariat. Interview subjects would also include journalists and scholarly analysts. A final report will share research findings with the broad policy community.

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## Interpreting and Implementing NATO's Deterrence and Defense Posture

Performer: NPS  
Project Lead: David Yost  
Project Cost: \$185,929  
Fiscal Year(s): 2012–2013

**DEMAND** The NATO Deterrence and Defense Posture Review (DDPR), set to be ratified at the Alliance Summit in Chicago in May 2012, assesses NATO's nuclear posture, missile defense capabilities, and conventional forces, as well as WMD and missile proliferation threats. The DDPR enables NATO to identify the capabilities and policies necessary to effectively meet future security challenges. After the Chicago Summit, it will be critical for Alliance members to engage in constructive dialogue and problem-solving in relation to the DDPR conclusions.

**OBJECTIVE** NPS, in cooperation with the NATO Defense College and NATO Nuclear Policy Directorate, will organize a workshop to clarify, reinforce, and carry forward the deterrence and defense posture decisions made at the May 2012 Chicago Summit. The workshop, in its seventh year running, will foster enhanced communication, cooperation, and rapport among NATO members.

**APPROACH** The two-day workshop will host approximately 60 participants at the NATO Defense College in Rome, Italy, and focus on the interpretation and implementation of the DDPR. Two keynote speakers will frame the workshop with speeches on "smart defense" and on the Alliance's deterrence and defense posture. Following the workshop a final report detailing the workshop's proceedings and findings will be made available.

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