

# EDITOR'S NOTE

We begin this issue with the two winners of the second annual Doreen and Jim McElvany Nonproliferation Challenge essay competition, which seeks “the most outstanding new scholarly papers in the nonproliferation field . . . to generate new insights and recommendations for resolving contemporary nuclear, chemical, and biological weapons challenges, including those involving both state and non-state actors.” (Please see the advertisement in this issue and our website, [cns.miis.edu/npr/contest.htm](http://cns.miis.edu/npr/contest.htm), for more information on next year's competition.)

Doctoral candidate Anne Harrington de Santana (University of Chicago) won top honors and the \$10,000 McElvany Prize for her unique paper laying out an important new theory about how nuclear weapons function as “the currency of power” in international affairs and what this means for the future of nuclear proliferation. This theory, Harrington de Santana argues, can be used to challenge and reorient long-held beliefs about the importance and necessity of nuclear deterrence and to refocus efforts to encourage nonproliferation and disarmament.

Postgraduate student Joshua Masters (New York University School of Law) won the \$1,000 outstanding student essay prize for his paper exploring the role and regulation of corporations in nuclear proliferation. While efforts to regulate corporations exist, only states may enforce them; when states are unable or unwilling to do so, corporations face no restraints. The dual-use nature of many components of the nuclear fuel cycle makes oversight of corporations desirable for nonproliferation, yet resolving the problem would require a fundamental transformation of international law—something Masters deems unrealistic in the current political climate. Less comprehensive changes must be effected to encourage greater compliance by states with existing regulations.

Jonathan B. Tucker (James Martin Center for Nonproliferation Studies) takes an in-depth look at how Libya rid itself of its small but potent chemical weapons program following Muammar Qaddafi's 2003 decision to renounce nuclear, chemical, and biological weapons. While Libya's case “was unique in many ways,” aspects of it may offer important lessons for other countries. The details of the rollback operation, including technical and bureaucratic issues, will also be of interest to scholars and policy makers. Tucker concludes his article by examining the lessons of the Libyan case, including the effectiveness of multilateral sanctions and export controls, the need for an adaptive funding mechanism, the role of inspection teams, and the need to remain engaged with former proliferators.

Scott Helfstein (Combating Terrorism Center and Department of Social Science at the U.S. Military Academy at West Point) investigates the utility of nuclear inspections via game theory and modeling, exploring how and when states suspected of proliferating choose to comply with inspections. By looking at the role of incentives and informational awareness, Helfstein challenges the standard assumption (the one used by the George W. Bush administration in the months before the United States invaded Iraq in 2003) that states not seeking nuclear weapons should welcome inspections to demonstrate their compliance with arms control regimes, while proliferating states are likely to impede inspections. After laying out his model, Helfstein tests it against a series of real world cases.

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Kaegan McGrath (James Martin Center for Nonproliferation Studies) reviews the many significant developments concerning the Comprehensive Nuclear-Test-Ban Treaty (CTBT) since its rejection by the U.S. Senate in October 1999 and analyzes the three most pressing questions—whether the treaty is verifiable, how it would affect the reliability of the U.S. nuclear stockpile, and what impact it would have on overall U.S. security. He argues that the ratification of the CTBT is in the interest of the United States because it is an essential and effective component of the international nonproliferation regime and because it would hinder the qualitative development of new nuclear weapons without impeding the ability of the United States to maintain its existing arsenal.

Cristina Hansell and Nikita Perfilyev (James Martin Center for Nonproliferation Studies and Monterey Institute of International Studies, respectively) consider how China and Russia view current U.S. strategic policy and each other's security policies, and how these views influence the prospects for working together to achieve nuclear disarmament. The authors also explain how decisions on nuclear disarmament necessarily involve an evaluation of all strategic considerations and not just the role of nuclear weapons, and discuss how negotiated reductions are only likely with Russia in the short term. They also warn that as China and Russia pursue weapons modernization programs, the opportunities for cooperative engagement will diminish.

With just months to go before the 2010 Review Conference for the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), Paul Meyer (Department of Foreign Affairs and International Trade Canada) argues that the treaty deserves more respect—and attention—than it has received in recent years. To keep the NPT thriving, Meyer suggests that member states renew their commitments to it. In particular, he calls for a renewed focus on nuclear disarmament, strengthening nonproliferation, resolving the fundamental problem that there is no governing authority to oversee the implementation or management of the NPT, and improving relations between NPT and non-NPT states (Israel, India, and Pakistan) with an eye toward eventual universalization. Sustained U.S. leadership, says Meyer, will be critical to ensuring the continuing relevance and vitality of the treaty.

Dave Hafemeister (Center for International Security and Cooperation, Stanford University) analyzes the CTBT for its impact on U.S. national security and finds that contrary to the scenarios painted by opponents of the treaty, ratification and entry into force would offer the United States significant advantages. He shows how the CTBT would constrain the development of sophisticated nuclear weapons by all states while allowing the United States to maintain a safe, reliable, and effective nuclear stockpile for the foreseeable future using the stockpile stewardship program.

Irvin R. Lindemuth (Los Alamos National Laboratory, retired) writes from personal experience about the development and subsequent near-collapse of post-Cold War lab-to-lab collaborative projects between the United States and Russia. These projects, intended to engage Russian scientists in unclassified, fundamental scientific research, faltered following a lack of institutional follow-through in the United States. Lindemuth argues that reviving such cooperation will be critical to implementing the Obama administration's nuclear policy objectives, including the CTBT, and he offers recommendations toward that end.

Charles H. Calisher (Colorado State University) offers a cautionary tale about the intersection of science, politics, and suspicions of biological weapons use. Calisher, a diagnostic virologist who used to work at the Centers for Disease Control, was invited to Cuba in 1975 to study the spread of viruses—including dengue fever—by insect vectors like mosquitoes. Following epidemic outbreaks of dengue fever a few years after his visit, the Cuban government falsely accused Calisher of spreading the disease. In telling his story here for the first time, the author sets the record straight and calls for increased openness and scientific collaboration between scientists in the United States and Cuba.

Finally, this issue concludes with reviews of five timely and important books. Ambassador Linton F. Brooks (Center for Strategic and International Studies and National Defense University) assesses T.V. Paul's *The Tradition of Non-Use of Nuclear Weapons*. Nina Tannenwald (Watson Institute for International Studies, Brown University) critiques Maria Rost Rublee's *Nonproliferation Norms: Why States Choose Nuclear Restraint*. Matthew Bunn (John F. Kennedy School of Government, Harvard University) describes the difficulties in tracking down nuclear terrorists in his review of Jeffrey T. Richelson's *Defusing Armageddon: Inside NEST, America's Secret Nuclear Bomb Squad*. And Judy Pasternak (Washington, DC-based journalist) compares and contrasts Tom Zoellner's *Uranium: War, Energy and the Rock that Shaped the World* with Jeremy Bernstein's *Plutonium: A History of the World's Most Dangerous Element*.

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