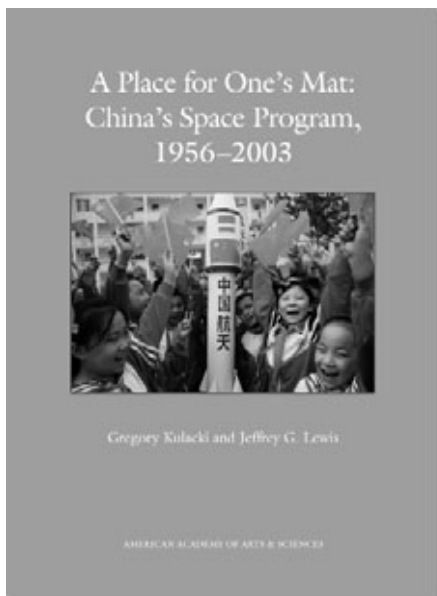


## Reconsidering the Rules of Space

The development of space affects a range of government, commercial, and scientific interests around the world, yet the policies that adequately balance these interests have not been worked out in the necessary detail. The American Academy initiated the *Reconsidering the Rules of Space* project in 2002 under the auspices of the Committee on International Security Studies. This project examines the implications of U.S. policy in space, the international rules and principles needed to maintain a balanced use of space over the long term, and the politics of and potential for greater international cooperation in space.

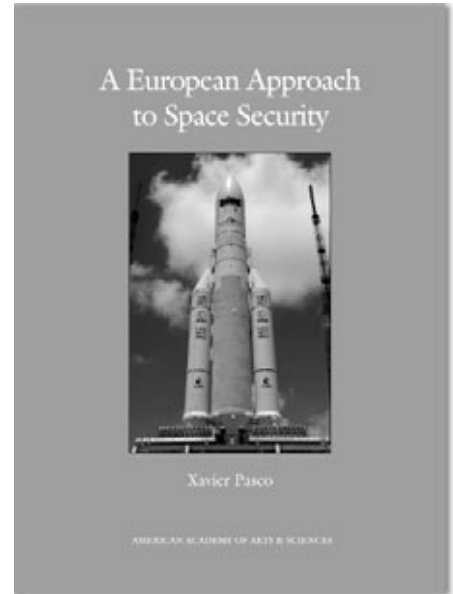
All nations increasingly rely on satellites for communication services, environmental monitoring, navigation, weather prediction, and scientific research. Technological advances have also inspired the development of military capabilities in space that go far beyond the traditional intelligence and early-warning missions of the Cold War period. Protecting and enhancing U.S. civilian and military capability in space raises important policy, planning, and budget questions.



The Academy's project has facilitated discussions between experts from the United States and abroad on various aspects of space policy – international security, scientific advancement, and commercial development. Several papers have been published dealing with, respectively, the basic laws of physics that apply to all space activity (*The Physics of Space Security: A Reference Manual*, by David Wright, Laura Grego, and Lisbeth Gronlund, 2005); the fundamental issues of security policy (*Reconsidering the Rules for Space Security*, by Nancy Gallagher and John D. Steinbruner, 2008); and the policies of the principal national governments (*United States Space Policy: Challenges and Opportunities*, by George Abbey and Neal Lane, 2005, and *Russian and Chinese Responses to U.S. Military Plans in Space*, by Pavel Podvig and Hui Zhang, 2008).

This summer, the Academy published three new papers in the project series, with a fourth to be published in the fall.

*A Place for One's Mat: China's Space Program, 1956–2003*, by Gregory Kulacki and Jeffrey G. Lewis, is the fifth paper of the project series. Using Chinese-language sources, Kulacki (Union of Concerned Scientists) and Lewis (New America Foundation) examine three formative events in the development of China's utilization of space: the launch of the first satellite in 1970, the launch of the first communications satellite in 1984, and the first human spaceflight in 2003. They trace the origins and basic purposes of each of these efforts and set them in the context of China's internal history. Their central observation is that China understood each of these efforts to be a measure of national accomplishment necessary to qualify for inclusion among the major spacefaring countries that set the rules. Equity appears to have been the principal concern of China's political leadership.



That goal is more legitimate and less belligerent than the motives typically attributed to China by foreign observers – the U.S. intelligence community in particular. The authors do not claim to provide a comprehensive account of China's space program or an indisputable interpretation of its fundamental purposes. They do, however, provide evidence to be considered in any fair-minded assessment of the program's global significance.

*A European Approach to Space Security*, by Xavier Pasco (Fondation pour la Recherche Stratégique, Paris), is the sixth occasional paper of the series. It documents the efforts of EU members to develop common policies and practical collaboration for space missions related to security. It notes that the European community has not as yet been able to establish authoritative coordination of national military programs and warns that balancing those programs with increasingly important commercial and social interests is a generally unresolved problem. But it also suggests that EU efforts to develop collective rules, confidence-building measures, and codes of re-

*Space has proven to be an arena for uplifting collaboration among nations as well as ominous confrontation. The end of the U.S.-Soviet competition that defined the modern space age, as well as an increase in the ranks of spacefaring nations and an expansion of commercial space ventures, dictates a new approach that embraces the equitable utilization of space by all nations for common benefit.*

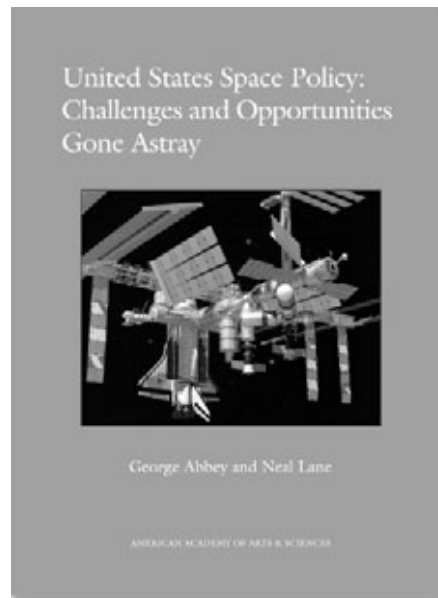
– John D. Steinbruner

*Director of the Academy's Reconsidering the Rules of Space project and Professor of Public Policy at the University of Maryland*

sponsible conduct can make an important constructive contribution to working out global arrangements for space.

*United States Space Policy: Challenges and Opportunities Gone Astray*, by George Abbey (Rice University) and Neal Lane (Rice University), is the seventh paper in this series, updating the 2005 publication by the same authors. It warns of serious misalignment of the purposes, operating principles, and resources of the U.S. space program. It notes that the announced intention to send manned missions to the moon and to Mars as virtually exclusive national ventures has not been ad-

equately financed. As a result, most of NASA's activities are being redirected to those specific purposes, thereby jeopardizing the agency's broader historical functions without assuring that the projected missions can in fact be accomplished. The paper recommends a significant rebalancing of priorities to support the International Space Station, to extend shuttle missions through 2015, and to continue NASA's traditional support for ba-



sic science and aeronautical engineering. It updates the 2005 assessment of impediments to a well-balanced space program, noting that export-control policies, decline in the science and engineering workforce, the state of mission planning, and the degree of international cooperation have all become more serious problems. Overall it provides an urgent appeal for a fundamental reformulation of U.S. space policy.

*The Future of Human Spaceflight: Objectives and Policy Implications in a Global Context*, by David A. Mindell, Scott A. Uebelhart, Asif Siddiqi, and Slava Gerovitch, forthcoming this fall, is the eighth paper in the project series. The United States stands at the threshold of a

new era of human spaceflight. The Obama administration has an opportunity to reformulate U.S. space policies that are anchored in Cold War-era mindsets. *The Future of Human Spaceflight* rethinks the objectives for government-funded human spaceflight and addresses current policy questions in light of those objectives. The authors describe the primary and secondary objectives of human spaceflight and examine the human spaceflight programs of other countries, notably Russia, China, India, the European Space Agency, and Japan, with a focus on how each articulates its own human spaceflight program. For the United States, the authors recommend that the country develop a broad and well-funded plan to utilize the International Space Station through 2020 to support the primary objectives of exploration; that NASA restore its support for fundamental research in the new technologies that will enable these explorations; and that the United States reaffirm its long-standing policy of international leadership in human spaceflight and remain committed to its existing international partners. They also recommend that the United States begin to engage with China, India, and other aspiring space powers on human spaceflight.

Copies of these publications are available on the Academy's website at <http://www.amacad.org/projects/space.aspx>.

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