



DUPONT SUMMIT 2012

..... Pressing Issues Amid the Political Maelstrom

December 7, 2012 * Carnegie Institution for Science, Washington, DC
Sponsored by the American Public University and the George Mason University

The Policy Studies Organization

Speaker

Craig Boardman, PhD, Associate Director of the Battelle Center for Science & Technology Policy, *Ohio State University*

Topic

"The Visible Hand: The Managerial Revolution in US Knowledge Production and the Future of Global Competitive Advantage in Science and Technology"

Historically, science and technology (S&T) policy in the US has focused on (i) ensuring that organizational and individual actors engaged in research and development (R&D) can access the requisite factors of production for scientific and technical innovation – e.g., funding, technology, infrastructure, human capital – and (ii) establishing incentives and reducing risk for work in applied fields and technology development – e.g., property rights and tax incentives. The global competitive advantage of the US in S&T historically has been derived from major advantages in these two areas.

Though access to the factors of production for R&D and the incentivization of applied research and technology development will remain critical components of S&T policy making in the US, these areas will not constitute global competitive advantage for the US, or for any nation for that matter, in S&T in the future. Many developed nations have caught up with the US in these two critical areas and many more developing nations are closing the gap and will soon catch up. *(Continued on next page)*



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Global competitive advantage in S&T is shifting away from the factors of production for and incentivization of R&D *per se* and towards the strategic management thereof. As the scientific, technical, and social and economic problems requiring scientifically and technically innovative remedies have become more complex, so too have the organization and management of R&D become quite challenging. Increasingly, problem-focused R&D such as that focused on curing cancer or on terrorism surveillance requires input from diverse actors spanning disciplinary, institutional, and sectoral boundaries. For example, most S&T policies at the federal and state levels in the US focused on addressing particular problems are implemented by way of the establishment of cooperative research centers, research parks, technology incubators, industry consortia, and the like, involving scientists, engineers, and other stakeholders from universities, industry, and government.

Therefore, S&T policy must become more focused on strategic human resources management and organizational behavior in R&D, much as this shift occurred in industrial manufacturing in 2

the early 1990s. Systematic, general inquiry into the governance mechanisms facilitating collaborative, boundary-spanning R&D will enable more effective and efficient S&T policies.

The talk will conclude with recommendations for a policy agenda focused on governance at S&T policy implementation.