Participation in Professional Conferences By Government Scientists and Engineers

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IEEE-USA strongly supports active participation by government and Federally Funded Research and Development Center (FFRDC) scientists and engineers (S&Es) in Science, Technology, Engineering, and Mathematics (STEM) professional meetings. Participation allows S&Es to exchange ideas on novel research, remain current in technical disciplines, and form valuable collaborations. Professional conferences tie together the U.S. science and engineering community, promote technical innovation and commercialization, accommodate peer review of research, provide training opportunities, facilitate recruiting, and help educate graduate students. Participation in overseas conferences additionally provides insights into the more than two-thirds of the world's research that is not performed in the United States.

The Office of Management and Budget (OMB) Memorandum M-12-12, *Promoting Efficient Spending to Support Agency Operations*, severely restricts participation in STEM meetings by U.S. government and FFRDC S&Es by reducing overall travel by 30 percent and requiring special approval for more than $100,000 to be spent for department or agency participation in any conference. These restrictions reduce the effectiveness of federally employed S&Es, require an expensive bureaucracy to decide who can attend a meeting, increase travel costs by delaying decisions, and – in the case of the $100,000 cap -- save little or no additional money.

IEEE-USA recommends that:

- Congress and the executive branch defer adding new restrictions that would inhibit participation in STEM-related conferences until the consequences and impacts on missions and capabilities resulting from the current restrictions are adequately assessed.

- Congress and the executive branch endorse the principle that participation in, or sponsorship of, scientific and technical conferences and meetings is essential to the missions of all federal departments and agencies engaged in STEM-related research.

- STEM conferences that link federal scientists and engineers with their professional counterparts in government, industry and academia be exempted from federal travel and conference restrictions.

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- Direction to the Secretaries of Defense and Energy in the 2015 Senate Armed Services Committee report, that they establish one-month “approval processes for scientists and engineers to attend science and technology conferences” be extended by Congress to all federal departments and agencies.

- Special mission-oriented STEM meetings, such as Federal Advisory Committee meetings, National Academies studies, program review panel meetings, standards-setting meetings, and official international engagements, be clearly excluded from the definition of conferences.

- Federal agencies be required to periodically analyze impacts and evaluate risks from limitations on STEM conference participation. Identified risks that should be monitored include decline in the quality of scientific research, diminished ability to identify and respond to technology-related threats and opportunities, difficulty in recruiting and retaining qualified scientists and engineers, and a diminished leadership role within the global S&T community.

This statement was developed by the IEEE-USA Research & Development Policy Committee, and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA advances the public good and promotes the careers and public policy interests of the more than 200,000 engineering, computing and allied professionals, who are U.S. members of the IEEE. The positions taken by IEEE-USA do not necessarily reflect the views of IEEE, or its other organizational units.

BACKGROUND

Benefits of Attending Professional Society Conferences

Professional conferences accelerate the dissemination of science and engineering discoveries and techniques throughout the nation's technical community. Compared to, for instance, journal publications with their longer lead times, conferences spread ideas roughly three times as fast, leading to more rapid technical innovation. Moreover, just as basic research often produces serendipitous results, so do professional society conferences. Chance meetings in hallways among researchers or unexpected insights obtained at research presentations, often trigger new collaborations and new opportunities for discovery.[1] Equally important, interactions at professional conferences help researchers recognize when they are moving into blind alleys, and steer them toward more productive approaches. Comments and suggestions through conference participation, not only accelerate the achievement of successful projects, but also improve the quality of those results.

Professional conferences benefit federal employees, and the institutions at which they work. Like other researchers, federal S&Es are exposed to results developed at other institutions, both foreign and domestic. Especially when they are responsible for funding research outside their agencies, or for gathering information on worldwide breakthroughs, it is critically important for federal S&Es to know personally the top researchers in the fields for which they are responsible, and to be as current as possible on promising research directions.

Many federally supported S&Es use technical conferences as opportunities to engage with a wide collection of researchers for peer review, program reviews and future program planning. By drawing technical groups together to a single location, federal S&Es more efficiently review a large collection of independent research projects. In reviewing research at conferences, the federal S&Es not only stay abreast of their federal R&D investment portfolios but also realize significant cost savings over performing multiple site visits to each researcher's laboratory.

Recognizing the importance of STEM conferences, the House Energy and Commerce Committee recently proposed that, "It is the sense of Congress that participation in or sponsorship of scientific conferences and meetings is essential to the mission of the National Institutes of Health."[2] This is no less true for any Federal agency engaged in STEM activities.

[1] For instance, a chance meeting between an Air Force scientist and a MIT professor led to the development of optical coherence tomography, which has become a standard of care in ophthalmology, with several tens of millions of procedures performed per year, http://en.wikipedia.org/wiki/Optical_coherence_tomography.

[2] 21st Century Cures Act (H.R. 6), Sec. 1025, NIH Travel.

Conferences also provide high quality, low-cost professional development, saving their institutions money. Participation in professional conferences is a critical component of available in a single graduate education, because it exposes students to a wide range of ideas beyond those university departments.[3] Additionally, quality research presentations by federal S&Es enhance the technical stature of their federal agencies. The contacts and direct employment recruiting carried out at professional conferences are powerful tools for attracting the best and the brightest to government service. The importance of professional development through participation in professional conferences is recognized in the 2010 OSTP memo, "Scientific Integrity",[4] and in numerous department and agency policies implementing that memo.

Implementation Issues

OMB memo 12-12 states[5] that, "In FY 2013, each agency shall spend at least 30 percent less on travel expenses … than in FY 2010" and that "agencies must maintain this reduced level of spending each year through FY 2016." Additionally, the memo states that, "Deputy Secretaries (or their equivalents) shall … approve the spending for all proposed new conferences … where the net conference expenses by the agency will be in excess of $100,000." These costs consist primarily of travel, food and lodging expenses. Since the typical expense for an S&E to attend a conference is in the neighborhood of $2,000 - $3,000, $100,000 would allow 35 to 50 S&Es from any agency to attend a conference, without triggering an elaborate approval process. Large agencies employ tens of thousands S&Es. The Department of Defense, for instance, has more than 100,000 S&Es. And the Department of Energy has more than 80,000 S&Es at its national laboratories.

Although each federal agency employing S&Es is implementing these requirements differently, larger agencies have established multi-level approval processes requiring as much as nine months to complete.[6] The added approval bureaucracy creates uncertainty, reduces agility, and itself costs money.[7] Moreover, the $100,000 approval cap is unlikely to result in any savings that would otherwise not occur due to the mandated 30% travel cost reduction. Quite the contrary, bureaucratically delayed attendance decisions are resulting in higher air fares, hotel rates, and registration fees. To accelerate approval processes, OMB issued a Controller Alert, allowing delegation of approval authority and pre-approvals of recurring and non-government sponsored conferences.[8] Few improvements have resulted.

[3] This issue is highlighted for DoD's Air Force Institute of Technology and Naval Postgraduate School in "Specialized Degree-Granting Graduate Programs of the Department of Defense," National Academies Press (2014), pp. 80 - 82.

[4] "Scientific Integrity," Office of Science and Technology Policy (17 December 2010), http://www.whitehouse.gov/sites/default/files/microsites/ostp/scientific-integrity-memo-12172010.pdf.

[5] M-12-12, "Promoting Efficient Spending to Support Agency Operations," Office of Management and Budget (11 May 2012), https://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-12.pdf.

[6] GAO-15-278, "Further DOD and DOE Actions Needed to Provide Timely Conference Decisions and Analyze Risks from Changes in Participation," Government Accountability Office (March 2015), highlights page.

[7] "The federal government is spending a lot of money trying not to spend money on travel," Washington Post (23 March 2015).

[8] "Travel and Conferences," Office of Management and Budget (15 January 2015), https://cfo.gov/wp-content/uploads/2015/01/CONTROLLER-ALERT-Travel-and-Conferences.pdf

More generally, limiting S&E participation in professional conferences reduces government effectiveness well beyond any savings achieved. The amount spent on participating in a professional conference is less than one percent of the costs in equipment, salary and support personnel associated with a government S&E. The firsthand knowledge and subsequent resulting productivity increases of an S&E from participating in a professional conference certainly exceeds that one percent. Significantly reducing participation by federal S&Es' in relevant professional conferences denies the many benefits described above to both the S&Es and their institutions. Moreover, professional conferences will be less productive, due to the absence of outstanding government program managers, researchers and analysts; and the needs of federal agencies are less likely to be emphasized at those conferences. Therefore, national and economic security as a whole l suffer. According to the Government Accountability Office, too little has been done to assess the magnitude of these risks.[5]

To address these issues, the Senate Armed Services Committee (SASC) in its 2015 report, "directs the Secretaries of Defense and Energy to establish processes within the Department of Defense and National Nuclear Security Administration, respectively, whereby requests for scientific conference attendance are adjudicated within 1 month, and approvals are granted as appropriate within 1 month. Further, the committee directs the Secretaries of Defense and Energy to ensure that any decisions to disapprove conference attendance through these processes are made if and only if the appropriate officials determine that the disapproval would have a net positive impact on research and development and on program management quality, and not simply default disapprovals necessitated by a bureaucratic inability to make a timely decision. In addition, the committee directs that these approval processes be implemented no later than 90 days after the enactment of this act." The SASC went on to recommend "that, as part of these new approval processes, laboratory and test center directors be given the authority to approve conference attendance, provided that the attendance would meet the mission of the laboratory or test center and that sufficient laboratory or test center funds are available."[9] This direction should be applied to all federal agencies.

De Facto Redefinition of Conferences and Meetings

Some agencies have gone beyond the OMB memo to categorize Federal Advisory Committee meetings as conferences. Under the Federal Advisory Committee Act (FACA),[10] these committees already have strict oversight requirements. FACA requires committees to be deemed essential to rendering advice to federal agencies on sound policy development. The advice provided by subject matter experts to the U.S. Government has served to improve national security.

Some agencies also have categorized National Academies meetings as conferences. The National Academies provide the federal government *pro bono* access to the nation's leading scientists and engineers. Often the topical meetings provide federal employees with

[9] Report to Accompany S. 1376, "National Defense Authorization Act for Fiscal Year 2016", Report 114-69.
[10] Federal Advisory Committee Act and associated regulations, http://www.gsa.gov/portal/content/100916.

carefully measured advice on the anticipated directions of technological development, which in turn results in sound investments by the U.S. Government in targeted R&D. Limiting federal participation in these meetings weakens the purpose and utility of the National Academies, and could result in riskier research investments by the federal government.

Many international engagements facilitated under cognizant government authorities are being categorized as conferences as well. Such meetings are necessary for coordinating cutting edge defense research among allies. Topics include combating terrorism, countering proliferation of weapons of mass destruction, and promoting economic development. Additionally, failure to participate adequately in international standards-setting bodies reduces U.S. competitiveness in commercializing emerging technologies.