Office of Sponsored Programs

The Office of Sponsored Programs' mission is to conduct the centrally organized administrative, business, and financial functions related to award administration and to assist faculty, principal investigators, and their administrators in the identification of resources for and the management of individual sponsored projects consistent both with MIT's academic and research policies and with the stewardship requirements of and obligations to external sponsors.

The primary functions of the office are:

- Proposal review to ensure adherence to sponsor requirements and compliance with Institute policies
- Review and negotiation of agreements, including outgoing subawards, to ensure
 consistency with (1) the Institute's corporate charter and status as a tax-exempt
 educational institution and (2) compliance with Institute academic and research
 policies such as those relating to freedom to disseminate research results, access
 for all foreign faculty, staff, and students to MIT's educational and research
 activities, control of intellectual property, and full cost reimbursement
- Post-award administration when necessary to provide assistance to departments, labs, and centers (DLCs) in meeting MIT and sponsor requirements
- Calculation, audit defense, and negotiation of MIT's facilities and administrative (F&A) and employee benefit (EB) rates

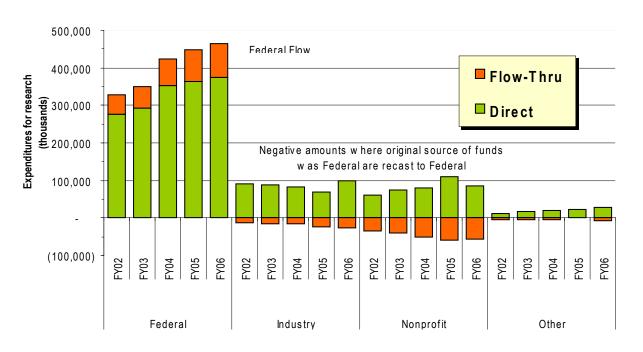
Research Volume

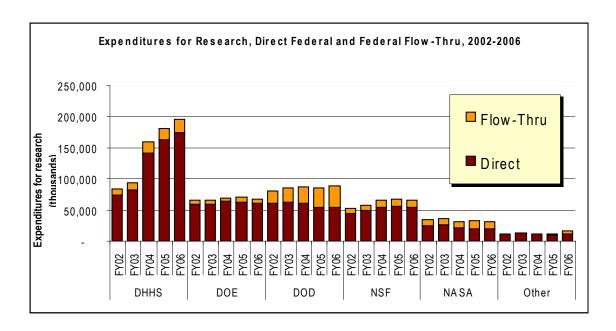
The MIT total research volume (expenditures) for FY2006, excluding Lincoln Laboratory, was \$587.5 million, which represents a 3.5 percent increase over FY2005. The volume breakdown by major sponsor is shown in the following table

	2002		2003		2004		2005		2006	
	Original	Proximate								
	source	source								
Federal										
DHHS	83,517	74,806	93,254	81,837	159,029	141,015	180,682	162,170	195,573	174,171
DOE	65,455	59,658	65,175	59,210	69,183	63,936	69,927	62,722	67,265	60,179
DOD	80,377	60,117	85,866	62,904	86,811	61,146	85,866	54,403	89,535	54,196
NSF	52,612	44,878	57,695	48,804	65,443	54,406	66,686	56,206	65,040	54,412
NASA	34,326	25,119	35,735	26,252	31,442	21,949	32,170	19,258	31,229	19,405
Other	12,143	11,562	13,172	12,452	12,250	10,765	12,267	10,164	15,709	11,569
Subtotal	328,430	276,140	350,897	291,459	424,158	353,217	447,598	364,923	464,351	373,932
Nonfederal										
Industry Non-	77,684	91,261	73,265	89,105	68,038	82,895	47,196	69,789	73,179	99,712
profit	25,593	59,824	34,275	73,916	27,112	78,744	50,409	110,442	28,306	86,015
Other	7,476	11,958	13,318	17,275	14,661	19,113	22,221	22,270	21,660	27,837
Subtotal	110,753	163,043	120,858	180,296	109,811	180,752	119,826	202,501	123,145	213,564
Total	439,183	439,183	471,755	471,755	533,969	533,969	567,424	567,424	587,496	587,496

Notes: (1) Original source funding is US government dollars that come to MIT via subaward, from industry, another university, or institution; (2) proximate source funding reflects the entity that actually made the award to MIT.

Expenditures for Research and Source of Funds, Fiscal Years 2002-2006





FY2006: A Year of Changes and Challenges for OSP

Fiscal year 2006 was another year of great change for OSP. Turnover continued to be a major challenge, particularly at the senior staff level. Retirements contributed to the loss of substantial experience, expertise, and institutional memory. The departure of two associate directors (Tom Duff and Paul Powell) and one assistant director (Tom Henneberry) resulted in the loss of more than 100 years of MIT experience. We were fortunate to find exceptional new personnel for these key positions. Steven McAlarney, an attorney with 17 years of experience at Lincoln Laboratory and 10 years of experience as a contracting officer with the Department of Defense (DOD), joined OSP as associate director in May. McAlarney's expertise in government contracting fills a pressing need for OSP.

Organizational Changes in OSP

We were unable to hire an experienced replacement for Tom Henneberry, who retired in July 2005 as assistant director of OSP and head of the industrial agreements team (IAT). This resulted in a reevaluation of our organizational structure and dissolution of the IAT. Rather than maintaining a separate OSP team focused solely on industrial agreements, we reclassified IAT members to the new position of contract specialist and placed a former IAT member on each of the three grant and contract administrator teams in OSP. The new structure transfers responsibility for contract negotiations for all sponsors (federal, industrial, and foundation) to a contract specialist on each OSP team who will collaborate with a contract administrator on every negotiation. We believe the integration of contracting responsibilities into the OSP contact administration teams will result in a more efficient process for contract negotiations and will enable the contract administrators to develop greater expertise by working closely with their team's contract specialist.

Additionally, a new collaborative process was implemented in conjunction with the Office of Intellectual Property Counsel (OIPC) to better coordinate the negotiation

of industrial agreements and to take advantage of the contracting expertise of OIPC personnel. An OSP contracting specialist and an OIPC attorney are partners on the drafting and negotiation of industrial agreements, with the OIPC representative taking the lead role on negotiations.

The retirement of Tom Duff necessitated the reassignment of administrative duties that Duff has performed for OSP for many years, including budget, human resources, facilities, and payroll functions. A new position was created, manager of administrative services, and Kristen Shikes, the administrator for the Research Administration Improvement Initiative (RAII), was promoted to manager in April. This change will improve the efficiency of our administrative operations and will enable senior staff in OSP to focus their attention on research administration issues, with the manager of administration assuming all administrative responsibilities.

The government's emphasis on e-commerce for grants administration is having a profound impact on research administration at MIT. The migration from paper-based grant applications to electronic submissions is necessitating a change in the way that these applications are prepared and routed in DLCs and central administrative departments. The federal agencies are requiring that a greater proportion of grant applications to be submitted electronically, and in the near future all grant federal applications will have to be submitted electronically to http://www.grants.gov/.

MIT is well positioned technologically to meet the challenges of e-commerce. Our sponsored project management software, COEUS, was the first system in the country to submit a grant application successfully to the grants.gov portal using a system-to-system interface. However, users of COEUS for proposal preparation need in-depth training and frequent practice to become proficient and maintain skills.

We do not advocate that faculty develop expertise in the use of COEUS for proposal preparation purposes when paper proposals are no longer acceptable. There will, therefore, be increased reliance on unit administrators for proposal preparation support in the future. However, for DLCs that do not have a high volume of research awards or administrators with the skills necessary to use COEUS for proposal preparation purposes, additional support will be needed. Grants.gov submissions will present a significant and serious challenge, especially for these units that do not have administrators who are adept at using COEUS. In order to provide greater assistance to these units and to handle the increased training needs due to the grants.gov implementation, OSP has created a new electronic research administration (ERA) team. The ERA team, which is headed by manager Rosemary Hanlon, will increase the number of OSP staff available to support the transition to grants.gov and enhance our campus outreach activities. The creation of the team was accomplished through a realignment of staff within OSP. No additional resources were provided by the Institute.

Additional information on grants.gov and COEUS appears later in this report.

Staff development and succession planning are high priorities for OSP. Our relatively inexperienced contract administration staff continued their rapid improvement and

development in 2006. Four contract administrators were promoted to senior contract administrator during the past year: Amy Holden, Laureen Augustine, Denise Moody, and Kara Denutte. Also, two OSP staff members, Kristen Shikes and Rosemary Hanlon, received promotions to manager this year.

In light of the extraordinary turnover of the past two years, it is critical that we continue to provide our staff with training to develop their knowledge and skills and provide opportunities for career progress. Succession planning and a policy of promotion from within remain high priorities for OSP.

OSP Participation in Institute Activities

Research Administration Improvement Initiative

The Research Administration Improvement Initiative (RAII) made substantial progress in 2006. The RAII was created in 2005 to improve the effectiveness and efficiency of research administration activities at MIT. A steering committee of 16 campus administrators, cochaired by Patrick Fitzgerald, director of OSP and Ron Hasseltine, assistant dean for the School of Science, determines the priorities and directs the activities of the RAII, in consultation with the sponsors (the provost, the vice president for research and associate provost, and the executive vice president) and a faculty advisory committee, chaired by Professor Karen Gleason.

The scope of the RAII encompasses four major focus areas: (1) job roles and responsibilities, including organizational structure; (2) policies and processes; (3) training; and (4) information technologies (IT) tools and applications. The steering committee has appointed subteams to address each of the focus areas. RAII is a discovery process, and the subteams are charged with developing recommendations for improvements. The recommendations are presented to the steering committee and, if approved, forwarded to the appropriate department or business process owner for implementation.

In February 2006 the roles and organizational structures subteam, chaired by Marilyn Smith, special project director in the Office of the Vice President for Research and Associate Provost (VPR), issued a comprehensive report that included an assessment of organizational models for providing research administration services and recommendations pertaining to the staffing, classification, and development of research administration positions at MIT.

The specialized training for administrators of research (STAR) training subteam, cochaired by Eileen Nielsen, OSP assistant director of compliance, and Judith Stein, organization development consultant in Human Resources, made substantial progress in 2006 on the development of an online basic training curriculum for administrators of research. A program consisting of core modules and essential modules will be implemented by January 2007. A rollout strategy developed by the STAR team and approved by the steering committee will be used to determine who will take the STAR training.

The policy and processes subteam, chaired by Charlene Placido, assistant dean in the Office of the VPR, is developing a plan to compile and prioritize a list of policies associated with research administration. The subteam will also review existing policies and make recommendations for revisions to policy owners. We anticipate that the work of this subteam will culminate in the implementation of a permanent process for ongoing review of policies at MIT.

The technology resources subteam, chaired by Diane MacDonald, chief financial officer of the Broad Institute, is assessing effectiveness and gaps in research administrative reports, systems, and tools. This subteam has been working on two major areas for improvement: the implementation of a resource planning/budget and forecasting tool and the deployment of a research portal. The subteam will issue a white paper on a budget and forecasting tool in July 2006.

The RAII issued the "Research Administrator's Reference Manual" in 2006. This document, which will be available as both a hard copy desk reference manual and as a web document, is designed to be a comprehensive resource for senior, experienced administrators. Along with the reference manual, OSP is providing unit administrators with another resource, "PocketGuide to A-21" which contains the federal costing regulations applicable to universities.

The RAII presents a unique opportunity to make substantial improvements in how research is administered at MIT. While the goal is to improve the efficiency and effectiveness of research administration at MIT, there are other potential benefits to MIT, especially for faculty. The initiative can result in a significant reduction in the administration burden on our principal investigators, enabling them to spend more time on teaching and research. The collaborative nature of the RAII, which involves a mix of central and academic administrators working together to solve common problems, will improve the working relationship between the central administration and the DLC community, and this spirit of collegiality will benefit future Institute initiatives. The recommendations coming out of RAII, if implemented, will also contribute to a significant reduction in compliance risk across campus.

Mechanical Engineering Pilot Project

Description of the Pilot Project

In July 2005 Provost Robert Brown and Executive Vice President John Curry approved the recommendations of the mechanical engineering design team to establish an administrative center (Research Administration Services, or RAS) to provide research administration support to the faculty of mechanical engineering (MechE) and the Laboratory for Manufacturing and Productivity. The objective of this new structure is to support faculty with uniform, high quality, efficient, and timely services related to the administration of sponsored research projects. By employing well-trained, knowledgeable staff specializing in research administration to provide support for MechE faculty, the new structure will minimize compliance risk significantly and reduce the administrative burden on faculty.

This goal of RAS is to improve research administration practices by employing dedicated research administration specialists to work alongside MechE faculty. Until the formation of the RAS, MechE faculty relied on support staff to provide assistance for all administrative functions, including research administration. Since these support staff spent only a fraction of their time on research administration activities, it was very difficult to develop the skills and knowledge needed to provide a high level of service. RAS staff will assist and advise both MechE faculty and support staff on all matters related to research administration and will be accountable to both the MechE department head and the director of the Office of Sponsored Programs.

As of August 2006, the RAS will be fully staffed, and responsibilities for research administration functions previously assigned to support staff will have been reassigned to the RAS staff. The RAS will maintain skills and training commensurate with contract administrators in the Office of Sponsored Programs. Clearly defined roles and responsibilities and knowledgeable staff will enable RAS to provide excellent service to faculty.

Responsibilities of RAS staff are "cradle to grave" and range from preproposal preparation (including review of agency announcements, solicitations, requests for proposals, etc.) through proposal submission to central OSP, monthly account monitoring and projections, salary certification, and account closeout. RAS staff assist faculty in the management of sponsored projects and provide oversight and training to the support staff who process transactions for sponsored projects, for example, procurement and travel transactions.

A New Model for Research Administration Support

The RAS is an extension office of OSP, with a dual reporting line to the head of the Department of Mechanical Engineering and the OSP director. The RAS is located in the MechE department and day-to-day management of the RAS is the responsibility of the mechanical engineering department head, with assistance from the MechE administrative officer. The OSP director is responsible for training and professional development. Issues related to individual and team performance and staffing of the RAS are the shared responsibility of the department head and the OSP director.

Job descriptions for two positions, manager for research administration services and departmental research administrator have been created. These job descriptions reflect the specific roles and responsibilities of a departmental research administrator and were the first of their kind for an academic department at MIT. Research administration duties in DLCs are typically performed by staff members in a variety of different positions: administrative officers, fiscal officers, financial assistants, and administrative assistants. The new job descriptions for mechanical engineering RAS staff differentiate the roles and responsibilities of departmental research administrators from other general administration positions and recognize the specialized nature and unique qualifications of a research administration specialist. These new job descriptions help to create a departmental research administrator career path at MIT and can help to ensure equitable classification and compensation for those staff responsible for research administration activities, as well as contribute to a reduction in turnover and a decrease in compliance risk.

The RAS positions were filled in the last quarter of FY2006. Joseph Webber, senior financial analyst from the Sloan School, accepted the position of manager of RAS and became part of RAS on March 24, 2006. Two internal candidates were named as research administrators: Carolyn Brooke, former administrative officer for ocean engineering, and Angela Mickunas, fiscal assistant in mechanical engineering. The final research administrator position was filled by an external candidate, Mary Ellen O'Donnell, from Boston Medical Center. The RAS became operational on May 1, 2006.

The mechanical engineering pilot program is unique in many regards, and we anticipate that this will evolve into a new model for research administration at MIT. Moreover, the collaborative nature of this project and the dual reporting structure of RAS is unique and can serve as an example of how a central administration unit and an academic department can work closely together for the benefit of MIT. The pilot program will increase service to MIT faculty, further MIT's academic research mission, ensure compliance with MIT policies and procedures, and promote proper stewardship of sponsored research funds. It is hoped that the RAS, if successful, will serve as a model for additional central administration—academic department collaborations at MIT.

Change in Payroll Certification Process

Issues related to payroll certification (or "effort reporting") remain a compliance risk for MIT and all major research institutions. For many years MIT required a monthly certification of payroll charges by an individual with "firsthand knowledge" of the employees' activities, generally the faculty member or principal investigator. Certification on a monthly basis was an MIT policy; federal regulations allow for a less frequent certification. Subsequent to federal auditors' findings that MIT was not in compliance with its certification policy, the OSP director, working with the Institute controller and director of internal audit, initiated a change in Institute policy that was approved in 2005 and will become effective July 1, 2006. The change requires the certification of payroll distribution on a quarterly basis rather than monthly. The new policy also provides departments with greater flexibility in processing payroll changes. This change policy should reduce the compliance risk significantly by placing greater emphasis on the payroll certification process. Furthermore, the administrative burden that occurs now when departments need to make payroll transfers after the monthly certification has been processed will be greatly reduced. Giving departments a fiscal quarter, rather than a month, to make payroll changes before the charges are certified will reduce the burden for both academic departments and central administration.

Costing Issues

Negotiation of Facilities and Administrative and Employee Benefits Rates

In fiscal year 2005, MIT negotiated multiyear facilities and administrative (F&A) rates on a fixed-with-carryforward basis for fiscal years 2006 and 2007 at 62 percent and 65 percent, respectively. It is important to remember that in fiscal years 2004 and 2005, F&A rates had been set artificially low (60 percent) in order to repay accumulated carryforwards to the federal government. Recent facilities costs, particularly the cost of energy, have greatly increased, causing actual costs and rates to exceed by far those originally projected and necessitating additional future rate increases.

In fiscal year 2006, employee benefits (EB) rates were also established for fiscal year 2007. Rates held steady at 27 percent on-campus, while off-campus rates decreased to 23.5 percent.

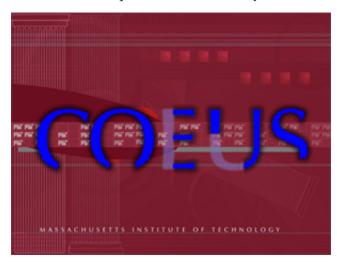
Other Costing Activities

Fiscal year 2006 found OSP supporting not only routine federal audits of F&A, EB, allocation, and service center rates, but also more targeted audits of MIT's compensation practices, IT environment, medical benefits, internal controls over procurement, and the effect of SAP implementation on central administrative functions.

Developments in Electronic Research Administration

COEUS

Ten years ago, MIT created the COEUS system to assist the Office of Sponsored Programs and DLCs in proposal development and pre- and post-award management. The purpose of the system was to standardize and make more efficient award acquisition and administration for all offices within the Institute. With the introduction in 2005 of its comprehensive proposal development module, COEUS is one of the first cradle-to-grave award management systems in the nation. The software makes it possible to prepare proposals, route them internally to obtain proper approvals, and submit them to sponsors electronically.



Until recently, COEUS was licensed to institutions for a one-time cost of \$500. The minimal fee was a strategy to maximize utilization of the software by as many institutions as possible. The terms of the license agreement were advantageous for both the licensees and MIT. The low pricing enabled the Institute to achieve unparalleled market penetration, which provided MIT with input from a sizeable user base and ideas to develop new system functionalities. It also provided

leverage in negotiations with the federal government regarding data standards and data transmission protocols for research proposals and awards. MIT is now able to influence federal electronic research administration (eRA) initiatives, a position no other institution has. After 10 years, COEUS is the most widely used system of its kind, with 100 licensees and more than 30 active users.

Having achieved such remarkable success developing a comprehensive awards management system with a large user base and influence over federal eRA policy, the time has come for a new model for the continuing support of COEUS. Maintenance and upgrades of other institutions' systems have taken time and resources away from development and training specific to MIT. Beginning in FY2006, other universities were asked to join a consortium at varying levels of support, thus enabling the system to

have long-term sustainability as a shared resource, rather than a MIT product licensed to other institutions. Fees from members of the new consortium provide a long-term base of continuing support for COEUS development and end reliance on MIT as the sole source of support for the system.

Federal Grants.gov Implementation

Grants.gov, an initiative that is having an unparalleled impact on the grant community, is one of 24 federal cross-agency E-government projects focused on improving access to services via the internet. Grants.gov is the single access point ("portal") for more than 900 grant programs offered by the 26 federal grant-making agencies and allows organizations to find and apply electronically for competitive grant opportunities from all federal grant-making agencies. As the single portal for grant applications, grants.gov will replace the agency-specific proposal systems that have proliferated in recent years. Applications to grants.gov will be submitted electronically by institutions to the single portal, and these applications will be forwarded to the respective agencies.

Over the next several months, more and more proposals will be processed via grants. gov. The Office of Management and Budget (OMB) has set aggressive targets for the number of applications that must be processed through the grants.gov portal. For example, in fiscal year 2006, the target of the NIH is 15,000 applications. At the time of this report, the NIH had already exceeded the OMB goal by several thousand applications. The Department of Energy now accepts all proposals via grants.gov, as does the Army Research Office. All other federal agencies are ramping up quickly.

There are two options for MIT to submit applications to grants.gov. One, submit proposals directly to grants.gov using COEUS. MIT has worked closely with grants. gov in what is referred to as a system-to-system interface. COEUS can transmit data electronically directly from MIT's computer system to the grants.gov system. The second option is the submission of proposals using electronic forms known as "PureEdge." This second option is problematic for many MIT DLCs because the PureEdge forms are PC-centric and there are no native Macintosh, Linux, or UNIX versions for this proprietary software.

MIT is uniquely positioned to respond to the grants.gov initiative since the COEUS system was the first to successfully submit an electronic proposal using the system-to-system interface. However, using the COEUS proposal preparation module requires indepth training and hands-on experience. During the last fiscal year, OSP provided more than 50 training sessions to the MIT community on the use of the COEUS applications.

Electronic Research Administration Team Established in OSP

To provide adequate support for COEUS and other eRA-related activities, OSP has reorganized existing staff members to create a dedicated eRA team. The eRA team is responsible for training and support for all aspects of electronic research administration. The world of paper-based proposal submissions is giving way to the world of eRA, and the MIT community is now required to learn new ways of constructing research proposals. Obviously, this has presented many challenges over the past year, not only to the DLCs, but to OSP as well.

As mentioned earlier, OSP has provided more than 50 training sessions on the use of the COEUS application. In addition to classroom-style training, the ERA team makes house calls to individuals requiring additional support. Often, these individuals had attended the training session (two sessions, two to three hours each session) but were still uncomfortable using the system for their first "real" proposal. Additionally, in order to satisfy the validation routines performed by grants.gov when processing electronic applications, DLCs must input data into COEUS in prescribed areas and formats. This makes the process challenging for a new user.

To assist the MIT community in using the new electronic tool, MIT has been working with our consortium members to create a second interface for the COEUS application aimed at those who use the system infrequently. This new interface, dubbed COEUS Lite, will allow people to use any internet browser to perform routine proposal tasks, and it is scheduled to be released before the end of the calendar year. OSP recognizes that many users only process two or three proposals a year. Even savvy users that attend the classroom training will have difficulty retaining all aspects of the system if they are not using it routinely. Users will now have two options for interacting with COEUS.

In addition to COEUS support, the eRA team stays well versed in all eRA systems and is the central focal point for other eRA activities. For example, the eRA team establishes principal investigator user IDs in the National Science Foundation's Fastlane system and the NIH Commons system, assigns permissions and access control to other federal computer systems related to research, and assists faculty in the use of the electronic conflict of interest module. The eRA team is ready to assist the MIT community in all their eRA needs.

National Policy Impacting Research Administration

"Troublesome Clauses"

MIT continues to encounter contractual provisions that would restrict the dissemination of research results and/or prohibit foreign nationals from participating in research programs. These restrictive clauses are commonly referred to as "troublesome clauses." In most cases, these clauses appear in awards from DOD, the Department of Transportation, security agencies, industry (using federal funding), and most recently, the Office of Homeland Security. OSP has adopted the negotiating strategy of working in a constructive fashion with our sponsors to come up with a solution that satisfies and addresses the concerns of both sides.

At the outset of negotiations, OSP tries to delineate MIT's position clearly and make it known that we will not deviate from our established policies in these two very important areas. In most cases we are able to work out a mutually acceptable resolution; however, a protracted period of negotiation is sometimes required. Unfortunately, there have been a few situations in which a compromise was not reached and awards were turned down. Our success rate in negotiating resolutions is due in large part to MIT's faculty and senior administration, who are resolute in their determination not to compromise our well-established principles and policies in these very important areas.

An additional complexity occurs when a portion of a project's funding is coming to MIT from an industrial collaborator who is receiving the funding directly from a federal agency. Often the prime award from the government to the industrial company includes troublesome clauses because industrial sponsors are not concerned about restrictions on publication or the participation of foreign nationals. When this occurs, MIT must work with the industrial collaborator and the federal sponsor to ensure that the award made to MIT does not include the restrictions. If the federal sponsor does not agree to remove the restrictive clauses, MIT cannot participate in the project.

Additional discussion on troublesome clauses is included in the following section on export controls.

Export Control Laws and Related Issues

New Export Controls Website

This year saw the launch of the new OSP Export Controls website, http://web.mit.edu/osp/www/Export_Controls/index.htm, developed to be a ready resource for administrators and researchers on the many issues and questions surrounding export controls. The website is not to be considered an end in itself, but rather a tool that will get people thinking about the questions that need to be asked when faced with an export control issue. It covers the basics of export controls, a series of critical "threshold" questions for preliminary export control evaluations, a discussion on what researchers need to know about laptops and global positioning system equipment, and guidelines for off-campus discussions between researchers and foreign nationals or foreign entities. It also serves as a central repository for MIT/OSP export controls documents, memos, and policies, which is a vast improvement over having these items located in several different places on the OSP website. The website will be kept up to date as new issues and regulations arise.

OSP Staff Involvement on a National Level

We recognize the need to continue the long-standing tradition and obligation to participate actively in national organizations such as the Council on Governmental Relations, the Federal Demonstration Partnership, and the National Council of University Research Administrators. Members of the OSP staff are called on frequently to participate in committees, make presentations, or be panelists for the various higher education organizations. We strongly encourage the OSP staff to participate in national outreach activities, and to collaborate with their peers at other institutions and with federal agency representatives.

Patrick Fitzgerald Director

More information about the Office of Sponsored Programs can be found at http://web.mit.edu/osp/www/.